As filed with the Securities and Exchange Commission on March 7, 2013.

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 20-F

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE

SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2012

Commission file number 1-13202

Nokia Corporation

(Exact name of Registrant as specified in its charter)

Republic of Finland

(Jurisdiction of incorporation)

Keilalahdentie 4, P.O. Box 226, FI-00045 NOKIA GROUP, Espoo, Finland

(Address of principal executive offices)

Riikka Tieaho, Vice President, Corporate Legal, Telephone: +358 (0)7 1800-8000, Facsimile: +358 (0) 7 1803-8503 Keilalahdentie 4, P.O. Box 226, FI-00045 NOKIA GROUP, Espoo, Finland

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934 (the Exchange Act):

Title of each class	Name of each exchange on which registered
American Depositary Shares	**New York Stock Exchange**
Shares	**New York Stock Exchange**[(1)]

(1) Not for trading, but only in connection with the registration of American Depositary Shares representing these shares, pursuant to the requirements of the Securities and Exchange Commission.

Securities registered pursuant to Section 12(g) of the Exchange Act: **None**

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Exchange Act: **5.375% Notes due 2019 and 6.625% Notes due 2039**

Indicate the number of outstanding shares of each of the registrant s classes of capital or common stock as of the close of the period covered by the annual report. Shares: **3 744 956 052.**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes x No ¨

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Exchange Act. Yes ¨ No x

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	x	Accelerated filer	¨
Non-accelerated filer	¨ (Do not check if a smaller reporting company)	Smaller reporting company	¨

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing: U.S. GAAP ¨

International Financial Reporting Standards as issued by the International Accounting Standards Board x Other ¨

If Other has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 ¨ Item 18 ¨

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No x

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INTRODUCTION AND USE OF CERTAIN TERMS

Nokia Corporation is a public limited liability company incorporated under the laws of the Republic of Finland. In this document, any reference to we, us, the Group or Nokia means Nokia Corporation and its subsidiaries on a consolidated basis, except where we make clear that the term means Nokia Corporation or a particular subsidiary or business segment only, and except that references to our shares, matters relating to our shares or matters of corporate governance refer to the shares and corporate governance of Nokia Corporation. As of January 1, 2013 our Location & Commerce reportable segment was renamed as the HERE reportable segment, and the terms Location & Commerce and HERE can be used interchangeably in this annual report.

Nokia Corporation has published its consolidated financial statements in euro for periods beginning on or after January 1, 1999. In this annual report on Form 20-F, references to EUR, euro or are to the common currency of the European Economic and Monetary Union, or EMU, and references to dollars, US dollars, USD or $ are to the currency of the United States. Solely for the convenience of the reader, this annual report contains conversions of selected euro amounts into US dollars at specified rates, or, if not so specified, at the rate of 1.3186 US dollars per euro, which was the noon buying rate in New York City for cable transfers in euro as certified for customs purposes by the Federal Reserve Bank of New York on December 31, 2012. No representation is made that the amounts have been, could have been or could be converted into US dollars at the rates indicated or at any other rates.

Our principal executive office is located at Keilalahdentie 4, P.O. Box 226, FI-00045 Nokia Group, Espoo, Finland and our telephone number is +358 (0) 7 1800-8000.

Nokia Corporation furnishes Citibank, N.A., as Depositary, with consolidated financial statements and a related audit opinion of our independent auditors annually. These financial statements are prepared on the basis of International Financial Reporting Standards as issued by the International Accounting Standards Board and in conformity with International Financial Reporting Standards as adopted by the European Union (IFRS). In accordance with the rules and regulations of the US Securities and Exchange Commission, or SEC, we do not provide a reconciliation of net income and shareholders equity in our consolidated financial statements to accounting principles generally accepted in the United States, or US GAAP. We also furnish the Depositary with quarterly reports containing unaudited financial information prepared on the basis of IFRS, as well as all notices of shareholders meetings and other reports and communications that are made available generally to our shareholders. The Depositary makes these notices, reports and communications available for inspection by record holders of American Depositary Receipts, or ADRs, evidencing American Depositary Shares, or ADSs (one ADS represents one share), and distributes to all record holders of ADRs notices of shareholders meetings received by the Depositary.

In addition to the materials delivered to holders of ADRs by the Depositary, holders can access our consolidated financial statements, and other information included in our annual reports and proxy materials, at *www.nokia.com*. This annual report on Form 20-F is also available at *www.nokia.com* as well as on Citibank s website at *http://citibank.ar.wilink.com* (enter Nokia in the Company Name Search). Holders may also request a hard copy of this annual report by calling the toll-free number 1-877-NOKIA-ADR (1-877-665-4223), or by directing a written request to Citibank, N.A., Shareholder Services, PO Box 43124, Providence, RI 02940-5140, or by calling Nokia Investor Relations at +1 914 282 0145. With each annual distribution of our proxy materials, we offer our record holders of ADRs the option of receiving all of these documents electronically in the future.

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FORWARD-LOOKING STATEMENTS

It should be noted that Nokia and its business are exposed to various risks and uncertainties and certain statements herein that are not historical facts are forward-looking statements, including, without limitation, those regarding:

- the expected plans and benefits of our partnership with Microsoft to bring together complementary assets and expertise to form a global mobile ecosystem for smartphones;
- the timing and expected benefits of our strategies, including expected operational and financial benefits and targets as well as changes in leadership and operational structure;
- the timing of the deliveries of our products and services;
- our ability to innovate, develop, execute and commercialize new technologies, products and services;
- expectations regarding market developments and structural changes;
- expectations and targets regarding our industry volumes, market share, prices, net sales and margins of our products and services;
- expectations and targets regarding our operational priorities and results of operations;
- expectations and targets regarding collaboration and partnering arrangements;
- the outcome of pending and threatened litigation, regulatory proceedings or investigations by authorities;
- expectations regarding the successful completion of restructurings, investments, acquisitions and divestments on a timely basis and our ability to achieve the financial and operational targets set in connection with any such restructurings, investments, acquisitions and divestments; and
- statements preceded by believe, expect, anticipate, foresee, target, estimate, designed, aim , plans, intends, will

These statements are based on management s best assumptions and beliefs in light of the information currently available to it. Because they involve risks and uncertainties, actual results may differ materially from the results that we currently expect. Factors, including risks and uncertainties, that could cause these differences include, but are not limited to:

1) our ability to make the Windows Phone ecosystem a competitive and profitable global ecosystem that achieves sufficient scale, value and attractiveness to relevant market participants, making Nokia products with Windows Phone a competitive choice for consumers;

2) our success in the smartphone market, including our ability to introduce and bring to market quantities of attractive, competitively priced Nokia products with Windows Phone that are positively differentiated from our competitors products, both outside and within the Windows Phone ecosystem;

3) our ability to produce attractive and competitive devices in our Mobile Phones business unit, including feature phones and devices with features such as full touch that can be categorized as smartphones, in a timely and cost efficient manner with differentiated hardware, software, localized services and applications;

4) the success of our HERE strategy, including our ability to establish a successful location-based platform and extend our location-based services across devices and operating systems;

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5) our ability to provide support for our Devices & Services business and maintain current and create new sources of revenue from our location-based service and commerce assets;

6) our ability to protect numerous patented standardized or proprietary technologies from third-party infringement or actions to invalidate the intellectual property rights of these technologies;

7) our ability to maintain the existing sources of intellectual property related revenue and establish new such sources;

8) the intensity of competition in the various markets where we do business and our ability to maintain or improve our market position or respond successfully to changes in the competitive environment;

9) our ability to keep momentum and increase our speed of innovation, product development and execution in order to bring new innovative and competitive mobile products and location-based or other services to the market in a timely manner;

10) the success of our partnership with Microsoft in connection with the Windows Phone ecosystem;

11) our ability to effectively and smoothly implement the planned changes in our operational structure and achieve targeted efficiencies and reductions in operating expenses;

12) our ability to retain, motivate, develop and recruit appropriately skilled employees;

13) our dependence on the development of the mobile and communications industry, including location-based and other services industries, in numerous diverse markets, as well as on general economic conditions globally and regionally;

14) our ability to maintain and leverage our traditional strengths in the mobile products market, especially if we are unable retain the loyalty of our mobile operator and distributor customers and consumers as a result of the implementation of our strategies or other factors;

15) the performance of the parties we partner and collaborate with, including Microsoft, and our ability to achieve successful collaboration or partnering arrangements;

16) our ability to deliver our mobile products profitably, in line with quality requirements and on time, especially if the limited number of suppliers we depend on fail to deliver sufficient quantities of fully functional products, components, sub-assemblies, software and services on favourable terms and in compliance with our supplier requirements;

17) our ability to manage efficiently our manufacturing and logistics, as well as to ensure the quality, safety, security and timely delivery of our products and services;

18) any actual or even alleged defects or other quality, safety and security issues in our products;

19) any inefficiency, malfunction or disruption of a system or network that our operations rely on;

20) the impact of cybersecurity breach or other factors leading to an actual or alleged loss, improper disclosure or leakage of any personal or consumer data collected by us or our partners or subcontractors, made available to us or stored in or through our products;

21) our ability to successfully manage the pricing of our products and costs related to our products and our operations;

22) the potential complex tax issues and obligations we may face, including the obligation to pay additional taxes in various jurisdictions and our actual or anticipated performance, among other factors, could result in allowances related to deferred tax assets;

23) exchange rate fluctuations, particularly between the euro, which is our reporting currency, and the US dollar, the Japanese yen and the Chinese yuan, as well as certain other currencies;

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24) our ability to protect the technologies, which we or others develop or which we license, from claims that we have infringed third parties intellectual property rights, as well as our unrestricted use on commercially acceptable terms of certain technologies in our product and services;

25) the impact of economic, regulatory, political or other development on our sales, manufacturing facilities and assets located in emerging market countries as well as the impact of regulations against imports to those countries;

26) the impact of changes in and enforcement of government policies, technical standards, trade policies, laws or regulations in countries where our assets are located and where we do business;

27) investigations or claims by contracting parties in relation to exits from countries, areas or contractual arrangements;

28) unfavorable outcome of litigation, regulatory proceedings or investigations by authorities;

29) allegations of possible health risks from electromagnetic fields generated by base stations and mobile devices, and the lawsuits and publicity related to them, regardless of merit;

30) Nokia Siemens Networks success in the mobile broadband infrastructure and related services market and its ability to effectively, profitably and timely adapt business and operations to the diverse needs of its customers;

31) Nokia Siemens Networks ability to maintain and improve its market position and respond successfully to changes and competition in the mobile broadband infrastructure and related services market;

32) Nokia Siemens Networks success in implementing its restructuring plan and reducing its operating expenses and other costs;

33) Nokia Siemens Networks ability to invest in and timely introduce new competitive products, services, upgrades and technologies;

34) Nokia Siemens Networks dependence on limited number of customers and large, multi-year contracts;

35) Nokia Siemens Networks liquidity and its ability to meet its working capital requirements, including access to available credit under its financing arrangements and other credit lines as well as cash at hand;

36) the management of Nokia Siemens Networks customer financing exposure;

37) whether ongoing or any additional governmental investigations of alleged violations of law by some former employees of Siemens may involve and affect the carrier-related assets and employees transferred by Siemens to Nokia Siemens Networks;

38)

- any impairment of Nokia Siemens Networks customer relationships resulting from ongoing or any additional governmental investigations involving the Siemens carrier-related operations transferred to Nokia Siemens Networks,

as well as the risk factors specified in this annual report on under Item 3D. Risk Factors.

Other unknown or unpredictable factors or underlying assumptions subsequently proving to be incorrect could cause actual results to differ materially from those in the forward-looking statements. Nokia does not undertake any obligation to publicly update or revise forward-looking statements, whether as a result of new information, future events or otherwise, except to the extent legally required.

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PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

3A. Selected Financial Data

The financial data set forth below at December 31, 2011 and 2012 and for each of the years in the three-year period ended December 31, 2012 have been derived from our audited consolidated financial statements included in Item 18 of this annual report. Financial data at December 31, 2008, 2009, and 2010 and for each of the years in the two-year period ended December 31, 2009 have been derived from our previously published audited consolidated financial statements not included in this annual report.

The financial data at December 31, 2011 and 2012 and for each of the years in the three-year period ended December 31, 2012 should be read in conjunction with, and are qualified in their entirety by reference to, our audited consolidated financial statements.

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The audited consolidated financial statements from which the selected consolidated financial data set forth below have been derived were prepared in accordance with IFRS.

	Year Ended December 31,					
	2008 (EUR)	2009 (EUR)	2010 (EUR)	2011 (EUR)	2012 (EUR)	2012 (USD)
	(in millions, except per share data)					
Profit and Loss Account Data						
Net sales	50 710	40 984	42 446	38 659	30 176	39 790
Operating profit	4 966	1 197	2 070	(1 073)	(2 303)	(3 037)
Profit before tax	4 970	962	1 786	(1 198)	(2 644)	(3 486)
Profit attributable to equity holders of the parent	3 988	891	1 850	(1 164)	(3 106)	(4 096)
Earnings per share (for profit attributable to equity holders of the parent)						
Basic earnings per share	1.07	0.24	0.50	(0.31)	(0.84)	(1.11)
Diluted earnings per share	1.05	0.24	0.50	(0.31)	(0.84)	(1.11)
Cash dividends per share	0.40	0.40	0.40	0.20	0.00[1]	0.00[1]
Average number of shares (millions of shares)						
Basic	3 744	3 705	3 709	3 710	3 711	3 711
Diluted	3 780	3 721	3 713	3 710	3 711	3 711
Balance Sheet Data						
Fixed assets and other non-current assets	15 112	12 125	11 978	10 750	9 071	11 961
Cash and other liquid assets[2]	6 820	8 873	12 275	10 902	9 909	13 066
Other current assets	17 650	14 740	14 870	14 553	10 969	14 464
Total assets	39 582	35 738	39 123	36 205	29 949	39 491
Capital and reserves attributable to equity holders of the parent	14 208	13 088	14 384	11 873	8 061	10 629
Non-controlling interests	2 302	1 661	1 847	2 043	1 386	1 828
Long-term interest-bearing liabilities	861	4 432	4 242	3 969	5 087	6 708
Other long-term liabilities	1 856	1 369	1 110	876	769	1 014
Borrowings due within one year	3 591	771	1 037	1 352	462	609
Other current liabilities	16 764	14 417	16 503	16 092	14 184	18 703
Total shareholders equity and liabilities	39 582	35 738	39 123	36 205	29 949	39 491
Net interest-bearing debt[3]	(2 368)	(3 670)	(6 996)	(5 581)	(4 360)	(5 749)
Share capital	246	246	246	246	246	324

(1) The Board of Directors will propose for shareholders approval at the Annual General Meeting convening on May 7, 2013 that no dividend payment be made for 2012.

(2) For the years ended December 31, 2009, 2010 and 2011, cash and other liquid assets consist of the following captions from our consolidated balance sheets: (1) bank and cash, (2) available-for-sale investments, cash equivalents, (3) available-for-sale investments, liquid assets and (4) investments at fair value through profit and loss, liquid assets. For the previous years, cash and other liquid assets consist of the following captions from our consolidated balance sheets: (1) bank and cash, (2) available-for-sale investments, cash equivalents, and (3) available-for-sale investments, liquid assets.

(3) Net interest-bearing debt consists of borrowings due within one year and long-term interest-bearing liabilities, less cash and other liquid assets.

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Distribution of Earnings

We distribute retained earnings, if any, within the limits set by the Finnish Companies Act. We make and calculate the distribution, if any, either in the form of cash dividends, share buy-backs, or in some other form or a combination of these. There is no specific formula by which the amount of a distribution is determined, although some limits set by law are discussed below. The timing and amount of future distributions of retained earnings, if any, will depend on our future results and financial condition.

Under the Finnish Companies Act, we may distribute retained earnings on our shares only upon a shareholders resolution and subject to limited exceptions in the amount proposed by our Board of Directors. The amount of any distribution is limited to the amount of distributable earnings of the parent company pursuant to the last accounts approved by our shareholders, taking into account the material changes in the financial situation of the company after the end of the last financial period and a statutory requirement that the distribution of earnings must not result in insolvency of the company. Subject to exceptions relating to the right of minority shareholders to request for a certain minimum distribution, the distribution may not exceed the amount proposed by the Board of Directors.

Share Buy-backs

Under the Finnish Companies Act, Nokia Corporation may repurchase its own shares pursuant to either a shareholders resolution or an authorization to the Board of Directors approved by the company s shareholders. The authorization may amount to a maximum of 10% of all the shares of the company and its maximum duration is 18 months. The Board of Directors has been regularly authorized by our shareholders at the Annual General Meetings to repurchase Nokia s own shares, and during the past three years the authorization covered 360 million shares in 2010, 2011 and 2012. The amount authorized each year has been at or slightly under the maximum limit provided by the Finnish Companies Act. Nokia has not repurchased any of its own shares since September 2008.

On January 24, 2013, we announced that the Board of Directors will propose that the Annual General Meeting convening on May 7, 2013 authorize the Board to resolve to repurchase a maximum of 370 million Nokia shares. The proposed maximum number of shares that may be repurchased corresponds to less than 10% of all the shares of the company. The shares may be repurchased in order to develop the capital structure of the company, finance or carry out acquisitions or other arrangements, settle the company s equity-based incentive plans, be transferred for other purposes, or be cancelled. The shares may be repurchased either through a tender offer made to all shareholders on equal terms, or in marketplaces by repurchasing the shares in another proportion than that of the current shareholders. The authorization would be effective until June 30, 2014 and terminate the current authorization for repurchasing of the company s shares resolved at the Annual General Meeting on May 3, 2012. The table below sets forth actual share buy-backs by Nokia in respect of each fiscal year indicated.

	Number of shares	EUR millions (in total)
2008	157 390 000	3 123
2009		
2010		
2011		
2012		

Cash Dividends

On January 24, 2013, we announced that the Board of Directors will propose at the Annual General Meeting convening on May 7, 2013 that no dividend payment be made for 2012.

The table below sets forth the amounts of total cash dividends per share and per ADS paid in respect of each fiscal year indicated. For the purposes of showing the US dollar amounts per ADS for 2008

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through 2012, the dividend per share amounts have been translated into US dollars at the noon buying rate in New York City for cable transfers in euro as certified for customs purposes by the Federal Reserve Bank of New York on the respective dividend payment dates.

	EUR per share	USD per ADS	EUR millions (in total)
2008	0.40	0.54	1 481
2009	0.40	0.49	1 483
2010	0.40	0.57	1 484
2011	0.20	0.25	742
2012	0.00(1)	0.00(1)	0(1)

(1) The Nokia Board of Directors will propose at the Annual General Meeting convening on May 7, 2013 that no dividend payment be made for 2012.

We make our cash dividend payments in euro. As a result, exchange rate fluctuations will affect the US dollar amount received by holders of ADSs on conversion of these dividends. Moreover, fluctuations in the exchange rates between the euro and the US dollar will affect the dollar equivalent of the euro price of the shares on NASDAQ OMX Helsinki and, as a result, are likely to affect the market price of the ADSs in the United States. See also Item 3D. Risk Factors Our net sales, costs and results of operations, as well as the US dollar value of our dividends and market price of our ADSs, are affected by exchange rate fluctuations, particularly between the euro, which is our reporting currency, and the US dollar, the Japanese yen and the Chinese yuan, as well as certain other currencies.

Exchange Rate Data

The following table sets forth information concerning the noon buying rate for the years 2008 through 2012 and for each of the months in the six-month period ended February 28, 2013, expressed in US dollars per euro. The average rate for a year means the average of the exchange rates on the last day of each month during a year. The average rate for a month means the average of the daily exchange rates during that month.

For the year ended December 31:	Rate at Period end	Average rate	Highest rate	Lowest rate
	Exchange rates (USD per EUR)			
2008	1.3919	1.4695	1.6010	1.2446
2009	1.4332	1.3955	1.5100	1.2547
2010	1.3269	1.3216	1.4536	1.1959
2011	1.2973	1.3931	1.4875	1.2926
2012	1.3186	1.2859	1.3463	1.2062
September 30, 2012	1.2856	1.2885	1.3142	1.2566
October 31, 2012	1.2958	1.2974	1.3133	1.2876
November 30, 2012	1.3010	1.2837	1.3010	1.2715
December 31, 2012	1.3186	1.3119	1.3260	1.2930
January 31, 2013	1.3584	1.3304	1.3584	1.3047
February 28, 2013	1.3079	1.3347	1.3692	1.3054

On March 1, 2013, the noon buying rate was USD 1.2988 per EUR 1.00.

3B. Capitalization and Indebtedness

Not applicable.

3C. Reasons for the Offer and Use of Proceeds

Not applicable.

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3D. Risk Factors

Set forth below is a description of risk factors that could affect Nokia, starting with the risks which are mainly related to our primary revenue generating areas. There may be, however, additional risks unknown to Nokia and other risks currently believed to be immaterial that could turn out to be material. These risks, either individually or together, could adversely affect our business, sales, profitability, results of operations, financial condition, liquidity, market share, brand, reputation and share price from time to time. Unless otherwise indicated or the context otherwise provides, references in these risk factors to Nokia , we , us and our mean Nokia s consolidated operating segments. Additional risks primarily related to Nokia Siemens Networks that could affect Nokia are detailed under the heading Nokia Siemens Networks below.

We may not be able to make Nokia products with Windows Phone a competitive choice for consumers unless the Windows Phone ecosystem becomes a competitive and profitable global ecosystem that achieves sufficient scale, value and attractiveness to relevant market participants.

We believe that successful smartphone platforms require a successful ecosystem around them. At the heart of the major smartphone ecosystems is the operating system and the development platform upon which smartphones are based and services built. Today, industry participants are creating competing ecosystems of mutually beneficial partnerships to combine hardware, software, services and an application environment to create high-quality differentiated smartphones. Certain smartphone platforms and their related ecosystems have gained significant momentum and market share, specifically Google s Android platform and Apple s iOS platform, and are continuing apace, with Android-based smartphones continuing to gain significant market share during 2012 and also reaching lower price points.

We have adopted, and are licensing from Microsoft, Windows Phone as our primary smartphone platform. Although Microsoft will continue to license Windows Phone to other mobile manufacturers, we believe we can differentiate Nokia smartphones from those of our competitors that also use the Windows Phone platform as well as other platforms. The first Nokia smartphones powered by Windows Phone were launched in October 2011 under the Lumia name. We launched additional Windows Phone 7 devices and the first Windows Phone 8 Lumia devices during 2012. See Item 4B. Business Overview Devices & Services Smart Devices for a more information.

The creation of an ecosystem for Windows Phone smartphones that receives acceptance from contributing parties and reaches sufficient scale is critical to making our Nokia products with Windows Phone a competitive choice. If a successful Windows Phone ecosystem does not materialize in a timely manner, this would have a material adverse effect on sales of our Nokia products with Windows Phone and our profitability, and otherwise significantly impair our ability to compete effectively in the smartphone market. The principal risks and challenges that could prevent the creation of a successful ecosystem for Nokia Windows Phones include the following:

- The Windows Phone platform may not achieve or retain broad or timely market acceptance or be preferred by ecosystem participants, mobile operators and consumers.

- Microsoft has recently launched the Windows 8 operating system used to power personal computers and tablets, and the related Windows Phone 8 operating system is used in the latest Nokia smartphones. The success of Nokia s Windows Phone 8 smartphones will be negatively affected if the Windows 8 platform does not achieve or retain broad or timely market acceptance or is not preferred by ecosystem participants, mobile operators and consumers.

- If we are not successful in our partnership with Microsoft or the benefits of that partnership do not materialize as expected, we may have limited our options to build a competitive smartphone ecosystem with another partner or join another competitive smartphone ecosystem in a timely or economically profitable manner.

Other competitive major smartphone ecosystems, primarily Google s Android and Apple s iOS, have advantages that may be difficult for the Windows Phone ecosystem to overcome, such as first-mover advantage, momentum, a larger share of the smartphone market, engagement by developers, mobile operators and consumers and brand preference, and their advantages may become greater over time.

We may not be able to develop sufficient quantities of high-quality differentiated Nokia products with Windows Phone in order to achieve the scale needed for a competitive global ecosystem in a timely manner, or at all.

Applicable developer tools for the Windows Phone platform may not gain needed traction or acceptance in the market, may be introduced late, or when introduced, may not offer technologies that developers are willing to use.

We may not be able to provide sufficient opportunities to innovate and customize on the Windows Phone platform in order to attract developers and other ecosystem participants seeking to differentiate their offerings on our smartphones from those of our competitors.

Our competitors may use various technical and commercial means to make the Windows Phone ecosystem unattractive compared to other ecosystems, including for instance hindering application development, not providing tools to allow applications to be developed to industry standard or not allowing certain applications to work or work efficiently on the Windows Phone platform.

We may not succeed in rapidly expanding the Windows Phone platform and related ecosystem to more affordable smartphones, limiting the expansion of this ecosystem.

The global ecosystem for the Windows Phone platform may not be flexible enough to allow local ecosystems to develop around and in connection with it. For instance, Microsoft, us and other participants in the Windows Phone ecosystem may not succeed in innovating and developing sufficiently locally relevant services, applications and content in a speedy and cost-efficient manner to attract and retain consumers in multiple markets with divergent local needs and preferences.

The Windows Phone ecosystem is relatively small, and thus it may not be compelling for hardware and software suppliers and developers, which may for instance lead to our reliance on a limited number of suppliers, later availability of the latest innovations and increased cost of components and software.

Mobile devices are increasingly used with other technical appliances, for instance speakers and car audio systems or have accessories and gadgets that can be used in conjunction with the mobile device. As the Windows Phone ecosystem is relatively small, it may not be compelling for third parties to design such technical appliances, accessories or gadgets to a similar extent as with other ecosystems.

We may not succeed in creating business models that provide value to other participants in the Windows Phone ecosystem, including ourselves.

We may not be able to change our mode of working or culture sufficiently to collaborate effectively and efficiently both internally and externally with a large community of partners.

Consumers may be reluctant to provide personal data to us as a result of our partnership with Microsoft, which would hamper the success of the Windows Phone ecosystem.

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- The frequency of Windows Phone operating system updates may be too slow and the platform may be too closed to address changing market and customer requirements in a timely manner, which may erode customer support and consumer attractiveness of the platform.

- Emergence of new alternative ecosystems and platforms could make the Windows Phone ecosystem less attractive to customers and consumers.

Our success in the smartphone market depends on our ability to introduce and bring to market quantities of attractive, competitively priced Nokia products with Windows Phone that are positively differentiated from our competitors products, both outside and within the Windows Phone ecosystem, and receive broad market acceptance.

Our strategy is to compete in the smartphone market with Nokia products with Windows Phone. Our plans to further introduce and bring to market quantities of attractive, competitively priced Nokia products with Windows Phone that receive broad market acceptance and are positively differentiated from competitors products, both outside and within the Windows Phone ecosystem, are subject to certain risks and uncertainties, which could, either individually or together, significantly impair our ability to compete effectively in the smartphone market.

The principal risks and uncertainties in addition to the factors outlined in the above risk factor that could undermine the competitive position of our Nokia products with Windows Phone include the following:

- Our strategy for Nokia products with Windows Phone may not enable us to achieve in a timely manner the necessary scale, product breadth, geographical reach and localization to be sufficiently competitive in the smartphone market.

- The Microsoft Windows Phone platform may not support the hardware configurations required to succeed in becoming a sufficiently price competitive platform and may limit our ability to develop a price competitive smartphone portfolio of products or bring certain hardware capabilities at the higher price points.

- We may not be able to introduce a compelling portfolio of Nokia products with Windows Phone that include new hardware and design innovations. Additionally, we may not be able to introduce functionalities such as advanced imaging and sensor technology, location-based services and entertainment or otherwise customize our Nokia products with Windows Phone in order to positively differentiate our products from competitors products, both outside and within the Windows Phone ecosystem.

- Consumers may not prefer the Windows Phone user experience, interface or software functionality.

- We may face delays in bringing our Nokia products with Windows Phone to various markets due to, for instance, manufacturing difficulties, delays in software and/or hardware development or product or sales package customization to accommodate various markets or operator requests.

- We may face issues in selecting, engaging or securing support from leading operators and retailers for the initial launches and sales ramp-up of our Nokia products with Windows Phone due to, for instance, inadequate sales incentives, lack of proper training of sales personnel, insufficient marketing support and experience in generating interest for a still relatively unfamiliar Windows Phone platform in an otherwise highly competitive market. Delayed or non-optimal initial launches and sales ramp-up could result in diminished support from leading operators and retailers and low consumer interest for subsequent launches of our Nokia products with Windows Phone and may also adversely affect our Nokia brand generally and sales of our other Nokia mobile products.

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We may not succeed in creating a high level of consumer interest for our Nokia products with Windows Phone, in converting interest for our Nokia products with Windows Phone to purchase decisions or in making the Nokia brand more desirable than brands of our competitors in smartphones.

Microsoft may not be able to provide the software innovations and features we rely on for the Windows Phone operating system in a timely manner, if at all. Additionally, we are dependent on Microsoft for timely error corrections for customer and country variants as well as generic software releases.

Our competitors may provide incentives to operators, retailers or developers that may make it unattractive for them to support Nokia products with Windows Phone, or our competitors may use various technical and commercial means to make it unattractive for consumers that currently use another product to purchase Nokia products with Windows Phone, including for instance hindering application development, not providing tools to allow applications to be developed to industry standards or not allowing certain applications to work or work efficiently on the Windows Phone platform.

In choosing to adopt Windows Phone as our primary smartphone platform, we may forgo more competitive alternatives achieving greater and faster acceptance in the smartphone market. If the benefits of the Microsoft partnership do not materialize as expected, more competitive alternatives may not be available to us in a timely manner, or at all.

Other manufacturers also produce competing mobile products which are based on the Windows Phone operating system. We may face increased competition from other manufacturers, including Microsoft, who already produce or may produce competing Windows Phone based products. Increased competition within the Windows Phone ecosystem could result for instance in lower sales of our devices or lower potential for a profitable business model.

Our strategy for Nokia products with Windows Phone may erode our brand identity in markets where we are traditionally strong and may not enhance our brand identity in markets where we are weak. For example, our association with the Microsoft brand may not accelerate our access to a broader market in the United States.

We are aiming to expand our Windows Phone-based products to lower price points. The availability of Windows Phone-based products that we or our competitors offer at lower price points may have a negative effect on the sales of our higher priced Windows Phone-based products.

We may not be able to produce attractive and competitive devices in our Mobile Phones business unit, including feature phones and devices with features such as full touch that can be categorized as smartphones, in a timely and cost efficient manner with differentiated hardware, software, localized services and applications.

The feature phone market, also referred to as the mobile phone market and a traditional area of strength for us, is undergoing significant changes. Today, a feature phone-specific ecosystem has emerged involving very low-cost components and manufacturing processes. Speed to market and attractive pricing are critical factors for success in affordable devices. In particular, the availability of complete mobile solutions chipsets and software from low-cost reference design chipset manufacturers has enabled the very rapid and low-cost production of feature phones, increasingly at lower price points, by numerous manufacturers particularly in China and India, which are gaining significant market share in emerging markets, as well as bringing some locally relevant innovations to the market.

Many mid-range to high-end feature phones increasingly offer access to the Internet and applications and provide more smartphone-like features and design, blurring the distinction between smartphones and feature phones and can be categorized as smartphones. We are subject to intense competition over the entire spectrum we address through our Mobile Phones business unit from very low cost voice centric devices to devices that can be categorized as smartphones. Smartphones of other manufacturers, particularly Android-based smartphones, are reaching lower price points, which is increasingly reducing the addressable market and lowering the price points for feature phones and competing with the higher-end devices from our Mobile Phones portfolio.

Accordingly, we need to produce devices for our Mobile Phones portfolio in a timely and cost-efficient manner with differentiated user experience, hardware, software, localized services and applications that attract new users and connect new and existing users to an affordable Internet and application experience. If we are unable to produce competitive devices at various price points for our Mobile Phones portfolio, our business, results of operation and financial condition could be materially and adversely affected. The success of our Mobile Phones business unit is subject to certain risks and uncertainties, including the following:

- We may not be able to leverage our traditional competitive strengths of scale in manufacturing and logistics, as well as in our marketing and sales channels for instance, to increase the speed to market in a sufficiently cost-competitive manner, particularly with mobile operators and consumers requiring increasing customization to meet divergent local needs and preferences.

- The market we address with the more affordable devices from our Mobile Phones business unit may further reduce in size if the higher-end price points become dominated by more affordable smartphones, such as Android-based smartphones, and the higher-end devices from our Mobile Phones business unit are not sufficiently competitive compared to those.

- The features of higher-end devices from our Mobile Phones business unit may not be sufficiently competitive compared to more affordable smartphones, such as Android-based smartphones.

- Our estimates of the growth potential in the markets we address through our Mobile Phones business unit may not be accurate and as such result in misplaced investments of resources.

- In some regions, overall market demand for feature phones may decline further.

- Speed of shifts in market development and demand, for example, related to 2G, 3G and 4G mobile communication technology transitions and requirements, may be faster than we have anticipated, making our Mobile Phones portfolio less competitive if we are unable to timely develop and produce devices addressing such shifts.

- We are using our internally developed platforms for our devices from the Mobile Phones business unit, which may hinder our ability or increase our costs in integrating hardware and sourcing components and other parts due to limitations in the platform and vendors tooling their supply and configurations for devices that operate on other platforms.

- If the platforms that we use for our devices from the Mobile Phones business unit are not sufficiently competitive or otherwise optimal for our devices, developing the platform or switching to another platform may be time-consuming and costly, and there are no guarantees that our competitive position would benefit from such actions or that the development costs would result in a positive return on our investments. If the attractiveness of the platforms we use in the Mobile Phones business unit deteriorates, corrective actions will consume time and resources from us and may not lead to desired results, and may expose our Mobile Phones business unit to a significant deterioration in competiveness.

- The platforms that we use for our devices from our Mobile Phones business unit may not be sufficiently attractive, flexible and cost efficient for application developers and other partners to create a vibrant ecosystem for devices with increasingly smartphone-like features, such as Internet access and applications.

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- There are shifts in the desired features and products in the market that are appealing to customers and consumers and such shifts may not be in our favor from a net sales or profitability perspective; for instance, QWERTY devices have been a traditional strength for us, but the overall market demand for QWERTY devices has declined and is expected to continue to decline.

- We may not succeed in innovating and developing sufficiently locally relevant services, applications and content in a speedy and cost-efficient manner to attract and retain consumers in multiple markets with divergent local needs and preferences.

- Management focus and allocation of resources on the development and launches of our Nokia products with Windows Phone and the creation of a successful ecosystem for Windows Phone smartphones with Microsoft may result in less management focus and resources being provided to our Mobile Phones business unit, as well as reduced monetary allocation for instance, to product marketing.

- There may be elements in the ecosystems for our devices from our Mobile Phones business unit that are not in other ecosystems we support, such as the Windows Phone ecosystem, which may require additional resources and duplicative investments by us.

Our strategy for our HERE business includes various risks and uncertainties and may not succeed if we are unable to establish a successful location-based platform, extend our location-based services across devices and operating systems, maintain current sources of revenue, provide support for our HERE business and create new sources of revenue from our location-based services and commerce assets.

See item Item 4B. Business Overview HERE (formerly Location & Commerce) for a more information about our HERE business. The HERE business is exposed to various risks and uncertainties, including the following:

- The existing map license data customers may choose not to purchase, or purchase less, content or services from our HERE business.

- We may have inaccurately predicted market developments in, or market size of, the automotive navigation and personal navigation devices markets or we may lose market share to other manufacturers or other devices offering navigation solutions, for instance smartphones.

- We may not be able to use our location-based assets to compete on a standalone basis or support the overall Nokia strategy.

- HERE is a recently launched brand and platform and as such may be disadvantaged to more established brands and platforms.

- We may not be able to establish a successful location-based platform through HERE if other competing location-based platforms are preferred by customers and consumers.

- We may not be able to establish a successful HERE application suite for the platforms we are targeting.

- Investments into new business opportunities may not give a return on investment as planned, or at all.

- We may not succeed in attracting strategic partners and developers to develop and support our ecosystem around our HERE offering, or provide services that are supported by relevant ecosystems.

We may fail to attract business partners and merchants to our service offerings.

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The service offering we currently provide may not be competitive or another participant may provide a more competitive new offering in the future or new more efficient or affordable ways of map content creation are introduced which may disrupt our own business models.

The advertising and local commerce business opportunities we target may not grow as expected or have the possibilities for profitable business in line with our expectations.

The HERE business may not succeed in creating integrated social location offerings in support of our strategic goals in smartphones, including Nokia products with Windows Phone, or support our efforts to connect the next billion people to the Internet and information, which would negatively affect our ability to offer compelling and differentiated mobile products.

Any Microsoft partnership business model to integrate our location-based assets with Microsoft s platform to generate new sources of revenue for us may not materialize as expected, or at all.

If our HERE business does not generate revenue as before or new sources of revenue for us do not materialize as expected, or at all, that business may not generate positive operating cash flow, and this or other factors may lead to the decrease in value of our location-based services and commerce assets and may result in further impairment charges.

Due to changes in the competitive position of our Devices & Services business and other factors, HERE s profitability has been, and may in the future be, adversely affected by lower recognized revenue from internal sales which generally carry a higher gross margin compared to external sales.

Our products include numerous patented standardized or proprietary technologies on which we depend and utilize for revenue generation. Third parties may use without a license and unlawfully infringe our intellectual property or commence actions seeking to establish the invalidity of the intellectual property rights of these technologies, or we may not be able to maintain the existing sources of intellectual property related revenue or establish new such sources.

Our products include numerous patented standardized or proprietary technologies on which we depend. Despite the steps that we have taken to protect our technology investment with intellectual property rights, we cannot be certain that any rights or pending applications will be granted or that the rights granted in connection with any future patents or other intellectual property rights will be sufficiently broad to protect our technology. Third parties may infringe our intellectual property relating to our proprietary technologies or by ignoring their obligation to seek a license under our standard essential patents.

Any patents or other intellectual property rights that are granted to us may be challenged, invalidated or circumvented, and any right granted under our patents may not provide competitive advantages for us. Other companies have commenced and may continue to commence actions seeking to establish the invalidity of our intellectual property, for example, patent rights. In the event that one or more of our patents are challenged, a court may invalidate the patent or determine that the patent is not enforceable, which could harm our competitive position. The outcome of court proceedings is difficult to predict and as such our ability to utilize intellectual property for revenue generation is dependent on favorable court rulings. Increasingly, patent litigation may be commenced in new jurisdictions, for instance if unitary patent protection regimes are introduced, where the outcome of the proceeding can be even more difficult to predict than in established jurisdictions for patent disputes. Also, if any of our key patents are invalidated, or if the scope of the claims in any of these patents is limited by a court decision, we could be prevented from using such patents as a basis for product differentiation or from licensing the invalidated or limited portion of our intellectual property rights, or we could lose part of the leverage we have in terms of our own intellectual property rights portfolio. Even if such a patent challenge is not successful, it could be expensive and time-consuming, divert attention of our management and technical personnel from our business and harm our reputation. Any diminution of the protection that our own intellectual property rights enjoy could cause us to lose some of the benefits of our investments in research and development.

In 2012, we continued to work to enforce our patents against unlawful infringement and realize the value of our intellectual property, including filing patent suits, entering into patent license agreements and through divesting patents. Patent license agreements can cover both licensee s past and future sales. The portion of the income that relates to past sales is not expected to have a recurring benefit and ongoing patent income from licensing is generally subject to various factors that we have little or no control over, for instance sales by the licensees. There are no guarantees that our actions to generate intellectual property-related revenue will lead to favorable outcomes, such as patent license agreements on favorable terms to us or that we would be able to utilize our patent portfolio for revenue generation to a similar extent going forward. While we have various licensees, a significant portion of licensing revenues is generated from a limited number of licensees and as such issues or ends of contracts in relation to these select licensees could have a significant effect. Due to various reasons including the above, our intellectual property related revenue can vary considerably from time to time and there are no guarantees that past levels are indicative of future levels of intellectual property related revenue.

We face intense competition in mobile products and in the digital map data and related location-based content and services markets.

We experience intense competition in every aspect of our business and across all markets for our mobile products. Mobile products markets are segmented, diversified and increasingly commoditized. We face competition from a growing number of participants in different user segments, price points and geographical markets, as well as layers of the mobile product using different competitive means in each of them. Such layers include the hardware and component layers as well as the software and application layers of a mobile product. In some of those layers, we may have more limited experience and scale than our competitors. This makes it more difficult and less cost-efficient for us to compete successfully with differentiated offerings across the whole mobile products market against more specialized competitors. It also limits our ability to leverage effectively our scale and other traditional strengths, such as our brand, hardware assets, manufacturing and logistics, distribution, strategic sourcing, research and development, intellectual property and design, to achieve significant advantages compared to our competitors. We have been historically more successful where our mobile devices are sold to consumers in open distribution through non-operator parties. The increase in markets with operator-driven distribution and business models where operator subsidies are prevalent may adversely affect our ability to compete effectively in those markets. We are increasingly seeing such developments taking place in markets where we have been traditionally strong, for instance in China. Additionally, our scale benefits may be adversely affected as new regional or operator requirements are introduced.

In the smartphone market, we face intense competition from traditional mobile device manufacturers and companies in related industries, such as Internet-based product and service providers, mobile operators, business device and solution providers and consumer electronics manufacturers. Some of those competitors are currently viewed as more attractive partners for application developers, content providers and other key industry participants, resulting in more robust global ecosystems and more appealing smartphones; have more experience, skills, speed of product development and execution, including software development, and scale in certain segments of the smartphone market; have a stronger market presence and brand recognition for their smartphones; have created different business models to tap into significant new sources of revenues, such as advertising and subscriptions; or generally have been able to adjust their business models and operations in an effective and timely manner to the developing smartphone and related ecosystem market requirements.

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The availability and success of Google s Android platform has made entry and expansion in the smartphone market easier for a number of hardware manufacturers which have chosen to join the Android ecosystem, especially at the mid-to-low range of the smartphone market. Additionally, this is increasingly reducing the addressable market and lowering the price points for Nokia feature phones. Product differentiation is more challenging, however, potentially leading to increased commoditization of Android-based devices with the resulting downward pressure on pricing.

The significant momentum and market share gains of the global ecosystems around the Android platform, where Samsung is the dominant participant, and Apple s iOS platform have increased the competitive barriers to additional entrants looking to build a competing global smartphone ecosystem. In 2012, driven by successful product launches, the value market share of Android-based and Apple products continued to increase, with Samsung and Apple together capturing the majority of the profits in the smartphone market in 2012. These two entrenched ecosystems also captured the vast majority of smartphone applications and services by easily attracting third-party software developers to their ecosystems and, as a result, realized much of the industry profits made on applications and services. The dominance of the Android and Apple ecosystems makes the growth of other ecosystems, such as the Windows Phone ecosystem, increasingly more difficult. At the same time, other ecosystems are being built which are attracting developers and consumers, and may result in fragmentation among ecosystem participants and the inability of new ecosystems to gain sufficient competitive scale.

During the transition of our smartphones to the Windows Phone platform, our competitors have and, as we target to grow this ecosystem, will continue to endeavor to attract our current and future consumers, mobile operators and other customers to their smartphone offerings. Our competitors use aggressive business strategies in attracting and retaining customers while dissuading their switching to other products. If our competitors succeed in that endeavor, our smartphone market share could erode further, which we may not be able to regain with new Nokia products with Windows Phone.

In the feature phone market, an increasing number of our competitors, particularly recent entrants, have used, and we expect will continue to use, more aggressive pricing and marketing strategies, different design approaches and alternative technologies that consumers may prefer over our offering of feature phones. For example, certain industry participants bundle mobile device deals with their networks deals. Some competitors, with lower profitability expectations, have chosen to focus on building feature phones based on commercially available components, software and content, in some cases available at very low or no cost, which enables them to introduce their products much faster and at significantly lower cost to the consumer than we are able to do. Smartphones of other manufactures, particularly Android-based smartphones, are reaching lower price points which is increasingly reducing the addressable market and lowering the price points for feature phones and may adversely affect our feature phone business. We have devices with features such as full touch that can be categorized as smartphones in our Mobile Phones business unit which face competition from other smartphone-like and smartphone devices such as Android-based devices.

We are also seeing the emergence of various local mobile device manufacturers that are strong in a certain country or region, especially in emerging markets. Success of such competitors could adversely affect sales of our mobile devices in various countries such as China, Indonesia and India where we have been traditionally strong.

We also face competition from vendors of legitimate, as well as unlicensed and counterfeit, products with manufacturing facilities primarily centered around certain locations in Asia and other emerging markets. The entry barriers for these vendors are very low as they are able to take advantage of licensed and unlicensed commercially available free or low-cost components, software and content. Our failure to provide low-cost differentiated alternatives for consumers in a timely manner or to enforce our intellectual property rights adversely affects our ability to compete efficiently in the market

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for feature phones and more affordable smartphones. Some of our competitors may also benefit from governmental support in their home countries and other measures that may have protectionist objectives. These factors could reduce the price competitiveness of our feature phones and have an adverse effect on our sales and profitability.

The growing significance of ecosystems has further reinforced the importance of product design as a means for differentiating offerings from others within the same or a different ecosystem. Additionally, together with the growth of cloud computing, where data and services are hosted by remote servers rather than on devices themselves, ecosystems are also leading some vendors to pursue a strategy of developing and providing devices and electronic products of different form factors and screen sizes, such as mobile devices, tablets and televisions and software which make them compatible and support their smooth interaction with one another. As consumers acquire different devices, some may choose to purchase products and services from only one ecosystem or vendor. If our competitors succeed in capturing markets where we are not currently present, this could erode our competitive position. For instance, we currently do not have tablets or other adjacent products in our mobile product portfolio, which may result in our inability to compete effectively in the tablet and developing multi-screen market segments in the future or forgoing those potential growth opportunities, and may also have an adverse effect on the desirability of our smartphones.

Consumers may be more reluctant to provide personal data to us, which would hamper our competitive position in terms of our current business models, or new business models, that rely on access to personal data. For instance, the possible inability to collect and utilize consumer behavioral data may prevent us from efficiently developing product and services, do efficient marketing, take actions to enable consumer retention and work efficiently with service developers.

A key component of our current strategy is investment in future disruptive technologies, including investment in longer-term market exploration of next-generation devices, platforms and user experiences. Additionally, we continuously seek new business and monetization models. Certain of our competitors have significant resources to invest in market exploration and seek new monetization models or drive industry development and capture value in areas where we are not competitive. Those areas can be, for instance, monetization models linked to the use of large amounts of consumer data, large connected communities, home entertainment services and alternative payment mechanisms. We may not be able to invest our own resources to compete in these areas, which may in the future prove a competitive disadvantage for us. If we fail in these aspects of our strategy, we may not realize a return on our investments or may incur operating losses and impair our competitiveness for the longer term.

With respect to digital map data and related location-based content, several global and local companies, as well as governmental and quasi-governmental agencies, are making more map data with improving coverage and content, and high quality, available free of charge or at lower prices. For example, our HERE business competes with Google which uses an advertising-based model allowing consumers and companies to use its map data and related services in their products free of charge to consumers. Google has continued to leverage Google Maps as a differentiator for Android bringing certain new features and functionality to that platform. Apple has also sought to strengthen its location assets and capabilities through targeted acquisitions and organic growth.

HERE also competes with companies such as TomTom, which licenses its map data and where competition is focused on the quality of the map data and pricing, and Open Street Map, which is a community-generated open source map available to users free of charge. Aerial, satellite and other location-based imagery is also becoming increasingly available and competitors are offering location-based products and services with the map data to both business customers and consumers in order to differentiate their offerings. Those developments may encourage new market entrants, cause business

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customers to incorporate map data from sources other than our HERE business or reduce the demand for fee-based products and services which incorporate HERE map database. Accordingly, our HERE business must positively differentiate its digital map data and related location-based content from similar offerings by our competitors and create competitive business models for our customers.

Our failure to keep momentum and increase our speed of innovation, product development and execution will impair our ability to bring new innovative and competitive mobile products and location-based or other services to the market in a timely manner.

We need to identify and understand the key market trends and user segments to address consumers expanding needs in order to bring new innovative and competitive mobile products and location-based or other services to market in a timely manner. We must follow, anticipate and be able to respond with speed to these key market trends, and actively create future trends in the market, through our product development processes. We also need to execute efficiently in creating and developing competitive products, and in bringing our products to market in a timely manner with compelling marketing messages that succeed in retaining and engaging our current, and attracting new, customers and consumers.

We have made changes to our strategy in recent years including the introduction of a sharpened strategy and further rebalancing measures in 2012. This sharpened strategy included among other things reductions within certain research and development projects, consolidation of certain manufacturing operations, focusing of marketing and sales activities, including prioritizing key markets, streamlining certain functions, and planned reductions related to non-core assets. We may face adverse effects due to these measures: for instance, we may reduce marketing spend which may lead to less demand for our products or we may exit certain markets which may result in lower net sales. The operational changes in our focused strategy may lead to further dominance by competitors such as Samsung and Apple as well as other competitors.

Our inability to innovate, develop and bring our mobile products and location-based or other services to market and delays in the ramp up of new product deliveries may result from a variety of factors, including failure to anticipate consumer trends and needs; insufficient and ineffective internal and external execution in our research and product development processes; an inability to secure necessary components or software assets from suppliers in sufficient quantities on a timely basis; or an inability to improve our time to market, including the introduction of innovations, through execution challenges in relation to our shift of most of our mobile device assembly to our manufacturing facilities in Asia where a majority of our suppliers are located. Additionally, the software complexity and integration of the hardware and software functionalities may cause unforeseen delays even close to the anticipated launch of the mobile product. We continue to be dependent on component providers, contract manufacturers, application developers and other partners, which can lead to additional challenges and delays that are largely outside of our control.

We operate in a fast paced and innovative industry. Our business may require significant investment to innovate and grow successfully. Such investments may include research and development, licensing arrangements, acquiring businesses and technologies, recruiting specialized expertise and partnering with third parties. Those investments may not, however, result in technologies, products or services that achieve or retain broad or timely market acceptance or are preferred by application developers, our customers and consumers. We have also made, and may make in the future, such investments through acquisitions. We may, however, fail to successfully complete planned acquisitions or integrate the acquired businesses or assets or retain and motivate their key employees.

Our ability to innovate and the need to increase the speed of our product development and execution are critical to the success of our current strategies and in bringing products and location-based or other services to market in a timely manner. In addition to the factors described above, delays in innovation, product development and execution may result from the added complexity of working in partnership with Microsoft to produce Nokia products with Windows Phone. For example, we may not be successful in our mode of working to collaborate effectively and efficiently with Microsoft, or be able to develop the necessary infrastructure to manufacture Nokia products with Windows Phone, source the right chipsets and generally integrate the hardware and software that both we and Microsoft are contributing. There may be elements in certain ecosystems that we support that are not in other ecosystems that we support, which require additional resources and duplicative investments by us**.**

Failures or delays in understanding or anticipating market trends or delays in innovation, product development and execution may result in a suboptimal portfolio of mobile products and location-based or other services, gaps in certain price points or an uncompetitive offering. Our failure to deliver mobile products in a timely fashion to markets and in sufficient quantities not only may have a negative effect on our market share, net sales and profitability, but may also erode our brand through consumer disappointment. Moreover, our customers and consumers expect that the services and applications provided with and in connection with our mobile products are positively differentiated from our competitors offerings, have the same or more capabilities than those of our competitors, function properly and are of high quality. If we fail in launching the services, have insufficient breadth of available applications or content, have inadequate or unsuccessful updates to them or there are other defects or quality issues with our mobile products, including the operating platform, software and user interface, this may cause consumer retention and engagement for our mobile products to deteriorate.

Our partnership with Microsoft is subject to risks and uncertainties.

In addition to the factors outlined above in connection with the Windows Phone ecosystem and sales of Nokia products with Windows Phone, our partnership with Microsoft is subject to certain risks and uncertainties, which could, either individually or together, significantly impair our ability to compete effectively in the smartphone market. A further change in smartphone strategy either by Microsoft or Nokia could be costly and further adversely affect our market share, competitiveness and profitability. Risks and uncertainties related to our partnership with Microsoft include the following:

- The agreements with Microsoft may include terms that prove unfavorable to us or Microsoft could provide better support to another device manufacturer which produces devices that run on the Windows Phone platform.

- We may not succeed in creating a profitable business model as we have transitioned from our own royalty-free smartphone platform to the royalty-based Windows Phone platform due to, among other things, our inability to offset our higher cost of sales resulting from our software royalty payments to Microsoft with new revenue sources and a reduction of our operating expenses, particularly our research and development expenses.

- We will need to continue to innovate and find additional ways to create patentable inventions and other intellectual property, particularly as we invest less than before in our own development under the Microsoft partnership. As a result, we may not be able to generate sufficient patentable inventions or other intellectual property to maintain, for example, the same size and/or quality patent portfolio as we have historically.

- We license from Microsoft the Windows Phone operating system as our primary smartphone platform. Microsoft may act independently of us with respect to decisions and communications on that operating system which may have a negative effect on us. Moreover, if Microsoft reduces investment in that operating system or discontinues it, our smartphone strategy would be directly negatively affected by such acts.

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Microsoft may make strategic decisions or changes that may be detrimental to us. For example, in addition to the Surface tablet, Microsoft may broaden its strategy to sell other mobile devices under its own brand, including smartphones. This could lead Microsoft to focus more on their own devices and less on mobile devices of other manufacturers that operate on the Windows Phone platform, including Nokia.

We may not be able to sufficiently influence Microsoft in bringing the features or functionalities for the Windows Phone platform that we deem most important, or Microsoft may otherwise focus on other areas of its business leading to reduced resources devoted to the Windows Phone platform or failures to implement features or functionalities. This may be heightened if our position in the partnership deteriorates, for instance through other companies using leverage to influence Microsoft, or if Microsoft chooses to develop its own mobile devices, including smartphones, or if Microsoft otherwise develops interests that are contrary to ours.

The implementation and ongoing fostering and development of the Microsoft partnership will require significant time, attention and resources of our senior management and others within the organization potentially diverting their attention from other aspects of our business.

The ongoing fostering and development of the Microsoft partnership may cause disruption and dissatisfaction among employees reducing their motivation, morale and productivity, causing inefficiencies and other problems across the organization and leading to the loss of key personnel and the related costs in dealing with such matters.

We may not have or be able to recruit, retain and motivate appropriately skilled employees to implement successfully our strategies in relation to the Windows Phone platform and to work effectively and efficiently with Microsoft and the related ecosystem.

New business models require access and sometimes possession of consumer data. If we do not have such access within our own control, this may hinder our ability to pursue such opportunities.

We may be required or choose to share with Microsoft personal or consumer data that has been made available to us, which could increase the risk of loss, improper disclosure or leakage of such personal or consumer data or create negative perceptions about our ability to maintain the confidentiality of such data.

New sources of revenue expected to be generated from the Microsoft partnership, such as leveraging the Microsoft advertising assets to build and achieve the required scale for a Nokia-based online advertising platform on our smartphones and increased monetization opportunities for us in services, may not materialize as expected, or at all.

We may not be able to change our mode of working or culture to enable us to work effectively and efficiently with Microsoft in order to realize the stated benefits of the partnership in a timely manner.

The implementation and ongoing fostering and development of the Microsoft partnership may cause dissatisfaction and adversely affect the terms on which we do business with our other partners, including mobile operators, developers, distributors and suppliers, or foreclose the ability to do business with new such partners.

We may not be able to effectively and smoothly implement the planned changes in operational structure or achieve targeted efficiencies and reductions in operating expenses and we may not be able to retain, motivate, develop and recruit appropriately skilled employees, which may hamper our ability to implement our strategies.

We have announced a number of changes to our Devices & Services and location-based strategy and operational structure during 2011 and 2012. The implementation of these strategies and changes in

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operational structure have had and are further expected to have significant impacts on our operations and personnel. Additionally, reorganizations and restructurings result in cash outflows related to such activities, as well as restructuring charges and associated impairments. We may not be able to accurately estimate the restructuring charges and restructuring related cash outflows. We have announced that we target to reduce our Devices & Services operating expenses to an annualized run rate of approximately EUR 3.0 billion by the end of 2013, excluding special items and purchase price accounting related items. This reduction is expected to come from a variety of different sources and initiatives. We cannot guarantee that we will achieve or sustain the targeted benefits, which could result in further restructuring efforts. In addition, we cannot guarantee that the benefits, even if achieved, will be adequate to meet our long-term growth and profitability targets. Additionally, in November 2011 Nokia Siemens Networks announced plans for a strategic shift and restructuring targeted to maintain long-term competitiveness and improve profitability discussed below under risks primarily related to Nokia Siemens Networks.

These strategies also involve changing our mode of working and culture to facilitate speed and agility in innovation, product development and are aimed at increasing the efficiency of execution and bringing more accountability for achieving results. Organizational changes of this nature consume significant time, attention and resources of senior management and others within the organization, potentially diverting their attention from other aspects of our business. Additionally, when such changes are planned and implemented they may cause disruption and dissatisfaction among employees, as well as fatigue due to the cumulative effect of several other reorganizations in the past few years. As a result, employee motivation, morale and productivity may be reduced causing inefficiencies and other problems across the organization and leading to the loss of key personnel and the related costs associated in dealing with such matters. Moreover, our employees may be targeted by our competitors during the implementation of our strategies, and some employees may be more receptive to such offers leading to the loss of key personnel. These factors may have a more pronounced adverse affect due to the cumulative effect of the previous reorganizations. Should we fail to implement new operational structures effectively and smoothly and effect the changes in our mode of working and culture, the efficiency of our operations and performance may be affected, which could have a material adverse effect on our business and results of operations, particularly our profitability.

Our success is dependent on our ability to retain, motivate, develop through constant competence training, and recruit appropriately skilled employees with a comprehensive understanding of our current and future businesses, technologies, software and products. This is particularly important as we need highly-skilled, innovative and solutions-oriented personnel with new capabilities. The potential impacts noted above of the operational changes being implemented throughout our organization, as well as the cumulative effect of several other reorganizations in the past few years, may make it more difficult to attract the new personnel we may need to implement our strategies successfully. We may need to adjust our compensation and benefits policies and take other measures to attract, retain and motivate skilled personnel. This will require significant time, attention and resources of senior management and others within the organization and may result in increased costs. We have encountered, and may encounter in the future, shortages of appropriately skilled personnel, which may hamper our ability to implement our strategies and materially harm our business and results of operations.

Relationships with employee representatives are generally managed at site level and most collective bargaining agreement have been in place for several years. Our inability to negotiate successfully with representatives or failures in our relationships with the representatives could result in strikes by the workers and/or increased operating costs as a result of higher wages or benefits paid to employees as the result of a strike or other industrial action. This may affect our ability to implement planned reorganizations and restructurings or increase the amount of associated time or cost. If our employees were to engage in a strike or other work stoppage, we could experience a significant disruption of operations and/or higher ongoing labor costs.

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Our sales and profitability are dependent on the development of the mobile and communications industry, including location-based and other services industries, in numerous diverse markets, as well as on general economic conditions globally and regionally.

Our sales and profitability are dependent on the development of the mobile and fixed communications industry in numerous diverse markets in terms of the number of new mobile subscribers, the number of existing subscribers who upgrade or replace their existing mobile devices and the number of active users of applications and services on our devices. In certain low penetration markets, in order to support a continued increase in mobile subscribers, we continue to be dependent on our own and mobile network operators and distributors ability to increase the sales volumes of lower cost mobile devices and on mobile network operators to offer affordable tariffs and tailored mobile network solutions designed for a low total cost of ownership. In highly penetrated markets, we are more dependent on our own and mobile network operators ability to successfully introduce value-added products, such as smartphones that drive the upgrade and replacement of devices, as well as ownership of multiple devices. We are also dependent on developers interest and success in creating value-added applications and other content in our products to achieve differentiation and additional consumer demand.

Our location-based and other services business is dependent on the development of a wide variety of products that use its data, the availability and functionality of such products and the rate at which consumers and businesses purchase those products. Nokia Siemens Networks is dependent on the pace of investments made by mobile network operators and service providers in network infrastructure and related services. If we and the other market participants are not successful in our attempts to increase subscriber numbers, stimulate increased usage or drive upgrade and replacement sales of mobile devices and develop and increase demand for value-added services, or if mobile network operators and service providers invest in the related infrastructure and services less than anticipated, our business and results of operations could be materially adversely affected.

As we are a global company with sales in most countries of the world, our sales and profitability are dependent on general economic conditions globally and regionally. The traditional mobile communications industry has matured to varying degrees in different markets and, consequently, the industry is more vulnerable than before to the negative impacts of deteriorations in global economic conditions. Although the global economy continued to recover and grow in 2012 the growth was slower than in 2011 and in 2010. In 2012, the global economic growth was adversely impacted by the European debt crisis as well as the uncertainty around the implementation and timing of the fiscal consolidation in the United States, casting doubt on the sustainability of the recovery in the various markets where we do business. Indeed, the concerns regarding the ongoing European debt crisis discussed below, whether real or perceived, could result in a recession, prolonged economic slowdown or otherwise negatively affect the general health and stability of the economies in certain regions where we do business. The overall economic uncertainty is making it difficult to estimate for business planning purposes the impact and timing of changes in economic conditions in the various markets where we do business. In 2012, we also witnessed political unrest in various regions where we do business, which adversely affected our sales in those markets.

Uncertainty or deterioration in global economic conditions or a recurrence or escalation of political unrest may result in our current and potential customers and consumers postponing or reducing spending on our products. In addition, mobile network operators may reduce the device subsidies that they offer to the consumers or attempt to extend the periods of contracts that obligate the consumer to use a certain device and postpone or reduce investment in their network infrastructure and related services. The demand for digital map information and other location-based content by automotive and mobile device manufacturers may decline in relation to any further contraction of sales in the automotive and consumer electronics industry. In addition, any further deterioration in the global or regional economic conditions may:

Limit the availability of credit or raise the interest rates related to credit which may have a negative impact on the financial condition, and in particular on the purchasing ability, of some of our distributors, independent retailers and network operator customers and may also result in requests for extended payment terms, credit losses, insolvencies, limited ability to respond to demand or diminished sales channels available to us.

Cause financial difficulties for our suppliers and collaborative partners which may result in their failure to perform as planned and, consequently, in delays in the delivery of our products.

Increase volatility in exchange rates which may increase the costs of our products that we may not be able to pass on to our customers and result in significant competitive benefit to certain of our competitors that incur a material part of their costs in other currencies than we do; hamper our pricing; and increase our hedging costs and limit our ability to hedge our exchange rate exposure.

Result in inefficiencies due to our deteriorated ability to appropriately forecast developments in our industry and plan our operations accordingly, delayed or insufficient investments in new market segments and failure to adjust our costs appropriately.

Cause reductions in the future valuations of our investments and assets and result in impairment charges related to goodwill or other assets due to any significant underperformance relative to historical or projected future results by us or any part of our business or any significant changes in the manner of our use of acquired assets or the strategy for our overall business.

Cause lowered credit ratings of our short- and long-term debt or their outlook from the credit rating agencies and, consequently, impair our ability to raise new financing or refinance our current borrowings and increase our interest costs associated with any new debt instruments.

Result in failures of derivative counterparties or other financial institutions which could have a negative impact on our treasury operations.

Result in increased and/or more volatile taxes which could negatively impact our effective tax rate, including the possibility of new tax regulations, interpretations of regulations which are stricter or increased effort by governmental bodies seeking to receive taxes more aggressively.

Impact our investment portfolio and other assets and result in impairment.

We are domiciled in Europe and our reporting currency is the euro. We face certain risks in relation to the concerns regarding the European debt crisis, market perceptions concerning the instability of the euro, the potential re-introduction of individual currencies within the eurozone, or the potential dissolution of the euro entirely. Should the euro dissolve entirely, the legal and contractual consequences for holders of euro-denominated obligations would be determined by laws in effect at such time. These potential developments, or market perceptions concerning these and related issues, could adversely affect the value of our euro-denominated assets and obligations. In addition, concerns over the effect of this financial crisis on financial institutions in Europe and globally could cause significant volatility and disruption to the global economy, which could adversely impact our financial results, as well as having an adverse impact on the capital markets generally, and more specifically on the ability of us and our customers, suppliers and lenders to finance their respective businesses, to access liquidity at acceptable financing costs, if at all, on the availability of supplies and materials and on the demand for our products. Full or partial dissolution of the euro would cause additional exchange rate risks related to dividends, foreign cash balances and investments. As the euro is our reporting currency, the dissolution of the euro would result in increased costs to adjust our financial reporting and result in increased volatility in our reported results of operations and financial condition.

We currently believe our funding position to be sufficient to meet our operating and capital expenditures in the foreseeable future. However, adverse developments in the global financial markets

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could have a material adverse effect on our financial condition and results of operations and/or our ability to access affordable financing on terms satisfactory to us. For a more detailed discussion of our liquidity and capital resources, see Item 5B. Liquidity and Capital Resources and Note 34 of our consolidated financial statements included in Item 18 of this annual report.

Our ability to maintain and leverage our traditional strengths in the mobile products market may be impaired if we are unable to retain the loyalty of our mobile operator and distributor customers and consumers as a result of the implementation of our strategies or other factors.

We have a number of competitive strengths that have historically contributed significantly to our sales and profitability. These include our scale, our differentiating brand, our world-class manufacturing and logistics system, the industry s largest distribution network and our strong relationships with our mobile operator and distributor customers. Going forward, these strengths are critical core competencies that we bring to the partnership with Microsoft and the implementation of our Windows Phone smartphone strategy. Our ability to maintain and leverage these strengths also continues to be important to our competitiveness in the feature phone market. Competing smartphone platforms and vendors have captured increased market share while our position has suffered, leading for instance to a reduction of our bargaining power and our influence with operators and distributors to make decisions that are favorable to us. Our loss of market share has also eroded our perceived strength in the smartphone market by consumers, which may lead consumers to prefer other brands.

As discussed above, the Microsoft partnership and the adoption of Windows Phone as our primary smartphone platform are subject to certain risks and uncertainties. Several of those risks and uncertainties relate to whether our mobile operator and distributor customers and consumers will be satisfied with our current strategy and partnership with Microsoft going forward. If those risks materialize and mobile operator and distributor customers and consumers as a consequence reduce their support and purchases of our mobile products, this would reduce our market share and net sales and in turn may erode our scale, brand, manufacturing and logistics, distribution and customer relations. The erosion of those strengths would impair our competitiveness in the mobile products market and our ability to execute successfully our strategy and to realize fully the expected benefits of the Microsoft partnership.

Also, as result of market developments, competitors actions or other factors within or out of our control, we may not be able to maintain these competitive strengths that we have benefited from historically. It is also possible that such strengths or some of them become less relevant in the future or are replaced by other types of strengths required for future success in the mobile products market.

If any of the companies we partner and collaborate with, including Microsoft, were to fail to perform as planned or if we fail to achieve the collaboration or partnering arrangements needed to succeed, we may not be able to bring our mobile products or location-based or other services to market successfully or in a timely way.

We are increasingly collaborating and partnering with third parties to develop technologies and products for our mobile devices. Additionally, we have outsourced various functions to third parties and are relying on them to provide certain services to us. For instance, in early 2013 we announced plans to streamline our IT organization including the transfer of certain activities and employees to HCL Technologies and TATA Consultancy Services. These arrangements involve the commitment by each party of various resources, including technology, research and development efforts, services and personnel. Today, mobile products are developed in an ecosystem of multiple partnerships with different industry participants where our ability to collaborate successfully with the right partners is critical to our success in creating and delivering mobile products that are preferred by our customers and consumers. Although the objective of the collaborative and partnering arrangements is a mutually

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beneficial outcome for each party, our ability to introduce new mobile products that are commercially viable and meet our and our customers and consumers quality, safety, security and other standards successfully and on schedule could be hampered if, for example, any of the following risks were to materialize:

- We fail to engage the right partners or on terms that are beneficial to us.

- We are unable to collaborate and partner effectively with individual partners and simultaneously with multiple partners to execute and reach the targets set for the collaboration.

- The arrangements with the parties we work with do not develop as expected, including their performance, delivery and timing, or include terms which prove unfavorable to us.

- The technologies provided by the parties we work with are not sufficiently protected or infringe third parties intellectual property rights in a way that we cannot foresee or prevent, or private information shared with partners is leaked.

- The technologies or products or services supplied by the parties we work with do not meet the required quality, safety, security and other standards or customer needs.

- Our own quality controls fail.

- We are unable to smoothly and efficiently implement our plans to streamline our IT organization, including the transfer of some activities and employees to HCL Technologies and TATA Consultancy Services, or such partners do not deliver as planned.

- The financial condition of our collaborative partners deteriorates which may result in underperformance by the collaborative partners or insolvency or closure of the business of such partners.

- Our increasing reliance on collaborative partnering for Nokia-branded or co-branded products may result in more variable quality due to our more limited control which may have a negative effect on our reputation and erode the value of the Nokia brand.

If the limited number of suppliers we depend on fail to deliver sufficient quantities of fully functional products, components, sub-assemblies, software and services on favorable terms and in compliance with our supplier requirements, our ability to deliver our mobile products profitably, in line with quality requirements and on time could be materially adversely affected.

Our manufacturing operations depend on obtaining sufficient quantities of fully functional products, components, sub-assemblies, software and services on a timely basis. Our principal supply requirements for our mobile products are for electronic components, mechanical components and software, which all have a wide range of applications in our products.

In some cases, a particular component may be available only from a limited number of suppliers or from a single supplier. In addition, our dependence on third-party suppliers has increased as a result of our strategic decisions to outsource certain activities, for example parts of our own chipset as well as wireless modems research and development, and to expand the use of commercially available chipsets and wireless modems. Suppliers may from time to time extend lead times, limit supplies, change their partner preferences, increase prices, have poor quality or be unable to increase supplies to meet increased demand due to capacity constraints or other factors, which could adversely affect our ability to deliver our mobile products on a timely basis. If we fail to anticipate customer demand properly, an over-supply or under-supply of components and production capacity could occur. In many cases, some of our competitors utilize the same contract manufacturers. If they have purchased capacity ahead of us, this could prevent us from acquiring the needed products, which could limit our ability to supply our customers or increase our costs.

We also commit to certain capacity levels or component quantities which, if unused, will result in charges for unused capacity or scrapping costs. For example, in 2011 and 2012 we recognized allowances for excess component inventory and future purchase commitments related to our devices, and may do so in the future. Increases or decreases especially to Smart Devices inventory related allowances may be required in the future depending on several factors, including consumer demand and continued ramp up particularly related to our new Nokia products with Windows Phone. Additionally, with the proportionally increased bargaining power of other large manufacturers in the mobile device and electronics industry, we may not be able to achieve as favorable terms as in the past resulting in increased costs that we may not be able to pass on to our customers, as well as lapses in the availability of certain components, especially in situations of tight supply.

Moreover, a supplier may fail to meet our supplier requirements, such as, most notably, our and our customers and consumers product quality, safety, security and other standards. Consequently, some of our products may be unacceptable to us and our customers and consumers, or may fail to meet our quality controls. In case of issues affecting a product s safety or regulatory compliance, we may be subject to damages due to product liability, or defective products, components or services may need to be replaced or recalled. Also, some suppliers may not be compliant with local laws, including, among others, local labor laws. In addition, a component supplier may experience delays or disruption to its manufacturing processes or financial difficulties or even insolvency or closure of its business, in particular due to difficult economic conditions. Due to our high volumes, any of these events could delay our successful and timely delivery of products that meet our and our customers and consumers quality, safety, security and other requirements, or otherwise materially adversely affect our sales and results of operations or our reputation and brand value.

Possible consolidation among our suppliers could potentially result in larger suppliers with stronger bargaining power and limit the choice of alternative suppliers, which could lead to an increase in the cost, or limit the availability, of components that may materially adversely affect our sales and results of operations. The intensive competition among our suppliers and the resulting pressure on their profitability, as well as negative effects from shifts in demand for components and sub-assemblies, may result in the exit of certain suppliers from our industry and decrease the ability of some suppliers to invest in the innovation that is vital for our business. Our ability to source components efficiently and on terms favorable to us could also be adversely affected if component suppliers who also operate in the mobile products market choose to limit or cease the supply of components to other mobile device manufacturers, including us. Further, our dependence on a limited number of suppliers that require purchases in their home country foreign currency increases our exposure to fluctuations in the exchange rate between the euro, our reporting currency, and such foreign currency and, consequently, may increase our costs which we may not be able to pass on to our customers.

Many of the production sites of our suppliers are geographically concentrated, with a majority of our suppliers based in Asia. In the event that any of these geographic areas is affected by any adverse conditions that disrupt production and/or deliveries from our suppliers, our ability to deliver our products on a timely basis could be negatively affected, which may materially adversely affect our business and results of operations.

We may fail to manage our manufacturing, service creation and delivery as well as our logistics efficiently and without interruption, or fail to make timely and appropriate adjustments, or fail to ensure that our products meet our and our customers and consumers requirements and are delivered on time and in sufficient volumes.

Our product manufacturing, service creation and delivery as well as our logistics are complex, require advanced and costly equipment and include outsourcing to third parties. These operations are continuously modified in an effort to improve efficiency and flexibility of our manufacturing, service creation and delivery as well as our logistics and to produce, create and distribute continuously changing volumes. We may experience difficulties in adapting our supply to meet the changing demand for our products, both ramping up and down production at our facilities as needed on a timely basis; maintaining an optimal inventory level; adopting new manufacturing processes; finding the most timely way to develop the best technical solutions for new products; managing the increasingly complex manufacturing process for our high-end products, particularly the software for those products; adapting our manufacturing processes for the requirements of the Windows Phone platform and the production of Nokia products with Windows Phone; or achieving manufacturing efficiency and flexibility, whether we manufacture our products and create our services ourselves or outsource to third parties.

We may also face challenges in retooling our manufacturing processes to accommodate the production of devices in smaller lot sizes to customize devices to the specifications of certain mobile networks operators or to comply with regional technical standards. Further, we may experience challenges in having our services and related software fully operational at the time they are made available to customers and consumers, including issues related to localization of the services to numerous markets and to the integration of our services with, for example, billing systems of network operators.

We have from time to time outsourced manufacturing of certain products and components to adjust our production to demand fluctuations as well as to benefit from expertise others have in the production of certain mobile technologies. For certain of our mobile products we use contract manufacturers to produce the entire product, which is subject to certain risks involving, for example, the choice of contract manufacturers, the need to change our mode of operation to work effectively and efficiently with such manufacturers and otherwise manage the complexities of such relationships to ensure that the products meet all of the required specifications.

We may also experience challenges caused by third parties or other external difficulties in connection with our efforts to modify our operations to improve the efficiency and flexibility of our manufacturing, service creation and delivery as well as our logistics, including, but not limited to, strikes, purchasing boycotts, public harm to the Nokia brand and claims for compensation resulting from our decisions on where to locate and how to utilize our manufacturing facilities, including the assembly and customization of our devices and products. Such difficulties may result from, among other things, delays in adjusting or upgrading production at our facilities, delays in expanding production capacity, failure in our manufacturing, service creation and delivery as well as logistics processes, failures in the activities we have outsourced, and interruptions in the data communication systems that run our operations. Such failures or interruptions could result in our products not meeting our and our customers and consumers quality, safety, security and other requirements, or being delivered late or in insufficient or excess volumes compared to our own estimates or customer requirements, which could have a material adverse effect on our sales, results of operations, reputation and the value of the Nokia brand.

Most of our mobile products are manufactured and assembled in Asia primarily at our manufacturing facilities, as well as those of our contract manufacturers. As a result, if that region or certain countries in that region are affected by any adverse conditions that disrupt production and/or deliveries from our facilities or those of our contract manufacturers, this could negatively affect our ability to deliver our products on a timely basis, which may materially adversely affect our business and results of operations.

Any actual or even alleged defects or other quality, safety and security issues in our products, including the hardware, software and content used in our products, could have a material adverse effect on our sales, results of operations, reputation and the value of the Nokia brand.

Our products are highly complex, and defects in their design, manufacture and associated hardware, software and content have occurred and may occur in the future. Due to the very high production

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volumes of many of our mobile products, even a single defect in their design, manufacture or associated hardware, software and content may have a material adverse effect on our business. Our smartphones, in particular, incorporate numerous functionalities, feature computer-like and consumer electronics-like hardware and are powered by sophisticated software. This complexity and the need for the seamless integration of the hardware, software and services elements and compatibility with other relevant technologies may also increase the risk of quality issues in our smartphones. Further, our mobile product portfolio is subject to continuous renewal which, particularly during periods of significant portfolio renewals, may increase the risk of quality issues related to our products, in particular in smartphones.

Defects and other quality issues may result from, among other things, failures in our own product and service creation and deliveries as well as manufacturing processes, failures of our suppliers to comply with our supplier requirements, or failures in products and services created jointly with collaboration partners or other third parties where the development and manufacturing process is not fully in our control. Prior to shipment, quality issues may cause failures in ramping up the production of our products and shipping them to customers in a timely manner as well as related additional costs or even cancellation of orders by customers. After shipment, products may fail to meet marketing expectations set for them, may malfunction or may contain security vulnerabilities, and thus cause additional repair, product replacement, recall or warranty costs to us and harm our reputation. In case of issues affecting a product s safety, regulatory compliance including but not limited to privacy or security, we may be subject to damages due to product liability, and defective products, components or service offerings may need to be replaced or recalled. With respect to our services, quality issues may relate to the challenges in having the services fully operational at the time they are made available to our customers and consumers and maintaining them on an ongoing basis. The use of our HERE business map data in our customers products and services, including HERE Maps in our mobile devices, involves a possibility of product liability claims and associated adverse publicity. Claims could be made by business customers if errors or defects result in a failure of their products or services, or by end-users of those products or services as a result of actual or perceived errors or defects in the map database. In addition, business customers may require us to correct defective data, which could be costly, or pay penalties if quality requirements or service level agreements are not satisfied.

We make provisions to cover our estimated warranty costs for our products. We believe that our provisions are appropriate, although the ultimate outcome may differ from the provided level which could have a positive or negative impact on our results of operations and financial condition.

Our mobile products and related accessories are also subject to counterfeiting activities in certain markets. Counterfeit products may erode our brand due to poor quality. Such activities may affect us disproportionately due to our brand recognition in various markets. Furthermore, our products are increasingly used together with hardware, software or service components that have been developed by third parties, whether or not we have authorized their use with our products. However, such components, such as batteries or software applications and content, may not be compatible with our products and may not meet our and our customers and consumers quality, safety, security or other standards. Additionally, certain components or layers that may be used with our products may enable them to be used for objectionable purposes, such as to transfer content that might be illegal, hateful or derogatory. The use of our products with incompatible or otherwise substandard hardware, software or software components, or for purposes that are inappropriate, is largely outside of our control and could harm the Nokia brand.

Our operations rely on the efficient and uninterrupted operation of complex and centralized information technology systems and networks. If a system or network inefficiency, malfunction or disruption occurs, this could have a material adverse effect on our business and results of operations.

Our operations rely on the efficient and uninterrupted operation of complex and centralized information technology systems and networks, which are integrated with those of third parties. All information technology systems are potentially vulnerable to damage, malfunction or interruption from a variety of sources. We are increasingly relying on third parties for the provision of information technology systems and networks; for instance in early 2013, we announced plans to streamline our IT organization including the transfer of certain activities and employees to HCL Technologies and TATA Consultancy Services. We may experience disruptions if our partners do not deliver as we have planned or if we are unable to successfully and smoothly implement the plans to streamline our IT organization.

We pursue various measures in order to manage our risks related to system and network malfunction and disruptions, including the use of multiple suppliers and available information technology security. However, despite precautions taken by us, any malfunction or disruption of our current or future systems or networks such as an outage in a telecommunications network used by any of our information technology systems, or a breach of our cybersecurity, such as a malicious attack, malware or other event that leads to an unanticipated interruption or malfunction of our information technology systems or networks or data leakages, could have a material adverse effect on our brand image, business and results of operations. In addition, if we fail to successfully use our information technology systems and networks, our operational efficiency or competitiveness could be impaired which could have a material adverse effect on our business and results of operations. A disruption, for instance in our mail, music or location-based services, could cause significant discontent among users of our products resulting in claims or deterioration of our brand image.

Any cybersecurity breach or other factors leading to an actual or alleged loss, improper disclosure or leakage of any personal or consumer data collected by us or our partners or subcontractors, made available to us or stored in or through our products could have a material adverse effect on our sales, results of operations, reputation and value of the Nokia brand.

Although we endeavor to develop products that meet the appropriate security standards, including with respect to data protection, we or our products and online services, marketing and developer sites may be subject to breaches in our cybersecurity, including hacking, viruses, worms and other malicious software, unauthorized modifications or illegal activities, that may cause potential security risks and other harm to us, our customers or consumers and other end-users of our products. Cybersecurity concerns may affect us disproportionately due to our brand recognition in mobile products. Due to the very high volumes of many of our mobile products, and the evolving nature of services and map data, such events or mere allegations of such events may have a material adverse effect on our business. Additionally, we contract with multiple third parties in various jurisdictions who collect and use certain data on our behalf, for instance for marketing purposes. Although we have processes in place designed to ensure appropriate collection, handling and use of such data, third parties may use the data inappropriately, breach laws in collecting, handling or using such data or leak such data. This could lead to lengthy proceedings or fines imposed on us as well as adverse effects to our reputation and brand value.

In connection with providing our products to our customers and consumers, certain customer feedback, information on consumer usage patterns and other personal and consumer data is collected and stored through our products, in particular with smartphones, either by the consumers or by us or our partners or subcontractors. Our developer sites may also require certain data to be provided by the developers.

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Loss, improper disclosure or leakage of any personal or consumer data collected by us or that is available to our partners or subcontractors, made available to us or stored in or through our products could result in liability to us and harm our reputation and brand. Moreover, if data held by a developer site is hacked or leaked, the developer may become unwilling to join or remain a part of our developer ecosystems. In addition, governmental authorities may use our networks products to access the personal data of individuals without our involvement, for example, through so-called lawful intercept capability of network infrastructure. Even perceptions that our products do not adequately protect personal or consumer data collected by us, made available to us or stored in or through our products or that they are being used by third parties to access personal or consumer data could impair our sales, results of operations, reputation and brand value.

Our business and results of operations, particularly our profitability, may be materially adversely affected if we are not able to successfully manage the pricing of our products and costs related to our products and our operations.

We need to introduce products in a cost-efficient and timely manner and manage proactively the costs and cost development related to our portfolio of products, including component sourcing, manufacturing, logistics and other operations. Historically, our market position and scale provided a significant cost advantage in many areas of our business, such as component sourcing, compared to our competitors, but our ability to leverage that advantage is now more limited. As well, we have benefited from the cost of components eroding more rapidly than the price erosion of our mobile products. Recently, however, component cost erosion has been generally slowing, a trend that has adversely affected our profitability, and may do so in the future. Currency fluctuations may also have an adverse impact on our ability to manage our costs relative to certain of our competitors who incur a material part of their costs in other currencies than we do. If we fail to maintain or improve our market position and scale compared to our competitors across the range of our products, as well as leverage our scale to the fullest extent, or if we are unable to develop or otherwise acquire software, applications and content cost competitively in comparison to our competitors, or if our costs increase relative to those of our competitors due to currency fluctuations, this could materially adversely affect our competitive position, business and results of operations, particularly our profitability.

We need to manage our operating expenses and other internal costs to maintain cost efficiency and competitive pricing of our products. Any failure by us to determine the appropriate prioritization of operating expenses and other costs, to identify and implement on a timely basis the appropriate measures to adjust our operating expenses and other costs accordingly, including the current measures to achieve targeted reductions in our operating expenses, or to maintain reductions could have a material adverse effect on our business, results of operations and financial condition. In particular, our profitability could be adversely affected as we rely on the royalty-based Windows Phone platform as our primary smartphone platform if we are unable to offset our higher cost of sales resulting from our royalty payments to Microsoft with new revenue sources from the Microsoft partnership and a reduction in our operating expenses, particularly our research and development expenses.

Our products are subject to price erosion, both naturally over their life cycle and as a result of various other factors, including increased price pressure. We have also in the past and may continue to increase the proportion of mobile products sold at lower prices to reach wider groups of consumers, particularly in our smartphones. Other factors that may adversely impact the selling price of our mobile devices include the extent to which consumers do not upgrade their mobile devices, postpone replacement or replace their current device with a lower-priced device and the extent to which our regional mix is weighted towards emerging markets where lower-priced products predominate. Moreover, some of our competitors may continue to reduce their prices resulting in significantly lower profit margins than is customary or sustainable on a long-term basis in this industry, which would lower the selling price of our devices if we chose for competitive reasons to lower our prices. Our inability to

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lower our costs at the same rate or faster than the price erosion of our mobile products could have a material adverse effect on our business and results of operations, particularly our profitability.

We have operations in a number of countries and, as a result, face complex tax issues and could be obligated to pay additional taxes in various jurisdictions and our actual or anticipated performance, among other factors, could result in allowances related to deferred tax assets.

We operate our business in a number of countries which involve different tax regimes and the application of rules related to taxation. Applicable taxes, VAT and social taxes for which we make provisions could increase significantly as a result of changes in applicable tax laws in the countries where we operate, the interpretation of those laws by local tax authorities or tax audits performed by local tax authorities. The impact of these factors is dependent on the types of revenue and mix of profit we generate in various countries; for instance, profits from sales of devices or services may have a different tax treatment.

Nokia is subject to income taxes in Finland and in numerous other jurisdictions. Our business and investments globally and especially in emerging market countries are subject to uncertainties, including unfavorable or unpredictable tax law changes (even possibly with retroactive effect), taxation treatment and regulatory proceedings including tax audits. For instance, during early 2013 Nokia became subject to a tax investigation in India, apparently focusing on Indian tax consequences of payments made within Nokia for the supply of operating software from its parent company in Finland. Such proceedings can be lengthy, involve actions that can hinder local operations and the outcome of such proceedings is difficult to predict. Negative developments or outcome in such proceedings could have adverse effects to our cash flows, income statements and to our financial position.

Deferred tax assets recognized on tax losses, unused tax credits and tax deductible temporary differences are dependent on our ability to offset such items against future taxable income within the relevant tax jurisdiction. Deferred tax assets recognized on tax losses, unused tax credits and tax deductible temporary differences are based on our assumptions for future taxable earnings and these may not occur as planned, which may cause the deferred tax asset to be reduced. There can be no assurances that an unexpected reduction in deferred tax assets will not occur. Any such reduction could have an adverse effect on us. Additionally, our earnings have been and may continue to be in the future unfavorably impacted by Nokia Siemens Networks and Devices & Services taxes as no tax benefits are recognized for certain Nokia Siemens Networks and Devices & Services deferred tax items. There may also be unforeseen tax expenses which may have an unfavorable impact on us. As a result and given the inherent unpredictable nature of taxation, there can be no assurance that the estimated long-term tax rate of Nokia will remain at current levels or that cash flows regarding taxes will be stable.

Our net sales, costs and results of operations, as well as the US dollar value of our dividends and market price of our ADSs, are affected by exchange rate fluctuations, particularly between the euro, which is our reporting currency, and the US dollar, the Japanese yen and the Chinese yuan, as well as certain other currencies.

We operate globally and are therefore exposed to foreign exchange risks in the form of both transaction risks and translation risks. Our policy is to monitor and hedge exchange rate exposure, and we manage our operations to mitigate, but not to eliminate, the impacts of exchange rate fluctuations. There can be no assurance, however, that our hedging activities will be successful in mitigating the impact of exchange rate fluctuations. In addition, significant volatility in the exchange rates may increase our hedging costs, as well as limit our ability to hedge our exchange rate exposure in particular against unfavorable movements in the exchange rates of certain emerging market currencies and could have an adverse affect on our results of operations, particularly our profitability. Further, exchange rate fluctuations may have an adverse affect on our net sales, costs and results of operations, as well as our competitive position. Exchange rate fluctuations may also make our pricing more difficult as our products may be

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re-routed by the distribution channels for sale to consumers in other geographic areas where sales can be made at more favorable exchange rates by those channels. Further, exchange rate fluctuations may also materially affect the US dollar value of any dividends or other distributions that are paid in euro as well as the market price of our ADSs. For a more detailed discussion of exchange risks, see Item 5A. Operating Results Certain Other Factors Exchange Rates and Note 34 of our consolidated financial statements included in Item 18 of this annual report.

Our products include increasingly complex technologies, some of which have been developed by us or licensed to us by certain third parties. As a result, evaluating the rights related to the technologies we use or intend to use is more and more challenging, and we expect increasingly to face claims that we could have allegedly infringed third parties intellectual property rights. The use of these technologies may also result in increased licensing costs for us, restrictions on our ability to use certain technologies in our products and/or costly and time-consuming litigation.

Our products include increasingly complex technologies, some of which have been developed by us or licensed to us by certain third parties. As the amount of such proprietary technologies and the number of parties claiming intellectual property rights continue to increase, even within individual products, as the range of our products becomes more diversified and we enter new businesses, and as the complexity of the technology increases, the possibility of alleged infringement and related intellectual property claims against us continues to rise. The holders of patents and other intellectual property rights potentially relevant to our products may be unknown to us, may have different business models, may refuse to grant licenses to their proprietary rights, or may otherwise make it difficult for us to acquire a license on commercially acceptable terms. There may also be technologies licensed to and relied on by us that are subject to alleged infringement or other corresponding allegations or claims by others which could impair our ability to rely on such technologies. In addition, although we endeavor to ensure that companies that work with us possess appropriate intellectual property rights or licenses, we cannot fully avoid the risks of intellectual property rights infringement created by suppliers of components and various layers in our products, or by companies with which we work in cooperative research and development activities. Similarly, we and our customers may face claims of infringement in connection with our customers use of our products and such claims may also influence consumer behavior.

In many aspects the business models for mobile services are not yet established. The lack of availability of licenses for copyrighted content, delayed negotiations, or restrictive licensing terms may have a material adverse effect on the cost or timing of content-related services offered by us, mobile network operators or third-party service providers, and may also indirectly affect the sales of our mobile devices.

Since all technology standards, including those we use and rely on, include some intellectual property rights, we cannot fully avoid risks of a claim for infringement of such rights due to our reliance on such standards. We believe that the number of third parties declaring their intellectual property to be relevant to these standards, for example, the standards related to so-called 3G and 4G mobile communication technologies, as well as other advanced mobile communications standards, is increasing, which may increase the likelihood that we will be subject to such claims in the future. As the number of market entrants and the complexity of technology increases, it remains likely that we will need to obtain licenses with respect to existing and new standards from other licensors. While we believe that any such intellectual property rights declared or actually found to be essential to a given standard carry with them an obligation to be licensed on fair, reasonable and non-discriminatory terms, not all intellectual property owners agree on the meaning of that obligation and thus costly and time-consuming litigation over such issues has resulted and may continue to result in the future. While the rules of many standard setting bodies, such as the European Telecommunication Standards Institute,

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or ETSI, often apply on a global basis, the enforcement of those rules may involve national courts, which means that there may be a risk of different interpretation of those rules.

From time to time, some existing patent licenses may expire or otherwise become subject to renegotiation. The inability to renew or finalize such arrangements or new licenses with acceptable commercial terms may result in costly and time-consuming litigation, and any adverse result in any such litigation may lead to restrictions on our ability to sell certain products and could result in payments that potentially could have a material adverse effect on our operating results and financial condition. These legal proceedings may continue to be expensive and time-consuming and divert the efforts of our management and technical personnel from our business, and, if decided against us, could result in restrictions on our ability to sell our products, require us to pay increased licensing fees, substantial judgments, settlements or other penalties and incur expenses.

Our patent license agreements may not cover all the future businesses that we may enter; our existing businesses may not necessarily be covered by our patent license agreements if there are changes in our corporate structure or in companies under our control; or our newly-acquired businesses may already have patent license agreements with terms that differ from similar terms in our patent license agreements. This may result in increased costs, restrictions to use certain technologies or time-consuming and costly disputes whenever there are changes in our corporate structure or in companies under our control, or whenever we enter new businesses or acquire new businesses.

Nokia Siemens Networks has access to certain licenses through cross-licensing arrangements with its current shareholders, Nokia and Siemens. If there are changes to Nokia Siemens Networks corporate structure which lead to a deconsolidation of Nokia Siemens Networks from Nokia, Nokia Siemens Networks may be unable to rely on some of its existing licenses. There can be no assurance that such licenses could be replaced on terms that are commercially acceptable.

We make accruals and provisions to cover our estimated total direct IPR costs for our products. The total direct IPR cost consists of actual payments to licensors, accrued expenses under existing agreements and provisions for potential liabilities. We believe that our accruals and provisions are appropriate for all technologies owned by others. The ultimate outcome, however, may differ from the provided level which could have a positive or negative impact on our results of operations and financial condition.

Any restrictions on our ability to sell our products due to expected or alleged infringements of third-party intellectual property rights and any intellectual property rights claims, regardless of merit, could result in material loss of profits, costly litigation, the payment of damages and other compensation, the diversion of the attention of our personnel, product shipment delays or the need for us to develop non-infringing technology or to enter into a licensing agreement. If licensing agreements were not available or are not available on commercially acceptable terms, we could be precluded from making and selling the affected products, or could face increased licensing costs. As new features are added to our products, we may need to acquire further licenses, including from new and sometimes unidentified owners of intellectual property. The cumulative costs of obtaining any necessary licenses are difficult to predict and may over time have a negative effect on our operating results. See Item 4B. Business Overview Devices & Services and Location & Commerce Patents and Licenses and Nokia Siemens Networks Patents and Licenses for a more detailed discussion of our intellectual property activities.

Our sales derived from, and manufacturing facilities and assets located in, emerging market countries may be materially adversely affected by economic, regulatory, political or other developments in those countries or by other countries imposing regulations against imports to such countries.

We generate sales from and have manufacturing facilities located in various emerging market countries. Sales from those countries represent a significant portion of our total sales and those countries represent a significant portion of any expected industry growth. Most of our mobile products are manufactured and assembled in emerging market countries, particularly in Asia. Accordingly, economic or political turmoil, military actions, labor unrest, civil unrest, public health and environmental issues or natural and man-made disasters in those countries could materially adversely affect the supply of mobile products and network infrastructure equipment manufactured in those countries, our sales and results of operations. In 2011 and 2012, we witnessed political unrest in various markets where we do business, which adversely affected our sales in those markets, and any reoccurrence or escalation of such unrest could do so in the future.

Further, the economic conditions in emerging market countries may be more volatile than in developed countries, and the purchasing power of our customers and consumers in those countries depends to a greater extent on the price development of basic commodities and currency fluctuations which may render our products too expensive to afford. Our business and investments in emerging market countries may also be subject to risks and uncertainties, including unfavorable or unpredictable taxation treatment, exchange controls, regulatory proceedings, unsound business practices, challenges in protecting our intellectual property rights, nationalization, inflation, currency fluctuations, or the absence of, or unexpected changes in, regulation as well as other unforeseeable operational risks. For example, Nokia Siemens Networks, as well as its competitors, were adversely affected in 2010 by the implementation of security clearance requirements in India which prevented the completion of product sales to customers, and could be similarly affected again in future periods, leading to ongoing uncertainty in that market. See Note 2 to our consolidated financial statements included in Item 18 of this annual report for more detailed information on geographic location of net sales to external customers, segment assets and capital expenditures.

Changes in various types of regulation, technical standards and trade policies as well as enforcement of such regulation and policies in countries around the world could have a material adverse effect on our business and results of operations.

Our business is subject to direct and indirect regulation in each of the countries where we, the companies with which we work, and our customers, do business. We develop many of our products based on existing regulations and technical standards, our interpretation of unfinished technical standards or there may be an absence of applicable regulations and standards. As a result, changes in various types of regulations, their application and trade policies applicable to current or new technologies or products may adversely affect our business and results of operations. For example, changes in regulation affecting the construction of base stations and other network infrastructure could adversely affect the timing and costs of new network construction or expansion and the commercial launch and ultimate commercial success of those networks. Export control, tariffs or other fees or levies imposed on our products and environmental, health, product safety and security, consumer protection, money laundering and other regulations that adversely affect the export, import, pricing or costs of our products could also adversely affect our sales and results of operations. For example, copyright collecting societies in several member states of the EU as well as in several other countries claim that due to their capability to play and store copyrighted content, mobile devices should be subject to similar copyright levies that are charged for products such as compact disc, digital video disc or digital audio players.

Any new or increased levies and duties could result in costs which lead to higher prices for our products, which may in turn impair their demand or decrease profitability if such costs cannot be passed to customers. For instance, in Brazil consumer protection agencies are seeking to implement a requirement that certain mobile devices under warranty and claimed to be defective must be immediately replaced at the point of sale. If such measures are introduced, our costs in Brazil would increase. In addition, changes in various types of regulations or their application with respect to taxation or other fees collected by governments or governmental agencies may result in unexpected payments to be made by us, and in response to difficult global economic conditions there may be an increase in the aggressiveness of collecting such fees.

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Our expansion into the provision of services, including the activities of our HERE business, has resulted in a variety of new regulatory issues and subjects us to increased regulatory scrutiny. Moreover, our competitors have employed and will likely continue to employ significant resources to shape the legal and regulatory regimes in countries where we have significant operations. Legislators and regulators may make legal and regulatory changes or interpret and apply existing laws in ways that make our services less appealing to the end users, require us to incur substantial costs, change our business practices or prevent us from offering our services.

In line with changes in strategy, as well as in some cases a difficult political or business environment and an increasingly complicated trade sanctions environment, Nokia and Nokia Siemens Networks have reduced operations and have exited or are in the process of exiting certain countries, such as Iran, or areas. Such actions may trigger additional investigations, including tax audits by authorities or claims by contracting parties. The result of such investigations or claims may be difficult to predict and could lead to lengthy disputes or fines or a settlement.

The impact of changes in or uncertainties related to regulation and trade policies could affect our business and results of operations adversely even though the specific regulations do not always directly apply to us or our products. In many parts of the world where we currently operate or seek to expand our business, local practices and customs may be contrary to our code of conduct and could violate anticorruption laws, including the US Foreign Corrupt Practices Act and the UK Bribery Act 2010 or EU and other applicable trade sanctions and embargoes. Our employees, or others who act on our behalf, could violate policies and procedures intended to promote compliance with anticorruption laws or trade sanctions. Violations of these laws by our employees or others who act on our behalf, regardless of whether we participated in such acts or knew about such acts at certain levels of our organization, could subject us and our employees to criminal or civil enforcement actions, including fines or penalties, disgorgement of profits and suspension or disqualification from sales. Additionally, violations of law or allegations of violations may result in the loss of reputation and business. Detecting, investigating and resolving such situations may also result in significant costs, including the need to engage external advisors, and consume significant time, attention and resources of our management.

As a global company, we are subject to various legislative frameworks and jurisdictions that regulate fraud committed in the course of business operations and trade sanctions and as such the extent and outcome of any proceedings is difficult to estimate. Further, our business and results of operations may be adversely affected by regulation and trade policies favoring the local industry participants as well as other measures with potentially protectionist objectives which host governments in different countries may take, particularly in response to difficult global economic conditions.

An unfavorable outcome of litigation could have a material adverse effect on our business, results of operations, financial condition and reputation.

We are a party to lawsuits in the normal course of our business. Litigation can be expensive, lengthy and disruptive to normal business operations and divert the efforts of our management. Moreover, the results of complex legal proceedings are difficult to predict. An unfavorable resolution of a particular lawsuit could have a material adverse effect on our business, results of operations, financial condition and reputation.

We record provisions for pending litigation when we determine that an unfavorable outcome is probable and the amount of loss can be reasonably estimated. Due to the inherent uncertain nature of litigation, the ultimate outcome or actual cost of settlement may vary materially from estimates. We believe that our provisions for pending litigation are appropriate. The ultimate outcome, however, may differ from the provided level which could have a positive or negative impact on our results of operations and financial condition.

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See Item 8A7. Litigation for a more detailed discussion about litigation that we are party to.

Allegations of possible health risks from the electromagnetic fields generated by base stations and mobile devices, and the lawsuits and publicity relating to this matter, regardless of merit, could have a material adverse effect on our sales, results of operations, share price, reputation and brand value by leading consumers to reduce their use of mobile devices, by increasing difficulty in obtaining sites for base stations, by leading regulatory bodies to set arbitrary use restrictions and exposure limits, or by causing us to allocate additional monetary and personnel resources to these issues.

There has been public speculation about possible health risks to individuals from exposure to electromagnetic fields from base stations and from the use of mobile devices. A substantial amount of scientific research conducted to date by various independent research bodies has indicated that these radio signals, at levels within the limits prescribed by safety standards set by, and recommendations of, public health authorities, present no adverse effect on human health. We cannot, however, be certain that future studies, irrespective of their scientific basis, will not suggest a link between electromagnetic fields and adverse health effects that could have a material adverse effect on our sales, results of operations, share price, reputation and brand value. Research into these issues is ongoing by government agencies, international health organizations and other scientific bodies in order to develop a better scientific and public understanding of these issues.

Over the past twelve years we have been involved in several class action matters alleging that Nokia and other manufacturers and cellular service providers failed to properly warn consumers of alleged potential adverse health effects and failed to include headsets with every handset to reduce the potential for alleged adverse health effects. All of those cases have been withdrawn or dismissed. In addition, Nokia and several other mobile device manufacturers and network operators were named in twelve lawsuits by individual plaintiffs who allege that radio emissions from mobile devices caused or contributed to each plaintiff s brain tumor. A hearing on the admissibility of the plaintiffs proffered general causation evidence will likely occur in the fourth quarter of 2013, at the earliest.

Although Nokia products are designed to meet all relevant safety standards and recommendations globally, we cannot guarantee we will not become subject to product liability claims or be held liable for such claims or be required to comply with future regulatory changes in this area that could have a material adverse effect on our business. Even a perceived risk of adverse health effects of mobile devices or base stations could have a material adverse effect on us through a reduction in sales of mobile devices or increased difficulty in obtaining sites for base stations.

Nokia Siemens Networks

In addition to the risks described above, the following are risks primarily related to Nokia Siemens Networks that could affect Nokia.

Nokia Siemens Networks sales and profitability depend on its success in the mobile broadband infrastructure and related services market. Nokia Siemens Networks may fail to effectively and profitably adapt its business and operations in a timely manner to the increasingly diverse service needs of its customers in that market.

A key component of Nokia Siemens Networks strategy to focus on the mobile broadband infrastructure and related services market is the provision of related essential services which it believes will be a key driver of general sales and profitability. If Nokia Siemens Networks is not successful in implementing its services business strategy and achieving the desired outcomes in a timely manner or if the mobile broadband services market fails to develop in the manner currently anticipated by it, or if there are unfavorable variations in its product and service mix towards lower margin products or services, this could have a material adverse effect on our business, results of operations, particularly profitability, and financial condition.

Nokia Siemens Networks strategy to focus on mobile broadband infrastructure and services is subject to risks and uncertainties, including:

- Nokia Siemens Networks ability to adapt its policies and procedures to the additional emphasis on a services business model.
- Nokia Siemens Networks ability to recruit and retain skilled personnel.
- Nokia Siemens Networks ability to successfully develop market recognition of its business as a leading provider of software and service support in the mobile broadband infrastructure industry.
- Nokia Siemens Networks ability to maintain efficient and low-cost operations.
- Delays in implementing relevant initiatives.
- Further consolidation of its customers.
- Increased competition.
- If Nokia Siemens Networks fails to implement its strategy successfully, its market share may decline which could result in the loss of scale benefits and reduce competitiveness and its financial performance may deteriorate.
- The market may develop in directions that leave Nokia Siemens Networks deficient in certain technologies and industry areas that impact its overall competitiveness.
- Certain customers who currently buy services and products from Nokia Siemens Networks that are not regarded as core may choose to turn to alternative vendors to maintain end-to-end service from their suppliers.
- The development and implementation of Nokia Siemens Networks strategy has consumed and will continue to consume significant time, attention and resources of its management.

Competition in the mobile broadband infrastructure and related services market is intense. Nokia Siemens Networks may be unable to maintain or improve its market position or respond successfully to changes in the competitive environment.

The competitive environment in the mobile broadband infrastructure and related services market continues to be intense and is characterized by equipment price erosion, a maturing of industry technology and intense price competition. Moreover, mobile operators cost reductions are reducing the amount of available business resulting in increased competition and pressure on pricing and profitability. Overall, participants in this market compete with each other on the basis of product offerings, technical capabilities, quality, service and price.

Nokia Siemens Networks competes with companies that have larger scale and historically higher margins affording such companies more flexibility on pricing, as well as companies that may have stronger customer finance possibilities due to internal policies or governmental support, for example in the form of trade guarantees, allowing them to offer products and services at very low prices or with attractive financing terms. Nokia Siemens Networks also faces increasing competition from competitors from China, which endeavor to gain market share for instance by leveraging their low-cost advantage in tenders for customer contracts. Competition for new communication service provider customers as well as for new infrastructure deployments is particularly intense and focused on price. In addition, new competitors may enter the industry as a result of acquisitions or shifts in technology. If Nokia Siemens Networks cannot respond successfully to the competitive requirements in the mobile broadband infrastructure and related services market, our business and results of operations, particularly profitability, and financial condition may be materially adversely affected.

Nokia Siemens Networks seeks to increase sales in geographic markets in which price competition is less intense. If Nokia Siemens Networks is not successful in increasing its sales in those markets or the price competition in those markets intensifies as a result of the entry into those markets of low-cost competitors, price reductions by existing competitors or otherwise, our business, sales, results of operations, particularly profitability, and financial condition may be materially adversely affected.

Nokia Siemens Networks restructuring plan to improve financial performance and competitiveness may not lead to sustainable improvements in Nokia Siemens Networks overall competitiveness and profitability, and it may be unable to otherwise continue to reduce operating expenses and other costs. Additionally, changes in the ownership structure of Nokia Siemens Networks could have an adverse effect on Nokia Siemens Networks or us.

In November 2011, Nokia Siemens Networks announced a new strategy, including changes to its organizational structure and an extensive global restructuring program, aimed at improving its competitiveness and profitability. The restructuring program also includes a target to reduce Nokia Siemens Networks annualized operating expenses and production overheads, excluding special items and purchase price accounting related items, by more than EUR 1 billion by the end of 2013, compared to the end of 2011. Together with a range of productivity and efficiency measures, Nokia Siemens Networks has targeted headcount reductions intended to align the workforce with its strategy. Nokia Siemens Networks will also continue to target areas such as real estate, information technology, product and service procurement costs, overall general and administrative expenses, and a significant reduction in suppliers in order to further lower costs and improve quality. The execution of its restructuring program is subject to certain risks and uncertainties, including:

- Developing and implementing the restructuring plan have consumed and will continue to consume significant time, attention and resources of management.

- Personnel reductions may result in reduced productivity and dissatisfaction and loss of morale among employees and lead to loss of key personnel. These factors may have a more pronounced adverse impact due to prior restructuring measures. Although Nokia Siemens Networks has not experienced strikes in the past, it may face labor unrest, strikes or work stoppages as a result of increased dissatisfaction among its employees resulting from the ongoing and past restructuring measures.

- There can be greater than expected difficulties from legal, regulatory or other matters that limit Nokia Siemens Networks ability to implement the restructuring as planned or adversely impact the associated costs.

- If Nokia Siemens Networks fails to implement its restructuring plan successfully or to otherwise reduce its operating expenses and other costs on an ongoing basis, its market share may decline which could result in the loss of scale benefits and reduce competitiveness and its financial performance may deteriorate.

- The costs, cash outflows and charges related to the implementation of the restructuring plan, including the planned personnel reductions, divestments of non-core businesses, the termination of unprofitable contracts and exiting certain countries, such as Iran, or areas may be greater than currently estimated.

- Nokia Siemens Networks cannot guarantee that it will achieve or sustain the targeted benefits, which could result in further restructuring efforts. In addition, Nokia Siemens Networks cannot guarantee that the benefits, even if achieved, will be adequate to meet its long-term growth and profitability targets.

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Beginning on April 3, 2013, certain restrictions on the transfer of Nokia s and Siemens interests in Nokia Siemens Networks expire and certain other provisions relating to the transfer of such interests come into effect. Otherwise, the arrangements between Nokia and Siemens as shareholders of Nokia Siemens Networks will remain in effect as originally agreed. There can be no assurances, however, that the ownership of Nokia Siemens Networks will, or will not, change in the future. We cannot exclude the possibility that the expiration of these restrictions, or any plans for changes or actual changes that alter the ownership structure of Nokia Siemens Networks, would not have an adverse effect on Nokia Siemens Networks or us.

Nokia Siemens Networks may fail to effectively and profitably invest in new competitive products, services, upgrades and technologies and bring them to market in a timely manner.

The mobile broadband infrastructure and related services market is characterized by rapidly changing technologies, frequent new solutions requirements and product feature introductions and evolving industry standards.

Nokia Siemens Networks success depends to a significant extent on the timely and successful introduction of new products, services and upgrades of current products to comply with emerging industry standards and to address competing technological and product developments carried out by its competitors. The research and development of new and innovative technologically-advanced products, including the introduction of new radio frequency technologies, as well as upgrades to current products and new generations of technologies, is a complex and uncertain process requiring high levels of innovation and investment, as well as accurate anticipation of technology and market trends. Nokia Siemens Networks may focus its resources on technologies that do not become widely accepted or ultimately prove not to be viable. Nokia Siemens Networks net sales and operating results will depend to a significant extent on its ability in below areas:

- to maintain a product portfolio and service capability that is attractive to its customers;
- to enhance its existing products;
- to continue to introduce new products successfully and on a timely basis; and
- to develop new or enhance existing tools for its services offerings.

Nokia Siemens Networks failure to effectively and profitably invest in new products, services, upgrades and technologies and bring them to market in a timely manner could result in a loss of net sales and market share and could have a material adverse effect on our results of operations, particularly profitability, and financial condition.

Nokia Siemens Networks also depends on its customers perception of its technological strengths and weaknesses. For instance, its perceived lack of end-to-end capabilities in areas such as intellectual property transformation and of innovation capabilities and integration into the innovation ecosystem may be seen as weaknesses. Nokia Siemens Networks relatively small presence in the centers of innovation ecosystems in telecommunications may harm its perceived credibility in terms of innovation capability.

Nokia Siemens Networks business is dependent on a limited number of customers.

The networks infrastructure and related services business is dependent on a limited number of customers and consolidation among those customers is continuing. A large number of net sales that Nokia Siemens Networks generates have historically come from a limited number of customers. As consolidation among existing customers continues, it is possible that an even greater portion of Nokia Siemens Networks net sales will be attributable to a smaller number of large service providers. In addition, mobile operators are increasingly entering into network sharing arrangements, as well as joint procurement agreements, which further reduce the number of networks available for it to service. As a result of this trend and the intense competition in the industry, Nokia Siemens Networks may be required to provide contract terms increasingly favorable to the customer to remain competitive. Any unfavorable developments in relation to or any change in the contract terms applicable to a major customer may have a material adverse effect on our business, results of operations and financial condition.

Nokia Siemens Networks mobile broadband infrastructure and related services business is dependent on large multi-year contracts.

Large multi-year contracts, which are typical in the mobile broadband infrastructure and related services business, include a risk that the timing of sales and results of operations associated with those contracts will differ from what was expected when the contracts were entered into. Moreover, such contracts often require the dedication of substantial amounts of working capital and other resources, which may negatively affect our cash flow, particularly in the early stages of a contract, or may require Nokia Siemens Networks to sell products and services in the future that would otherwise be discontinued, thereby diverting resources from developing more profitable or strategically important products and services. Any non-performance by us under those contracts may have a material adverse effect on Nokia Siemens Networks because mobile operators have demanded and may continue to demand stringent contract undertakings, such as penalties for contract violations.

Nokia Siemens Networks liquidity and its ability to meet its working capital requirements depend on access to available credit under its financing arrangements and other credit lines as well as cash at hand. If those sources of liquidity were to be unavailable, or cannot be refinanced when they mature, this could have a material adverse effect on our business, results of operations and financial condition.

To provide liquidity and meet working capital requirements, Nokia Siemens Networks is party to certain financing arrangements and has arranged for other committed and uncommitted credit lines. Nokia Siemens Networks ability to draw upon those resources is dependent upon a variety of factors, including compliance with existing covenants, the absence of any event of default and, with respect to uncommitted credit lines, the lenders perception of its credit quality. The implementation of Nokia Siemens Networks strategy and ongoing restructuring plan has resulted in costs, cash outflows and charges. These have had and will continue to have a negative effect on its liquidity position and may be greater than currently estimated. The financial covenants under Nokia Siemens Networks existing credit facilities require it, among other things, not to exceed certain leverage ratios and to maintain certain interest coverage ratios. Nokia Siemens Networks ability to satisfy these and other existing covenants may be affected by events beyond its control and there can be no assurance that it will be able to comply with its existing covenants in the future. Any failure to comply with the covenants under any of its existing credit facilities may constitute a default under its other credit facilities and credit lines and may require Nokia Siemens Networks to either obtain a waiver from Nokia Siemens Networks creditors, renegotiate credit facilities, raise additional financing from existing or new shareholders or repay or refinance borrowings in order to avoid the consequences of a default. There can be no assurance that Nokia Siemens Networks would be able to obtain such a waiver, to renegotiate credit facilities, to raise additional financing from existing or new shareholders or to repay or refinance borrowings on terms that are acceptable to Nokia Siemens Networks, if at all.

In addition, any failure by Nokia Siemens Networks to comply with its existing covenants, any actual or perceived decline in its business, results of operations or financial condition or other factors may result in a deterioration of lenders perception of its credit quality, which may negatively impact its ability to renegotiate its credit facilities, refinance its borrowings or to draw upon its uncommitted credit lines. Although Nokia Siemens Networks believes it has sufficient resources to fund its operations, if a significant number of those sources of liquidity were to be unavailable, or cannot be refinanced when they mature, this could have a material adverse effect on our business, results of operations and financial condition.

Furthermore, in the normal course of business Nokia Siemens Networks enters into a large number of accounts receivables sale agreements with banks and other financial institutions. If Nokia Siemens Networks were not able to sell these accounts receivables in line with its past practice for whatever reason, including, but not limited to, the actual or perceived deterioration of its customers credit quality, banks refinancing abilities or prevailing interest rates, this could negatively impact our liquidity and our ability to meet our working capital requirements.

Nokia Siemens Networks has historically received financial support in the form of additional capital from its shareholders Nokia and Siemens. Nokia and Siemens do not, however, guarantee Nokia Siemens Networks current financial obligations. There is no assurance that Nokia Siemens Networks will receive similar or other financial support from its shareholders in the future.

Nokia Siemens Networks may be adversely affected by customer financing or extending payment terms it provides to customers.

Communication service providers in some markets may require their suppliers, including Nokia Siemens Networks, to arrange, facilitate or provide financing in order to obtain sales or business. They may also require extended payment terms. In some cases, the amounts and duration of these financings and trade credits, and the associated impact on Nokia Siemens Networks working capital, may be significant. Credit markets in general have been tight since 2009. Requests for customer financing and especially extended payment terms have remained at a reasonably high level. However, during 2012, the amount of financing provided directly to our customers has decreased.

Uncertainty in the financial markets may result in more customer financing requests. As a strategic market requirement, Nokia Siemens Networks primarily arranged and facilitated, and plans to continue to arrange and facilitate, financing to a number of customers, typically supported by export credit or guarantee agencies. In the event that those agencies face future constraints in their ability or willingness to provide financing to our customers, it could have a material adverse effect on Nokia Siemens Networks business. Nokia Siemens Networks has agreed to extended payment terms for a number of customers, and it will continue to do so. Extended payment terms may continue to result in a material aggregate amount of trade credits. Even when the associated risk is mitigated by the fact that the portfolio relates to a variety of customers, defaults in the aggregate could have a material adverse effect on us.

Nokia Siemens Networks cannot guarantee that it will be successful in arranging, facilitating or providing needed financing, including extended payment terms to customers, particularly in difficult financial market conditions. In addition, certain of Nokia Siemens Networks competitors may have greater access to credit financing, which could adversely affect its ability to compete successfully for business in the networks infrastructure and, indirectly, in the related services sectors. Nokia Siemens Networks ability to manage its total customer finance and trade credit exposure depends on a number of factors, including its capital structure, market conditions affecting its customers, the level and terms of credit available to Nokia Siemens Networks and to its customers, the cooperation of export credit or guarantee agencies and its ability to mitigate exposure on acceptable terms. Nokia Siemens Networks may not be successful in managing the challenges associated with the customer financing and trade credit exposure that it may have from time to time. While defaults under financings, guarantees and trade credits to Nokia Siemens Networks customers resulting in impairment charges and credit losses have not been a significant factor for us, these may increase in the future, and commercial banks may not continue to be able or willing to provide sufficiently long-term financing, even when backed by export credit agency guarantees, due to their own liquidity constraints. See Item 5B. Liquidity and Capital Resources Structured Finance, and Note 34(b) to our consolidated financial statements included in Item 18 of this annual report for a more detailed discussion of issues relating to customer financing, trade credits and related commercial credit risk.

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Some of the Siemens carrier-related operations transferred to Nokia Siemens Networks have been and continue to be the subject of various criminal and other governmental investigations related to whether certain transactions and payments arranged by some current or former employees of Siemens were unlawful. As a result of those investigations, government authorities and others have taken and may take further actions against Siemens and/or its employees that may involve and affect the assets and employees transferred by Siemens to Nokia Siemens Networks, or there may be undetected additional violations that may have occurred prior to the transfer or violations that may have occurred after the transfer of such assets and employees.

Public prosecutors and other government authorities in several jurisdictions have conducted and in some jurisdictions continue to conduct criminal and other investigations related to whether certain transactions and payments arranged by some current or former employees of Siemens relating to the carrier-related operations for fixed and mobile networks that were transferred to Nokia Siemens Networks were unlawful. These investigations are part of substantial transactions and payments involving Siemens former Com business and other Siemens business groups which remain under investigation.

Although the investigations by the German and United States governments were concluded and resolved in December 2008, investigations in other countries continue, as well as individual investigations of Siemens employees and other individuals. Accordingly, until these investigations are complete and the matters are finally resolved, it is not possible to ensure that Siemens employees who may have been involved in the alleged violations of law were not transferred to Nokia Siemens Networks. Nor is it possible to predict the extent to which there may be as yet undetected additional violations of law that occurred prior to the transfer that could result in additional investigations or actions by government authorities. Such actions have, and could include criminal and civil fines, tax liability, as well as other penalties and sanctions. To date, none of the substantial fines imposed on Siemens by regulators in Germany and the United States has applied to Nokia Siemens Networks or Nokia. It is also not possible to predict whether there have been any ongoing violations of law after the formation of Nokia Siemens Networks involving the assets and employees of the Siemens carrier-related operations that could result in additional actions by government authorities. The development of any of these situations could have a material adverse effect on Nokia Siemens Networks and our reputation, business, results of operations and financial condition. In addition, detecting, investigating and resolving such situations have been, and might continue to be, expensive and consume significant time, attention and resources of Nokia Siemens Networks and our management, which could harm our business and that of Nokia Siemens Networks.

The government investigations may also harm Nokia Siemens Networks relationships with existing customers, impair its ability to obtain new customers, business partners and public procurement contracts, affect its ability to pursue strategic projects and transactions or result in the cancellation or renegotiation of existing contracts on terms less favorable than those currently existing or affecting its reputation. Nokia Siemens Networks has terminated relationships, originated in the Siemens carrier-related operations, with certain business consultants and other third-party intermediaries in some countries as their business terms and practices were contrary to Nokia Siemens Networks Code of Conduct, thus foregoing business opportunities. It is not possible to predict the extent to which other customer relationships and potential business may be affected by Nokia Siemens Networks efforts to comply with applicable regulations. Nokia Siemens Networks may also be joined to civil litigation brought by third parties against Siemens carrier-related operations.

Siemens has agreed to indemnify Nokia and Nokia Siemens Networks for any government fines or penalties and damages from civil law suits incurred by either Nokia Siemens Networks or us, resulting from violations of law in the Siemens carrier-related operations that occurred prior to the transfer to Nokia Siemens Networks. Siemens has also agreed, in certain circumstances and subject to the

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fulfillment of certain criteria, to reimburse up to 50% of any lost profit suffered by Nokia Siemens Networks as a result of the violations of law in the Siemens carrier-related operations that occurred prior to the transfer to Nokia Siemens Networks.

We cannot predict with any certainty the final outcome of the ongoing investigations related to this matter, when and the terms upon which such investigations will be resolved, which could be a number of years, or the consequences of the actual or alleged violations of law on our or Nokia Siemens Networks business, including its relationships with customers.

ITEM 4. INFORMATION ON THE COMPANY

4A. History and Development of the Company

Nokia is a global leader in mobile communications whose products have become an integral part of the lives of people around the world. Every day, more than 1.3 billion people use their Nokia to capture and share experiences, access information, find their way or simply to speak to one another. Nokia s technological and design innovations have made its brand one of the most recognized in the world. Nokia Siemens Networks, jointly owned by Nokia and Siemens, is one of the leading global providers of telecommunications infrastructure hardware, software and services.

For 2012, our net sales were EUR 30.2 billion (USD 39.8 billion), and we had an operating loss of EUR 2.3 billion (USD 3.0 billion). At the end of 2012, we employed 97 798 people, of which 6 186 were employed by HERE (formerly Location & Commerce) and 58 411 were employed by Nokia Siemens Networks.

We operate a global network of production facilities for mobile products and network infrastructure in eight countries, as well as a broad network of sales, customer service and other operational units. Nokia has made significant investments into research and development and has been one of the leading innovators in the industry over the past two decades. For mobile products, we operate several major research and development and software development facilities, with key sites in China, Finland, Germany and the United States.

History

During our 148 year history, Nokia has evolved from its origins in the paper industry to become a world leader in mobile communications. Today, Nokia brings mobile products and services to more than one billion people from virtually every demographic segment of the population.

The key milestones in our early history and through to the early part of this century are as follows:

- In 1967, we took our current form as Nokia Corporation under the laws of the Republic of Finland. This was the result of the merger of three Finnish companies: Nokia AB, a wood-pulp mill founded in 1865; Finnish Rubber Works Ltd, a manufacturer of rubber boots, tires and other rubber products founded in 1898; and Finnish Cable Works Ltd, a manufacturer of telephone and power cables founded in 1912.

- We entered the telecommunications equipment market in 1960 when an electronics department was established at Finnish Cable Works to concentrate on the production of radio-transmission equipment.

- Regulatory and technological reforms have played a role in our success. Deregulation of the European telecommunications industries since the late 1980s stimulated competition and boosted customer demand.

In 1982, we introduced the first fully-digital local telephone exchange in Europe, and in the same year we introduced the world s first car phone for the Nordic Mobile Telephone analog standard.

The technological breakthrough of GSM, which made more efficient use of frequencies and had greater capacity in addition to high-quality sound, was followed by the European resolution in 1987 to adopt GSM as the European digital standard by July 1, 1991.

The first GSM call was made with a Nokia phone over the Nokia-built network of a Finnish operator called Radiolinja in 1991, and in the same year Nokia won contracts to supply GSM networks in other European countries.

In the early 1990s, we made a strategic decision to make telecommunications our core business, with the goal of establishing leadership in every major global market. Basic industry and non-telecommunications operations including paper, personal computer, rubber, footwear, chemicals, power plant, cable, aluminum and television businesses were divested between 1989 to 1996.

Mobile communications evolved rapidly during the 1990s and early 2000s, creating new opportunities for devices in entertainment and enterprise use. This trend where mobile devices increasingly support the features of single-purposed product categories such as music players, cameras, pocketable computers and gaming consoles is often referred to as digital convergence.

Nokia Siemens Networks began operations on April 1, 2007. The company, jointly owned by Nokia and Siemens AG and consolidated by Nokia, combined Nokia s networks business and Siemens carrier-related operations for fixed and mobile networks. In network infrastructure, Nokia Siemens Networks acquired the majority of the wireless network infrastructure assets of Motorola Solutions in April 2011.

In early 2011, we announced and began implementing a new strategy for our Devices & Services business, including our partnership with Microsoft to build a new global mobile ecosystem with Windows Phone serving as our primary smartphone platform and changes to our leadership team and operational structure, with the aim of accelerating speed of execution in the intensely competitive mobile products market.

In recent years, we have supported the development of our services and software capabilities with acquisitions of key technologies, content and expertise. For example, in 2008 we acquired NAVTEQ, a leading provider of comprehensive digital map information and related location-based content and services. Now as part of our HERE business, NAVTEQ continues to play a pivotal role in the development of our location-based products and services offering both in terms of its provision of content and as a business-to-business provider of map data. More recently, acquisitions have included Novarra, whose technology has formed the basis of a new, more powerful mobile browser available for our latest feature phones and Asha full touch smartphones, and Scalado, whose technologies are strengthening Nokia s leading position in mobile imaging and supporting our broader strategic goals set out in early 2011, which we describe below in Item 4B. Business Overview

As part of our efforts to concentrate on services that we believe are core to our offering, we have also made disposals, including the recent sale of most of our stake in our luxury goods business Vertu. Additionally, since announcing in 2011 a strategy to focus on mobile broadband and services, Nokia Siemens Networks has made a number of divestments of non-core assets, including the sale of its microwave transport business to DragonWave, the sale of its fixed line Broadband Access business to ADTRAN and the divestment of the assets of the non-core IPTV business to Belgacom and Accenture.

Organizational Structure and Reportable Segments

We have three businesses: Devices & Services, HERE (formerly Location & Commerce) and Nokia Siemens Networks, and four operating and reportable segments for financial reporting purposes: Smart Devices and Mobile Phones within our Devices & Services business; HERE; and Nokia Siemens Networks.

- Smart Devices focuses on our most advanced products, including Lumia smartphones powered by the Windows Phone operating system.

- Mobile Phones focuses on our most affordable products, including Asha full touch smartphones powered by the Series 40 operating system.

- HERE develops location-based products and services for a broad range of devices and operating systems, including our Lumia smartphones. As of January 1, 2013, HERE is the new name of our former Location & Commerce business and reportable segment.

- Nokia Siemens Networks, jointly owned by Nokia and Siemens and consolidated by Nokia, is a leading global provider of telecommunications infrastructure, with a focus on the mobile broadband market.

Each reportable segment has profit-and-loss responsibility and end-to-end accountability for the full consumer experience, including product development, product management and product marketing.

All of our businesses have recently undertaken major strategic and operational changes with the aim of delivering long-term sustainable growth. These changes have included our announcement in early 2011 of a new strategy for our Devices & Services business, including our partnership with Microsoft to build a new global mobile ecosystem with Windows Phone serving as our primary smartphone platform and changes to our leadership team and operational structure, with the aim of accelerating speed of execution in the intensely competitive mobile products market. In June 2012, we announced a range of additional planned measures aimed at sharpening our strategy, improving our operating model and returning the company to profitable growth. These actions included targeted investments in our Smart Devices and HERE business, and streamlining, reducing and divesting certain operations, as well as headcount reductions, in our Devices & Services business. Since late November 2011, Nokia Siemens Networks has also been implementing a new strategy and restructuring plan to focus on mobile broadband and services.

During 2012, we also manufactured and sold luxury mobile devices under the Vertu brand. We sold most of our shareholding in Vertu, which has more than 450 points of sale globally, to a private equity group in October 2012. We have reported the operating results of Vertu under Devices & Services Other.

For a breakdown of our net sales and other operating results by category of activity and geographical location in 2011, see Item 5 and Note 2 to our consolidated financial statements included in Item 18 of this annual report.

Other

We primarily invest in research and development, sales and marketing and building the Nokia brand. During 2013, we currently expect the amount of capital expenditure, excluding acquisitions, to be approximately EUR 350 million, and to be funded from our cash flow from operations. During 2012, our capital expenditures, excluding acquisitions, totaled EUR 461 million, compared with EUR 597 million in 2011. For further information regarding capital expenditures, see Item 5A. Operating Results , and for a description of capital expenditures by our reportable segments, see Note 2 to our consolidated financial statements included in Item 18 of this annual report.

We maintain listings on two major securities exchanges. The listing venues for our shares are NASDAQ OMX Helsinki, in the form of shares, and the New York Stock Exchange, in the form of American Depositary Shares.

Our principal executive office is located at Keilalahdentie 4, P.O. Box 226, FI-00045 Nokia Group, Espoo, Finland and our telephone number is +358 (0) 7 1800-8000.

4B. Business Overview

In November 2012, we introduced a new brand, HERE, for our location-based products and services and have since been adopting the HERE brand across the portfolio. As of January 1, 2013, HERE is the new name of our former Location & Commerce business and reportable segment and is used in the following discussion. The discussion should be read in conjunction with Item 3D. Risk Factors and Forward-Looking Statements.

Devices & Services

Market Overview

Communication with a mobile device has become an integral part of the lives of people around the world. Since the early 1990s, mobile telecommunications penetration has grown rapidly, and today billions of people own a mobile device. Over the same period, what people can do with their mobile device has also undergone fundamental change. The development of more capable and smaller processors and the emergence of the mobile device as a single alternative to an array of one-purpose products such as music players, cameras and pocketable computers have combined with the growth of the Internet and more sophisticated network infrastructure to make mobile devices powerful, must-have consumer products. Demand has also grown for larger handheld Internet-centric computing devices, such as tablets and e-readers, which trade off pocketability for larger screen sizes. Such devices offer access to the Internet over WiFi and cellular networks and, like more conventional mobile products, are increasingly offered in combination with an operator data plan giving the user unlimited or a predefined amount of data using their device. The growing significance of the Internet in communication has meant that the mobile telecommunication, computing, consumer electronics and Internet industries are increasingly converging to form a broader industry encompassing Internet-connected products of varying shapes and sizes.

With respect to conventional mobile devices, it is still commonplace for the market to be characterized in terms of feature phones also sometimes called mobile phones and smartphones. The distinction between these two classes of mobile products is typically rooted in their differing capabilities in terms of software and hardware, the opportunities they provide for third-party application development, the richness of the experience they offer and the volume of data they process. Historically, feature phones have been primarily used for calling and text messaging, while smartphones with the aid of their more capable operating systems and greater computing power have provided opportunities to access the Internet, navigate, record high-definition video, take high-resolution photographs, share media, play video games and more. Today, however, the distinction between these two classes of products is blurring. Increasingly, basic feature phone models, supported by innovations in both hardware and software, are also providing people with the opportunity to access the Internet and applications and, on the whole, offering them a more smartphone-like experience.

Whether smartphones or feature phones, mobile devices geared for Internet access and their accompanying Internet data plans are also becoming increasingly affordable and, consequently, they are becoming attractive to a broader range of consumer groups and geographic markets. A notable recent development has been the increased affordability of devices based on the Android platform, which has enabled some vendors to offer smartphones for below EUR 100, excluding taxes and subsidies, and thus address a portion of the market which has been dominated by more basic feature phone offerings. While developed and controlled by Google, Android is made available to others free of charge and a significant part of the source code is available as open source software, which has made entry and expansion in the smartphone market easier for a number of device manufacturers which have chosen to join the Android ecosystem. Users of Android-based devices can access and download applications from the Android application store Google Play, run by Google, so many companies deploying Android have focused their software development efforts around a few elements of the user interface they have the ability to shape as well as focused on exploring new hardware form factors, such as tablets, as they seek to differentiate their offering from that of their competitors also using Android, as well as that of competitors using alternative operating systems, including Nokia. However, in general, we believe product differentiation for Android-based products is challenging, leading to increased commoditization of those devices. We also believe that there is increasing fragmentation in the Android ecosystem, meaning that increasing custom versions of the software could weaken interoperability of applications within that ecosystem.

Other major platforms include iOS, a system developed by Apple and deployed on its popular high-end iPhone models, and BlackBerry OS, an operating system developed by BlackBerry (formerly Research in Motion) and deployed on its messaging-focused BlackBerry smartphones. Both Apple and BlackBerry have developed their own application stores through which users of their products can access applications. Apple has also enjoyed success with its iOS-powered iPad tablets, which has helped further grow the iOS ecosystem. Microsoft s Windows Phone, which we have chosen as our primary smartphone platform and which is also deployed by others, is a relatively new entrant into the market. Users of Windows Phone products are served by the Windows Phone Store. Users of devices powered by Symbian, which used to be our primary smartphone platform, and users of Series-40 based Asha full touch smartphone are served by the Nokia Store application store.

Each smartphone platform is based on different technologies and accompanied by its own set of tools with which developers can develop applications. The ease of developing for a platform as well as the potential size of the addressable market and business opportunity are important factors developers and other industry participants such as hardware manufacturers, software providers, publishers, entertainment providers, advertisers and e-commerce specialists consider when deciding where to focus their resources. We believe that, particularly in the smartphone and tablet segments, success for manufacturers is now primarily shaped by their ability to build, catalyze or be part of a competitive ecosystem where these different industry participants are forming increasingly large communities of mutually beneficial partnerships in order to bring their offerings to market. A vibrant ecosystem creates value for consumers, giving them access to a rich and broad range of user experiences. Currently, ecosystems in the smartphone segment are primarily based around the Android and iOS platforms, as well as the Windows Phone and BlackBerry OS platforms.

The emergence of ecosystems has also impacted the mobile products market in other ways. For instance, their growing significance has further reinforced the importance of product design as a means for differentiating offerings from others within the same or a different ecosystem. Additionally, together with the growth of cloud computing where data and services are hosted by remote servers rather than on devices themselves ecosystems are also leading some vendors to pursue a strategy of developing and providing devices and electronic products of different form factors and screen sizes such as smartphones, tablets, smartphone and tablet hybrids sometimes referred to as phablets , personal computers and televisions and software which make them compatible and support their seamless interaction with one another. As consumers acquire combinations of multiple different devices, some may choose to purchase products and services from only one ecosystem or vendor.

In the low-end phone market, other ecosystems have emerged, including that based around Nokia s own Series 40 operating system which powers feature phones and our Asha full touch smartphones.

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A growing number of developers are writing Java-based applications for Series 40 which are available through the Nokia Store. Another ecosystem is the one which is based around mobile solutions chipsets from low-cost reference design chipset manufacturers which have enabled the very rapid and low-cost production of feature phones by numerous manufacturers especially in China and India, which are making the business landscape more competitive, as well as bringing some locally relevant innovations to market.

Segment overview

Nokia s strategy to generate sustainable long-term growth is centered on the creation of connected products that sense the world. We create products for virtually every demographic and every geography worldwide. Our overarching strategy in Devices & Services, and supported by HERE, has three core elements: (i) to win in smartphones; (ii) to connect the next billion to the Internet and information, especially in key emerging markets; and (iii) to continue to invest in future disruptions through long-term exploratory research into the future of mobility and computing.

Smart Devices

Our Smart Devices business unit focuses on our most advanced products, including smartphones powered by the Windows Phone operating system. The business unit has profit-and-loss responsibility and end-to-end accountability for the full consumer experience, including product development, product management and product marketing. Nokia s portfolio of smartphones covers price points ranging from around EUR 140 to more than EUR 500, excluding taxes and subsidies. During 2012, our Smart Devices unit shipped approximately 35 million smartphones.

Smart Devices makes products based on the Windows Phone operating system, which is developed by Microsoft. In 2011, we commenced our partnership with Microsoft that brings together our respective complementary assets and expertise to build a new global mobile ecosystem for smartphones. The goal for both partners is that by bringing together our complementary assets in software, search, maps, location-based services, e-commerce, social networking, entertainment, unified communications and advertising, we can jointly create an entirely new consumer proposition.

Since entering into the partnership with Microsoft, we have brought to market a number of Windows Phone-based devices under the Lumia name, with the first wave of devices based on an iteration of the Windows Phone operating system called Windows Phone 7. In late 2012, we introduced our first smartphones based on Windows Phone 8, which, for the first time, is based on many of the same core technologies as its sister software Windows 8, which is used to power personal computers and tablets. With Windows Phone 8 and Windows 8 sharing many of the same core technologies, applications can more easily be ported between the two platforms compared to previous versions. We believe this will attract more developers and consumers who want a similar experience across their personal computer, tablet and smartphone.

Our first Windows Phone 8 products, introduced in late 2012, are the Nokia Lumia 620, a compact, colorful smartphone that is also the most affordable of the range; the Lumia 820, which brings high-end smartphone innovation like wireless charging, super-sensitive touch displays and new augmented reality experiences to a midrange price point; and the Lumia 920, the flagship Windows Phone 8 smartphone and our leading imaging device, bringing optical image stabilization to a Nokia product for the first time. During the beginning of 2013, we have also introduced the Lumia 520, the most affordable of the range, and the Lumia 720, which delivers high-end camera performance at a mid-range price point. All these products also bring consumers several additional benefits offered by the Windows Phone 8 software, including:

- multi-core processors, NFC (near field communication) technology, and high screen resolutions;

- a personal smartphone experience, with a start screen the user can tailor to his or her own requirements. The start screen displays animated Live Tiles for real-time updates on the things that matter to the user;

- PeopleHub, which automatically links together contacts from the user s social networks, enabling the user to see all his or her contacts in one place;

- the ability to synchronize content between smartphones running Windows Phone 8, personal computers and tablets running Windows 8, and Xbox, which means files, music, pictures and video can be accessed in whichever way is most convenient, including through Skydrive, Microsoft s cloud storage service.

- Internet Explorer 10 for fast, safe browsing;

- Microsoft Office applications, including Word, PowerPoint, Excel and OneNote, which are all built into the platform;

- HERE location-based products and services experiences, including HERE Drive navigation; and

- a growing range of third-party applications in Windows Phone Store. As of March 2013, there were more than 130 000 applications in the Windows Phone Store, compared with 7000 in early 2011.

Alongside these benefits of Windows Phone 8, Nokia Lumia smartphones provide several key points of differentiation versus competing smartphones running Windows Phone as well as other platforms, including Android and iOS. Our current range of Lumia products offers the following points of differentiation:

- *our industrial design*. We use premium materials and precision manufacturing to provide well-built, attractive smartphones that offer robustness and durability;

- *our leading location-based experiences*, including HERE Maps, as well as HERE Transport and HERE City Lens, the last two of which are exclusive to Lumia users.

- *Nokia Music*, a digital music service that offers free unlimited streaming via hundreds of ad-free music channels on or off-line; and

- *our industry-leading imaging*. Our imaging technologies are making it possible for a smartphone camera such as that in our flagship Lumia 920 to take the kind of images and video usually only seen on single purpose cameras and video cameras. We also offer users a number of unique imaging experiences we have developed, such as Cinemagraph and Photobeamer. Our flagship imaging experiences are represented by PureView.

We also work closely with Microsoft to influence many development priorities, such as in the areas of languages and technical requirements.

During our transition to Windows Phone, we have continued to ship devices based on an older smartphone operating system called Symbian. However, after a decade-long history as part of Nokia s portfolio, we are not creating any new devices based on Symbian. The Nokia 808 PureView, a device which showcases some of our imaging capabilities and which came to market in mid-2012, was the last Symbian device from Nokia. We do not expect to sell any significant volumes of Symbian devices in 2013.

Smart Devices has dedicated research and development teams addressing our short to medium-term needs in product development. To support the execution of our strategy, we are working to ensure that each of our research and development sites for our smartphones has a clear focus and that there is greater co-location of our teams. The major Smart Devices research and development sites are in Beijing in China, San Diego in the United States and in Salo, Tampere and Greater Helsinki in Finland.

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Mobile Phones

Our Mobile Phones business unit focuses on the area of mass market entry and feature phones as well as affordable smartphones. The unit has profit-and-loss responsibility and end-to-end accountability for the full consumer experience, including development, management and marketing of products, services and applications. During 2012, our Mobile Phones unit shipped approximately 300 million devices.

In Mobile Phones, our strategy focuses on leveraging our innovation and strength in growth markets to provide people with an affordable Internet experience on their mobile device. Our Mobile Phones team creates products for three consumer segments: First, Feature and Smart.

First covers very affordable products such as the Nokia 101, a dual SIM music phone which costs about EUR 25, excluding taxes and subsidies. During the beginning of 2013, we have also introduced the Nokia 105, the most affordable mobile phone in the range, offering a bright color screen, FM radio, long battery life and available in different colors for EUR 15, excluding taxes and subsidies. The target consumer for our *First* products is someone seeking their first mobile experience, an ability to use their phone as a music player, a durable and robust product, good battery life and for whom price is a critical factor. Almost 90% of the world s population lives within range of a mobile signal, but there are many people who do not yet own a mobile device.

Feature covers products, such as the Nokia 206, which costs approximately EUR 46, excluding taxes and subsidies. The target consumer for our *Feature* products is someone seeking a product that offers good quality staple features, good battery life and easy and affordable access to the Internet, particularly to Facebook and Twitter. Our latest products in this segment uses a powerful new cloud-enabled browser which compresses data and can thus reduce the cost and increase the speed of browsing the web, giving peace of mind to consumers who do not wish to purchase a data plan or exceed the limit on their data plan. Many people buying our *Feature* products are using them to access the Internet for the first time. Additionally, they are seeking a product that is durable and robust and which brings them the benefit of Nokia s expertise and technologies in call quality, reception and data connectivity.

Smart covers products such as the Nokia Asha 311, a smartphone with a full touch, capacitive display, a fluid swipe user interface, a power processor, 3.2 megapixel camera and which costs EUR 92, excluding taxes and subsidies. The target consumer for our *Smart* products is someone seeking an affordable smartphone whose hardware, software and services are optimized for and not compromised by low price points. Our *Smart* products, besides being very functional, also offer some distinctive and stylish designs that share similarities to those in our Lumia portfolio of smartphones.

While Mobile Phones targets consumers in three segments, the whole portfolio has, over time, become smarter and richer in terms of experiences and features. In late 2011, we introduced the Asha product name for certain models which provide smartphone-like experiences. During 2012, we continued to support the Asha range with technological and design innovations, including launching the first full touch models. They also offer a fluid swipe user interface and an open environment for third-party application development characteristics which have helped earn the complete Asha full touch range full smartphone classification from global market research companies and analysts.

Mobile Phones has dedicated research and development teams addressing our short to medium-term needs in product and services development. During 2011 and 2012, we made changes to our research and development operations for Mobile Phones to reflect and support our strategy. These changes included, in 2012, the closure of our facility in Ulm, Germany. Over the last two years, we have worked to ensure that each research and development site has a clear focus and that there is greater co-location of our teams. The major Mobile Phones research and development sites are in Beijing in China and Oulu in Finland.

Technology Research

Nokia has a long and rich history of innovation and technology leadership, and its innovations through technology research have transformed the lives of billions of people around the world.

Longer-term, more exploratory technology development comes under the scope of Nokia s CTO (Chief Technology Office) organization, which also includes Nokia s research unit, the Nokia Research Center, as well as the compatibility and industrial collaboration unit. The teams in these units explore next-generation mobile technology innovations in areas such as sensor technology, materials, imaging and connectivity and set the long-term research agenda for Nokia.

The CTO organization looks beyond the technology development of current products, services, platforms and technologies to the creation of assets and competencies in technology areas that we believe will be vital to our future success. Through this work, the CTO organization is a major contributor to Nokia s standard essential patents. For example, inventions have been presented in the latest developments in 4G LTE wireless communication technologies, or in a new sharing technology called Slam for quick and easy photo sharing using Bluetooth at close proximity.

The CTO organization operates in a number of locations, including sites in Finland, the United States, the United Kingdom and China. One of our key mode of operations for our research is open innovations and it collaborates with tens of universities and research institutes around the world.

The costs related to our long-term technology research related activities are reported under Devices & Services Other.

Sales and marketing

Nokia has a large distribution network, with hundreds of thousands of points of sale globally alongside our own online retailing presence. We have a significant distribution and care network, particularly in China, India, and the Middle East and Africa.

We derive our net sales of mobile devices primarily from sales to mobile network operators, distributors, independent retailers, corporate customers and consumers. However, the total device volume that goes through each channel varies by region. In 2012, sales in North America and Latin America were predominantly to operator customers, sales in Asia-Pacific, China and Middle East and Africa were predominantly to distributors, and sales in Europe were more evenly distributed between operators and distributors.

Our marketing activities play a fundamental role in our effort to bring people great mobile products. Our activities are designed to create loyalty, enhance the Nokia brand and drive more sales. In our marketing, we focus on expanding awareness of the key points of differentiation in our products and services, such as the imaging capabilities of our high-end smartphones or the robust quality of our most affordable feature phones. During 2012, we continued to shift towards a single brand visual identity in our marketing, presenting a clear, simple and coherent image of Nokia. We also continued to expand our digital marketing efforts, including engaging consumers through our own social media channels, including Nokia Conversations, which is among the most popular company blogs. We are among the top brands in the world according to the Interbrand annual rating of 2012 Best Global Brands.

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Production of mobile devices

For the production and customization of mobile devices, we operate facilities in Asia, Europe and Latin America.

In connection with the implementation of our strategy, we have made a number of changes to our operations resulting in the closure or planned closure and reconfiguration of certain Nokia facilities. In late 2011, we closed our facility in Cluj, Romania, before selling the site to household appliances group De Longhi in early 2012. Later in 2012, we made changes to our facilities in Komárom in Hungary and Reynosa in Mexico, shifting product assembly to other Nokia sites to ensure these two facilities focused on software and sales package customization. We also closed our production facility in Salo in Finland. Today, we carry out most of our product assembly at our Asian facilities which have greater proximity to our key component suppliers.

The following table shows our major manufacturing facilities as of December 31, 2012.

Country	Location	Product focus	Production focus
BRAZIL	Manaus	Mobile Phones and Smart Devices	Assembly as well as software and sales package customization
CHINA	Beijing	Smart Devices	Assembly as well as software and sales package customization
	Dongguan	Mobile Phones	Assembly as well as software and sales package customization
HUNGARY	Komárom	Smart Devices	Software and sales package customization
INDIA	Chennai	Mobile Phones	Assembly as well as software and sales package customization
MEXÌCO	Reynosa	Smart Devices	Software and sales package customization
REPUBLIC OF KOREA	Masan	Smart Devices	Assembly as well as software and sales package customization

Nokia is planning to establish a new manufacturing facility near Hanoi in northern Vietnam. The targeted opening of the facility is the second half of 2013. The new manufacturing site is being established to produce our most affordable smartphones and feature phones.

Our manufacturing facilities form an integrated global production network, giving us flexibility to adjust our production volumes to fluctuations in market demand in different regions. Each of our plants employs state-of-the-art technology and is highly automated. A significant part of the production of a mobile device includes software and sales package customization or the integration of software and content a process which is usually done according to the specific requirements of our customers and the needs of individual markets.

Our mobile device manufacturing and logistics are complex and require advanced and costly equipment. From time to time, we outsource the manufacturing of certain aspects of certain products and components to adjust our production to demand fluctuations, as well as to benefit from expertise others have in the production of certain mobile technologies. For certain of our devices, we use contract manufacturers to produce the entire product. During 2012, the vast majority of our manufacturing needs were met by our own production network.

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We provide additional information about our production facilities in Item 4D. Property, Plants and Equipment.

Strategic sourcing and partnering

In line with industry practice, Devices & Services sources components for our mobile devices from a global network of suppliers. Those components include electronic components, such as chipsets, integrated circuits, microprocessors, standard components, printed wiring boards, sensors, memory devices, cameras, audio components, displays, batteries and chargers and mechanical components, such as covers, connectors, key mats, antennas and mechanisms. Such hardware components account for the majority of our overall spending on sourcing.

We also source software, applications and content from a global network of third-party companies, application developers, content providers and industry-leading technology providers. For instance, we obtain content from commercial partners in the music industry to offer an extensive catalog of digital music through Nokia Music, our digital music store, and content from travel guide publishers to expand and enhance HERE Maps.

Patents and licenses

A high level of investment by Devices & Services in research and development and rapid technological development has meant that the role of intellectual property rights, or IPR, in our industry has always been important. Digital convergence, multiradio solutions, alternative radio technologies and differing business models combined with large volumes are further increasing the complexity and importance of IPR.

The convergence has for a long time meant that complete products integrate a number of technologies, and that multiple parties contribute to the development of new technologies. The detailed designs of our products are based primarily on our own research and development work and design efforts, and generally comply with all relevant and applicable public standards. We seek to safeguard our investments in technology through adequate intellectual property protection, including patents, design registrations, trade secrets, trademark registrations and copyrights. In addition to safeguarding our technology advantage, they protect the unique Nokia features, look and feel and brand.

We have built our IPR portfolio since the early 1990s. During the last two decades, we have invested approximately EUR 50 billion in research and development and have approximately 10 000 patent families. As a leading innovator in wireless technologies, we have built one of the mobile products market s strongest and broadest IPR portfolios, extending across all major cellular and mobile communications standards, software and services as well as hardware and user interface features and functionalities. We receive IPR income from certain handset and other vendors. IPR income is reported under Devices & Services Other.

We are a world leader in the development of the wireless technologies of GSM/EDGE, 3G/WCDMA, HSPA, LTE and TD-SCDMA, and we have a robust patent portfolio in all of those technology areas, as well as for CDMA2000, WiMAX and WiFi. We believe our standards-essential patent portfolio is one of the strongest in the industry.

Our products include increasingly complex technology involving numerous patented, standardized or proprietary technologies. The possibility of alleged infringement and related intellectual property claims against us continues to rise as the number of entrants in the market grows, our product range becomes more diversified, our products are increasingly used together with hardware, software or service components that have been developed by third parties, we enter new businesses and the complexity of technology increases. As new features are added to our products, we are also agreeing upon licensing terms with a number of new companies in the field of new evolving technologies. We believe companies

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like Nokia with a strong IPR position, cumulative know-how and IPR expertise can have a competitive advantage in the converging industry and in the increasingly competitive marketplace.

Competition

The mobile products market continues to undergo significant changes, most notably due to the broad convergence of the mobile telecommunications, computing, consumer electronics and Internet industries. With the traditional feature phone market continuing to mature, the major part of volume and value growth in the industry has been in smartphones offering access to the Internet. Additionally, other large handheld Internet-centric computing devices, such as tablets, smartphone and tablet hybrids, and e-readers, have emerged, trading off pocketability and some portability for larger screen sizes, but in many cases offering both cellular and non-cellular connectivity in the same way conventional mobile devices do. Larger-screened Internet-enabled devices have captured a significant share of consumer spending across the broader market for mobile products and digital content and in different ways. For example, some competitors seek to offer hardware at a low price to the consumer with the aim of capturing value primarily through the sale of content.

The increasing demand for wireless access to the Internet has had a significant impact on the competitive landscape of the market for mobile products and digital content. Companies with roots in the mobile devices, computing, Internet and other industries are increasingly competing directly with one another, making for an intensely competitive market across all mobile products and services. At the same time, and particularly in the smartphone and tablets segments, success for hardware manufacturers is increasingly shaped by their ability to build, catalyze or be part of a competitive ecosystem, where different industry participants, such as hardware manufacturers, software providers, developers, publishers, entertainment providers, advertisers and e-commerce specialists are forming increasingly large communities of mutually beneficial partnerships in order to bring their offerings to the market. A vibrant ecosystem creates value for consumers, giving them access to a rich and broad range of user experiences. As a result, the competitive landscape is increasingly characterized in terms of a war of ecosystems rather than a battle between individual hardware manufacturers or products.

At the heart of the major ecosystems is the operating system and the development platform upon which devices are based and services built. In smartphones, our competitors are pursuing a wide range of strategies. Many device manufacturers are utilizing freely available operating systems, the development of which is not paid for from device sales revenue or by software license fees. The availability of Google s Android platform has made entry into and expansion in the smartphone market easier for a number of hardware manufacturers which have chosen to join the Android ecosystem, especially at the mid-to-low price points of the smartphone market. For example, some competitors offerings based on Android are available for purchase by consumers for below EUR 100, excluding taxes and subsidies, and thus address a portion of the market which has been traditionally dominated by feature phone offerings, including those offered by Nokia. Accordingly, lower-priced smartphones are increasingly reducing the addressable market and lowering the price points for feature phones.

In general, we believe product differentiation with Android is more challenging, leading to increased commoditization of these devices and the resulting downward pressure on pricing. In addition, there is uncertainty in relation to the intellectual property rights in the Android ecosystem, which we believe increases the risk of direct and indirect litigation for participants in that ecosystem. Google, HTC, LG, Motorola, Samsung and Sony are among competitors which have deployed the Android operating system on their smartphones. Samsung is among our strongest competitors, competing with us across a broad range of price points.

Other companies favor proprietary operating systems, including Apple, whose popular high-end iPhone models use the iOS operating system, and BlackBerry (formerly Research in Motion), which deploys

BlackBerry OS on its mobile devices and recently introduced devices running a new version of its operating system, BlackBerry 10. Both Apple and BlackBerry have developed their own application stores, through which users of their products can access applications.

Apple, which has already gained a strong position in the market for high-end smartphones and tablets, has also used the strength of its ecosystem to further expand its offering of digital content through other interfaces such as television sets. Similarly, Google has sought to extend the Android ecosystem with its Google TV Internet-based television service. Many competitors, including Apple, Google and Samsung, are pursuing a multi-screen strategy and building cloud technologies which enable consumers to access services and content across different sized screens, from mobile devices to tablets, personal computers and televisions.

Nokia offers smartphones based on the Windows Phone operating system. Windows Phone devices can access the Microsoft-run Windows Phone Store for digital content and third-party applications. The Windows Phone operating system is also being deployed on smartphones by others, including HTC, Huawei, Samsung and ZTE. During our continued transition to Windows Phone through 2012, we continued to ship devices based on an older smartphone operating system called Symbian. However, after a decade-long history as part of Nokia s portfolio, we are not creating any new devices based on Symbian.

The significant momentum and market share gains of the global ecosystems around the Android and iOS platforms have increased the competitive barriers to additional entrants looking to build a competing global smartphone ecosystem, such as Nokia with the Windows Phone platform. At the same time, other ecosystems are being built which are attracting developers and consumers, and which may result in potential fragmentation among ecosystem participants and the inability of new ecosystems to gain sufficient competitive scale.

We also face intense competition in feature phones where a different type of ecosystem from that of smartphones is emerging involving very low-cost components and manufacturing processes, with speed to market and attractive pricing being critical success factors. In particular, the availability of complete mobile solutions chipsets from low-cost reference design chipset manufacturers has lowered the barriers of market entry and enabled the very rapid and low-cost production of feature phones by numerous manufacturers in especially China and India, which are gaining significant market share in emerging markets, as well as bringing some locally relevant innovations to market. Such manufacturers have also demonstrated that they have significantly lower gross margin expectations than we do.

We also face competition from vendors of unlicensed and counterfeit products with manufacturing facilities primarily centered around certain locations in Asia and other emerging markets which produce inexpensive devices with sometimes low quality and limited after-sales services that take advantage of commercially-available free software and other free or low-cost components, software and content. In addition, we compete with non-branded feature phone manufacturers, including mobile network operators, which offer mobile devices under their own brand, as well as providers of specific hardware and software layers within products and services at the level of those layers rather than solely at the level of complete products and services and their combinations. In the future, we may face competition from established Internet companies seeking to offer smartphones under their own brand.

Our competitors use a wide range of other strategies and tactics. Certain competitors choose to accept significantly lower profit margins than we are targeting. Certain competitors have chosen to focus on building products and services based on commercially available components and content, in some cases available at very low or no cost. Certain competitors have also benefited from favorable currency exchange rates. Further, certain competitors may benefit from support from the governments of their home countries and other measures which may have protectionist objectives.

HERE (formerly Location & Commerce)

Market Overview

The market for location services has undergone significant change in recent years. Access to location services has broadened from personal navigation devices (PNDs) such as those in automobiles and personal computers to mobile devices. Location is now being embedded into almost every part of the mobile experience.

As the race to expand and perfect the delivery of contextual information continues, mobile platform owners have also been increasing investment in geo-location related services to provide relevance, rich information about a location and to help people orient around as well as to and from a location. Mapping is the key underlying user interface to make sense of location services. Nokia and Google are among companies which have been investing in this area for a number of years.

Segment Overview

Our HERE business, which though 2012 operated under the Location & Commerce name, develops a range of location-based products and services for consumers, as well as content and platform services for device manufacturers, automobile manufacturers, application developers, Internet services providers, merchants and advertisers. The business has profit-and-loss responsibility and end-to-end accountability for the full consumer experience.

HERE was formed during 2011 through the combination of NAVTEQ, which we acquired in July 2008, with our Devices & Services social location services operations. In November 2012, we introduced a new brand, HERE, for our location-based products and services and have since been adopting the HERE brand across the portfolio. As of January 1, 2013, HERE is the new name of our former Location & Commerce business and reportable segment.

HERE is developing location-based offerings in support of our strategic goals in mobile devices, as well as developing a portfolio of products for the broader Internet ecosystem, including products for Nokia s direct competitors. The business aims to positively differentiate its digital map data and location-based offerings from those of our competitors and create competitive business models for our customers. In the development of the Windows Phone ecosystem, we and Microsoft are bringing together our complementary assets in search, with Nokia s maps offering at the heart of key Microsoft assets such as Bing and AdCenter to form a local search and advertising experience.

HERE s resources are primarily focused on the development of content, the platform and applications.

Content. The development of content involves the mapping of the physical world and places such as roads and points of interest, as well as the collection of activity data generated and authorized for use by our users. To further enhance our maps, we are building 3D maps and in late 2012 we further enhanced our 3D map-making capabilities with the acquisition of earthmine, a California-based company whose reality capture and processing technologies will become integral parts of the 3D map making capabilities of HERE.

During 2012, HERE continued to build partnerships with a number of major industry players, particularly in the area of automotive-grade maps content and solutions. We are providing content to partners including Aol, Audi, Bing Maps, BMW, Chrysler, ESRI, Fiat, Ford, Garmin, General Motors, Hyundai, Kia, Mercedes, Nissan, Oracle, Pioneer, PSA, Renault, Toyota and Volkswagen and Yahoo!

The platform. The platform, also known in 2012 as the Nokia Location Platform (NLP) and now as the HERE Location Platform, includes the underlying infrastructure of the map and the development tools for Nokia and others to create on top of it. During 2012, among others, Amazon became a HERE Location Platform licensee for maps and geocoding and Ford s research organization selected the

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HERE Location Platform to leverage Nokia s high-quality global location content as well as scalable cloud services and APIs. We also license our platform to partners such as Bing Maps and Yahoo! Maps.

Applications. We offer a suite of location applications, which we continue to develop for users of our products and, in some instances, for customers of competing products. These include:

- *HERE Maps*, a mobile application that gives people new ways to discover and explore the world around them, as well as enabling them to search for and navigate to addresses and places of interest. We enhance our maps with 3D landmarks, real-time traffic services and precise road geometry for advanced driver assistance systems (ADAS). We offer 196 country maps.

- *HERE Drive*, a dedicated in-car navigation application including voice-guided navigation in multiple languages for more than 100 countries, 2D and 3D map views and day and night modes. The latest iteration of HERE Drive includes features such as speed limit warnings even when the user is not using the application. During 2012, we also introduced the My Commute feature for HERE Drive. Available in 26 countries by the end of 2012, My Commute brings users real-time info on traffic flow and incidents on their regular routes.

- *HERE Transport*, a mobile application for the Lumia range providing underground, tram, suburban train and bus directions for more than 500 cities in 46 countries.

- *HERE City Lens*, an augmented reality application for the Lumia range. HERE City Lens is the first application providing an experience based on LiveSight, a Nokia technology that enables a precise and intuitive augmented reality experience which turns the phone s camera viewfinder into a new way to see information about restaurants, shops, hotels and more overlaid onto the surfaces of buildings around you.

In late 2012, to further extend our location services, we launched a maps application for iOS under the HERE brand. Based on HTML5, it includes offline capabilities, voice-guided walk navigation and public transport directions. The application is available for free download from the Apple App Store. We also commenced a strategic partnership with Mozilla to bring new location experiences to the Firefox OS and we plan to debut a mobile Web version of HERE Maps for the new Firefox OS during 2013. Additionally, in early 2013, we launched an Android OS-based reference application and HERE SDK for Android vendors. This is aimed at enabling partners to create location-based applications for Android devices with Nokia s leading content.

Sales and marketing

HERE provides content, platform technologies and applications both directly and indirectly to a broad range of customers, including mobile device manufacturers such as Nokia, retail establishments, Internet players, automobile manufacturers and other redistributors. We generate revenues through the sale of content, the licensing of all or parts of the HERE Location Platform and advertising. For example, with respect to advertising, HERE has a partnership with Groupon to bring the offers to our map users.

In late 2012, Nokia introduced the HERE brand for its location products and services and is gradually adopting HERE across the portfolio. With the HERE brand, Nokia aims to extend much of its location offering to new devices and operating systems that reach beyond Nokia.

Production of our map and location-based services

HERE s resources are primarily focused on the development of content, the platform and applications. We gather data in a variety of ways, including through sophisticated vehicles which collect more than

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1.3 million geocoded data points/second. In most cases, these vehicles are driven by geographic researchers, each of whom is responsible for a particular geographic area which adds a critical human element to our collection methodology. We also gather content from more than 80 000 other sources, such as local governments, local transport networks, logistics companies and expert communities.

We employ around 3 000 professional geographers. The major HERE product development sites are in Berlin in Germany and Burlington, Cambridge and Chicago in the United States.

Patents and licenses

HERE relies primarily on a combination of copyright laws, including, in Europe, database protection laws, trade secrets and patents to establish and protect its intellectual property rights in its database. HERE protects its database, software and related technology through patents as well as through the terms of license agreements and by confidentiality agreements with its employees, consultants, customers and others.

Competition

With respect to digital map data and related location-based content, several global and local companies, as well as governmental and quasi-governmental agencies, are making more map data with improving coverage and content, and high quality, available free of charge or at lower prices.

Our HERE business competes with a number of participants:

- Google uses an advertising-based model allowing consumers and businesses to use its map data and related services free of charge. Google has continued to leverage Google Maps as a differentiator for Android, bringing certain new features and functionality to the platform. During 2012, Google continued to invest in location content to enrich its Places offering with the purchase of Frommer, a well-known travel guide. That followed the 2011 purchase of Zagat, a popular restaurant guide. These acquisitions demonstrate Google s strategy to invest in owning and creating its own content related to Places and a move away from pure aggregation and indexing of third-party content.

- Apple has also sought to strengthen its location assets and capabilities through targeted acquisitions and organic growth. Apple now offers its own mapping service based on maps from TomTom to its users through the latest version of iOS. Apple Maps has displaced Google Maps, which had been pre-loaded on iOS since the iPhone s launch in 2007, although a web version of Google Maps along with Nokia s own HERE Maps is available to iPhone users through their browser. Apple s pre-loaded mapping service provides iPhone users with new map visuals such as 3D fly-over as well as free voice-guided turn-by-turn driving directions for the first time.

- HERE also competes with companies such as TomTom, which licenses its map data and where competition is focused on the quality of the map data and pricing, and Open Street Map, which is a community-generated open source map available to users free of charge. Aerial, satellite and other location-based imagery is also becoming increasingly available and competitors are offering location-based products and services with the map data to both business customers and consumers in order to differentiate their offerings.

We believe that economies of scale and scope in the mapping services industry favor players that are able to provide end-to-end hardware-agnostic solutions which include proprietary content, platform (APIs) and applications. Nokia with HERE and Google are leading examples of such players with global footprints.

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Nokia Siemens Networks

Overview

Nokia Siemens Networks is a leading global provider of telecommunications infrastructure, with a focus on the mobile broadband market. In its target market, Nokia Siemens Networks believes it is the second largest company worldwide, by revenue. It has a strong position in the newer infrastructure technologies of 3G and 4G (LTE). In 3G, Nokia Siemens Networks is the industry leader by customers served. More than a billion subscribers connect through Nokia Siemens Networks 3G networks. In LTE, Nokia Siemens Networks had 77 commercial contracts at the end of 2012. The company is the number one provider of subscriber database management, an essential tool in effective network operations.

Nokia Siemens Networks began operations on April 1, 2007, combining the networks business of Nokia Corporation and the carrier-related operations of Siemens AG for fixed and mobile networks. Nokia Siemens Networks is jointly owned by Nokia and Siemens and its financial results are consolidated by Nokia. Beginning on April 3, 2013, certain restrictions on the transfer of Nokia s and Siemens interests in Nokia Siemens Networks expire and certain other provisions relating to the transfer of such interests come into effect. Otherwise, the arrangements between Nokia and Siemens as shareholders of Nokia Siemens Networks will remain in effect as originally agreed.

Nokia Siemens Networks focus on mobile broadband began towards the end of 2011, when the company adopted a new strategy (please see the section Strategy below). Mobile broadband provides many opportunities for Nokia Siemens Networks. The company believes the market will continue to grow as mobile operators face the challenge of increasing demand for greater network capacity and improved user experience. At the same time, mobile operators are continually seeking ways to meet subscriber demands in a cost-effective manner. With a specialist approach to mobile broadband, targeted research and development and streamlined structure, Nokia Siemens Networks believes it is well placed to meet these operators needs.

The company has an installed base of around 600 customers worldwide and serves 2.5 billion subscribers. Nokia Siemens Networks customers include many of the world s largest mobile operators and the company is proud to count Bharti Airtel, China Mobile, Deutsche Telekom, Softbank, Telefónica, Verizon and Vodafone among them.

For the year ended December 31, 2012, Nokia Siemens Networks had net sales of EUR 13.8 billion and total assets of EUR 10.2 billion.

Nokia Siemens Networks has, since late 2011, been engaged in a significant restructuring program. This program, which is intended to continue throughout 2013, has already delivered substantial improvements to operating expenses and profitability. Please see the section Restructuring below.

Strategy

Focus

Nokia Siemens Networks announced its current strategy on November 23, 2011. Built around focus (both technological and geographic), quality and innovation, the strategy guides Nokia Siemens Networks to focus its business solely on mobile broadband; for example, by divesting a number of businesses and streamlining its portfolio. Please see the section Non-core businesses, divestments and portfolio management below.

The company also named Japan, Korea and the United States as priority markets , attracting appropriate managerial focus, while putting specific turnaround initiatives in place also in other regions and exiting a number of less-profitable countries and projects.

Quality

In naming quality as the second pillar of its current strategy, Nokia Siemens Networks clearly stated that it wishes to make this area a competitive differentiator over time. The extreme intolerance of lapses in service of most mobile broadband subscribers and operators means that quality improvements have a direct impact on the reputation and success of network suppliers.

Nokia Siemens Networks has, over the last year, increased investment significantly in capabilities such as testing, automation, resources and training in the area of quality. The company s quality program is based on:

- Defect prevention and containment, including earlier and faster detection of problems and their causes and clear links from research and development through manufacturing to sales, delivery and maintenance

- Customer quality management, including making effective use of customer feedback and providing cross-functional support on specific issues

- Quality capability and maturity, including developing the skills, expertise and ability organization-wide to support customer demands and promoting a deep quality culture throughout all parts of the company.

Innovation

Nokia Siemens Networks employs a strategy of customer-focused innovation, which aims to deliver better return on investment than pure technology research and to direct resources and attention to specific challenges faced by operators.

Nokia Siemens Networks has one of the largest research and development commitments in the telecommunications industry. The efforts of these teams result in a stream of continuous improvement, technology breakthroughs and industry awards.

For example, the company s Flexi Multiradio base stations have, since their first development in 2008, been shipped to more than 200 customers and won several awards. New generations of the product are continuously in development and launch.

Nokia Siemens Networks also focuses on innovation in the area of customer experience management (CEM) a term covering various tools that help operators to better meet their subscribers demands and to monetize their network investments. An implementation of the CEM on Demand suite for leading Indonesia-based operator, Telkomsel, was the Global Telecoms Business award winner for 2012 in the wireless network infrastructure innovation category.

With a portfolio of around 3 800 patent families, Nokia Siemens Networks is a significant holder of intellectual property rights.

Restructuring

At the same time as it announced its new strategy, Nokia Siemens Networks also communicated plans to undertake a far-reaching and significant restructuring aimed at reducing its annualized operating expenses and production overheads.

A large proportion of these savings were expected to come from headcount reduction and the company announced plans to reduce 17 000 positions, announced in conjunction with the new strategy. A combination of this restructuring program, divestments and project exits led to a reduction

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of approximately 15 300 headcount leaving Nokia Siemens Networks by the end of 2012. Substantial additional savings have also come from restructuring, outsourcing or similar changes in areas including real estate, information technology, product and service procurement costs and general and administrative expenses.

Nokia Siemens Networks continues to target to reduce its annualized operating expenses and production overheads, excluding special items and purchase price accounting related items, by more than EUR 1 billion by the end of 2013, compared to the end of 2011.

Organization

Nokia Siemens Networks has two business units. Mobile Broadband provides radio and core network hardware and software to mobile operators throughout the world, as well as CEM software. Nokia Siemens Networks mobile broadband product portfolio includes the company s innovative and award-winning Flexi Multiradio base station. Software offerings, meanwhile, include subscriber data management and operations support systems which help operators monitor and manage their networks.

Global Services enables operators to plan, implement, run and upgrade their networks. Nokia Siemens Networks services include network planning and optimization, network implementation, systems integration and maintenance support. A large and increasing percentage of Nokia Siemens Networks services, currently more than one fifth, is delivered through global delivery centers in India and Portugal, supported by a global network of smaller, specialized centers. These establishments enable Nokia Siemens Networks to provide customers with access to highly trained and dedicated teams very cost-effectively through pooling of expertise and economies of scale.

The company has stated its aim to develop best-in-class Operations to support the triple aim of maintaining permanently competitive operating costs, providing excellence in customer satisfaction and defending and promoting quality.

Non-core businesses, divestments and portfolio management

As part of its strategy of focusing on mobile broadband, Nokia Siemens Networks has embarked on a number of divestments of businesses not consistent with the new company direction. As of December 31, 2012, seven divestments had been announced and five of these deals were closed in the course of the year. The divestments concluded during 2012 were:

- A deal to transfer the microwave transport business, including its associated operational support systems and related support functions, to Dragonwave Inc.
- The sale of former Motorola Solutions WiMAX business to NewNet Communications Technologies
- The divestment of fixed line broadband access business and associated professional services and network management solutions to Adtran
- The sale of Belgacom-related IPTV assets to Belgacom and other IPTV assets to Accenture
- A deal to transfer the Nokia Siemens Networks proprietary broadband business, Expedience, to CN Tetragen

Towards the end of 2012, Nokia Siemens Networks announced its intention to divest its Optical Networks business to Marlin Equity Partners and its Business Support Systems operations to Redknee. These deals, which are not yet completed, are both expected to close in the first half of 2013.

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During the course of 2012, Nokia Siemens Networks also took steps to exit several projects that no longer form part of the company s core focus areas. For example, the company transferred the assets and liabilities related to the TETRA Nødnett project to Motorola Solutions Inc.

Sales and marketing

Nokia Siemens Networks direct sales force is active in approximately 120 countries. This helps ensure Nokia Siemens Networks is close to its customers, both physically and in cultural terms, and helps the company to develop stable customer relationships.

In 2012, Nokia Siemens Networks sales organization was organized in three geographical clusters: the Americas; Asia and Middle East; and Europe and Africa. These three markets are further divided into regions containing Nokia Siemens Networks sales and delivery teams. Since the start of 2013, Nokia Siemens Networks has reorganized into three different geographical clusters: North America; Europe and Latin America (which also includes Africa); and Asia and Middle East. Nokia Siemens Networks has tailored its operating approach in the different regions and countries according to the macro-economic environment and the maturity of their telecommunications industry.

Nokia Siemens Networks marketing and corporate affairs unit (MCA) is responsible for developing, executing and measuring the corporate marketing strategy, plan and budget. MCA researches markets and customers to predict the way the market will develop and how customer requirements will change over time. The team develops content and executes corporate marketing programs that raise the visibility of the Nokia Siemens Networks brand to position the company as a leader in the telecommunications industry and promotes its portfolio of products and services to customers.

Production of infrastructure equipment and products

Nokia Siemens Networks Operations unit handles the supply chain management of all of the company s hardware, software and original equipment manufacturer (OEM) products. This includes supply planning, manufacturing, distribution, procurement, logistics, supply network design and delivery capability creation in product programs.

As of December 31, 2012, Nokia Siemens Networks had ten manufacturing facilities worldwide: four in China (Beijing, Shanghai, Tianjin and Suzhou), one in Finland (Oulu), two in Germany (Berlin and Bruchsal), two in India (Kolkata and Chennai) and one in Russia (Tomsk). As part of the Motorola Solutions, assets acquisition, Nokia Siemens Networks acquired manufacturing sites in Tianjin and Hangzhou. Nokia Siemens Networks closed the Hangzhou site in 2012.

Certain components and sub-assemblies for products, such as company specific integrated circuits and radio frequency components, are sourced and manufactured by third-party suppliers. Nokia Siemens Networks then assembles these components and sub-assemblies into final products and solutions. For selected products and solutions, suppliers deliver goods directly to customers. Consistent with industry practice, Nokia Siemens Networks manufacture telecommunications systems on a contract-by-contract basis.

Patents and licenses

Intellectual property rights, or IPR, are fundamental to Nokia Siemens Networks and its business units. The company is an industry leader in the research and development of wireless technologies, as well as transport and broadband technologies, and has a robust patent portfolio in a broad range of technology areas. Nokia Siemens Networks seeks to safeguard its investments in technology through appropriate IPR protections and has generated and maintained an extensive portfolio of patents covering significant innovations arising from its research and development activities since its formation, including patents, design patents, trade secrets, trademark registrations and copyrights. Additionally, where the company deems necessary it obtains licenses to use standards-essential and other patents in its hardware and software solutions for both fixed and mobile network infrastructure.

Nokia Siemens Networks owns a large portfolio of approximately 3 800 patent families across an array of technologies, some of which were transferred from Nokia and Siemens upon its formation in 2007.

Nokia Siemens Networks IPR portfolio includes high quality standards essential patents and patent applications which have been declared to ETSI and other SDOs as essential to LTE, WCDMA, TD-SCDMA, WIMAX, GSM, CDMA2000 and other standards.

In addition, Nokia Siemens Networks holds copyright registrations relating to certain aspects of its products and services. The company has in place a number of patent license agreements with other major companies and patent holders, both directly and through its shareholders, that afford it freedom to operate without risk of infringing standards-essential patents owned by such entities.

Nokia Siemens Networks receives and pay patent license royalties in the ordinary course of its business based on existing agreements with telecommunication vendors.

Competition

Conditions in the market for mobile and fixed network infrastructure and related services were challenging and intensely competitive in 2011 and remained so during 2012. With relatively limited growth in a negative global economic environment, competition has been intense around growth areas such as 4G (LTE), which is the current technology battleground in the wireless industry, and in other network modernization projects.

Industry participants have changed significantly in recent years. Substantial industry consolidation occurred in 2007 with the emergence of three major European vendors: Alcatel-Lucent, Ericsson and Nokia Siemens Networks. In January 2011, Motorola Solutions completed its separation from Motorola Mobility Holdings Inc. In April 2011, Nokia Siemens Networks acquired the majority of Motorola Solutions wireless network assets.

During this period, the market also saw the rise of Huawei and ZTE, low-cost vendors from China, both of which have gained market share by leveraging their low-cost advantage in tenders for customer contracts. In recent years, the technological capabilities of these vendors, particularly Huawei, have improved significantly, resulting in competition not only on price but also on quality. In 2012, Huawei and ZTE have continued to grow their market share but at a slower pace than in previous years, further challenging European vendors. In 2012, Nokia Siemens Networks also witnessed emerging competition from Samsung Electronics, which has expanded its network infrastructure business out of its domestic Korean market with limited gains in Europe and the United States.

At present, Nokia Siemens Networks considers five companies Ericsson, Alcatel Lucent, Huawei, ZTE and Samsung Electronics to be its main competitors as major network infrastructure providers. Nokia Siemens Networks also competes with Cisco Systems, Inc. and NEC Corporation.

In 2012, the telecommunications infrastructure market was characterized by slight growth in capital expenditures in Euro terms by global mobile operators, mainly attributable to operators in Japan, Asia Pacific and North America off-set by declines in Europe, China and India.

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In segment terms, the continued decline of legacy technologies in the Mobile Broadband business, such as 2G (GSM) and CDMA that was experienced in 2011 continued during 2012. After reasonable growth in 2011, the 3G segment declined in 2012. This decline has been off-set by the growth in 4G (LTE) which has emerged as a fast-growing commercial technology in markets outside the early adopting United States, and especially in Asia.

Within the 4G segment, leading vendors are competing based on factors such as technology innovation, network topology and less complex network architectures as well as integration towards all-IP networks. Competition in 3G remains intense as deployments of single Radio Access Network technology remains viewed as a critical entry point for networks, particularly by vendors looking to win share in new markets. This was particularly intense in 2011 in Europe and Asia Pacific, but showed some signs of easing during 2012.

In services, which remained a growth area in the industry, Nokia Siemens Networks business is increasingly tied directly to the mobile broadband product business, in particular in areas such as care and network implementation. As a result, pricing, efficiency and roll-out capabilities are competitive drivers. The development of its global service delivery capability, which allows Nokia Siemens Networks to perform more tasks remotely using standardized tools and processes, is increasingly important as it enables efficiencies for mobile operators and for its own operations. Competition in services is from both traditional network providers such as Alcatel-Lucent, Ericsson and Huawei, as well as non-traditional telecommunications entities and system integrators, such as Accenture and IBM. In addition to these companies, there are also local service companies competing, which have a narrower scope in terms of served regions and business areas. In 2012, some vendors, including Alcatel-Lucent and Nokia Siemens Networks, signaled their intention to scale back their activities in the lower profitability areas of services such as field maintenance and some managed networks operations.

Certain of Nokia Siemens Networks competitors may receive governmental support allowing them to offer products and services at substantially lower prices. In many regions, restricted access to capital has caused mobile operators to reduce capital expenditure and has produced a stronger demand for vendor financing. Certain of the company s competitors may have stronger customer financing options due to internal policies or government support. While the amount of financing Nokia Siemens Networks provided directly to its customers in 2012 has declined from already relatively low levels in 2011, as a strategic market requirement the company plans to offer this financing option only to a limited number of customers and primarily to arrange and facilitate financing with the support of export credit or guarantee agencies.

Seasonality Devices & Services, HERE and Nokia Siemens Networks

For information on the seasonality of Devices & Services, HERE and Nokia Siemens Networks, see Item 5A. Operating Results Certain Other Factors Seasonality.

Sales in US Sanctioned Countries: Devices & Services, HERE and Nokia Siemens Networks

General

We are a global company and have sales in most countries of the world. In 2012, we sold mobile devices and services through our Devices & Services and HERE (formerly Location & Commerce) businesses and network equipment and services through Nokia Siemens Networks to customers in Iran, Sudan and Syria. We did not have any sales in Cuba in 2012. Our aggregate net sales to customers in Iran, Sudan and Syria accounted for approximately 0.9% of Nokia s total net sales, or EUR 262 million, in 2012; approximately 1.4%, or EUR 545 million, in 2011; and approximately 1.3%, or EUR 542 million, in 2010. Cuba, Iran, Sudan and Syria are targets of comprehensive United States economic sanctions and the United States government has designated these countries as state sponsors of terrorism.

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Nokia Siemens Networks has made the decision in November 2011 to withdraw from the Iranian market in a controlled manner and is in the process of winding down its business activities in Iran. Nokia Siemens Networks expects to cease all revenue-generating activities relating to Iran by June 30, 2013. Other activities relating to the withdrawal such as dissolution of the local branch, divestment or discontinuation of certain shareholdings, closing of local bank accounts and resolution of contractual and legal obligations in Iran will take longer.

Similarly, we have decided to end the local presence in Iran of our Devices & Services and HERE businesses. The local Iranian office of these businesses was closed in August 2012 and as of December 31, 2012 there were no longer any employees based in Iran for these businesses. Other activities relating to the termination of our local presence in Iran for these businesses will take longer. Nokia will continue to sell mobile devices, accessories and certain free of charge items such as digital content and services into Iran through regional distributors based outside of Iran.

In connection with the business activities described above relating to Iran, we have routine contacts with governmental agencies in Iran as required, for example, to maintain a legal presence in Iran, pay taxes, employ Iranian nationals and maintain shareholdings in certain Iranian companies as required under Iranian law and as is customary under Iranian business practices. We expect to cease these contacts and shareholdings as soon as possible in connection with our withdrawal from Iran as described above.

We cannot exclude the possibility that third parties acting independently from us have exported our products to countries from other countries in which we sell them. We also distribute services, applications and content through the Internet. In terms of these offerings, we have industry standard systems in place recognizing users IP addresses and, if applicable, block the access to our service offerings if they are not intended for a certain market or country. We cannot exclude the possibility that our services, applications and content when distributed through the Internet, may be accessed in markets or countries which they are not intended for if the industry standard protective mechanisms, such as IP address blocks, are circumvented.

Disclosure pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012 (ITRA)

To our knowledge, none of our sales of mobile devices and services through Devices & Services and HERE in Iran in 2012 are required to be disclosed pursuant to ITRA Section 219. To our knowledge, none of our sales of network equipment and services through Nokia Siemens Networks in Iran in 2012 are required to be disclosed pursuant to ITRA Section 219, with the possible exception of the following: During the year ended December 31, 2012, Nokia Siemens Networks provided 2G Radio, core and transmission equipment, including related implementation and care services, in Iran under agreements with Mobile Communications Company of Iran (MCCI) and MTN Irancell. Additionally, during the year ended December 31, 2012, Nokia Siemens Networks provided optical networks equipment to Sadid Consultant Connection Developer Company (SCCDC), a privately held reseller for Nokia Siemens Networks, where the end user was Iranian Gas Transmission Company (IGTC). Furthermore, Nokia Siemens Networks provided during the year ended December 31, 2012 under an existing care and maintenance contract a return and repair service to SCCDC, where the beneficiary of the service was IGTC. During the year ended December 31, 2011 and the year ended December 31, 2012 Nokia Siemens Networks provided optical networks equipment to Hamkaran Samanehaye Ertebati Pars (Hamkaran), a privately held reseller for Nokia Siemens Networks, where the end user was Petrochemical Commercial Co. (PCC) and for which Nokia Siemens Networks received a payment during the year ended December 31, 2012. Through a branch of its Finnish subsidiary, Nokia Siemens Networks employs personnel in Iran to perform its contractual and regulatory obligations in Iran. In connection with these agreements, Nokia Siemens

Networks maintains shareholdings in Pishahang Communications Network Development Company (Pishahang) and Iran Telecommunications Manufacturing Company (ITMC), as required under Iranian law and as is customary under Iranian business practices. Nokia Siemens Networks holds 49% and 20% of the outstanding shares of Pishahang and ITMC, respectively. The other major shareholder in Pishahang is Information Technology Application Development TACFAM Company (Tacfam). Tacfam holds 49% of the outstanding shares of Pishahang. Although it is difficult to do with a reasonable degree of certainty, we have concluded that at least one of the lranian entities identified in this paragraph, PCC, is and perhaps others may be owned or controlled, directly or indirectly, by the Government of Iran.

During the year ended December 31, 2012, gross sales from agreements with MCCI, MTN Irancell, SCCDC and Hamkaran were EUR 68 156 689 in aggregate and resulted in a net loss (taking into account the effect of foreign currency exchange rates and repatriation costs) for Nokia Siemens Networks for that period. A vast majority of the gross sales are derived from Nokia Siemens Networks agreements with MCCI and MTN Irancell. As discussed, Nokia Siemens Networks expects to cease all revenue-generating activity in Iran under agreements with MCCI and MTN Irancell by June 30, 2013. All revenue-generating activity with SCCDC and Hamkaran was discontinued by December 31, 2012. Nokia Siemens Networks expects to cease its shareholdings in Pishahang and ITMC as soon as possible in connection with its withdrawal from the Iranian market.

Nokia Siemens Networks maintains accounts in Iran with Bank Tejarat. Nokia Siemens Networks conducted transactions in these accounts until March 17, 2012 mainly relating to winding down activities. After March 17, 2012 no transactions were conducted in these accounts with the exception of maintaining a balance so that unpresented checks issued on these accounts could be honored upon presentment to Bank Tejerat. As of December 31, 2012, there was a nil balance in these Bank Tejarat accounts. Nokia Siemens Networks is in the process of closing these accounts.

Government Regulation: Devices & Services, HERE and Nokia Siemens Networks

Our business is subject to direct and indirect regulation in each of the countries in which we, the companies with which we work and our customers do business. As a result, changes in or uncertainties related to various types of regulations applicable to current or new technologies, products and services could affect our business adversely. Moreover, the implementation of technological or legal requirements could impact our products and services, manufacturing and distribution processes, and could affect the timing of product and services introductions, the cost of our production, products and services, as well as their commercial success. Also, our business is subject to the impacts of changes in trade policies or regulation favoring the local industry participants, as well as other measures with potentially protectionist objectives that the host governments in different countries may take. Export control, tariffs or other fees or levies imposed on our products and services as well as environmental, product safety and security and other regulations that adversely affect the export, import, pricing or costs of our products and services could adversely affect our net sales and results of operations.

For example, in the United States, our products and services are subject to a wide range of government regulations that might have a direct impact on our business, including, but not limited to, regulation related to product certification, standards, spectrum management, consumer privacy, competition and sustainability. In the European Union the EU level or local member state regulation has in many areas a direct impact on our business and customers. The European regulation influences for example conditions for innovation for multifunctional devices and services, as well as investment in fixed and wireless broadband communication infrastructure. In China new partly local 3G telecom standards have been enacted that may affect production processes and have impact on our business. Additionally, with respect to certain developing market countries for example in Asia and in Latin and South America the business environment we operate in can pose risks to our business due to unpredictable, discriminatory or protectionist regulation.

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We are in continuous dialogue with relevant state agencies, regulators and other decision makers through our experts, industry associations and our representatives in Washington, D.C., Brussels, Espoo, Berlin, Beijing, Delhi and Moscow and through our experts, industry associations and representatives in the regions of Middle East and Africa, Latin and South America and South-East Asia.

Corporate Responsibility: Nokia

In the following description of our corporate responsibility activities, Nokia and we refer to our Devices & Services and HERE businesses. Corporate responsibility matters relating to Nokia Siemens Networks are discussed below under heading Corporate Responsibility: Nokia Siemens Networks.

Nokia strives to be a leader in sustainability. We have a long track record of taking sustainability into account in everything we do, from the products we build and the suppliers we choose, to the services we develop to enhance people s education, livelihoods and health. More than 1.3 billion people use a Nokia product, which puts us in a unique position to enable them to effect positive and sustainable changes.

Sustainability issues are reviewed regularly at various levels of the company, including within the Nokia Leadership Team and the Board of Directors, and we have personnel across the business responsible for environmental and social targets. We also publish our annual sustainability report on our website. Nokia has published corporate responsibility reports since 2002 and environmental reports since 1999. In this section, we cover the ethical, socio-economic and environmental areas from 2012 that are defined as most material to our business and our stakeholders.

Impact on People: Devices & Services and HERE (formerly Location & Commerce)

Supporting broad access to the benefits of mobile technology. Mobile technology has enabled people to connect with one another and access information in new ways, and we believe it has been a force for positive change in people s lives around the world. At Nokia, we address the fundamental needs of connectivity, affordability and relevance for a broad range of consumer groups through our core business. Our strategy, including our plan to win in smartphones and connect the next billion to the Internet and information, aims to bring the benefits of mobile technology to people around the world.

Accessibility of Nokia products. Accessibility means making products and services usable and accessible to the greatest possible number of people, including users with disabilities. Nokia is working to bring mobile communications to the estimated 600 million people worldwide who have a recognized disability, whether in vision, hearing, speech, mobility or cognition. Many of the features initially developed to better serve these specific groups are also finding uses with the general population, especially with age. We continue to engage our stakeholders in discussion on our new direction and its implications for accessibility, and in October 2012, we held a Nokia Accessibility Update event, where we launched a further improved version of the Nokia Wireless Loopset, the LPS-6. It enables t-coil equipped hearing aid users to use a mobile device in a convenient way, whilst delivering superior audio clarity during phone calls and richer tones when listening to music. The Nokia Screen Reader, which enables the visually impaired to hear the contents of the screen, was also extended to 27 languages in total in 2012.

Our focus in corporate social investment. We have a number of global partnerships in place to support our ambitions in our key corporate responsibility focus areas of education, health, livelihoods and environmental sustainability. In all of our efforts, we focus on how mobile technology can bring social benefits with a meaningful impact on a large scale, but at a low cost. The global partners in 2012 were Oxfam, IUCN (International Union for Conservation of Nature), UNESCO (United Nations Educational, Scientific and Cultural Organization), UNICEF (United Nations Children s Fund) and WWF (World Wide

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Fund for Nature). In each of these partnerships we have provided not only financial support, but also our technology, resources and expertise on an ongoing basis for projects in which we are working jointly together.

Education. Mobile technology can provide access to quality education materials and support to teachers, learners and their families, and mobile communication enables the delivery of education to people, instead of people to education. In that sense, mobile learning initiatives help in improving equality in educational achievement, as girls tend to be disadvantaged in school attendance in many parts of the world. The cost of providing good quality learning content can also be reduced and the teaching environment can be transformed into a more collaborative and motivating environment with mobile technology. Furthermore, concepts such as our Nokia Life subscription-based service also show the potential of affordable education delivery to people on a large scale. We currently offer Nokia Life in China, India, Indonesia, Kenya and Nigeria, and by late 2012, approximately 90 million people had experienced the service, more than double the number from a year earlier. Our other initiatives specifically related to education and which are designed to support our corporate responsibility goals include:

- *Nokia Education Delivery*, software which enables delivery of quality education materials over mobile networks to the classroom, particularly useful in hard-to-reach areas. Combined with teacher training and community engagement, it has been shown to improve academic results and increase retention among students, especially girls.

- *Nokia Mobile Mathematics* is a mobile service that combines official mathematics curricula with social networking. At the end of 2012, the service reaches approximately 50 000 students (more than double the number since the end of 2011), approximately 700 teachers and approximately 200 schools in South Africa.

Health. Nokia Data Gathering contributes to health as one of its many uses. It is an open source platform which allows any organization to collect data via mobile phones, and it has been used for example in preventing and controlling disease outbreaks. Our Nokia Life service disseminates useful information and advice on pregnancy and maternal health, childcare and parenting skills, and family health in general.

Livelihoods. Nokia Data Gathering software replaces traditional data collection methods with mobile devices, improving results and saving time and money. The open source model allows us to offer the software on a large scale, providing clients with flexibility and supporting the creation of livelihoods for systems integrators and developers. Almost 300 organizations use Nokia Data Gathering, making it one of the most used mobile data collection solutions globally. Examples of its successful use include the mapping of water points in Kenya by UN FAO, resulting in a faster reaction to drought in East Africa. We also support agricultural livelihoods through Nokia Life, which gives its subscribers regular and relevant information updates on local market prices, weather conditions, the availability of seeds, fertilizers and pesticides, as well as news and advice.

Nokia values. Nokia s change of strategy in 2011 underlined the need for our employees to adopt the mind-set of a challenger, which emphasizes results, speed and accountability and requires us to adopt new attitudes and pursue new approaches to satisfy our customers.

Impact on our employees. During 2012, as we continued to implement our strategy, we made some difficult decisions which have impacted Nokia sites and resulted in headcount reductions. These changes have included the closure of our production facility in Salo, Finland, and our research and development facilities in Ulm, Germany, and Burnaby, Canada. We also divested certain non-core activities, including Vertu, our luxury mobile device brand. Additionally, we acquired new talent both by hiring people who can bring us new expertise we need, and through small acquisitions, including that of Scalado, a Sweden-based company, to support our ambitions in imaging.

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To support individuals and local communities directly impacted by changes at Nokia, we operate a unique program tailored for different markets. This program, Bridge, which continued in 2012, provides the following options to employees whose job is affected by the restructuring:

A new job within the company: Career counseling and helping employees to identify job opportunities within Nokia wherever possible.

A new job outside the company: Career counseling and helping to identify job opportunities outside of Nokia by providing a job center at Nokia premises to link employees directly with local companies and their resourcing needs.

Entrepreneurship: Training and funding to help identify business opportunities and partnerships for those interested in setting up a company of their own, which can fuel new growth for impacted communities.

Career renewal: Assisting employees in re-training for a different line of work, which can support a speedy return to employment.

By the end of 2012, approximately 17 000 employees had participated in the Bridge program, almost 1 000 new businesses had been established and approximately 57% of employees had found a new position within Nokia, outside of Nokia or in the newly established businesses or are now in full-time education.

In addition, employees receive severance packages in accordance with local practices when they leave Nokia.

Diversity and inclusion. We are committed to promoting diversity and inclusion in the workplace and providing rewarding career development opportunities for all employees.

Training and development. We believe that a dedicated progressive approach to both personal and professional development optimizes the interest of both employees and Nokia. Therefore we provide a variety of mandatory and voluntary training opportunities for our employees to help them develop a broad range of skills for the workplace, as well as the competencies specific to their roles.

Performance and rewarding employees. We offer a variety of recognition plans with levels of compensation determined by local labor markets and taking into account both individual contribution and company performance. We encourage managers to coach employees continually and to have at least one formal performance review every year.

Our equity program includes performance shares, restricted shares and stock options. In early 2013, we also introduced an employee share purchase plan as part of the program. There are also other plans, including cash incentive plans for all employees as well as small monetary bonuses as recognition awards.

Health, safety and well-being. In 2012, Nokia introduced a new Occupational Health and Safety (OHS) policy, renewing our commitment to provide safe and healthy working conditions for all our employees and partners, and to promote wellbeing at work. We expanded our global OHS Injury and Illness Reporting to not only include internal Nokia employees, but our external contractors and service providers as well. Our global Total Incident Frequency Rate (TIFR) for all our major manufacturing facilities for 2012 with this expanded population was 0.2, down from 0.5 in 2011. In other words, for every 100 employees, contractors and service providers, there were only 0.2 incidents of injury or illness. This figure includes external contractors and providers from June 2012 onwards. As a global company, we have selected the Occupational Safety & Health Administration (OSHA) guidelines for accident and illness reporting. Our global Occupational Health & Safety Injury and Illness Reporting has since 2011 included all cases that require some type of medical treatment, not just those that result in absence from work.

Labor Conditions at manufacturing facilities. At December 31, 2012, Nokia had close to 18000 employees working directly in production, including manufacturing, packaging and shipping. A healthy, motivated workforce is vital for Nokia s success and as part of this management we carry out third-party in-depth assessments of our factories labor conditions every second year. The latest assessment round started in 2012 and six of our seven major facilities had been assessed by the end of February 2013. Our focus this year has been on emphasizing a proper root cause analysis in order to sustain the high level of compliance in social responsibility. During the intervening period of third-party assessments, we conduct internal reassessments to ensure any necessary corrective actions have been made.

All assessments at our manufacturing facilities are carried out against the Nokia Labour Requirements, as well as all local laws. The Nokia Labour Requirements provide a framework to monitor and assess labor conditions in a consistent manner and are based on recognized international standards such as the International Labour Organization and UN Human Rights conventions. A revision of the Nokia Labour Requirements was launched in our manufacturing facilities in 2012. The update was done to respond to the need for specifications in areas such as sick leave and maternity leave practices, and protection of pregnant women at work. We also recognize the right of employees to join unions and enter into collective bargaining agreements. Almost all of our manufacturing facilities have collective agreements in place with one or more labor unions. At December 31, 2012, approximately 60% of our production employees were covered by collective bargaining agreements.

Nokia Code of Conduct. In 2012 we continued our ongoing commitment to actively fight improper business practices, including corruption, and believe that as a global company, we can play an important role in this area. We also believe that our efforts can provide us with a competitive advantage with customers who demand high ethical standards in their supply chain. For these reasons, the Nokia Code of Conduct is available in 34 languages and can be found on our website. Since 2009, we have conducted a program to train each employee on our Code of Conduct using an e-learning that is offered in 14 languages as well as classroom training. By the end of 2012, 95% of eligible non-manufacturing-based employees completed their training and in our manufacturing facilities 98% of eligible employees completed their classroom training. For the first time, we now formally track and measure our former NAVTEQ employees (now in HERE) completion of the mandatory Code of Conduct training. We have several communications channels available to employees and others to get help in understanding and applying the Code of Conduct, or to report concerns of violations, including a Contact the Board channel for contacting the Board of Directors anonymously.

Human rights. Improved communications provide better opportunities for freedom of expression, and therefore promote civil and political rights as well as economic and social rights. At the same time, we have specific human rights responsibilities toward our employees, customers, the communities where we work, and within our supply chain. We apply UN Human Rights special representative John Ruggie s business and human rights framework to our business practices. The Protect, Respect and Remedy framework has been widely welcomed by industry and governments. Since 2011, we have had in place the Nokia Human Rights Approach, which is based on Ruggie s framework and which is also available on our website.

Suppliers. Our sustainability efforts relating to our supply chain are discussed below under *Impact on the environment*: *Devices & Services and HERE*.

Customer privacy. As the Internet has expanded and new services for consumers have emerged, user privacy has become increasingly important. Consumers have increasing possibilities to use and share their personal information in new contexts. To remain a trusted brand, we work proactively to ensure that this custodial information is protected. Respect for privacy is part of our commitment to observing high standards of integrity and ethical conduct in all our operations. We have a formal privacy program with a senior executive accountable for it.

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Product safety. Product safety is a top priority for Nokia. All our mobile products operate below relevant international exposure guidelines and limits that are set by public health authorities. Since 1995, expert panels and government agencies around the world have performed more than 110 reviews of the scientific evidence regarding health effects from exposure to radio frequencies (RF). These reviews consistently support the scientific conclusion that RF fields operated at levels below the exposure guidelines pose no adverse effects to humans. We are responsive to our customers questions about mobile device safety and are committed to making information available transparently for consumers.

Disaster response and preparedness. As a global business, we have a disaster response plan in place and evaluate every crisis situation separately. We focus on disaster preparedness and rehabilitation, especially where mobile-based tools and applications can help.

Partnering with non-governmental organizations. In 2012, we started a global partnership with UNICEF in the area of safe and beneficial use of online media by young people. We also have global partnerships in place with Oxfam, IUCN (International Union for Conservation of Nature), UNESCO (United Nations Educational, Scientific and Cultural Organization), and WWF (World Wide Fund for Nature).

Impact on the Environment: Devices & Services and HERE

At Nokia, we believe that our approach to looking after our environment not only reflects ethical, moral and legal responsibilities, but also makes good business sense. Environmental issues are integrated in our business practices and furthermore, our environmental goals are not driven solely by regulatory compliance but are aimed to go beyond legal requirements as explained in more detail below. In 2012, we continued to focus on the materials used, energy-efficiency, take-back of used products, the overall environmental performance of our activities and the supply chain.

Environmentally-leading mobile product range. Nokia has long been the pioneer in phasing out substances of concern from our products. In product creation, we also look at energy efficiency, using renewable materials, smart packaging and creating environmental services, which encourage people to adopt more sustainable lifestyles. Our product creation is guided by life cycle thinking to minimize environmental impacts of a product at every stage of its life, from manufacturing, through use to disposal. For example, over the last decade, the greenhouse gas footprint of our phones has been reduced by up to 50%. Life cycle assessments help us focus on the areas where we can make the biggest contribution to reducing impacts. Our method of assessing our products greenhouse gas footprint has been externally audited. In 2012, we introduced four new Eco Hero devices, the Nokia 808 Pureview, the Nokia Lumia 610 and 820, and the Nokia Asha 311.

Reducing our environmental impact with mobile technology. Nokia mobile devices comprise multiple functionalities; for instance a digital camera, music player, web browser, navigation, as well as other features. This helps consumers reduce their own environmental footprint and avoid buying, using and charging several separate devices when one device can be used for many different purposes. Mobile devices can be used for attending meetings and working remotely, reducing the need for travel. Car navigation services help to save fuel by finding the shortest route. In addition, our HERE Transport (HERE Transit in the US) application offers mass transit route planning in hundreds of cities all over the world, demonstrating how mass transit can reduce the impact of travel on the environment. We aim to raise awareness about sustainable lifestyles, health, well-being and social responsibility, mainly through the People & Planet pages on our website, but also via eco applications such as the Climate Mission 3D game in the Nokia Store.

Energy-savings in our mobile products. Since 2004 we have reduced the no-load consumption of our chargers by more than 73%, and in our best-in-class chargers by over 90%. During 2012, we introduced two new energy efficient USB chargers, the AC-20 and AC-50. Today, all new Nokia

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devices are shipped with four or five-star chargers. Although we have moved in lower price points to more energy efficient chargers we did not fully meet our reduction target for year 2012. The target for the average no-load was 0.07W and we reached 0.098W which is a reduction of 13% from last year. The charger no-load power consumption values are calculated as volume weighted average charger no-load power consumption for phone products per year.

Reporting eco performance of our mobile products. We provide eco declarations or profiles for all our products, containing some useful information on their environmental impact, materials, energy efficiency, packaging, disassembly and recycling.

Substance and materials management in our mobile products. Our main objective is to know all the substances in our products, not just those that raise concerns. Our products must be safe for people and the environment when used in the proper way. All our mobile devices and accessories worldwide are fully compliant with the EU Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (EU RoHS), and all national requirements of the same type as RoHS. Our approach is that Nokia s products do not contain substances included in the Candidate List of Substances of Very High Concern (SVHC), by the EU Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (EU REACH), which the EU REACH regulation requires to be reported. We evaluate the approach against the new versions of Candidate List of SVHC and additionally take the notification method into use when necessary. Since 2009, all our new products must be free of BFR (brominated flame retardants) and RFR (restricted flame retardants), as defined in the Nokia Substance List (NSL). In case of compliance failures we always clarify and document the cases and set up corrective and preventive actions. The full NSL, with information about our substance management, including legal requirements and our voluntary phase-outs, is available on our website.

Packaging. We continued to improve our packaging, increasing our use of renewable, paper-based materials to over 95% of total packaging materials. Our packages are 100% recyclable and each part is individually marked with ISO standard recycle markings. To enable easy recycling, we choose not to combine plastic and paper materials into single components. For fiber based printing and packaging materials our aim is to use 100% certified renewable or recycled materials by 2015. We accept certifications by Forest Stewardship Council (FSC) and The Programme for the Endorsement of Forest Certification (PEFC), with priority on the former.

Take-back and recycling. Connecting the next billion to the Internet and information through our mobile products is a critical opportunity for Nokia, but also a key concern in the sense that more products sold means more e-waste from old devices as well. We take part in collective recycling schemes with other equipment manufacturers in Europe, Canada and Australia. We also engage in local recycling awareness with retailers, operators, other manufacturers, authorities and various local partners in order to build a recycling culture around the world. Our own take-back and recycling efforts are thus intended to ensure not only compliance with the European Union Waste Electrical and Electronic Equipment (WEEE) Directive, but also to ensure we go above and beyond legally set requirements. Of the materials in a mobile device, 100% can be recovered and used to make new products or generate energy. Our challenge is now to engage people to make recycling of mobile products easy and desirable.

Energy efficiency and emissions of our operations. In 2012, our facilities consumed 518 GWh of energy In total. This energy consumption caused 13 000 tonnes of direct and 224 800 tonnes of indirect greenhouse gas (C02e) gross emissions. Direct energy means our use of gas and oil, while indirect energy refers to our use of electricity and district heating/cooling. Nokia Group as a whole consumed 1 074 GWh of energy. In 2012 our share of renewable electricity was 169 GWh.

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Business travel. Nokia s C02 emissions from air travel were 38 500 tonnes in 2012 which is a 54% reduction from 2011.

Reducing waste. In 2012, Nokia produced a total of 31 400 tons of waste, a 30% reduction from 2011.

Water usage. Water is not a significant environmental issue for our own operations, but used mainly for sanitary and catering purposes, and in gardening and facilities management, e.g. cooling towers. Production processes use relatively small amounts of water, under 1 000 liters per year in each factory. In 2012, we withdrew 1 092 mega liters of water for use in our facilities. Nokia Group as whole withdrew 1 674 mega liters of water.

Suppliers

For over a decade Nokia has required its suppliers to adhere to strict ethical and sustainable business practices. These have been laid out in the Nokia Supplier Requirements, enforced through contractual agreements and verified by assessments. In 2012, Nokia also published its Supplier Code of Conduct. This Code, available on our website, establishes the basic principles for business conduct with Nokia. It is based on Nokia s Supplier Requirements, which suppliers regardless of location and size must fulfill.

To monitor compliance and performance, Nokia uses a wide range of approaches and means. External risk tools help to point out potential environmental, ethical, health and safety and labor risk areas in regards to the industry or the countries where we or our suppliers operate. Supplier self-assessments again provide an indication of the supplier s own understanding of its level of compliance. Regular on-site assessments to supplier sites on the other hand, are conducted for a variety of reasons, including identified risk, non-conformance or strategic importance. At the end of 2012, altogether 345 supplier facilities had been risk self-assessed in relation to labor, ethics, health and safety and environmental practices (292 in 2011 and 26 in 2010). This accounts for around 90% of our hardware and mechanics estimated business value for 2012. In addition, 23 Nokia Supplier Requirements on-site assessments and 10 Environmental and Ethical on-site in-depth assessments were carried out.

Internally environmental, ethical, health and safety, as well as labor practices have been integrated into Nokia sourcing s daily business operations including supplier selection and contracting, relationship development, procurement decisions and steering meetings. Sustainability key performance indicators and targets are part of the supplier performance review. These specific KPIs have focused throughout the years on e.g. environmental management system status, code of conduct implementation, transparency and communications, environmental impacts and recently labor practices and health and safety issues. All active hardware suppliers are requested to report and results are regularly reviewed.

In recent years, Nokia has also taken continuous action to ensure that our products are manufactured from ethically sourced materials. We do not tolerate any activity in our supply chain that fuels conflict, violates human rights or leads to serious environmental degradation. The issue is currently especially acute with the extraction and trade of minerals in Democratic Republic of Congo (DRC) and surrounding countries. During 2012 Nokia focused on validating the suppliers due diligence activities towards conflict-free sourcing, and ensuring that its own due diligence process remains in line with international requirements.

There are many sustainability challenges that might arise from a global supply chain consisting of thousands of suppliers. Clear requirements and different approaches and training programs to monitor performance and compliance are essential. For the sake of a sustainable and continuous business development it is important to identify possible risks and improvement areas. In case of any non-compliance against Nokia s requirements, suppliers are requested to analyze possible root causes and

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take corrective actions. This way we want to ensure that suppliers provide a safe work environment, exercise good labor practices, use environmentally sustainable manufacturing processes, and aim to reduce the environmental impact of their own operations.

Environmental management systems (EMS). Our EMS is an integral part of our common global management structure. The international ISO14001 standard has been the foundation for our certified EMS for more than 15 years and it covers all of our manufacturing facilities. Its goal is to improve our environmental performance, focusing on energy consumption, waste management, water management and air emissions. We require a certified EMS according to ISO 14001 from our contract manufacturers, and a certified EMS from all our direct suppliers.

Corporate Responsibility: Nokia Siemens Networks

Nokia Siemens Networks aims to minimize the adverse impacts of its business while also maximizing the positive social and environmental impacts its products can have.

Impact on people: Nokia Siemens Networks

Nokia Siemens Networks has an impact on people including employees, suppliers and communities. The company s five values guide the actions and behavior of employees and define our company culture. The values are: focus on the customer; communicate openly; win together; inspire; and innovate.

Global workforce. The changes to Nokia Siemens Networks strategy announced in November 2011 have had a significant impact on employees. Nokia Siemens Networks has been consulting with employee representatives and local Works Councils where needed and communicated with employees about the changes that affect them throughout the restructuring process. Nokia Siemens Networks has followed country-specific legal requirements to find socially responsible means of reducing its workforce and treated those affected with dignity and respect. Where possible, Nokia Siemens Networks transferred employees to new roles inside the company to support businesses that are core to its strategy.

At the end of 2012, Nokia Siemens Networks had 58 411 employees, of which 2 098 worked in production. During the year, the rate of voluntary attrition was 9.9%, involuntary attrition was 14.2% and attrition due to common agreement was 5.8%.

Diversity and inclusion. At the end of 2012, 12.5% of senior management positions within Nokia Siemens Networks were held by women, an increase of one percentage point from 2011. Employees of non-Finnish or non-German nationality held 54% of senior management positions.

Training and development. During 2012, Nokia Siemens Networks spent approximately EUR 50 million on training for employees through its training organization.

Health, safety and labor conditions. Providing safe and decent working conditions for employees is a priority for Nokia Siemens Networks. Our Code of Conduct and Global Labor Standard set out clear requirements for labor conditions, based on the International Labor Organisation (ILO) conventions. Nokia Siemens Networks is implementing the global standard at country level, focusing on the highest risk countries for labor violations. Internal audits are used to confirm compliance.

Nokia Siemens Networks health and safety management system, based on the international standard OHSAS 18001, safeguards employees with appropriate safety procedures, equipment and training. Contractors must comply with our health and safety standards and Nokia Siemens Networks trains contractors to ensure they understand the procedures. Regular audits are used to check compliance.

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Nokia Siemens Networks Code of Conduct. The Code of Conduct sets out Nokia Siemens Networks commitment to uphold high ethical standards wherever it operates. Nokia Siemens Networks trains its employees on ethical business conduct every year and concerns can be reported anonymously. Any reported ethical concerns are investigated thoroughly by Nokia Siemens Networks Ethics and Compliance Office. In 2012, 86% of employees completed ethical business conduct training and 74% of employees that work with customers and suppliers received further training on anti-corruption.

Community

Nokia Siemens Networks community strategy focuses on three key areas where it believes it can have the greatest impact: first; education and ICT, second; disaster preparedness and relief and third; the environment. Nokia Siemens Networks has policies in place relating to disaster relief and to employee volunteering. During 2012 its efforts were focused on restructuring and internal activities.

Human rights

Nokia Siemens Networks recognizes its responsibility to help ensure that the communications technologies it provides are used to respect, and not infringe, human rights. Nokia Siemens Networks Code of Conduct spells out the company s zero tolerance for the violation of human rights. This commitment is reinforced in its human rights policy, which establishes due diligence processes to identify and address relevant human rights risks across the company s global operations. Employees are trained on human rights through ethical business training and those in high-risk roles such as procurement are given additional training on the company s human rights policy.

Suppliers: All suppliers must meet Nokia Siemens Networks global supplier requirements, which set standards for the management of ethical, environmental and social issues. This commitment is part of contractual agreements with suppliers. In 2012 Nokia Siemens Networks rolled out revised supplier requirements including additional points on human rights and conflict minerals. Compliance with global supplier requirements is monitored through system audits, of which 57 were conducted in 2012.

More detailed audits focusing on social and environmental issues are undertaken with some suppliers, selected through a risk assessment process. Nokia Siemens Networks focus in 2012 was on working closely with suppliers to bring them up to our standards and closing open audits from previous years. Nokia Siemens Networks closed 20 in-depth audits and conducted two new additional audits.

Nokia Siemens Networks updated supplier requirements clearly state its policy on conflict minerals and the company does not accept their use in our products. Nokia Siemens Networks requires suppliers who manufacture components containing metals associated with conflict minerals to adopt a zero tolerance policy with their respective suppliers. In 2012, Nokia Siemens Networks approached 125 key suppliers for due diligence as part of its involvement in the EICC/GeSI Extractives Working Group s Conflict Free Smelters program, and completed due diligence with 40 suppliers.

Impact on the Environment: Nokia Siemens Networks

Environmental strategy. Nokia Siemens Networks environmental strategy has two key elements:

- Designing products and services that help telecoms operators reduce the environmental impact of their networks; and

- Ensuring maximized efficiency in the company s own operations to minimize our environmental impact.

Nokia Siemens Networks offers a comprehensive range of energy solutions for telecoms operators, combining products and services. The portfolio is designed to reduce the network operating costs of new and legacy telecommunications networks, using more efficient technology and renewable energy to reduce power consumption and the resultant GHG (greenhouse gas) emissions.

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To achieve improved environmental performance, Nokia Siemens Networks operates a company-wide Environmental Management System (EMS) certified to the internationally recognized standard ISO 14001. Nokia Siemens Networks global supplier requirements state that suppliers need to have a documented EMS in place which is compliant with ISO 14001.

Reducing our environmental impact. Nokia Siemens Networks continued to reduce the environmental impact of products and operations. By the end of 2012, Nokia Siemens Networks had improved the energy efficiency of GSM base station products by 21% from 2007 best performance BST to 2012 equivalent capacity configuration BST. Also the company managed to reduce the energy consumption of buildings by 8% compared to a 2012 business as usual scenario created in 2007 as agreed with WWF. These surpass the WWF commitment made five years ago, although Nokia Siemens Networks did not fully achieve its target energy efficiency improvements for WCDMA base stations from 2007 best performance BST to 2012 equivalent capacity configuration BST. The company has so far applied energy efficient measures to more than 4 200 radio mobile broadband sites.

Renewable energy continues to form a substantial part of the energy used in Nokia Siemens Networks own facilities more than 38% of the used energy is from certified renewable sources.

Radio waves and health. Wireless communications technologies operate well within the limits recommended by the International Commission on Non-Ionizing Radiation Protection and endorsed by the WHO, and we work to ensure continued compliance of our products with these requirements. Nokia Siemens Networks engages with its stakeholders and in public discussions on this topic as well as monitoring scientific studies.

4C. Organizational Structure

The following is a list of Nokia s significant subsidiaries at December 31, 2012. See also, Item 4A. History and Development of the Company Organizational Structure and Reportable Segments .

Company	Country of Incorporation	Nokia Ownership Interest	Nokia Voting Interest
Nokia Sales International Oy.	Finland	100%	100%
Nokia Inc.	United States	100%	100%
Nokia GmbH	Germany	100%	100%
Nokia UK Limited	England & Wales	100%	100%
Nokia TMC Limited	Republic of Korea	100%	100%
Nokia (China) Investment Co. Ltd.	China	100%	100%
Nokia Telecommunications Ltd.	China	83.9%	83.9%
Nokia Finance International B.V.	The Netherlands	100%	100%
Nokia India Pvt. Ltd.	India	100%	100%
Nokia do Brasil Tecnologia Ltda	Brazil	100%	100%
OOO Nokia	Russia	100%	100%
NAVTEQ Corporation	United States	100%	100%
NAVTEQ B.V.	The Netherlands	100%	100%
NAVTEQ Europe B.V.	The Netherlands	100%	100%
Nokia Siemens Networks B.V.	The Netherlands	50%(1)	50%(1)
Nokia Siemens Networks Oy	Finland	50%	50%
Nokia Siemens Networks GmbH & Co KG	Germany	50%	50%
Nokia Siemens Networks Pvt. Ltd.	India	50%	50%
Nokia Siemens Networks Japan Corp.	Japan	50%	50%
US Nokia Siemens Networks US LLC	United States	50%	50%

(1) Nokia Siemens Networks B.V., the ultimate parent of the Nokia Siemens Networks group, is owned approximately 50% by each of Nokia and Siemens. Nokia effectively controls Nokia Siemens Networks as it has the ability to appoint key officers and the majority of the members of its Board of Directors and, accordingly, Nokia consolidates Nokia Siemens Networks.

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4D. Property, Plants and Equipment

At December 31, 2012, we operated seven manufacturing facilities in six countries for the production of Nokia-branded mobile devices, and Nokia Siemens Networks had ten manufacturing facilities in four countries. We consider the production capacity of our manufacturing facilities to be sufficient to meet the requirements of our devices and networks infrastructure business. The extent of utilization of our manufacturing facilities varies from plant to plant and from time to time during the year. None of these facilities is subject to a material encumbrance.

The following is a list of the location, use and capacity of major manufacturing facilities for Nokia mobile devices and Nokia Siemens Networks infrastructure equipment at December 31, 2012. In connection with the implementation of our strategy for our Devices & Services business, we have announced a number of changes to our operations resulting in the closure and reconfiguration of certain Nokia facilities. See, Item 4B. Business Overview Devices & Services and HERE Production.

Country	Location and Products	Productive Capacity, Net (m^2)(1)
BRAZIL	Manaus: mobile devices	9 026
CHINA	Beijing: mobile devices	29 272
	Dongguan: mobile devices	25 644
	Beijing: switching systems	6 749
	Shanghai: base stations, broadband access systems, transmission systems	15 954
	Suzhou: base stations	8 940
	Tianjin: Wireless base stations, mobile core systems, radio controllers, broadband access equipment	10 000
FINLAND	Oulu: base stations	16 000
GERMANY	Berlin: optical transmission systems	15 011
	Bruchsal: switching systems, transmission systems, broadband access systems	18 815
HUNGARY	Komárom: mobile devices	12 150
INDIA	Chennai: mobile devices	35 323
	Chennai: base stations and radio controllers, microwave radio products.	8 364
	Kolkata: fixed switching	3 457
MEXICO	Reynosa: mobile devices	8 889
REPUBLIC OF KOREA	Masan: mobile devices	3 743
RUSSIA	Tomsk: base stations	1 494

(1) Productive capacity equals the total area allotted to manufacturing and to the storage of manufacturing-related materials.

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

5A. Operating Results

This section begins with an overview of the principal factors and trends affecting our results of operations. The overview is followed by a discussion of our critical accounting policies and estimates that we believe are important to understanding the assumptions and judgments reflected in our reported financial results. We then present an analysis of our results of operations for the last three fiscal years.

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We have three businesses: Devices & Services, HERE (formerly Location & Commerce) and Nokia Siemens Networks, and four operating and reportable segments for financial reporting purposes: Smart Devices and Mobile Phones within our Devices & Services business; HERE; and Nokia Siemens Networks.

Our Devices & Services business includes two operating and reportable segments Smart Devices, which focuses on our most advanced products, including Lumia smartphones, and Mobile Phones, which focuses on our most affordable products, including Asha full touch smartphones as well as Devices & Services Other. Devices & Services Other includes intellectual property income, net sales of spare parts and related cost of sales and operating expenses and common research and development expenses. Devices & Services Other also included our luxury phone business Vertu until October 12, 2012, when we sold most of our shareholding in Vertu to the private equity fund EQT VI.

We acquired NAVTEQ in July 2008 which was a separate reportable segment until the end of the third quarter of 2011. As of October 1, 2011, the Location & Commerce business was formed as a new operating and reportable segment by combining NAVTEQ and our Devices & Services social location services operations. In November 2012, we introduced HERE as the new brand for Nokia s location-based products and services. As of January 1, 2013 our Location & Commerce business and reportable segment was renamed as the HERE reportable segment. HERE focuses on the development of location-based products and services for a broad range of devices and operating systems, including our Lumia smartphones and local commerce.

Prior period results were regrouped and recast for comparability purposes according to the new reporting format that became effective on April 1, 2011 for our Devices & Services business and October 1, 2011 for our location-based business.

In the discussion below of our Results of Operations, we provide information on the average selling price (ASP) of our mobile devices. ASP is a commonly used measure in our industry to track price developments generally from period to period and also in comparison to our competitors. We provide our ASP at two levels: (i) total mobile device ASP at the Devices & Services business level and (ii) mobile device ASP at each of our Smart Devices and Mobile Phones business unit levels. We believe that our total mobile device ASP provides investors with an overall view of pricing developments at a time when the distinction between different product classifications of mobile devices is blurring. Also, we have a long history of providing ASP at the Devices & Services level, which allows investors to follow the progress of this measure over a long period of time. At the same time, we provide transparency on the ASP developments for our products within each of the Smart Devices and Mobile Phones classifications.

Our total mobile device ASP represents total Devices & Services net sales comprised of our Smart Devices, Mobile Phones and Devices & Services Other net sales divided by total Devices & Services volumes. Devices & Services Other net sales includes net sales of Nokia s luxury phone business Vertu through October 12, 2012, spare parts, as well as IPR income. As IPR income is included in Devices & Services Other net sales, we provide our total mobile device ASP both including and excluding IPR income. Smart Devices ASP represents Smart Devices net sales divided by Smart Devices volumes. Mobile Phones ASP represents Mobile Phones net sales divided by Mobile Phones volumes. IPR income is not recognized at the Smart Devices and Mobile Phone business unit levels.

The presentation of Nokia Siemens Networks restructuring and other associated expenses has been aligned with other Nokia businesses and included within other expenses instead of impacting functions. Accordingly, included in other expenses in 2011 is EUR 126 million of restructuring charges, previously reflected within cost of sales (EUR 40 million), R&D (EUR 28 million), selling and marketing (EUR 22 million) and administrative expenses (EUR 36 million). Included in other expenses in 2010 is

EUR 289 million of restructuring charges previously reflected within cost of sales (EUR 173 million), R&D (EUR 19 million), selling and marketing (EUR 21 million) and administrative expenses (EUR 76 million).

For a description of our organizational structure see Item 4A. History and Development of the Company Organizational Structure and Reportable Segments . Business segment data in the following discussion is prior to inter-segment eliminations. See Note 2 to our consolidated financial statements included in Item 18 of this annual report. The following discussion should be read in conjunction with our consolidated financial statements included in Item 18 of this annual report, Item 3D. Risk Factors and Forward-Looking Statements. Our financial statements have been prepared in accordance with IFRS.

Principal Factors & Trends Affecting our Results of Operations

Devices & Services

Devices & Services is responsible for developing and managing our portfolio of mobile products, which we make for all major consumer segments, as well as designing and developing services, including applications and content, that enrich the experience people have with their mobile devices. Currently, we are addressing all key geographical markets except Japan. Devices & Services also manages our supply chain, sales channels, brand and marketing activities and explores corporate strategic and future growth opportunities for Nokia.

In 2012, the worldwide industry mobile device volumes increased by 2% year-on-year while the market value in US dollar terms increased by 12%, according to Strategy Analytics. Smartphones continued to show strong volume and value growth, as well as continued to capture the public focus in the mobile products market. According to Strategy Analytics, Nokia s mobile device volume market share was 21% in 2012, compared to 27% in 2011, with the decline primarily driven by market share losses in the smartphones segment. In 2013, Strategy Analytics forecast that the worldwide industry mobile device volumes will increase by 6% and the market value in US dollar terms by 7%.

In the following sections, we describe the factors and trends that we believe are currently driving our Devices & Services net sales and profitability.

Transition and Restructuring

In 2012 our Devices & Services business continued to be in transition, following the announcement of our partnership with Microsoft in February 2011 where we adopted Windows Phone as our primary smartphone platform and have phased out the Symbian smartphone platform. We continued to sell Symbian devices during 2012, with decreasing volumes every quarter due to the deteriorating competitiveness of our Symbian devices. We do not expect to sell any significant volumes of Symbian devices in 2013. At the same time, during 2012, we built out our Windows Phone 7 portfolio and considerably broadened the geographical reach from the initial launch in six Western European countries. Towards the end of the year we introduced mobile devices based on the new Windows Phone 8 operating system. We launched the Nokia Lumia 920 and Nokia Lumia 820, our first smartphones based on the Windows Phone 8 platform, in September 2012 which started shipping to customers in select markets in November 2012. The Nokia 620, an affordable Windows Phone 8 device, was launched in December 2012 and became available in select markets in January 2013.

In 2012, our Mobile Phones unit continued to introduce new innovations to the market. In June 2012, we introduced the first full touch device based on the Series 40 operating system, taking the full touch experience to lower price points. The first new Asha full touch smartphones started shipping at the end of the second quarter 2012.

In 2012, we announced additional restructuring measures to those announced during 2011 as a result of our new Devices & Services strategy. We announced in June 2012 that Nokia targets to reduce its

Devices & Services operating expenses, excluding special items and purchase price accounting related items, to an annualized run rate of approximately EUR 3.0 billion by the end of 2013. We have pursued a range of measures, including:

- Reductions within certain research and development projects, resulting in the closure of our facilities in Ulm, Germany and Burnaby, Canada;
- Consolidation of certain manufacturing operations, resulting in the closure of our manufacturing facility in Salo;
- Focusing of marketing and sales activities, including prioritizing key markets;
- Streamlining information technology, corporate and support functions; and
- Divestments of non-core assets, such as the sale of Vertu and Nokia s headquarters in Finland completed in the second half of 2012.

Since we outlined our new Devices & Services strategy in February 2011, as of December 2012, we have reduced our total Nokia Group level headcount by a total of approximately 34 600 employees. Of this, approximately 25 800 reductions came from Devices & Services and corporate common.

As of December 31, 2012, we had recognized cumulative net charges in Devices & Services of approximately EUR 1.4 billion related to our restructuring activities under in 2011 and 2012, which included restructuring charges and associated impairments. While the total extent of the restructuring activities is still to be determined, we currently anticipate cumulative charges in Devices & Services of approximately EUR 1.6 billion before the end of 2013. We also currently anticipate cumulative restructuring related cash outflows in Devices & Services of approximately EUR 1.4 billion before the end of 2013, of which approximately EUR 1.1 billion had been incurred as of December 31, 2012.

In the past, our cost structure has benefited from the cost of components eroding more rapidly than the price of our mobile products. Recently, however, component cost erosion has been generally slowing primarily driven by Devices & Services smaller scale, a trend that adversely affected our profitability in 2010, 2011 and 2012, and may do so in the future.

Our Devices & Services business is expected to continue to be subject to risks and uncertainties, as our Smart Devices business unit continues to broaden its portfolio of Windows Phone 8 based products and our Mobile Phones business unit continues to bring more smartphone features and design to our Mobile Phones portfolio. Those risks and uncertainties include, among others, the timing, ramp-up, quality and demand for our new products, including our Lumia and Asha devices; further pressure on margins as competitors endeavor to capitalize on our transition; and uncertainty in the macroeconomic environment. Please see section Item 3D, Risk Factors and Forward-Looking Statements .

Longer-term, we continue to target:

- Devices & Services net sales to grow faster than the market, and
- Devices & Services operating margin to be 10% or more, excluding special items and purchase price accounting related items.

Microsoft Partnership

In February 2011, we announced our partnership with Microsoft to bring together our respective complementary assets and expertise to build a new global mobile ecosystem for smartphones. The partnership, under which we have adopted and are licensing Windows Phone from Microsoft as our primary smartphone platform, was formalized in April 2011.

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We are contributing our expertise on hardware, design and language support to the Microsoft partnership, and plan to bring Nokia products with Windows Phone to an increasing range of price points, market segments and geographies. We and Microsoft are closely collaborating on joint marketing initiatives and on a shared development roadmap on the future evolution of mobile products. The goal for both partners is that by bringing together our complementary assets in software, search, maps, location-based services, e-commerce, social networking, entertainment, unified communications and advertising, we can jointly create an entirely new consumer proposition. We are also collaborating on our developer ecosystem activities to accelerate developer support for the Windows Phone platform on our mobile products. Although Microsoft will continue to license Windows Phones to other mobile manufacturers, the Microsoft partnership allows us to customize the Windows Phone platform with a view to differentiating Nokia smartphones from those of our competitors that also use the Windows Phone platform.

Our agreement with Microsoft includes platform support payments from Microsoft to us as well as software royalty payments from us to Microsoft. Under the terms of the agreement governing the platform support payments, the amount of each quarterly platform support payment is USD 250 million. We have a competitive software royalty structure, which includes annual minimum software royalty commitments that vary over the life of the agreement. Software royalty payments, with minimum commitments are paid quarterly. Over the life of the agreement, both the platform support payments and the minimum software royalty commitments are expected to measure in the billions of US dollars. Over the life of the agreement the total amount of the platform support payments is expected to slightly exceed the total amount of the minimum software royalty commitment payments. As of the end of 2012, the amount of platform support payments received by Nokia has exceeded the amount of minimum software royalty commitment payments made to Microsoft, thus the net cash flows have been in our favor. As a result, the remaining minimum software royalty commitment payments are expected to exceed the remaining platform support payments by a total of approximately EUR 0.5 billion over the remaining life of the agreement. However, in 2013 the amount of the platform support payments is expected to slightly exceed the total amount of the minimum software royalty commitment payments, thus the net cash flows are still expected to be slightly in our favor. In accordance with the terms of the agreement, the platform support payments and annual minimum software royalty commitment payments continue for a corresponding period of time. We have recognized a portion of the received platform support payments as a benefit to our Smart Devices cost of goods sold and the remainder as a liability as part of accrued expenses and other liabilities on our balance sheet.

Continued Convergence of the Mobile Communications, Computing, Consumer Electronics and Internet Industries

Value in the mobile products market continues to be increasingly driven by the convergence of the mobile communications, computing, consumer electronics and Internet industries. As consumer demand and interest for smartphones, tablets and hybrids of the two with access to a range of content has accelerated, new opportunities to create and capture value through innovative new service offerings and user experiences have arisen, with a greater emphasis and importance on software and ecosystem-driven innovation, rather than standalone devices. These opportunities seek to capitalize on various elements of ecosystems such as search services, maps, location-based services, e-commerce, social networking, entertainment, communications and advertising. Capturing these opportunities requires capabilities to manage the increased complexity and to provide an integrated user experience where all these various elements interact seamlessly either in one device or across multiple devices and, increasingly, other products such as televisions and game consoles. We expect these new opportunities to continue to emerge in 2013. We aim to capture a number of these opportunities with our strategy and partnership with Microsoft, including our collective goal to build a global mobile ecosystem for smartphones. In Mobile Phones, we plan to leverage our innovation and strength in growth markets to connect the next billion people to the Internet and information. We also plan to drive third-party innovation through working with our partners to engage in building strong, local ecosystems for our Mobile Phones devices.

Importance of Competing on an Ecosystem to Ecosystem Basis

The increasing importance of ecosystems is, to a large degree, driven by the convergence trends mentioned above and the implications for the competencies and business model adjustments required for longer-term success. In the market for smartphones, we have seen significant momentum and emphasis on the creation and evolution of ecosystems around major software platforms, including Apple s iOS platform and Google s Android platform, bringing together devices, software, applications and services. As Android is available free of charge and a significant part of the source code is available as open source software, entry and expansion in the smartphone market has become easier for a number of hardware manufacturers that have chosen to leverage the Android ecosystem. However, Samsung has emerged as a dominant participant in the Android ecosystem, making the growth of other ecosystems increasingly more difficult and possibly raising the barriers to enter the Android ecosystem with any compelling degree of profitability. Additionally, the success of an ecosystem and its ability to continue to grow may depend on the support it lends to different kinds of devices and, increasingly, other products such as televisions and game consoles. With multiple products available to suit different needs, such as mobile devices, tablets, personal computers and televisions, there is demand for greater seamless interaction among these devices. A number of vendors across different ecosystems, including Apple, Google and Samsung, are pursuing multi-screen strategies and building cloud technologies to capitalize on these opportunities.

Our partnership with Microsoft brings together complementary assets and competencies with the aim of creating a competitive smartphone ecosystem. We believe that together with Microsoft we can succeed in attracting the necessary elements for the creation of a successful ecosystem and that by extending the price points, market segments and geographies of our Windows Phone smartphones, we will be able to significantly strengthen the scale and attractiveness of that ecosystem to developers, operators and partners.

In the low-end phone market, other ecosystems have emerged, including that based around Nokia s own Series 40 operating system which powers feature phones and our Asha full touch smartphones. A growing number of developers are writing Java-based applications for Series 40 which are available through the Nokia Store. Another ecosystem is the one which is based around mobile solutions chipsets from low-cost reference design chipset manufacturers which have enabled the very rapid and low-cost production of feature phones by numerous manufacturers especially in China and India, which are making the business landscape more competitive, as well as bringing some locally relevant innovations to market.

Increasing dominance by Apple and Samsung/Google s Android platform in the smartphone market

During 2012, the ongoing trend in the smartphone market continued as Apple and Android further grew their value market share driven by successful product launches. Apple and Samsung together captured the majority of the smartphone market industry profits in 2012. These two entrenched ecosystems also captured the vast majority of smartphone applications and services and through that much of the industry profits made on applications and services. This also helps them attract third-party software developers to their ecosystems. Also, hardware component suppliers and integrators find the leading suppliers/ecosystems very attractive with their high volumes leading to better and more diverse component supply availability. This increased dominance is making it increasingly more difficult for other global ecosystem to emerge. However, due to the dominance of these two entrenched ecosystems there is an increasing desire by mobile operators and other distribution partners to see a

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third ecosystem emerge to balance their dominance. We see a clear opportunity for Windows Phone to become that third ecosystem, and we are working towards that goal with our mobile operator and other distribution partners.

Pervasiveness of Smartphones and Smartphone-like Experiences Across the Price Spectrum

During the past year, we saw the increasing availability of more affordable smartphones, particularly Android-based smartphones, connected devices and related services which were able to reach lower price points contributing to a decline in the average selling prices of smartphones in the industry.

This trend affects us in two ways. First, it puts pressure on the price of our smartphones and potentially our profitability as we need to price our smartphones competitively. In 2012, we partially addressed this with our Symbian device offering in specific regions and distribution channels, and we plan to introduce and bring to markets new and more affordable Nokia products with Windows Phone in 2013, such as the Nokia Lumia 510 announced in October 2012. Second, lower-priced smartphones put pressure on our smartphone and higher-end feature phone offering from our Mobile Phones unit. We are addressing this with introductions in 2013 of smarter, competitively priced Asha full touch smartphones with more modern user experiences, including software, services and application experiences. In support of our Mobile Phones business, we also plan to drive third-party innovation through working with our partners to engage in building strong, local ecosystems.

From a geographical perspective the Chinese market continued to be a very difficult market for us in 2012. Devices & Services net sales declined 78% year-on-year in Greater China in the second half of 2012. In the past, the distribution of mobile devices in China was primarily through networks of distributors and resellers. However, operators are now rapidly driving bundled purchases of devices and data plans, all at price points designed to increase the number of 3G data subscribers. This accelerated market trend towards lower-priced smartphones with specifications that are different from our current strengths has been negatively affecting our Devices & Service business throughout 2012.

Challenges of Achieving Sustained Differentiation and Impact on Overall Industry Gross Margin Trends

We expect the mobile products market to continue to deliver some attractive revenue growth opportunities, but the uncertainty around gross margin trends going forward remains for the industry. The creation and momentum of new ecosystems, especially from established Internet players with disruptive business models, has enabled device vendors that do not have substantial software expertise or investment in software development to develop an increasingly broad and affordable range of smartphones and other connected devices that feature a certain user interface, application development and mobile service ecosystems. At the same time, this has significantly reduced the amount of differentiation in the user experience in the eyes of consumers. Our ability to achieve sustained differentiation with our mobile products is a key driver of consumer retention, net sales growth and margins. We believe that as it becomes increasingly difficult for many of our competitors to achieve sustained differentiation, overall industry gross margin trends may be depressed going forward.

Through our partnership with Microsoft and development of the Windows Phone ecosystem, we are focusing more of our investments in areas where we believe we can differentiate and less on areas where we cannot, leveraging the assets and competencies of our ecosystem partners. Areas where we believe we can achieve sustained product differentiation and leadership include distinctive design with compelling hardware, leading camera and other sensor experiences and leading location-based products and services, in these areas we also hold IPR to support such differentiation. Other ways for us to differentiate our products include using our localization capabilities, global reach, brand and marketing. We expect to continue to introduce new and more differentiated products into our Lumia product family in multiple markets throughout 2013.

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In our Mobile Phones business, we believe our competitive advantages including our scale, brand, quality, design, manufacturing and logistics, strategic sourcing and partnering, distribution, research and development and software user experience and intellectual property continue to be important to our competitive position. Additionally, we plan to extend our Mobile Phones offerings and capabilities during 2013 in order to bring a modern mobile experience software, services and applications to aspirational consumers in key growth markets as part of our strategy to bring the Internet and information to the next billion people. At the same time, we plan to drive third-party innovation through working with our partners to engage in building strong, local ecosystems.

Emergence of New Business Models

We believe that the traditional industry monetization model capturing the value of the overall experience through the sale of a mobile device will continue to dominate in the near to medium term. However, we are also seeing the emergence of new indirect monetization models where the value is captured through indirect sources of revenue such as advertising revenue through applications rather than the actual sale of a device. These indirect monetization models could become more prominent in the industry in the longer-term. Accordingly, we believe that developing a range of indirect monetization opportunities, such as advertising-based business models, will be part of successful ecosystems over the coming years. Obtaining and analyzing a complex array of customer feedback, information on consumer usage patterns and other personal and consumer data over the largest possible user-base is essential in gaining greater consumer understanding. We believe this understanding is a key element in developing new monetization opportunities and generating new sources of revenue, as well as in facilitating future innovations, including the delivery of new and more relevant user experiences ahead of the competition.

Supply Chain, Distribution and Operator Relationships

The industry in which we operate is one of the most innovative, with a broad range of industry participants contributing product and technological innovations. In particular, the role of component suppliers has grown in importance. We believe that there continues to be substantial room to innovate in hardware. From that perspective and in order to deliver market-leading innovations and sustainable differentiation through hardware, it is critical to have good relationships with high quality suppliers. With good supplier relationships, allied with the strength of our world-class manufacturing and logistics system, we believe we are well-positioned to deliver high-quality hardware as well as to respond quickly to customer and consumer demand.

Amid rapid change in the industry, we have also seen new sourcing models emerge. Especially in smartphones, our competitors have shifted from traditional multi-sourcing strategies where you have multiple suppliers for each component, to more focused sourcing strategies where they integrate key strategic suppliers closer to their operations as well as use advance cash payments to secure supply for several quarters in advance in order to have more unique and differentiated components as well as more predictability in their sourcing. This means that we also need to look for new and more innovative ways of sourcing key components, particularly in our Smart Devices business unit.

As in any global consumer business, distribution continues to be an important asset in the mobile products market. We believe the breadth of our global distribution network is one of our key competitive advantages. We continue to have one of the industry s largest distribution networks. Compared to our competitors, we have a large distribution and care network.

Strategically, we want to be the preferred ecosystem partner for mobile operators. By building a global mobile ecosystem with Microsoft and focusing on driving operator data plan adoption in lower price points with our feature phone and Asha full touch smartphone offering, we believe we will be able to create a greater balance for mobile operators and provide attractive opportunities to share the economic benefits from services and applications sales compared to other competing ecosystems, thereby improving our long-standing relationships with mobile operators around the world.

Speed of Innovation, Product Development and Execution

As the mobile communications industry continues to undergo significant changes, we believe that speed of innovation and product development are important drivers of competitive strength. For example, a number of our competitors have been able to successfully leverage their software expertise to continuously bring innovations to market at a pace faster than typical hardware cycles. This has placed increasing pressure on all industry participants to continue to shorten product creation cycles and to execute in a timely, effective and consistent manner.

Active Monetization Strategies of Patents and Intellectual Property Rights, or IPR

Success in our industry requires significant research and development investments, with intellectual property rights filed to protect those investments and related inventions. In recent years, we have seen new entrants in the industry as new ecosystems have lowered the barriers to entry. In 2012, we continued to see intensified and more active licensing and enforcement strategies of patents and IPR emerge through a series of legal disputes between several industry participants as patent holders sought to protect their IPR against infringements by other device OEMs. It is not only traditional industry participants that have sought to safeguard their IPR; non-manufacturing IPR licensing entities owning relevant technology patents have also actively been enforcing their patents against device OEMs. These companies sole business model is to buy patents from the innovators and to maximize the value from those patents. As a result, the industry s focus on patents and intellectual property has increased significantly and patent portfolios have become increasingly valuable for industry participants. Increased activity has also created lucrative opportunities to monetize patents by selling them to others. We expect this trend to continue in 2013. We believe we are well-positioned to both protect our existing business as well as generate incremental value to our shareholders through our industry-leading IPR portfolio.

We are a world leader in the development of mobile devices and mobile communications technologies, which is also demonstrated by our strong patent position. During the last two decades, we have invested approximately EUR 50 billion in research and development and built one of the products market s strongest and broadest IPR portfolios, with approximately 10 000 patent families. In 2012, we continued to work hard to enforce our patents against unlawful infringement and realize the value of our IPR. Our 2012 initiatives included, among other things, patent suits filed against HTC, BlackBerry (formerly Research in Motion) and Viewsonic in the US and Germany. We also monetized selected parts of our patent portfolio through divestments. Furthermore, Nokia acquired additional IPR in the imaging area in conjunction with the Scalado acquisition, completed in July 2012.

HERE (formerly Location & Commerce)

Our HERE business develops a range of location-based products and services for consumers, as well as platform services and local commerce services for device manufacturers, application developers, Internet services providers, merchants and advertisers. The business was initially formed under the name Location & Commerce during 2011 by the combination of our Devices & Services social location services operations and our NAVTEQ business. Beginning October 1, 2011, this business assumed profit-and-loss responsibility and end-to-end accountability for the full consumer experience. While continuing to serve NAVTEQ s existing customers both in terms of provision of content and as a business-to-business provider of map data, the business is also developing location-based offerings in support of our strategic goals in feature phones and smartphones, as well as developing a platform for the broader Internet ecosystem, including products and applications for our direct competitors and their ecosystems. Our HERE business aims to positively differentiate its digital map data and location-based offerings from those of our competitors and create competitive business models for our customers.

In November 2012 Nokia introduced HERE as the new brand for its location-based products and services. HERE is the first location cloud aiming to deliver maps and location experiences across multiple screens and operating systems. With the new brand, HERE, we aim to inspire a new generation of location-based products and services that make the mobile experience more personally significant for people everywhere. To further extend its location services, we launched a maps application for iOS under the HERE brand. Furthermore, we also demonstrated an Android OS-based reference application and announced plans for the availability of a HERE Software Development Kit (SDK) for Android OEMs in early 2013.

HERE s resources are primarily focused on the development of (i) content, which involves the mapping of the physical world and places such as roads and points of interest, as well as the collection of activity data generated and authorized for use by our users; (ii) the platform, which adds functionality on top of the content and includes the development tools for us and others to create experiences on top of it; and (iii) applications built on the content and platform.

Our Devices & Services business is a key customer of HERE. Devices & Services purchases map and application licenses from HERE for the HERE Maps service sold in combination with GPS enabled smartphones. The internal sales amounted to EUR 374 million in 2012. Due to changes in Devices & Services competitive position and other factors, HERE has been and may be affected by lower recognized revenue from internal sales which generally carry a higher gross margin compared to external sales.

In the following sections we describe the factors and trends that we believe are currently driving our HERE business net sales and profitability.

Location-Based Products and Services Proliferation

A substantial part of net sales in 2012 came from the licensing of digital map data and related location-based content and services for use in in-vehicle navigation systems, geographical information system applications, mobile devices and other location-based products and services. HERE s success depends upon the rate at which consumers and businesses use location-based products and services. In recent years, there has been a strong increase in the availability of such products and services, particularly in in-vehicle navigation systems and mobile devices. Furthermore, as the use of the Internet through mobile devices has been growing rapidly, the anchor of the Internet is moving from the desktops to mobiles. This shift is making location-based content a key element of most Internet experiences. We expect this trend to continue, but we also expect that the level of quality required for these products and services and the ability to charge license fees for the use of map data incorporated into such products and services may vary significantly. We believe our HERE business will be well positioned to capture emerging business opportunities with its broad offering.

Importance of Creating an Ecosystem around Location-Based Services Offering

We believe that creating a winning ecosystem around our HERE s services offering will be critical for the success of this business. The announcement of the HERE platform and business focus in late 2012 is an important step, as the platform becomes more widely available for different smartphone users. We believe that the longer-term success of the HERE business will be determined by our ability to attract strategic partners and developers to support our ecosystem. HERE is aiming to support its ecosystem by enabling strategic partners and independent developers to foster innovation on top of the HERE location platform. We believe that making it possible for other vendors to innovate on top of HERE s high quality location-based assets will further strengthen the overall experience and make our offering stronger and more attractive.

Emergence of the Intelligent Sensor Network

Mobile devices are increasingly being enabled with a rich set of sensors such as a GPS, a camera and an accelerometer which enable interaction with the real world. This interaction also enables the collection of large volumes of rich data which, when combined with analytics, enable the development of increasingly sophisticated, contextually-aware devices and services. We believe the combination of NAVTEQ with our Devices & Services social location services operations will enable HERE to participate in this industry development and seize new opportunities to deliver new experiences that bridge the virtual with the real world.

Price Pressure for Navigable Map Data Increasing

HERE s net sales are also affected by the highly competitive pricing environment. Google is offering turn-by-turn navigation in many countries to its business customers and consumers on certain mobile devices at no charge to the consumer. While we expect these offerings will increase the adoption of location-based services in the mobile products market, we also expect that they may lead to additional price pressure from HERE s business customers, including device manufacturers, navigation application developers, mobile operators and personal navigation device (PND) manufacturers, which are seeking ways to offer lower-cost or free turn-by-turn navigation to consumers. Turn-by-turn navigation solutions that are free to consumers on mobile devices may also put pressure on automotive OEMs and automotive navigation system manufacturers to have lower cost navigation alternatives. This price pressure is expected to result in an increased focus on advertising revenue as a way to supplement or replace license fees for map data.

In response to the pricing pressure, HERE focuses on offering a digital map database with superior quality, detail and coverage; providing value-added services to its customers such as distribution and technical services; enhancing and extending its product offering by adding additional content to its map database, such as 3D landmarks; and providing business customers with alternative business models that are less onerous to the business customer than those provided by competitors. HERE s future results will also depend on HERE s ability to adapt its business models to generate increasing amounts of advertising revenues from its map and other location-based content.

We believe that HERE s PND customers will continue to face competitive pressure from smartphones and other mobile devices that now offer navigation, but that PNDs continue to offer a viable option for consumers based on the functionality, user interface, quality and overall ease of use.

Quality and Richness of Location-Based Content and Services Will Continue to Increase

HERE s profitability is also driven by its expenses related to the development of its database and expansion. HERE s development costs are comprised primarily of the purchase and licensing of source maps, employee compensation and third-party fees related to the construction, maintenance and delivery of its database.

In order to remain competitive and notwithstanding the price pressure discussed above, HERE will need to continue to expand the geographic scope of its map data, maintain the quality of its existing map data and add an increasing amount of new location-based content and services, as well as using innovative ways like crowd sourcing to collect data. The trends for such location-based content and services include real-time updates to location information, more dynamic information, such as traffic, weather, events and parking availability and imagery consistent with the real world. We expect that these requirements will cause HERE s map development expenses to continue to grow, although a number of productivity initiatives are underway designed to improve the efficiency of our database collection processing and delivery. In addition, we will need to continue making investments in this fast paced and innovative location-based content and services industry, for instance through research and development, licensing arrangements, acquiring businesses and technologies, recruiting specialized expertise and partnering with third parties.

Nokia Siemens Networks

Nokia Siemens Networks is a leading global provider of telecommunications infrastructure, with a focus on the mobile broadband market. In its target market, Nokia Siemens Networks is the second largest company worldwide, by revenue. It has a strong position in the newer infrastructure technologies of 3G and 4G (LTE). In 3G, Nokia Siemens Networks is the industry leader by customers served. More than a billion subscribers connect through Nokia Siemens Networks 3G networks. In LTE, Nokia Siemens Networks had 77 commercial contracts at the end of 2012.

Nokia Siemens Networks net sales depend on various developments in the global mobile infrastructure and related services market, such as network operator investments, the pricing environment and product and services mix. In developed markets, investments by operators are primarily driven by capacity and coverage upgrades, which, in turn, are driven by greater usage of the networks primarily through the rapid growth in data usage. Increasingly, mobile operators are targeting investments in technology and services that allow them to provide end-users with fast and faultless network performance in the most efficient manner possible, which optimizes their investment. Such developments are facilitated by the evolution of network technologies that promote greater efficiency and flexibility, such as the current shift from 2G and 3G networks to 4G (LTE) technologies.

In addition, mobile operators are investing in software and services that provide them with the means to better manage end-users on their network and also allow them additional access to the value of the large amounts of subscriber data under their control. In emerging markets, the principal factors influencing investments by operators are the continued growth in customer demand for telecommunications services, including data, as well as new subscriber growth. In many emerging markets, this growth in demand and subscribers continues to drive growth in network coverage and capacity requirements.

The telecommunications infrastructure market is characterized by intense competition and price erosion caused in part by the successful entry into the market of vendors from China, Huawei Technologies Co. Ltd. (Huawei), in particular, and ZTE Corporation (ZTE), both of which have gained market share by leveraging their low-cost advantage in tenders for customer contracts. In recent years, the technological capabilities of those vendors, particularly Huawei, has improved significantly, resulting in competition not only on price but also on quality. In 2012, we witnessed further competition emerging from Samsung Electronics, which has expanded its network infrastructure business out of its domestic Korean market with limited gains in Europe and the United States.

The pricing environment has remained intense in 2012. In particular, the wave of network modernization that has taken place, particularly in Europe but increasingly also in other regions including Asia Pacific, has led to aggressive pricing as all vendors fight for market share.

Nokia Siemens Networks net sales are impacted by these pricing developments, which show some regional variation, and in particular by the balance between sales in developed and emerging markets. While price erosion is evident across most geographical markets, it continues to be particularly intense in a number of emerging markets where many mobile operator customers have been subject to financial pressure, both from the lack of availability of financing facilities as well as profound pricing pressure in their domestic markets.

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Pricing pressure is evident in the traditional products markets, in particular, where competitors have products with similar technological capabilities, leading to commoditization in some areas. Nokia Siemens Networks ability to compete in those markets is determined by its ability to remain price competitive with its industry peers. To remain competitive and differentiate Nokia Siemens Networks from its competitors, it is therefore essential that Nokia Siemens Networks constantly improves its technology while continuously reducing product costs to keep pace with price erosion. Nokia Siemens Networks has continued to make progress in reducing product and procurement costs in 2012 and will need to focus on this area in order to provide its customers with high-quality products at competitive prices.

Over recent years, the telecommunications infrastructure industry has entered a more mature phase characterized by the completion of the greenfield roll-outs of mobile network infrastructure across many markets, although this is further advanced in developed markets. Notwithstanding, there is still a significant market for traditional network infrastructure products to meet coverage and capacity requirements, even as older technologies such as 2G are supplanted by 3G and 4G (LTE). As growth in traditional network products sales slows, there is an emphasis on the provision of network upgrades, often through software, as well as applications, such as billing, charging and subscriber management and services, particularly the outsourcing of non-core activities to companies that provide extensive telecommunications expertise and strong managed service offerings.

In the following sections we describe the factors and trends that we believe are currently driving Nokia Siemens Networks net sales and profitability.

Mobility and Data Usage

Over recent years the two most evident trends in the mobile and fixed network market the rise in use of mobile services and the exponential increase in data traffic have converged. One result is that services once regarded as available primarily, if not exclusively, through fixed or wireline networks are increasingly in demand from mobile on wireless networks also.

Alongside traditional voice and data services, such as text messaging, end-users access a wealth of media services through communications networks, including email and other business data, entertainment services, including games and music, visual media, including high definition films and television programming and social media sites. End-users increasingly expect that such services are available to them everywhere, through both mobile and fixed networks, and a wealth of new devices, optimized to allow them to do so, have become available including tablets, highly sophisticated smartphones, mobile broadband data dongles, set-top boxes and mobile and fixed line telephones.

The widespread availability of devices has been matched by a proliferation of products and services in the market that both meet and feed end-user demand. These continue to drive dramatic increases in data traffic and signaling through both mobile access and transport networks that carry the potential to cause network congestion and complexity. During 2012, this increase continued to gain momentum as more users moved towards smartphones and tablets and even more devices that require constant connectivity were introduced to the market.

While the growth in traffic is clear, it has not been met by corresponding growth in operators revenues from data traffic, where growth appears to be slowing. This presents operators with a challenge: to cope with the growing traffic load within networks, it is fundamental that operators continue to invest in their networks, but within the financial constraints that their current business models dictate.

This means that while the addition of capacity, speed and coverage is crucial, it is critical that networks are built efficiently and effectively in a manner that optimizes capital investment and delivers networks with architecture sufficiently flexible to cope with evolving requirements.

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In November 2011, Nokia Siemens Networks put emphasis on the centrality of mobile networks to the future development of telecommunications and announced that it would place mobile broadband at the heart of its strategy, articulating an ambition to provide the world s most efficient mobile networks, the intelligence to maximize the value of those networks and the services capability to make them work seamlessly. In line with its strategy, Nokia Siemens Networks has significantly increased its investment in mobile broadband. This goal was at the heart of its strategy in 2012.

Also during 2011, Nokia Siemens Networks launched the network architecture designed to equip operators to meet the challenges they are facing. Liquid Net architecture provides flexibility across networks to adapt to changing customer needs instantly, using existing resources more efficiently. This optimizes capital investment and allows operators to seek new revenue opportunities. Liquid Net uses automated, self-adapting broadband optimization to remain constantly aware of the network s operational status, as well as the services and content being consumed, to ensure the best user experience. Liquid Net consists of three areas: Liquid Radio, Liquid Core and Liquid Transport.

Strategy and Restructuring Program

Nokia Siemens Networks is focused on becoming the strongest, most innovative and highest quality mobile broadband and services business in the world. Rather than targeting the full spectrum of telecommunications equipment and services, Nokia Siemens Networks is the first of the telecommunications companies to refocus on providing the most efficient mobile networks, the intelligence to maximize the value of those networks and the services to make them work seamlessly. In November 2011, Nokia Siemens Networks announced a new strategy, including changes to its organizational structure and an extensive restructuring program, aimed at maintaining and developing its position as one of the leaders in mobile broadband and services and improving its competitiveness and profitability.

Nokia Siemens Networks continues to target to reduce its annualized operating expenses and production overheads, excluding special items and purchase price accounting related items, by more than EUR 1 billion by the end of 2013, compared to the end of 2011. While these savings are expected to come largely from organizational streamlining, it has also targeted areas such as real estate, information technology, product and service procurement costs, overall general and administrative expenses and a significant reduction of suppliers in order to further lower costs and improve quality.

2012 was a year of transition for Nokia Siemens Networks as it implemented its new strategy and restructuring program. During the course of 2012, Nokia Siemens Networks has significantly reduced its headcount, operating expenses and other costs. Since the announcement of our new strategy Nokia Siemens Networks said that it plans to reduce its global workforce by approximately 17 000 by the end of 2013. These planned reductions are designed to align its workforce with its new strategy as part of a range of productivity and efficiency measures.

During 2012, Nokia Siemens Networks also enacted a number of planned measures including the elimination of the matrix organizational structure, site consolidation, transfer of activities to global delivery centers, consolidation of certain central functions, cost synergies from the integration of acquired Motorola Solutions networks assets, efficiencies in service operations and company-wide process simplification.

To improve profitability of its business, Nokia Siemens Networks has also sought to reduce its exposure to loss-making contracts, either through turning them around, if possible, or terminating them. Nokia Siemens Networks terminated various contracts in 2012, including a managed services agreement in Brazil and a public safety network contract in Norway.

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As a result of its focus on Mobile Broadband, Nokia Siemens Networks divested a number of businesses which were not in line with this strategy in 2011 and 2012.

As part of our strategy announced in November 2011, Nokia Siemens Networks also articulated a regional strategy, identifying three markets, Japan, Korea and the United States, as priority countries, where it has been and is targeting growth. The Middle East and Africa, where political, financial and competitive pressures have led to particular weakness in 2011, have in turn been the focus of turnaround efforts in 2012. In these regions, Nokia Siemens Networks has restricted business to certain markets and certain customers focusing on profitability and improved asset management rather than sales growth. This has contributed to a decline in net sales in both regions. In the remaining regions, Latin America, China, Asia-Pacific and Europe, its goal has been to defend market share and find areas for future profitable growth.

During 2012, Nokia Siemens Networks recognized restructuring charges and other associated items of EUR 1.3 billion related to this restructuring program, resulting in cumulative charges of approximately EUR 1.3 billion. In total we now expect cumulative Nokia Siemens Networks restructuring charges of approximately EUR 1.3 billion by the end of 2013, virtually all of which have now been recognized. By the end of 2012, Nokia Siemens Networks had cumulative restructuring related cash outflows of approximately EUR 650 million related to this restructuring program. Nokia Siemens Networks expects restructuring-related cash outflows to be approximately EUR 450 million for the full year 2013, and approximately EUR 200 million for the full year 2014 related to this restructuring program.

Targets and Priorities

Nokia Siemens Networks plans to continue to prioritize the improvement of its profitability and cash generation over growth in revenue. In addition, it plans to target increasing its market share in certain growth areas such as 4G (LTE), in particular in priority countries, Japan, Korea and the United States.

Longer-term, Nokia Siemens Networks continues to target Nokia Siemens Networks operating margin to be between 5% and 10%, excluding special items and purchase price accounting related items.

Cost of components and raw materials

There are several factors that drive Nokia Siemens Networks profitability. Scale, operational efficiency and cost control have been and will continue to be important factors affecting its profitability and competitiveness. Its product costs are comprised of the cost of components, manufacturing, labor and overhead, royalties and license fees, the depreciation of product machinery, logistics costs as well as warranty and other quality costs.

Product mix

Nokia Siemens Networks profitability is also impacted by the pricing environment, product mix, including higher margin software sales and regional mix.

Its products, solutions and services have varying profitability profiles. Its mobile broadband business offers a combination of hardware and software. These products, in particular software products, have higher gross margins; however, the products require much higher research and development investments. Its global services offerings are typically labor intensive while carrying low research and development cost and have relatively low gross margins compared to its hardware and software products. Many of its product service offerings combine elements from all business units and several factors can influence relative gross margin.

Regional sales also carry varying profitability. Overall profitability for certain regions should only be seen as indicative, as profitability can vary from country to country within a particular region and even from customer to customer within a particular country. During 2011 and 2012, Nokia Siemens Networks has pursued a policy of prioritizing markets such as Japan, Korea and the United States, as these markets typically offer vendors more value than other markets. In general, developed markets provide relatively high margins while emerging markets, where end-users and therefore mobile operators are often more financially constrained, provide lower margins.

Certain Other Factors

Exchange Rates

Our business and results of operations are from time to time affected by changes in exchange rates, particularly between the euro, our reporting currency, and other currencies such as the US dollar, the Japanese yen and the Chinese yuan. See Item 3A. Selected Financial Data Exchange Rate Data. Foreign currency denominated assets and liabilities, together with highly probable purchase and sale commitments, give rise to foreign exchange exposure.

The magnitude of foreign exchange exposures changes over time as a function of our presence in different markets and the prevalent currencies used for transactions in those markets. The majority of our non-euro based sales are denominated in the US dollar, but our strong presence in emerging markets like China, India, Brazil and Russia also gives rise to substantial foreign exchange exposure in the Chinese yuan, Indian rupee, Brazilian real and Russian ruble. The majority of our non-euro based purchases are denominated in US dollars and Japanese yen. In general, depreciation of another currency relative to the euro has an adverse effect on our sales and operating profit, while appreciation of another currency relative to the euro has a positive effect, with the exception of the Japanese yen and US dollar, being the only significant foreign currencies in which we have more purchases than sales.

In addition to foreign exchange risk of our own sales and costs, our overall risk depends on the competitive environment in our industry and the foreign exchange exposures of our competitors.

To mitigate the impact of changes in exchange rates on net sales as well as average product cost, we hedge material transaction exposures on a gross basis, unless hedging would be uneconomical due to market liquidity and/or hedging cost. We hedge significant forecasted cash flows typically with a 6- to 12-month hedging horizon. For the majority of these hedges, hedge accounting is applied to reduce income statement volatility. We also hedge significant balance sheet exposures. Our balance sheet is also affected by the translation into euro for financial reporting purposes of the shareholders equity of our foreign subsidiaries that are denominated in currencies other than the euro. In general, this translation increases our shareholders equity when the euro depreciates, and affects shareholders equity adversely when the euro appreciates against the relevant other currencies (year-end rate to previous year-end rate). To mitigate the impact to shareholders equity, we hedge selected net investment exposures from time to time.

Global currency markets, were less volatile in 2012 than in 2011. Overall, hedging costs remained relatively low in 2012 due to the low interest rate environment.

During the first half of 2012, the US dollar appreciated against the euro by 7.2%, but subsequently depreciated. At the end of 2012, the US dollar was 2.9% stronger against the euro than at the end of 2011.

The stronger US dollar in 2012 had a positive impact on our net sales expressed in euro, as approximately 50% of our net sales are generated in US dollars and currencies closely following the US dollar. The appreciation of the US dollar also contributed to a higher average product cost, as approximately 60% of the components we use are sourced in US dollars. In total, the movement of the US dollar against the euro had a slightly negative effect on our operating profit in 2012.

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In 2012, the Japanese yen depreciated by 5.7% against the euro. During that year, approximately 10% of the devices components we used were sourced in Japanese yen and, consequently, the depreciation of the Japanese yen had a positive impact on our operating profit in 2012.

In 2012, emerging market currencies performance was mixed. The Chinese yuan and the Russian ruble performed the best appreciating by 4.9% and 3.4%, respectively, against the euro. The Indian rupee and the Brazilian real depreciated by 2.3% and 11.4%, respectively, against the euro.

In general, the depreciation of an emerging market currency has a negative impact on our operating profit due to reduced revenue in euro terms and/or the reduced purchasing power of customers in the emerging market. The appreciation of an emerging market currency generally has a positive impact on our operating profit.

Significant changes in exchange rates may also impact our competitive position and related price pressures through their impact on our competitors.

For a discussion on the instruments used by Nokia in connection with our hedging activities, see Note 34 to our consolidated financial statements included in Item 18 of this annual report. See also Item 11. Quantitative and Qualitative Disclosures About Market Risk and Item 3D. Risk Factors.

Seasonality

Our Devices & Services sales are somewhat affected by seasonality. Historically, the first quarter of the year has been the lowest quarter and the fourth quarter has been the strongest quarter, mainly due to the effect of holiday sales. However, over time we have seen a trend towards less pronounced seasonality. The difference between the sequential holiday seasonal increase in the Western hemisphere in fourth quarter and subsequent decrease in first quarter sequential volumes has moderated. The moderation in seasonality has been caused by shifts in the regional make-up of the overall market. Specifically, there has been a larger mix of industry volumes coming from markets where the fourth quarter holiday seasonality is much less prevalent.

Our HERE (formerly Location & Commerce) sales to the automotive industry are not significantly affected by seasonality. However, HERE sales to navigation device and mobile device manufacturers typically see strong fourth quarter seasonality due to holiday sales.

Nokia Siemens Networks also experiences seasonality. Its sales are generally higher in the last quarter of the year compared with the first quarter of the following year due to network operators planning, budgeting and spending cycles.

Accounting Developments

The International Accounting Standards Board, or IASB, has and will continue to critically examine current IFRS, with a view towards improving existing IFRS as well as increasing international harmonization of accounting rules. This process of improvement and convergence of worldwide accounting standards has resulted in amendments to existing rules effective during the year ended December 31, 2012. These are discussed in more detail under New accounting pronouncements under IFRS in Note 1 to our consolidated financial statements included in Item 18 of this annual report. The adopted 2012 amendments to IFRS did not have a material impact on our results of operations or financial position.

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Critical Accounting Policies

As of January 1, 2013 our Location & Commerce business and reportable segment was renamed HERE. The name Location & Commerce is used in the following discussion of critical accounting policies.

Our accounting policies affecting our financial condition and results of operations are more fully described in Note 1 to our consolidated financial statements included in Item 18 of this annual report. Some of our accounting policies require the application of judgment by management in selecting appropriate assumptions for calculating financial estimates, which inherently contain some degree of uncertainty. Management bases its estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances. The related results form the basis for making judgments about reported carrying values of assets and liabilities and reported amounts of revenues and expenses that may not be readily apparent from other sources. The Group will revise material estimates if changes occur in the circumstances on which an estimate was based or as a result of new information or more experience. Actual results may differ from current estimates under different assumptions or conditions. The estimates affect all our businesses equally unless otherwise indicated.

The following paragraphs discuss critical accounting policies and related judgments and estimates used in the preparation of our consolidated financial statements. We have discussed the application of these critical accounting estimates with our Board of Directors and Audit Committee.

Revenue Recognition

Majority of the Group s sales are recognized when the significant risks and rewards of ownership have transferred to the buyer, continuing managerial involvement usually associated with ownership and effective control have ceased, the amount of revenue can be measured reliably, it is probable that economic benefits associated with the transaction will flow to the Group, and the costs incurred or to be incurred in respect of the transaction can be measured reliably. The remainder of revenue is recorded under the percentage of completion method.

Devices & Services and certain Location & Commerce and Nokia Siemens Networks revenues are generally recognized when the significant risks and rewards of ownership have transferred to the buyer, continuing managerial involvement usually associated with ownership and effective control have ceased, the amount of revenue can be measured reliably, it is probable that economic benefits associated with the transaction will flow to the Group and the costs incurred or to be incurred in respect of the transaction can be measured reliably. This requires us to assess at the point of delivery whether these criteria have been met. When management determines that such criteria have been met, revenue is recognized. We record estimated reductions to revenue for special pricing agreements, price protection and other volume based discounts at the time of sale, mainly in the mobile device business. Sales adjustments for volume based discount programs are estimated largely based on historical activity under similar programs. Price protection adjustments are based on estimates of future price reductions and certain agreed customer inventories at the date of the price adjustment. Devices & Services and certain Nokia Siemens Networks service revenue is generally recognized on a straight line basis over the service period unless there is evidence that some other method better represents the stage of completion. Devices & Services and Location & Commerce license fees from usage are recognized in the period when they are reliably measurable which is normally when the customer reports them to the Group.

Devices & Services, Location & Commerce and Nokia Siemens Networks may enter into multiple component transactions consisting of any combination of hardware, services and software. The commercial effect of each separately identifiable element of the transaction is evaluated in order to reflect the substance of the transaction. The consideration from these transactions is allocated to each separately identifiable component based on the relative fair value of each component. The consideration allocated to each component is recognized as revenue when the revenue recognition criteria for that element have been met. The Group determines the fair value of each component by taking into consideration factors such as the price when the component is sold separately by the Group, the price when a similar component is sold separately by the Group or a third party and cost plus a reasonable margin.

Nokia Siemens Networks revenue and cost of sales from contracts involving solutions achieved through modification of complex telecommunications equipment is recognized on the percentage of completion basis when the outcome of the contract can be estimated reliably. This occurs when total contract revenue and the cost to complete the contract can be estimated reliably, it is probable that economic benefits associated with the contract will flow to the Group, and the stage of contract completion can be measured. When we are not able to meet one or more of those conditions, the policy is to recognize revenues only equal to costs incurred to date, to the extent that such costs are expected to be recovered. Completion is measured by reference to costs incurred to date as a percentage of estimated total project costs using the cost-to-cost method.

The percentage of completion method relies on estimates of total expected contract revenue and costs, as well as the dependable measurement of the progress made towards completing the particular project. Recognized revenues and profit are subject to revisions during the project in the event that the assumptions regarding the overall project outcome are revised. The cumulative impact of a revision in estimates is recorded in the period such revisions become probable and can be estimated reliably. Losses on projects in progress are recognized in the period they become probable and can be estimated reliably.

Nokia Siemens Networks current sales and profit estimates for projects may change due to the early stage of a long-term project, new technology, changes in the project scope, changes in costs, changes in timing, changes in customers plans, realization of penalties and other corresponding factors.

Customer Financing

We have provided a limited number of customer financing arrangements and agreed extended payment terms with selected customers. In establishing credit arrangements, management must assess the creditworthiness of the customer and the timing of cash flows expected to be received under the arrangement. However, should the actual financial position of our customers or general economic conditions differ from our assumptions, we may be required to reassess the ultimate collectability of such financings and trade credits, which could result in a write-off of these balances in future periods and thus negatively impact our profits in future periods. Our assessment of the net recoverable value considers the collateral and security arrangements of the receivable as well as the likelihood and timing of estimated collections. From time to time, the Group endeavors to mitigate this risk through transfer of its rights to the cash collected from these arrangements to third-party financial institutions on a non-recourse basis in exchange for an upfront cash payment. The financial impact of the customer financing related assumptions mainly affects the Nokia Siemens Networks business. See also Note 34(b) to our consolidated financial statements included in Item 18 of this annual report for a further discussion of long-term loans to customers and other parties.

Allowances for Doubtful Accounts

We maintain allowances for doubtful accounts for estimated losses resulting from the subsequent inability of our customers to make required payments. If financial conditions of our customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances may be required in future periods. Management specifically analyzes accounts receivables and historical bad debt, customer concentrations, customer creditworthiness, current economic trends and changes in our customer payment terms when evaluating the adequacy of the allowance for doubtful accounts. Based on these estimates and assumptions the allowance for doubtful accounts was EUR 248 million at the end of 2012 (EUR 284 million at the end of 2011).

Inventory-related Allowances

We periodically review our inventory for excess, obsolescence and declines in market value below cost and record an allowance against the inventory balance for any such declines. These reviews require management to estimate future demand for our products. Possible changes in these estimates could result in revisions to the valuation of inventory in future periods. Based on these estimates and assumptions, the allowance for excess and obsolete inventory was EUR 471 million at the end of 2012 (EUR 457 million at the end of 2011). The financial impact of the assumptions regarding this allowance affects mainly the cost of sales of the Devices & Services and Nokia Siemens Networks businesses. During 2012 the Group also recognized an expense of EUR 55 million (EUR 0 in 2011) within Devices & Services cost of sales to write-down the inventories to net realizable value.

Warranty Provisions

We provide for the estimated cost of product warranties at the time revenue is recognized. Our products are covered by product warranty plans of varying periods, depending on local practices and regulations. While we engage in extensive product quality programs and processes, including actively monitoring and evaluating the quality of our component suppliers, our warranty obligations are affected by actual product failure rates (field failure rates) and by material usage and service delivery costs incurred in correcting a product failure. Our warranty provision is established based upon our best estimates of the amounts necessary to settle future and existing claims on products sold as of the balance sheet date. As we continuously introduce new products which incorporate complex technology, and as local laws, regulations and practices may change, it will be increasingly difficult to anticipate our failure rates, the length of warranty periods and repair costs. While we believe that our warranty provisions are adequate and that the judgments applied are appropriate, the ultimate cost of product warranty could differ materially from our estimates. When the actual cost of quality of our products is lower than we originally anticipated, we release an appropriate proportion of the provision, and if the cost of quality is higher than anticipated, we increase the provision. Based on these estimates and assumptions the warranty provision was EUR 407 million at the end of 2012 (EUR 688 million at the end of 2011). The financial impact of the assumptions regarding this provision mainly affects the cost of sales of our Devices & Services business.

Provision for Intellectual Property Rights, or IPR, Infringements

We provide for the estimated past costs related to alleged asserted IPR infringements based on the probable outcome of each potential future settlement.

Our products include increasingly complex technologies involving numerous patented and other proprietary technologies. Although we proactively try to ensure that we are aware of any patents and other IPR related to our products under development and thereby avoid inadvertent infringement of proprietary technologies, the nature of our business is such that patent and other IPR infringements may and do occur. We identify potential IPR infringements through contact with parties claiming infringement of their patented or otherwise exclusive technology, or through our own monitoring of developments in patent and other IPR cases involving our competitors.

We estimate the outcome of all potential IPR infringements made known to us through assertion by third parties, or through our own monitoring of patent- and other IPR-related cases in the relevant legal

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systems. To the extent that we determine that an identified potential infringement will result in a probable outflow of resources, we record a liability based on our best estimate of the expenditure required to settle infringement proceedings. Based on these estimates and assumptions the provision for IPR infringements was EUR 388 million at the end of 2012 (EUR 431 million at the end of 2011). The financial impact of the assumptions regarding this provision mainly affects our Devices & Services business.

Our experience with claims of IPR infringement is that there is typically a discussion period with the accusing party, which can last from several months to years. In cases where a settlement is not reached, the discovery and ensuing legal process typically lasts a minimum of one year. For this reason, IPR infringement claims can last for varying periods of time, resulting in irregular movements in the IPR infringement provision. In addition, the ultimate outcome or actual cost of settling an individual infringement may materially vary from our estimates.

Legal Contingencies

As discussed in Item 8A7. Litigation and in Note 29 to the consolidated financial statements included in Item 18 of this annual report, legal proceedings covering a wide range of matters are pending or threatened in various jurisdictions against the Group. We record provisions for pending litigation when we determine that an unfavorable outcome is probable and the amount of loss can be reasonably estimated. Due to the inherent uncertain nature of litigation, the ultimate outcome or actual cost of settlement may materially vary from estimates.

Business Combinations

We apply the acquisition method of accounting to account for acquisitions of businesses. The consideration transferred in a business combination is measured as the aggregate of the fair values of the assets transferred, liabilities incurred towards the former owners of the acquired business and equity instruments issued. Acquisition-related costs are recognized as expense in profit and loss in the periods when the costs are incurred and the related services are received. Identifiable assets acquired and liabilities assumed are measured separately at their fair value as of the acquisition date. Non-controlling interests in the acquired business are measured separately based on their proportionate share of the identifiable net assets of the acquired business. The excess of the cost of the acquisition over our interest in the fair value of the identifiable net assets acquired is recorded as goodwill.

The determination and allocation of fair values to the identifiable assets acquired and liabilities assumed is based on various assumptions and valuation methodologies requiring considerable management judgment. The most significant variables in these valuations are discount rates, terminal values, the number of years on which to base the cash flow projections, as well as the assumptions and estimates used to determine the cash inflows and outflows. Management determines the discount rates to be used based on the risk inherent in the related activity s current business model and industry comparisons. Terminal values are based on the expected life of products and forecasted life cycle and forecasted cash flows over that period. Although we believe that the assumptions applied in the determination are reasonable based on information available at the date of acquisition, actual results may differ from the forecasted amounts and the difference could be material.

Valuation of Long-lived Assets, Intangible Assets and Goodwill

We assess the carrying amount of identifiable intangible assets and long-lived assets if events or changes in circumstances indicate that such carrying amount may not be recoverable. We assess the carrying amount of our goodwill at least annually, or more frequently based on these same indicators. Factors that we consider important, and which could trigger an impairment review, include the following:

- significant underperformance relative to historical or projected future results;

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significant changes in the manner of our use of these assets or the strategy for our overall business; and

significantly negative industry or economic trends.

When we determine that the carrying amount of intangible assets, long-lived assets or goodwill may not be recoverable based upon the existence of one or more of the above indicators of impairment, we measure any impairment based on discounted projected cash flows.

This review is based upon our projections of anticipated discounted future cash flows. The most significant variables in determining cash flows are discount rates, terminal values, the number of years on which to base the cash flow projections, as well as the assumptions and estimates used to determine the cash inflows and outflows. Management determines discount rates to be used based on the risk inherent in the related activity s current business model and industry comparisons. Terminal values are based on the expected life of products and forecasted life cycle and forecasted cash flows over that period. While we believe that our assumptions are appropriate, such amounts estimated could differ materially from what will actually occur in the future. In assessing goodwill, these discounted cash flows are prepared at a cash generating unit level. Amounts estimated could differ materially from what will actually occur in the future.

Goodwill is allocated to the Group s cash-generating units (CGU) and discounted cash flows are prepared at CGU level for the purpose of impairment testing. The allocation of goodwill to our CGUs is made in a manner that is consistent with the level at which management monitors operations and the CGUs are expected to benefit from the synergies arising from each of our acquisitions. Accordingly, goodwill has been allocated to the Group s reportable segments; Smart Devices CGU, Mobile Phones CGU, Location & Commerce CGU and Nokia Siemens Networks CGU. Goodwill amounting to EUR 899 million, EUR 530 million, EUR 3 270 million and EUR 183 million was allocated to the Smart Devices CGU, Mobile Phones CGU, Location & Commerce CGU and Nokia Siemens Networks CGU, respectively, at the date of the 2012 impairment testing.

In the fourth quarter of 2012, we conducted our annual impairment testing to assess if events or changes in circumstances indicated that the carrying amount of our goodwill may not be recoverable. The impairment testing was carried out based on management s assessment of financial performance and future strategies in light of current and expected market and economic conditions.

The recoverable amounts for the Smart Devices CGU and the Mobile Phones CGU are based on value in use calculations. A discounted cash flow calculation was used to estimate the value in use for both CGUs. Cash flow projections determined by management are based on information available, to reflect the present value of the future cash flows expected to be derived through the continuing use of the Smart Devices CGU and the Mobile Phones CGU.

The recoverable amounts for the Location & Commerce CGU and the Nokia Siemens Networks CGU are based on fair value less costs to sell. A discounted cash flow calculation was used to estimate the fair value less costs to sell for both CGUs. The cash flow projections employed in the discounted cash flow calculation have been determined by management based on the information available, to reflect the amount that an entity could obtain from separate disposal of each of the Location & Commerce CGU and the Nokia Siemens Networks CGU, in an arm s length transaction between knowledgeable, willing parties, after deducting the estimated costs of disposal.

The cash flow projections employed in the value in use and the fair value less costs to sell calculations are based on detailed financial plans approved by management, covering a three-year planning horizon. Cash flows in subsequent periods reflect a realistic pattern of slowing growth that declines towards an estimated terminal growth rate utilized in the terminal period. The terminal growth rate utilized does not

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exceed long-term average growth rates for the industry and economies in which the CGU operates. All cash flow projections are consistent with external sources of information, wherever available.

The key assumptions applied in the impairment testing for each CGU in the annual goodwill impairment testing for each year indicated are presented in the table below:

	Cash generating units							
	Smart Devices %		Mobile Phones %		Location & Commerce %		Nokia Siemens Networks %	
	2012	**2011**	**2012**	**2011**	**2012**	**2011**	**2012**	**2011**
Terminal growth rate	**2.3**	1.9	**(2.3)**	1.5	**1.7**	3.1	**0.7**	1.0
Post-tax discount rate	**10.5**	9.0	**10.5**	9.0	**9.9**	9.7	**10.3**	10.4
Pre-tax discount rate	**12.8**	12.2	**15.5**	13.1	**12.8**	13.1	**14.2**	13.8

Both value in use of Smart Devices CGU and Mobile Phones CGU and fair value less costs to sell for Location & Commerce CGU and Nokia Siemens Networks CGU are determined on a pre-tax value basis using pre-tax valuation assumptions including pre-tax cash flows and pre-tax discount rate. As market-based rates of return for the Group s CGUs are available only on a post-tax basis, the pre-tax discount rates are derived by adjusting the post-tax discount rates to reflect the specific amount and timing of future tax cash flows. The discount rates applied in the impairment testing for each CGU have been determined independently of capital structure reflecting current assessments of the time value of money and relevant market risk premiums. Risk premiums included in the determination of the discount rate reflect risks and uncertainties for which the future cash flow estimates have not been adjusted.

The recoverable amount of the Location & Commerce CGU exceeds its carrying amount by a small margin in the fourth quarter 2012. The related valuation is deemed most sensitive to the changes in both discount and long-term growth rates. A discount rate increase in excess of 0.5 percentage point or long-term growth decline in excess of 1 percentage point would result in impairment loss in the Location & Commerce CGU. Management s estimates of the overall automotive volumes and market share, customer adoption of the new location-based platform and related service offerings, projected device sales volumes and fair value of the services sold within the Group as well as continued focus on cost efficiency are the main drivers for the Location & Commerce net cash flow projections. The Group s cash flow forecasts reflect the current strategic views that license fee based models will remain important in both near and long term. Management expects that license fee based models which are augmented with software and services and monetized via license fees, transactions fees and advertising, will grow in the future as more customers demand complete, end-to-end location solutions. Actual short and long-term performance could vary from management s forecasts and impact future estimates of recoverable value. Since the recoverable amount exceeds the carrying amount only by a small margin, any material adverse changes such as market deterioration or changes in the competitive landscape could impact management s estimates of the main drivers and result in impairment loss.

A charge to operating profit of EUR 1 090 million was recorded for the impairment of goodwill in our Location & Commerce business in the fourth quarter 2011. The impairment loss was allocated in its entirety to the carrying amount of goodwill in the balance sheet of the Location & Commerce CGU. This impairment loss is presented as impairment of goodwill in the consolidated income statement. As a result of the impairment loss, the amount of goodwill allocated to the Location & Commerce CGU was reduced to EUR 3 274 million at December 31, 2011.

The impairment charge was the result of an evaluation of the projected financial performance and net cash flows of the Location & Commerce CGU. The main drivers for management s net cash flow projections included license fees related to digital map data, fair value of the services sold within the

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Group and estimated average revenue per user with regard to mobile media advertising. The average revenue per user was estimated based on peer market data for mobile advertising revenue. Projected device sales volumes impacted the overall forecasted intercompany and advertising revenues. This took into consideration the market dynamics in digital map data and related location-based content markets, including the Group s long-term view at the time of the 2011 annual impairment testing, that the market will move from fee-based models towards advertising-based models especially in some more mature markets. It also reflected recently announced results and related competitive factors in local search and advertising market resulting in lower estimated growth prospects from location-based assets integrated with different advertising platforms. After consideration of all relevant factors, the Group reduced the net sales projections for the Location & Commerce CGU which, in turn, reduced projected profitability and cash flows.

The Group s goodwill impairment testing did not result in impairment charges for the years ended December 31, 2012 or 2010. An impairment loss was recorded with respect to the Group s Location & Commerce CGU in 2011, as discussed above. No further impairment charges were recorded with respect to the other CGUs in 2011.

See Note 8 to our consolidated financial statements included in Item 18 of this annual report for further information regarding Valuation of long-lived and intangible assets and goodwill.

Fair Value of Derivatives and Other Financial Instruments

The fair value of financial instruments that are not traded in an active market, for example unlisted equities, are determined using valuation techniques. We use judgment to select an appropriate valuation methodology and underlying assumptions based principally on existing market conditions. If quoted market prices are not available for unlisted shares, fair value is estimated by using various factors, including, but not limited to: (1) the current market value of similar instruments, (2) prices established from a recent arm s length financing transaction of the target companies, (3) analysis of market prospects and operating performance of the target companies taking into consideration of public market comparable companies in similar industry sectors. Changes in these assumptions may cause the Group to recognize impairments or losses in the future periods. During 2012 the Group received distributions of EUR 49 million (EUR 45 million in 2011) included in other financial income from a private fund held as non-current available-for-sale. Due to a reduction in estimated future cash flows the Group also recognized an impairment loss of EUR 7 million (EUR 38 million in 2011) for the fund included in other financial expenses.

Income Taxes

The Group is subject to income taxes both in Finland and in numerous other jurisdictions. Significant judgment is required in determining income tax expense, tax provisions, deferred tax assets and liabilities recognized in the consolidated financial statements. We recognize deferred tax assets to the extent that it is probable that sufficient taxable income will be available in the future against which the temporary differences, tax losses and unused tax credits can be utilized. We have considered future taxable income and tax planning strategies in making this assessment. Deferred tax assets are assessed for realizability each reporting period, and when circumstances indicate that it is no longer probable that deferred tax assets will be utilized, they are adjusted as necessary. In 2012 Nokia taxes continued to be unfavorably affected by Nokia Siemens Networks taxes as no tax benefits are recognized for certain Nokia Siemens Networks deferred tax items. Additionally Nokia taxes were adversely affected by allowances related to Devices & Services Finnish deferred tax assets and discontinuation of recognizing tax benefits for Devices & Services Finnish deferred tax items due to uncertainty of utilization of these items.

At December 31, 2012, the Group had tax losses carry forward, temporary differences and tax credits of EUR 10 294 million (EUR 4 302 million in 2011) for which no deferred tax assets were recognized in the consolidated financial statements due to uncertainty of utilization of these items.

We recognize tax provisions based on estimates and assumptions when, despite our belief that tax return positions are supportable, it is more likely than not that certain positions will be challenged and may not be fully sustained upon review by tax authorities. The Group has ongoing tax investigations in multiple jurisdictions, including Hungary and India. If the final outcome of these matters differs from the amounts initially recorded, differences may positively or negatively impact the current taxes and deferred taxes in the period in which such determination is made.

Pensions

The determination of our pension benefit obligation and expense for defined benefit pension plans is dependent on our selection of certain assumptions used by actuaries in calculating such amounts. Those assumptions are described in Note 5 to our consolidated financial statements included in Item 18 of this annual report and include, among others, the discount rate, expected long-term rate of return on plan assets and annual rate of increase in future compensation levels. A portion of our plan assets is invested in equity securities. The equity markets have experienced volatility, which has affected the value of our pension plan assets. This volatility may make it difficult to estimate the long-term rate of return on plan assets. Actual results that differ from our assumptions are accumulated and amortized over future periods and therefore generally affect our recognized expense and recorded obligation in such future periods. Our assumptions are based on actual historical experience and external data regarding compensation and discount rate trends. While we believe that our assumptions are appropriate, significant differences in our actual experience or significant changes in our assumptions may materially affect our pension obligation and our future expense. The financial impact of the pension assumptions affects mainly the Devices & Services and Nokia Siemens Networks businesses.

Share-based Compensation

We have various types of equity-settled share-based compensation schemes for employees mainly in Devices & Services and Location & Commerce. Employee services received, and the corresponding increase in equity, are measured by reference to the fair value of the equity instruments as at the date of grant, excluding the impact of any non-market vesting conditions. Fair value of stock options is estimated by using the Black-Scholes model on the date of grant based on certain assumptions. Those assumptions are described in Note 24 to our consolidated financial statements included in Item 18 of this annual report and include, among others, the dividend yield, expected volatility and expected life of stock options. The expected life of stock options is estimated by observing general option holder behavior and actual historical terms of Nokia stock option programs, whereas the assumption of the expected volatility has been set by reference to the implied volatility of stock options available on Nokia shares in the open market and in light of historical patterns of volatility. These variables make estimation of fair value of stock options difficult. Non-market vesting conditions attached to the performance shares are included in assumptions about the number of shares that the employee will ultimately receive relating to projections of sales and earnings per share. On a regular basis, we review the assumptions made and revise the estimates of the number of performance shares that are expected to be settled, where necessary. At the date of grant, the number of performance shares granted that are expected to be settled is assumed to be two times the amount at threshold. Any subsequent revisions to the estimates of the number of performance shares expected to be settled may increase or decrease total compensation expense. Such increase or decrease adjusts the prior period compensation expense in the period of the review on a cumulative basis for unvested performance shares for which compensation expense has already been recognized in the profit and loss account, and in subsequent periods for unvested performance shares for which the expense has not yet been recognized in the profit and loss account. Significant differences in employee option activity, equity market performance, and our projected and actual net sales and earnings per share performance may materially affect future expense. In addition, the value, if any, an employee ultimately receives from share-based payment awards may not correspond to the expense amounts recorded by the Group.

The Group has also issued certain stock options for the employees of Nokia Siemens Networks, which are accounted for as cash-settled. Related employee services received, and the liability incurred, are measured at the fair value of the liability. The fair value of stock options is estimated based on the reporting date market value less the exercise price of the stock options. The fair value of the liability is remeasured at each reporting date and at the date of settlement and related change in fair value is recognized in the income statement over the relevant service periods.

Results of Operations

2012 compared with 2011

Nokia Group

The following table sets forth selective line items and the percentage of net sales that they represent for the fiscal years 2012 and 2011.

	Year Ended December 31, 2012	Percentage of Net Sales	Year Ended December 31, 2011	Percentage of Net Sales	Percentage Increase/ (Decrease)
	(EUR millions, except percentage data)				
Net sales	30 176	100.0%	38 659	100.0%	(22)%
Cost of sales	(21 786)	(72.2)%	(27 300)	(70.6)%	(20)%
Gross profit	8 390	27.8%	11 359	29.4%	(26)%
Research and development expenses	(4 782)	(15.8)%	(5 584)	(14.4)%	(14)%
Selling and marketing expenses	(3 205)	(10.6)%	(3 769)	(9.8)%	(15)%
Administrative and general expenses	(959)	(3.2)%	(1 085)	(2.8)%	(12)%
Other operating income and expenses	(1 747)	(5.8)%	(1 994)	(5.2)%	(12)%
Operating profit	(2 303)	(7.6)%	(1 073)	(2.8)%	

<u>*Net Sales*</u>

Our net sales and profitability were negatively affected by the increasing momentum of competing smartphone platforms relative to our Symbian smartphones in all regions as we continued on our platform transition to Windows Phone, as well as our pricing actions due to the competitive environment in both the smartphone and feature phone markets. In addition, during the first half of 2012 our net sales and profitability were adversely affected by our lack of affordable full touch devices which continued to be a growing part of the market. For Nokia Siemens Networks, net sales decrease was driven primarily by Nokia Siemens Networks strategy to focus on mobile broadband, and services.

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The following table sets forth the distribution by geographical area of our net sales for the fiscal years 2012 and 2011.

	Year Ended December 31,	
	2012	2011
Europe	29%	31%
Middle East & Africa	14%	14%
Greater China	10%	17%
Asia-Pacific	27%	23%
North America	7%	4%
Latin America	13%	11%
Total	100%	100%

The 10 markets in which we generated the greatest net sales in 2012 were, in descending order of magnitude, China, India, Japan, the United States, Brazil, Germany, Russia, the United Kingdom, Indonesia and Italy, together representing approximately 52% of total net sales in 2012. In comparison, the 10 markets in which we generated the greatest net sales in 2011 were China, India, Brazil, Russia, Germany, Japan, the United States, the United Kingdom, Italy and Spain, together representing approximately 52% of total net sales in 2011.

Gross Margin

Our gross margin in 2012 was 27.8%, compared to 29.4% in 2011. The lower gross margin in 2012 resulted primarily from the decreased gross margin in Devices & Services compared to 2011, which was partially offset by increased gross margin in Nokia Siemens Networks.

Operating Expenses

Our research and development (R&D) expenses were EUR 4 782 million in 2012, compared to EUR 5 584 million in 2011. Research and development costs represented 15.8% of our net sales in 2012 compared to 14.4% in 2011. The increase in research and development expenses as a percentage of net sales largely resulted from a relative decline in net sales in 2012. Research and development expenses included purchase price accounting items of EUR 378 million in 2012 compared to EUR 412 million in 2011. At December 31, 2012, we employed 27 551 people in research and development, representing approximately 28% of our total workforce.

In 2012, our selling and marketing expenses were EUR 3 205 million, compared to EUR 3 769 million in 2011. Selling and marketing expenses represented 10.6% of our net sales in 2012 compared to 9.8% in 2011. The increase in selling and marketing expenses as a percentage of net sales reflected a decline in net sales in 2012. Selling and marketing expenses included purchase price accounting items of EUR 314 million in 2012 compared to EUR 422 million in 2011.

Administrative and general expenses were EUR 959 million in 2012, compared to EUR 1 085 million in 2011. Administrative and general expenses were equal to 3.2% of our net sales in 2012 compared to 2.8% in 2011. The increase in administrative and general expenses as a percentage of net sales reflected a decline in net sales in 2012. Administrative and general expenses included no purchase price accounting items in 2012 compared to EUR 1 million in 2011.

In 2012, other income and expenses included restructuring charges of EUR 1 807 million, including EUR 42 million related to country and contract exits, impairments of assets of EUR 32 million, a negative adjustment of EUR 4 million to purchase price allocations related to the final payment from Motorola, amortization of acquired intangible assets of EUR 23 million, benefit from cartel claim settlements of EUR 56 million, a net gain on sale of Vertu business of EUR 52 million and a net gain on sale of real estate of EUR 79 million. In 2011, other income and expenses included restructuring charges of EUR 626 million, impairment of assets of EUR 90 million, consideration related to the Accenture transaction of EUR 251 million, impairment of shares in an associated company of EUR 41 million and a benefit from a cartel claim settlement of EUR 49 million.

Operating Margin

Our 2012 operating loss was EUR 2 303 million, compared with an operating loss of EUR 1 073 million in 2011. The increased operating loss resulted primarily from restructuring charges and associated items of EUR 1.8 billion, a decrease in the operating performance of our Devices & Services business, which was partially offset by an increase in the operating performance of Nokia Siemens Networks. Our 2012 operating margin was negative 7.6% compared to negative 2.8% in 2011. Our operating loss in 2012 included purchase price accounting items, restructuring charges and other special items of net negative EUR 2.4 billion compared to net negative EUR 2.9 billion in 2011.

Corporate Common

Corporate Common Functions expenses totaled EUR 103 million in 2012, compared to EUR 131 million in 2011.

Net Financial Income and Expenses

Financial income and expenses, net, was an expense of EUR 340 million in 2012 compared to an expense of EUR 102 million in 2011. The higher net expense in 2012 was primarily driven by foreign exchange losses. Nokia expects financial income and expenses, net, in 2013 to be an expense of approximately EUR 300 million.

Our net debt to equity ratio was negative 46% at December 31, 2012, compared with a net debt to equity ratio of negative 40% at December 31, 2011. See Item 5B. Liquidity and Capital Resources below.

Profit Before Taxes

Loss before tax was EUR 2 644 million in 2012, compared to a loss of EUR 1 198 million in 2011. Taxes amounted to EUR 1 145 million in 2012 and EUR 290 million in 2011. Nokia taxes continued to be unfavorably affected by Nokia Siemens Networks taxes as no tax benefits are recognized for certain Nokia Siemens Networks deferred tax items. Additionally, in 2012, Nokia taxes were adversely affected by allowances related to Devices & Services Finnish deferred tax assets and discontinuation of recognizing tax benefits for Devices & Services Finnish deferred tax items due to uncertainty of utilization of these items.

Non-controlling interests

Loss attributable to non-controlling interests totaled EUR 683 million in 2012, compared with a loss attributable to non-controlling interests of EUR 324 million in 2011. This change was primarily due to a increase in Nokia Siemens Networks losses.

Profit Attributable to Equity Holders of the Parent and Earnings per Share

Loss attributable to equity holders of the parent in 2012 totaled EUR 3 106 million, compared with a loss of EUR 1 164 million in 2011. Earnings per share in 2012 decreased to EUR (0.84) (basic) and EUR (0.84) (diluted), compared with EUR (0.31) (basic) and EUR (0.31) (diluted) in 2011.

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Results by Segments

Devices & Services

The following table sets forth selective line items and the percentage of net sales that they represent for Devices & Services for the fiscal years 2012 and 2011.

	Year Ended December 31, 2012	Percentage of Net Sales	Year Ended December 31, 2011	Percentage of Net Sales	Percentage Increase/ (Decrease)
	(EUR millions, except percentage data)				
Net sales[1]	15 686	100.0%	23 943	100.0%	(34)%
Cost of sales	(12 340)	(78.7)%	(17 303)	(72.3)%	(29)%
Gross profit	3 346	21.3%	6 640	27.7%	(50)%
Research and development expenses	(1 852)	(11.8)%	(2 441)	(10.2)%	(24)%
Selling and marketing expenses	(1 857)	(11.8)%	(2 180)	(9.1)%	(15)%
Administrative and general expenses	(292)	(1.9)%	(362)	(1.5)%	(19)%
Other operating income and expenses	(445)	(2.8)%	(773)	(3.2)%	(42)%
Operating profit	(1 100)	(7.0)%	884	3.7%	

(1) Includes IPR income recognized in Devices & Services Other net sales.

Net Sales

The following table sets forth our Devices & Services net sales and year-on-year growth rate by geographic area for the fiscal years 2012 and 2011. The IPR income referred to in the paragraph below has been allocated to the geographic area contained in this chart.

	Year Ended December 31, 2012	Change 2011 to 2012	Year Ended December 31, 2011
	(EUR millions, except percentage data)		
Europe	4 643	(34)%	7 064
Middle East & Africa	2 827	(31)%	4 098
Greater China	1 610	(68)%	5 063
Asia-Pacific	3 811	(22)%	4 896
North America	453	28%	354
Latin America	2 342	(5)%	2 468
Total	15 686	(34)%	23 943

The 34% year-on-year decline in Devices & Services net sales in 2012 resulted from lower volumes in both Smart Devices and Mobile Phones as well as a lower ASP in Mobile Phones, partially offset by a higher ASP in Smart Devices. Devices & Services Other net sales decreased in 2012 due to lower non-recurring IPR income, the divestment of Vertu during the fourth quarter 2012 and lower spare parts sales.

Smart Devices continued to transition as Symbian volumes decreased sequentially every quarter in 2012. Lumia device volumes grew in the first half of 2012 by expanding geographical distribution as well as new product launches, but were negatively affected in the third quarter 2012 by product transitions. In the fourth quarter 2012, Smart Devices net sales grew sequentially as we started shipping new Lumia devices, although volumes were adversely affected by supply constraints as we ramped up our production capacity, particularly related to the Lumia 920. Smart Devices shipped a total of 13.4 million Lumia devices in 2012. During the first half of 2012, Mobile Phones was negatively affected by aggressive price competition and the lack of affordable full touch devices. Towards the end of the second quarter 2012 Mobile Phones introduced affordable Asha full touch smartphones and sold 15.8 million units in the second half 2012.

Our overall Devices & Services net sales in 2012 benefited from the recognition in Devices & Services Other of approximately EUR 50 million (EUR 450 million in 2011) of non-recurring IPR income. The non-recurring IPR income relates to new patent license agreements for the respective years that included settlements of past royalties and accordingly is not expected to have a recurring benefit. Patent license agreements are generally multi-year arrangements and may cover both licensee s past and future sales. Typically, when a patent license agreement is signed it includes an agreement or settlement on past royalties that the licensor is entitled to. Such income for past periods is typically recognized as a non-recurring item. The license payments relating to the future royalties are typically recognized over the remaining contract period based on the contract terms. The future license payments may fluctuate based on the terms of the license.

During the last two decades, we have invested approximately EUR 50 billion in research and development and built one of the wireless industry s strongest and broadest IPR portfolios, with approximately 10 000 patent families. We are a world leader in the development of handheld device and mobile communications technologies, which is also demonstrated by our strong patent position. Within Devices & Services Other, we estimate that our current annual IPR income run-rate is approximately EUR 0.5 billion.

Volume

The following chart sets out the mobile device volumes for our Devices & Services business and year-on-year growth rates by geographic area for the fiscal years 2012 and 2011.

	Year Ended December 31, 2012	Change 2011 to 2012	Year Ended December 31, 2011
	(Units in millions, except percentage data)		
Europe	67.3	(23)%	87.8
Middle East & Africa	81.7	(14)%	94.6
Greater China	27.5	(58)%	65.8
Asia-Pacific	113.5	(5)%	118.9
North America	2.2	(44)%	3.9
Latin America	43.4	(6)%	46.1
Total	335.6	(20)%	417.1

On a year-on-year basis, the decline in our total Devices & Services volumes in 2012 was driven by lower volumes in both Smart Devices and Mobile Phones discussed below.

Average Selling Price

See Item 5A. Operating Results or the glossary of this annual report for information on the calculation of our average selling prices.

Our total mobile device ASP, including IPR income, in 2012 was EUR 47, down 18% from EUR 57 in 2011. The decrease in our mobile device ASP in 2012 was due to a higher proportion of Mobile Phones volumes and lower Mobile Phones ASPs, partially offset by higher Smart Devices ASPs. Our total mobile device ASP, excluding IPR income, in 2012 was EUR 45, down 18% from EUR 55 in 2011.

Gross Margin

Our Devices & Services gross margin in 2012 was 21.3%, compared to 27.7% in 2011. On a year-on-year basis, the decline in our Devices & Services gross margin in 2012 was due to gross margin declines in Smart Devices and to a lesser degree in Mobile Phones and Devices & Services Other.

Operating Expenses

Devices & Services operating expenses decreased 20% year-on-year in 2012. On a year-on-year basis, operating expenses related to Smart Devices decreased 32% in 2012, where Mobile Phones remained approximately on the same level. In addition to the factors described below, the year-on-year changes were affected by the proportionate allocation of operating expenses being affected by the relative mix of sales and gross profit performance between Mobile Phones and Smart Devices. This resulted in higher and lower relative allocations to Mobile Phones and Smart Devices, respectively.

Devices & Services research and development expenses decreased 24% year-on-year in 2012 due to declines in Smart Devices and Devices & Services Other research and development expenses. The decreases in research and development expenses were due primarily to a focus on priority projects and cost controls as well as business divestments.

Devices & Services sales and marketing expenses decreased 15% year-on-year in 2012 primarily due to lower overall business activity, improved efficiency in general marketing activities and business divestments.

Devices & Services administrative and general expenses decreased 19% year-on-year in 2012, primarily due structural cost savings as well as business divestments.

In 2012, Devices & Services other income and expense had a negative year-on-year impact on profitability. In 2012, we recognized special items of net EUR 393 million in Devices and Services Other, comprised of restructuring charges of EUR 550 million and related impairments of EUR 30 million, a benefit from cartel claim settlements of EUR 56 million, a net gain from the sale of a real estate of EUR 79 million and a net gain from the divestment of the Vertu business of EUR 52 million. In 2011, we recognized special items of net EUR 287 million in Devices and Services Other, comprised of restructuring charges of EUR 456 million, impairment of assets of EUR 90 million, Accenture deal consideration of EUR 251 million, impairment of shares in an associated company of EUR 41 million and a benefit from a cartel claim settlement