

Key performance indicators

		2011	2012	2013
Employees injury frequency rate	(No. of accidents per million of worked hours)	1.47	0.76	0.76
Contractors injury frequency rate		4.60	1.67	0.30
Net sales from operations ^(a)	(€ million)	6,491	6,418	5,859
Intermediates		2,987	3,050	2,709
Polymers		3,299	3,188	2,933
Other sales		205	180	217
Operating profit		(424)	(681)	(725)
Adjusted operating profit		(273)	(483)	(386)
Adjusted net profit		(206)	(395)	(338)
Capital expenditure		216	172	314
Production	(ktonnes)	6,245	6,090	5,817
Sales of petrochemical products		4,040	3,953	3,785
Average plant utilization rate	(%)	65.3	66.7	65.3
Employees at year end	(number)	5,804	5,668	5,708
Direct GHG emissions	(mtonnes CO ₂ eq)	4.12	3.69	3.66
NM VOC (Non-Methan Volatile Organic Compound) emissions	(ktonnes)	4.18	4.40	3.93
SO _x emissions (sulphur oxide)	(ktonnes SO ₂ eq)	3.17	2.19	1.53
NO _x emissions (nitrogen oxide)	(ktonnes NO ₂ eq)	4.14	3.43	3.29
Recycled/reused water	(%)	81.9	81.6	86.2

(a) Before elimination of intragroup sales.

Performance of the year

- In 2013, contractors injury frequency rate continued to follow a positive trend (down by 81.9% from 2012). Employees injury frequency rate remained unchanged.
- In 2013 emissions of greenhouse gas and other emissions in the atmosphere improved from 2012 following the interruption of production at the Porto Torres site in the conversion phase. Further reductions were registered, particularly at the Mantova site for NO_x, and NMVOC as well as at the Dunkerque site for SO_x and NMVOC. Recycled/reused water rate improved, up to 86.2%.
- In 2013 adjusted net loss amounting €338 million declined by €57 million from 2012, due to a sharp decrease of cracker margins reported in the first half of 2012.
- Sales of petrochemical products were 3,785 ktonnes, down by 168 ktonnes or 4.2% from 2012, due to declining in consumptions.
- Chemical production volumes were 5,817 ktonnes, decreasing by 273 ktonnes or 4.5% from 2012, due to declining demand in all businesses. The steepest decline was reported in elastomers and polyethylene.
- In 2013 overall expenditure in R&D amounted to approximately €39 million in line with the previous year. 10 patent applications were filed, one of which jointly with E&P.

Business development and sustainability initiatives

- As part of the expansion strategy in bioplastic sector and diversification from the base chemistry, Versalis signed strategic partnerships with major operators in the field of biotechnology and rubber:
 - with Genomatica, for the establishment of a technology joint venture for bio-based butadiene production from non-food biomass. The resulting process will be licensed across Europe, Asia and Africa by the newly-created joint venture. Versalis will invest over \$20

- million in the development of process technologies and aims to be the first to license the process and build commercial plants;
 - with Pirelli, a Memorandum of Understanding for joint research project for the use of guayule-based natural rubber in tyre production;
 - with Yulex Corporation, an agricultural-based biomaterials company, for a project of guayule-based biorubber production and a launch of industrial production complex in Southern Europe. The partnership will cover the entire manufacturing chain. Versalis will manufacture materials for various applications, with a final goal of the optimization of the productive process in the tyre industry;
 - with South Korean company Lotte Chemical, Versalis established a 50:50 joint venture, while with Malaysian company Petronas, Versalis signed a shareholders agreement. The agreements concern the development of joint production of styrene and elastomers, as part of the expansion process in the growing South-East Asian markets;
 - with Neville Venture, Versalis signed an agreement of strategic partnership for the production of hydrocarbon resins at the Priolo plant and finalized a licence agreement related to the resins production for various applications such as adhesives, inks, coatings and rubber;
 - with Elevance Renewable Sciences Inc., a United States chemical company, specialized in production of chemicals from vegetable oils, with a significant value added, Versalis signed a Memorandum of Understanding (MoU) for establishing a strategic partnership, in order to jointly develop and scale a new technology for a production from vegetable oils, aiming at developing and scaling of new catalysts. The market applications of the future production will be specialties with a significant added value such as personal care products, detergents and cleaners, bio-lubricants and oilfield chemicals.
- In the field of Green Chemistry, Versalis continued with the requalification of the hub of Porto Torres, in order to replace the traditional activities of the site with activities characterised by significant perspectives of future growth, by realizing the products with an elevated biodegradability and/or produced from raw materials obtained from renewable sources. In 2013, Versalis completed the initiatives of restructuration and reorganization of the distribution network and storage at the Matrìca plant.
- In February 2014, Versalis reached an important agreement on the project of transformation and relaunch of the Porto Marghera site to redesign production facilities and regain competitiveness. Versalis expects to invest €200 million in Porto Marghera focused on the optimisation and reorganisation of cracker utilities, with significant energy savings, and on the new initiative of green chemistry.
- In 2013, as part of the Product Stewardship, Versalis realized a specific database called Athos (Advanced Tool for the Handling Of Substances) which collects all the information necessary for the safe management, for employees and for the environment, of chemical products processed and utilized at Versalis sites.

Sales – production – prices

In 2013 **sales** of chemical products (3,785 ktonnes) decreased by 168 ktonnes from 2012 (down by 4.2%) against of backdrop of weakness demand reflecting the current economic downturn in the main reference markets. The steepest decline was registered in elastomers (down by 9.7%) and in intermediates (down by 4.2%). Lower reduction was reported in polyethylene (down by 3%) and in styrene (down by 2.9%).

Average unit sales prices decreased by 3.2% from 2012, with different trends for the various businesses: olefines prices were affected by a sharp decline in butadiene quotations (down 23%) driven by consumption crisis in Europe, while average styrene prices reported an increase (up 7.5%). Less significant improvement were registered in derivatives (up 1.4%) and in polyethylene (up 1.1%).

Chemical **production** amounted to 5,817 ktonnes, with a decrease of 273 ktonnes or 4.5% from 2012. This was mainly due to a

decrease in elastomers (down 11%). Lower decreases were registered in styrenes (down 2.8%), in polyethylene (down 6%) and in intermediates (down 3.7%). The main decreases in production were registered at the Priolo plant (down 8.4%) due to the planned standstill of olefine cracking plant and the definitive shutdown of Ragusa polyethylene plant (down 12.5%) due to lower volumes of polyethylene and at Dunkerque (down 5.3%) driven by the weakness of polyethylene market as well as planned standstill in the second half of the year. These reductions were partly offset by higher production at Sarroch (up 11.6%), which in 2012 was impacted by the standstill for the planned upkeeping as well as higher levels of benzene and xylene production.

Nominal capacity of plants declined from the previous year due to rationalization measures, with an average plant utilization rate calculated on nominal capacity of 65.3% (66.7% in 2012).

Product availability	(ktonnes)	2011	2012	2013	Change	% Ch.
Intermediates		4,101	3,595	3,462	(133)	(3.7)
Polymers		2,144	2,495	2,355	(140)	(5.6)
Production		6,245	6,090	5,817	(273)	(4.5)
Consumption and losses		(2,631)	(2,545)	(2,394)	151	(5.9)
Purchases and change in inventories		426	408	362	(46)	(11.3)
		4,040	3,953	3,785	(168)	(4.2)

Business trends

Intermediates

Intermediates revenues (€2,709 million) decreased by €341 million from 2012 (down by 11.2%) reflecting decreased volumes sold (down by 4.2%) and average unit prices (down by 1.9%), with different trends in each business: in the olefines sales volumes of ethylene decreased (down 4%) due to the planned standstill at the Priolo plant and lower consumption, with prices slightly decreasing compared to previous year, while butadiene volumes reported a sharp decrease (down by 38%) driven by the weakness of elastomers market and the reduced average prices by 23% reflecting the consumption crisis. In aromatics, benzene sales volumes registered a decline of 7.4%, while xylene volumes increased by 7.5%, with average prices in line with 2012. Revenues from derivatives declined mainly due to lower volumes of phenol/derivatives (down 3.6%) due to lower availability of product following planned downtime at the Mantova plant, partly offset by 1.4% increase in average sale prices.

Intermediates production (3,462 ktonnes) registered a decrease from the last year (down by 133 ktonnes or 3.7%) due

to reductions in olefines (down 5.7%) and in derivatives (down 2.4%) driven by lower utilization of Priolo cracking plant and lower production of butadiene (down 10.3%) affected by the planned facility downtimes at the Brindisi and Ravenna plants. These reductions were partly offset by higher aromatics production (up by 3% compared to the previous year) due to higher xylene production.

Polymers

Polymers revenues (€2,933 million) decreased by €255 million from 2012, or by 8%, due to average unit prices decreasing by 19% and lower elastomers sale volumes (down by 9.7%) due to the significant decrease in demand from the tyre and automotive industry. This negative performance was partly offset by higher average prices of styrene (up 7.5%) and polyethylene (up 1%) mainly registered in the last part of 2013. Polymer production (2,356 ktonnes) decreased by 140 ktonnes from 2012 (down 5.6%), due mainly to a decline in production at the Ravenna plant and at English sites (Hythe and Grangemouth) reflecting market dynamics.

Capital expenditure

In 2013 capital expenditure amounted to €314 million (€172 million in 2012) and related mainly: (i) improvement of plants' efficiency (€170 million); (ii) upkeeping of plants (€66 million);

(iii) environmental protection, safety and environmental regulation (€52 million); (iv) maintenance and savings (€14 million).