

As of December 31, 2017, provisions for estimated probable losses with respect to claims and legal proceedings were not considered material.

## **24. FINANCIAL INSTRUMENTS AND RISK MANAGEMENT**

### **24.1 Financial risk factors**

The Company is exposed to changes in financial market conditions in the normal course of business due to its operations in different foreign currencies and its ongoing investing and financing activities. The Company's activities expose it to a variety of financial risks: market risk (including foreign exchange risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk. The Company's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Company's financial performance. The Company uses derivative financial instruments to hedge certain risk exposures.

Financial risk management is carried out by a central treasury department (Corporate Treasury). Additionally, a Treasury Committee, chaired by the CFO, steers treasury activities and ensures compliance with corporate policies. Treasury activities are thus regulated by the Company's policies, which define procedures, objectives and controls. The policies focus on the management of financial risk in terms of exposure to market risk, credit risk and liquidity risk. Treasury controls are subject to internal audits. Most treasury activities are centralized, with any local treasury activities subject to oversight from Corporate Treasury. Corporate Treasury identifies, evaluates and hedges financial risks in close cooperation with the Company's operating units. It provides written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, price risk, credit risk, use of derivative financial instruments, and investments of excess liquidity. The majority of cash and cash equivalents is held in U.S. dollars and Euros and is placed with financial institutions rated at least a single "A" long-term rating from two of the major rating agencies, meaning at least A3 from Moody's Investor Service and A- from Standard & Poor's and Fitch Ratings, or better. These ratings are closely and continuously monitored in order to manage exposure to the counterparty's risk. Hedging transactions are performed only to hedge exposures deriving from operating, investing and financing activities conducted in the normal course of business.

#### **Market risk**

##### *Foreign exchange risk*

The Company conducts its business on a global basis in various major international currencies. As a result, the Company is exposed to adverse movements in foreign currency exchange rates, primarily with respect to the Euro. Foreign exchange risk mainly arises from recognized assets and liabilities at the Company's subsidiaries and future commercial transactions.

Management has set up a policy to require the Company's subsidiaries to hedge their entire foreign exchange risk exposure with the Company through financial instruments transacted or overseen by Corporate Treasury. To manage their foreign exchange risk arising from foreign-currency-denominated assets and liabilities, subsidiaries use forward contracts and purchased currency options. Foreign exchange risk arises when recognized assets and liabilities are denominated in a currency that is not the entity's functional currency. These instruments do not qualify as hedging instruments for accounting purposes. Forward contracts and currency options, including collars, are also used by the Company to reduce its exposure to U.S. dollar fluctuations in Euro-denominated forecasted intercompany transactions that cover a large part of its research and development, selling, general and administrative expenses as well as a portion of its front-end manufacturing costs of semi-finished goods. The Company also hedges through the use of currency forward contracts certain Singapore dollar-denominated manufacturing forecasted transactions. The derivative instruments used to hedge these forecasted transactions meet the criteria for designation as cash flow hedge. The hedged forecasted transactions have a high probability of occurring for hedge accounting purposes.

It is the Company's policy to have the foreign exchange exposures in all the currencies hedged month by month against the monthly standard rate. At each month end, the forecasted flows for the coming month are hedged together with the fixing of the new standard rate. For this reason the hedging transactions will have an exchange rate very close to the standard rate at which the forecasted flows will be recorded on the following month. As such, the foreign exchange exposure of the Company, which consists in the balance sheet positions and other contractually agreed transactions, is always close to zero and any movement in the foreign exchange rates will not therefore influence the exchange effect on items of the consolidated statement of income. Any discrepancy from the forecasted values and the actual results is constantly monitored and prompt actions are taken, if needed.

*Derivative Instruments Not Designated as a Hedge*

The Company enters into foreign currency forward contracts to reduce its exposure to changes in exchange rates and the associated risk arising from the denomination of certain assets and liabilities in foreign currencies in the Company's subsidiaries. These include receivables from international sales by various subsidiaries, payables for foreign currency-denominated purchases and certain other assets and liabilities arising from intercompany transactions.

The notional amount of these financial instruments totaled \$644 million, \$375 million and \$372 million at December 31, 2017, 2016 and 2015, respectively. The principal currencies covered at the end of the year 2017 are the Euro, the Singapore dollar, the Swiss franc, the China Yuan Renminbi, the Japanese yen, the Indian rupee, the Malaysian ringgit, the South Korean won, the British pound and the Philippines peso.

The risk of loss associated with forward contracts is equal to the exchange rate differential from the time the contract is entered into until the time it is settled. The risk of loss associated with purchased currency options is equal to the premium paid when the option is not exercised.

Foreign currency forward contracts not designated as cash flow hedge outstanding as of December 31, 2017 have remaining terms of 3 days to 162 days, maturing on average after 19 days.

*Derivative Instruments Designated as a Hedge*

To further reduce its exposure to U.S. dollar exchange rate fluctuations, the Company hedges through the use of currency forward contracts and currency options, including collars, certain Euro-denominated forecasted intercompany transactions that cover at year-end a large part of its research and development, selling, general and administrative expenses, as well as a portion of its front-end manufacturing costs of semi-finished goods within cost of sales. The Company also hedges through the use of currency forward contracts certain manufacturing transactions within cost of sales denominated in Singapore dollars.

The principles regulating the hedging strategy for derivatives designated as cash flow hedge are established as follows: (i) for R&D and corporate costs, up to 80% of the total forecasted transactions; (ii) for manufacturing costs, up to 70% of the total forecasted transactions. In order to follow a dynamic hedge strategy, the Company may change the percentage of the designated hedged item within the limit of 100% of the forecasted transaction. The maximum length of time over which the Company could hedge its exposure to the variability of cash flows for forecasted transactions is 24 months.

For the year ended December 31, 2017, the Company recorded a decrease in cost of sales of \$16 million and a decrease in operating expenses of \$14 million, related to the realized gains incurred on such hedged transactions. For the year ended December 31, 2016, the Company recorded an increase in cost of sales of \$7 million and an increase in operating expenses of \$2 million, related to the realized losses incurred on such hedged transactions. For the year ended December 31, 2015, the Company recorded an increase in cost of sales of \$105 million and an increase in operating expenses of \$65 million, related to the realized losses incurred on such hedged transactions. No significant ineffective portion of the hedge was recorded on the line "Other income and expenses, net" of the consolidated statements of income for the years ended December 31, 2017, 2016 and 2015.

The notional amount of foreign currency forward contracts and currency options, including collars, designated as cash flow hedge totaled \$1,393 million, \$1,370 million and \$1,449 million at December 31, 2017, 2016 and 2015, respectively. The forecasted transactions hedged at December 31, 2017 were determined to have a high probability of occurring.

As of December 31, 2017, \$45 million of deferred gains on derivative instruments included in "Accumulated other comprehensive income (loss)" were expected to be reclassified as earnings during the next 12 months based on the monthly forecasted research and development expenses, corporate costs and semi-finished manufacturing costs. No amount was reclassified as "Other income and expenses, net" into the consolidated statement of income from "Accumulated other comprehensive income (loss)" in the consolidated statement of equity. Foreign currency forward contracts, currency options and collars designated as cash flow hedge outstanding as of December 31, 2017 have remaining terms of 3 days to 12 months, maturing on average after 113 days.

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As at December 31, 2017, the Company had the following outstanding derivative instruments that were entered into to hedge Euro-denominated and Singapore dollar-denominated forecasted transactions:

In millions of Euros	Notional amount for hedge on forecasted R&D and other operating expenses	Notional amount for hedge on forecasted manufacturing costs
Forward contracts	237	352
Currency collars	208	284
In millions of Singapore dollars	Notional amount for hedge on forecasted R&D and other operating expenses	Notional amount for hedge on forecasted manufacturing costs
Forward contracts	—	130

### Cash flow and fair value interest rate risk

The Company's interest rate risk arises from long-term borrowings. Borrowings issued at variable rates expose the Company to cash flow interest rate risk. Borrowings issued at fixed rates expose the Company to fair value interest rate risk.

The Company analyses its interest rate exposure on a dynamic basis. Various scenarios are simulated taking into consideration refinancing, renewal of existing positions, alternative financing and hedging. The Company invests primarily on a short-term basis and as such the Company's liquidity is invested in floating interest rate instruments. As a consequence the Company is exposed to interest rate risk due to potential mismatch between the return on its short term floating interest rate investments and the portion of its long term debt issued at fixed rate.

### Price risk

As part of its ongoing investing activities, the Company may be exposed to equity security price risk for investments in public entities. In order to hedge the exposure to this market risk, the Company may enter into certain derivative hedging transactions.

Information on fair value of derivative instruments and their location in the consolidated balance sheets as at December 31, 2017 and December 31, 2016 is presented in the table below:

Asset Derivatives	As at December 31, 2017		As at December 31, 2016	
	Balance sheet location	Fair value	Balance sheet location	Fair value
<b>Derivatives designated as a hedge:</b>				
Foreign exchange forward contracts	Other current assets	24	Other current assets	1
Currency collars	Other current assets	13	Other current assets	—
<b>Total derivatives designated as a hedge</b>		<b>37</b>		<b>1</b>
<b>Derivatives not designated as a hedge:</b>				
Foreign exchange forward contracts	Other current assets	4	Other current assets	1
<b>Total derivatives not designated as a hedge:</b>		<b>4</b>		<b>1</b>
<b>Total Derivatives</b>		<b>41</b>		<b>2</b>

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	As at December 31, 2017		As at December 31, 2016	
	Balance sheet location	Fair value	Balance sheet location	Fair value
<b>Liability Derivatives</b>				
<b>Derivatives designated as a hedge:</b>				
Foreign exchange forward contracts	Other payables and accrued liabilities	—	Other payables and accrued liabilities	(31)
Currency collars	Other long-term liabilities	—	Other long-term liabilities	(1)
Currency collars	Other payables and accrued liabilities	—	Other payables and accrued liabilities	(11)
<b>Total derivatives designated as a hedge</b>		<b>—</b>		<b>(43)</b>
<b>Derivatives not designated as a hedge:</b>				
Foreign exchange forward contracts	Other payables and accrued liabilities	(1)	Other payables and accrued liabilities	(2)
<b>Total derivatives not designated as a hedge:</b>		<b>(1)</b>		<b>(2)</b>
<b>Total Derivatives</b>		<b>(1)</b>		<b>(45)</b>

The effect on the consolidated statements of income for the year ended December 31, 2017 and December 31, 2016 and on the "Accumulated other comprehensive income (loss)" ("AOCI") as reported in the statements of equity as at December 31, 2017 and December 31, 2016 of derivative instruments designated as cash flow hedge is presented in the table below:

	Gain (loss) deferred in OCI on derivative		Location of gain (loss) reclassified from OCI into earnings	Gain (loss) reclassified from OCI into earnings	
	December 31, 2017	December 31, 2016		December 31, 2017	December 31, 2016
Foreign exchange forward contracts	18	(24)	Cost of sales	12	(5)
Foreign exchange forward contracts	2	(2)	Selling, general and administrative	2	—
Foreign exchange forward contracts	7	(8)	Research and development	8	(1)
Currency collars	12	(8)	Cost of sales	4	(2)
Currency collars	1	(1)	Selling, general and administrative	1	—
Currency collars	5	(4)	Research and development	3	(1)
<b>Total</b>	<b>45</b>	<b>(47)</b>		<b>30</b>	<b>(9)</b>

No significant ineffective portion of the cash flow hedge relationships was recorded in earnings for the years ended December 31, 2017 and December 31, 2016. No amount was excluded from effectiveness measurement on foreign exchange forward contracts and collars.

The effect on the consolidated statements of income for the year ended December 31, 2017 and December 31, 2016 of derivative instruments not designated as a hedge is presented in the table below:

	Location of gain recognized in earnings	Gain recognized in earnings	
		December 31, 2017	December 31, 2016
Foreign exchange forward contracts	Other income and expenses, net	6	(3)
<b>Total</b>		<b>6</b>	<b>(3)</b>

The Company did not enter into any derivative containing significant credit-risk-related contingent features.

The Company entered into currency collars as combinations of two options, which are reported, for accounting purposes, on a net basis. The fair value of these collars represented as at December 31, 2017 assets totalling \$13 million (a gross amount of \$14 million recognized assets offset with a liability of \$1 million). In addition, the Company entered into other derivative instruments, primarily forward contracts, which are governed by standard

International Swaps and Derivatives Association ("ISDA") agreements, which are not offset in the statement of financial position, and representing total assets of \$28 million and liabilities of \$1 million as at December 31, 2017.

#### *Credit risk*

The Company selects banks and/or financial institutions that operate with the group based on the criteria of long-term rating from at least two major Rating Agencies and keeping a maximum outstanding amount per instrument with each bank not to exceed 20% of the total.

The Company monitors the creditworthiness of its customers to which it grants credit terms in the normal course of business. If certain customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal and external ratings in accordance with limits set by management. The utilization of credit limits is regularly monitored. Sales to customers are primarily settled in cash. At December 31, 2017 and 2016, no customer represented more than 10% of trade accounts receivable, net. Any remaining concentrations of credit risk with respect to trade receivables are limited due to the large number of customers and their dispersion across many geographic areas.

#### *Liquidity risk*

Prudent liquidity risk management includes maintaining sufficient cash equivalents and marketable securities, the availability of funding from committed credit facilities and the ability to close out market positions. The Company's objective is to maintain a significant cash position and a low debt-to-equity ratio, which ensure adequate financial flexibility. Liquidity management policy is to finance the Company's investments with net cash provided from operating activities.

Management monitors rolling forecasts of the Company's liquidity reserve on the basis of expected cash flows.

### **24.2 Capital risk management**

The Company's objectives when managing capital are to safeguard the Company's ability to continue as a going concern in order to create value for shareholders and benefits and returns for other stakeholders, as to maintain an optimal capital structure. In order to maintain or adjust the capital structure, the Company may review the amount of dividends paid to shareholders, return capital to shareholders, or issue new shares.

Consistent with others in the industry, the Company monitors capital on the basis of the net debt-to-equity ratio. This ratio is calculated as the net financial position of the Company, defined as the difference between total cash position (cash and cash equivalents, marketable securities – current and non-current – and current restricted cash, if any) net of total financial debt (bank overdrafts, if any, short-term borrowings and current portion of long-term debt as well as long-term debt), divided by total parent company stockholders' equity.

### **24.3 Fair value measurement**

The fair value of financial instruments traded in active markets is based on quoted market prices at the balance sheet date. The quoted market price used for financial assets held by the Company is the bid price. If the market for a financial asset is not active and if no observable market price is obtainable, the Company measures fair value by using significant assumptions and estimates. When measuring fair value, the Company makes maximum use of market inputs and minimizes the use of unobservable inputs.

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The table below details financial assets (liabilities) measured at fair value on a recurring basis as at December 31, 2017:

		Fair Value Measurements using		
	December 31, 2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Marketable securities – U.S. Treasury Bonds	431	431	–	–
Equity securities classified as available-for-sale	11	11	–	–
Equity securities classified as held-for-trading	9	9	–	–
Derivative instruments designated as cash flow hedge	37	–	37	–
Derivative instruments not designated as cash flow hedge	4	–	4	–
Derivative instruments not designated as cash flow hedge	(1)	–	(1)	–
Contingent consideration on business combinations	(12)	–	–	(12)
<b>Total</b>	<b>479</b>	<b>451</b>	<b>40</b>	<b>(12)</b>

The table below details financial assets (liabilities) measured at fair value on a recurring basis as at December 31, 2016:

		Fair Value Measurements using		
	December 31, 2016	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Marketable securities – U.S. Treasury Bonds	335	335	–	–
Equity securities classified as available-for-sale	11	11	–	–
Equity securities classified as held-for-trading	8	8	–	–
Derivative instruments designated as cash flow hedge	1	–	1	–
Derivative instruments designated as cash flow hedge	(43)	–	(43)	–
Derivative instruments not designated as cash flow hedge	1	–	1	–
Derivative instruments not designated as cash flow hedge	(2)	–	(2)	–
Contingent consideration on business combinations	(12)	–	–	(12)
<b>Total</b>	<b>299</b>	<b>354</b>	<b>(43)</b>	<b>(12)</b>

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For assets (liabilities) measured at fair value on a recurring basis using significant unobservable inputs (Level 3), the reconciliation between January 1, 2017 and December 31, 2017 is presented as follows:

	Fair Value Measurements using Significant Unobservable Inputs (Level 3)
January 1, 2017	(12)
Contingent consideration on business combination	—
December 31, 2017	(12)
Amount of total losses for the period included in earnings attributable to assets still held at the reporting date	—

On July 28, 2016, the Company completed a transaction to acquire ams' (SIX: AMS) assets and workforce related to Near-Field Communication (NFC) and Radio-frequency identification (RFID) Reader business, as described in Note 7. The purchase price consideration includes a cash payment of \$78 million and the acquisition-date fair value of a sales earn-out of \$12 million, which in any case will not exceed \$37 million. The contingent consideration was measured at fair value as at December 31, 2017 based on a weighted-average probability projections of sales, discounted using a 1.8% cost of debt, which is the discount rate applicable to the transaction.

The liability component of the convertible bonds issued on July 3, 2014 was measured at initial recognition at fair value based on a discount rate adjustment technique (income approach), which corresponds to a Level 3 fair value hierarchy measurement. The fair value of the liability component at initial recognition totaled \$878 million and was estimated by calculating the present value of cash flows using a discount rate of 2.40% and 3.22% (including 1% per annum nominal interest), respectively, on each tranche, as the market rates for similar instruments with no conversion rights. The liability component of the convertible bonds was subsequently reported at amortized cost. In 2017, Tranche A and Tranche B convertible bonds were either converted or early redeemed by the Company, as described in details in Note 14. Before net-share settlement, the liability component was measured at fair value based on a discount rate adjustment technique (income approach), which corresponded to a Level 3 fair value hierarchy measurement and consisted in calculating the present value of cash flows using current market rates for similar bonds that have no conversion rights. The fair value of the liability component, as measured prior to extinguishment was \$574 million for Tranche A bonds, which generated a loss amounting to \$5 million and reflected a discount rate of 2.09%. The fair value of the liability component, as measured prior to extinguishment was \$370 million for Tranche B bonds, which generated a loss amounting to \$11 million and reflected a discount rate of 2.47%.

The liability component of the convertible bonds issued on July 3, 2017 was measured at initial recognition at fair value based on a discount rate adjustment technique (income approach), which corresponds to a Level 3 fair value hierarchy measurement. The fair value of the liability component at initial recognition totaled \$1,266 million before allocation of issuance costs, and was estimated by calculating the present value of cash flows using a discount rate of 2.70% and 3.28% (including 0.25% per annum nominal interest), respectively, on each tranche, which were determined to be consistent with the market rates at the time for similar instruments with no conversion rights. The liability component of the convertible bonds was subsequently reported at amortized cost.

The business combination concluded on July 28, 2016 resulted in the recognition at fair value on a non-recurring basis upon acquisition of property, plant and equipment amounting to \$2 million, technology amounting to \$6 million, in-process R&D amounting to \$40 million and a \$42 million goodwill. The fair value of the recognized intangible assets was determined using the Multi-period Excess Earnings Method ("MEEM")-approach combined with a Monte Carlo simulation of the acquired business to estimate the probable outcomes using a given number of iteration of the projections, which corresponds to a Level 3 fair value hierarchy.

The Company evaluated in 2017, 2016 and 2015 for impairment the aggregate carrying amount of cost-method investments. No impairment charge was recorded on these investments in 2017, 2016 and 2015.

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The following table includes additional fair value information on financial assets and liabilities as at December 31, 2017 and 2016:

	Level	2017		2016	
		Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
<b>Cash equivalents(1)</b>	<b>1</b>	<b>1,303</b>	<b>1,303</b>	<b>960</b>	<b>960</b>
<b>Long-term debt</b>					
– Bank loans (including current portion)	<b>2</b>	<b>423</b>	<b>423</b>	<b>525</b>	<b>525</b>
– Senior unsecured convertible bonds(2)	<b>1</b>	<b>1,278</b>	<b>1,860</b>	<b>926</b>	<b>1,127</b>

(1) Cash equivalents primarily correspond to deposits at call with banks.

(2) The carrying amount of the senior unsecured convertible bonds as reported above corresponds to the liability component only, since, at initial recognition, an amount of \$121 million was recorded directly in shareholders' equity as the value of the equity instrument embedded in the convertible bonds issued on July 3, 2014 and outstanding as at December 31, 2016. For the convertible bonds issued on July 3, 2017 and outstanding as at December 31, 2017, the carrying amount of the senior unsecured convertible bonds corresponds to the liability component only, since, at initial recognition, an amount of \$242 million was recorded directly in shareholders' equity as the value of the equity instrument embedded in the convertible instrument.

The table below details securities that were in an unrealized loss position as at December 31, 2017. The securities are segregated by investment type and length of time that the individual securities have been in a continuous unrealized position as at December 31, 2017.

Description	December 31, 2017					
	Less than 12 months		More than 12 months		Total	
	Fair Values	Unrealized Losses	Fair Values	Unrealized Losses	Fair Values	Unrealized Losses
U.S. Treasury Bonds	332	(1)	–	–	332	(1)
Total	332	(1)	–	–	332	(1)

The methodologies used to estimate fair value are as follows:

### Debt securities classified as available-for-sale

The fair value of these debt securities is estimated based upon quoted market prices for identical instruments.

### Foreign exchange forward contracts, currency options and collars

The fair value of these instruments is estimated based upon quoted market prices for similar instruments.

### Marketable securities classified as available-for-sale

The fair values of these instruments are estimated based upon market prices for identical instruments.

### Equity securities classified as available-for-sale

The fair values of these instruments are estimated based upon market prices for identical instruments.

### Trading equity securities

The fair value of these instruments is estimated based upon quoted market prices for the same instruments.

### Equity securities carried at cost

The non-recurring fair value measurement is based on the valuation of the underlying investments on a new round of third party financing or upon liquidation.



**Long-term debt and current portion of long-term debt**

The fair value of bank loans is determined by estimating future cash flows on a borrowing-by-borrowing basis and discounting these future cash flows using the Company's incremental borrowing rates for similar types of borrowing arrangements.

The senior unsecured convertible bonds have been trading on the open market segment of the Frankfurt Stock Exchange since issuance. The fair value of these instruments is the observable price of the bonds on that market.

**Cash and cash equivalents, accounts receivable, short-term borrowings, and accounts payable**

The carrying amounts reflected in the consolidated financial statements are reasonable estimates of fair value due to the relatively short period of time between the origination of the instruments and their expected realization.

**25. RELATED PARTY TRANSACTIONS**

Transactions with significant shareholders, their affiliates and other related parties were as follows:

	December 31, 2017	December 31, 2016	December 31, 2015
Sales & other services	—	1	7
Other purchases	12	1	65
Accounts receivable	7	7	8
Accounts payable	51	51	61

For the years ended December 31, 2017, 2016 and 2015, the related party transactions were primarily with significant shareholders of the Company, or their subsidiaries and companies in which management of the Company perform similar policymaking functions. These include, but are not limited to: Orange, MicroOLED, Technicolor and Incard do Brazil. The related party transactions presented in the table above also include transactions between the Company and its equity-method investments as listed in Note 11.

The Company made a contribution of \$0.5 million for the year ended December 31, 2017 to the ST Foundation, a non-profit organization established to deliver and coordinate independent programs in line with its mission. For the year ended December 31, 2016 there was no contribution and for the year ended December 31, 2015 this contribution amounted to \$0.5 million. Certain members of the Foundation's Board are senior members of the Company's management.

**26. SEGMENT INFORMATION**

The Company designs, develops, manufactures and markets a broad range of products, including discrete and standard commodity components, application-specific integrated circuits ("ASICs"), full custom devices and semi-custom devices and application-specific standard products ("ASSPs") for analog, digital, and mixed-signal applications, as well as Subsystems. In addition, the Company further participates in the manufacturing value chain of smartcard products, which includes the production and sale of both silicon chips and smartcards.

Commencing in the fourth quarter of 2017, we transferred the Imaging Product Division, previously reported in Others, into the Analog and MEMS Group (AMG) to create the new organization Analog, MEMS and Sensors Group (AMS). Comparative numbers were restated accordingly.

Our reportable segments are as follows:

- *Automotive and Discrete Group (ADG)*, comprised of all dedicated automotive ICs (both digital and analog), and discrete and power transistor products.
- *Analog, MEMS and Sensors Group (AMS)*, comprised of low-power high-end analog ICs (both custom and general purpose) for all markets, smart power products for Industrial, Computer and Consumer markets, Touch Screen Controllers, Low Power Connectivity solutions (both wireline and wireless) for IoT, power conversion products, metering solutions for Smart Grid and all MEMS products, either sensors or actuators, as well as the Imaging Products division (including the sensors and modules from our Time-of-Flight technology).
- *Microcontrollers and Digital ICs Group (MDG)*, comprised of general purpose and secure microcontrollers, EEPROM memories, and digital ASICs as well as restructured businesses such as set-top box ICs or former ST-Ericsson products.

"Others" includes items such as unused capacity charges, impairment & restructuring charges and other related closure costs, phase out and start-up costs, and other unallocated expenses such as: strategic or special research and development programs, certain corporate-level operating expenses, patent claims and litigations, and other costs that are not allocated to product groups, as well as operating earnings of Subsystems, assembly services and other revenue.

For the computation of the segments' internal financial measurements, we use certain internal rules of allocation for the costs not directly chargeable to the segments, including cost of sales, selling, general and administrative expenses and a part of research and development expenses. In compliance with our internal policies, certain costs are not allocated to the segments, including impairment, restructuring charges and other related closure costs, unused capacity charges, phase-out and start-up costs of certain manufacturing facilities, certain one-time corporate items, strategic and special research and development programs or other corporate-sponsored initiatives, including certain corporate-level operating expenses and certain other miscellaneous charges. In addition, depreciation and amortization expense is part of the manufacturing costs allocated to the segments and is neither identified as part of the inventory variation nor as part of the unused capacity charges; therefore, it cannot be isolated in the costs of goods sold. Finally, R&D grants are allocated to our segments proportionally to the incurred R&D expenses on the sponsored projects.

Wafer costs are allocated to the segments based on actual cost. From time to time, with respect to specific technologies, wafer costs are allocated to segments based on market price.

The following tables present the Company's consolidated net revenues and consolidated operating income by reportable segment.

	December 31, 2017	December 31, 2016	December 31, 2015
Automotive and Discrete Group (ADG)	3,059	2,813	2,731
Analog, MEMS and Sensors Group (AMS)	2,613	1,847	1,851
Microcontrollers and Digital ICs Group (MDG)	2,646	2,285	2,292
<b>Total net revenues of product segments</b>	<b>8,318</b>	<b>6,945</b>	<b>6,874</b>
Others	29	28	23
<b>Total consolidated net revenues</b>	<b>8,347</b>	<b>6,973</b>	<b>6,897</b>

Operating income by reportable segment:

	December 31, 2017	December 31, 2016	December 31, 2015
Automotive and Discrete Group (ADG)	289	211	194
Analog, MEMS and Sensors Group (AMS)	365	46	27
Microcontrollers and Digital ICs Group (MDG)	402	108	29
<b>Total operating income of product segments</b>	<b>1,056</b>	<b>365</b>	<b>250</b>
Others(1)	(63)	(151)	(141)
<b>Total consolidated operating income</b>	<b>993</b>	<b>214</b>	<b>109</b>

- (1) Operating results of "Others" include items such as unused capacity charges, impairment & restructuring charges and other related closure costs, phase out and start-up costs, and other unallocated expenses such as: strategic or special research and development programs, certain corporate-level operating expenses, patent claims and litigations, and other costs that are not allocated to product groups, as well as operating earnings of Subsystems, assembly services and other revenue.

Reconciliation of operating income of segments to the total operating income:

	December 31, 2017	December 31, 2016	December 31, 2015
Total operating income of segments	1,056	365	250
Impairment, restructuring charges and other related closure costs	(45)	(93)	(65)
Unallocated manufacturing results	7	(33)	(69)
Strategic and other research and development programs and other non-allocated provisions(1)	(25)	(25)	(7)
<b>Total operating loss Others</b>	<b>(63)</b>	<b>(151)</b>	<b>(141)</b>
<b>Total consolidated operating income</b>	<b>993</b>	<b>214</b>	<b>109</b>

(1) Includes unallocated income and expenses such as certain corporate-level operating expenses and other costs/income that are not allocated to the product segments.

The following is a summary of operations by entities located within the indicated geographic areas for 2017, 2016 and 2015. Net revenues represent sales to third parties from the country in which each entity is located. Long-lived assets consist of property, plant and equipment, net (PP&E, net). A significant portion of property, plant and equipment expenditures is attributable to front-end and back-end facilities, located in the different countries in which the Company operates. As such, the Company mainly allocates capital spending resources according to geographic areas rather than along product segment areas.

#### Net revenues

	December 31, 2017	December 31, 2016	December 31, 2015
The Netherlands	2,223	1,751	1,667
France	123	134	169
Italy	60	58	58
USA	1,012	990	1,039
Singapore	4,444	3,699	3,606
Japan	463	323	332
Other countries	22	18	26
<b>Total</b>	<b>8,347</b>	<b>6,973</b>	<b>6,897</b>

#### Property, plant and equipment

	December 31, 2017	December 31, 2016
The Netherlands	588	462
France	603	520
Italy	719	445
Other European countries	83	84
USA	6	6
Singapore	428	277
Malaysia	200	166
Other countries	467	327
<b>Total</b>	<b>3,094</b>	<b>2,287</b>

**STMICROELECTRONICS N.V.**
**VALUATION AND QUALIFYING ACCOUNTS**

Valuation and qualifying accounts deducted from the related asset accounts	Balance at beginning of period	Translation adjustment	Charged to costs and expenses	Additions/ (Deductions)	Balance at end of period
(Currency – millions of U.S. dollars)					
<b>2017</b>					
Accounts Receivable	12	–	–	3	15
Deferred Tax Assets	1,578	24	3	(103)	1,502
<b>2016</b>					
Accounts Receivable	7	–	3	2	12
Deferred Tax Assets	1,585	(4)	13	(16)	1,578
<b>2015</b>					
Accounts Receivable	8	–	2	(3)	7
Deferred Tax Assets	1,607	(28)	24	(18)	1,585