

Bergamo, 22 January 2016

The North American International Auto Show in Detroit is in full swing

The [Detroit Auto Show](#) opened to the public on Saturday, January 16, and runs through Sunday, January 24. Known officially as the **North American International**



Auto Show, the event confirms its position among the top automotive trade shows in the world. On display at Detroit's Cobo Hall, visitors can see all the new products, concept cars and new car models that are going to appear on the road during the upcoming months.

Over 50 debuts among the hundreds of vehicles showcased. Also on display at the Detroit show is a glaring contradiction of the America auto industry: environmental friendliness, advanced technology and innovation co-exist with the typical American passion for big-sized cars with very little hint of green. This contradiction is shared by all the market players. Despite the challenges the electric and hybrid car sector is up against (in 2015, the share of battery powered vehicles in the USA decreased to 2.4%, a 20% drop compared to 2014), there are numerous hybrid cars showcased at this year's auto show in America's motor town. After the taste of new technologies given to visitors to the Consumer Electronics Show in Las Vegas (6-9 January 2016) – battery powered cars with over 300 km on a single charge and fully autonomous self-driving cars –, the automakers of alternative propulsion vehicles are back in the spotlight at the Detroit auto show. Just a few examples: Hyundai Ioniq Hybrid, Honda Clarity Fuel Cell, Chrysler Minivan Hybrid and Chevrolet Bolt Electric. The US auto market reported very positive figures: in 2015 the automakers racked up 17,470,659 light-vehicle sales, beating the previous record of 17.40 million cars in 2000. Riding the wave of this sales upsurge, RadiciGroup Plastics Business Area continues its upward growth trend on the North American market.

“For us, the North American auto market is the number one market in terms of volume,” said **Gianluigi Molteni**, *marketing & business development head of Radici Plastics Americas & Pacific*. “In 2015, we had double-digit growth versus the previous year, and our development pipeline is strong. We have directed our efforts to align our product portfolio with automakers’ and

suppliers' requirements and standards, which are becoming more and more stringent in terms of fuel economy and environmental protection.”

“The outlook for the North American auto segment is positive,” Mr. Molteni continued. “And so is the growth outlook for our products – from the old well-established ones to the new ones still in the development pipeline. However, the North America auto market depends on countries such as China, the South American countries, and Russia, and is thus exposed to possible negative effects arising from economic and social events in those countries. Caution and close monitoring of the situation are essential.”

What are the top products in the RadiciGroup Plastics auto portfolio?

RADILON® HHR AND RADILON® XTREME: DESIGNED TO WITHSTAND HIGH TEMPERATURES.

RADILON® HHR

Radilon® HHR nylon 6.6 engineering plastics feature excellent high-heat ageing resistance at temperatures of up to 210° C.



They are suitable for injection and blow moulding and are available in 15%, 20% and 35% glass-fibre-filled versions.

Radilon® HHR products were formulated using a special RadiciGroup technology that allows for a dramatic reduction in mechanical properties degradation in materials at service temperatures of up to 210°C in air.

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RADILON® A RV350HHR is the ideal solution for applications such as [intercooler end caps](#), [turbo ducts](#) and [resonators](#).

RADILON® A RV350HHR
Turbo resonator made of high-temperature resistant PA66-GF35.
Application sector: AUTOMOTIVE.

RADILON® XTREME

The recent addition of the new RADILON® XTreme speciality line to the already existing RadiciGroup HHR line has extended the application temperature range of this class of products. RADILON® XTreme materials were developed for hot-air applications at continuous operating

temperatures of up to 230°C, through a synergistic collaboration of the RadiciGroup Plastics and Chemicals Business Areas. RADILON® XTreme engineering plastics are mainly used in **automotive: turbo air ducts, EGR heat exchanger components and resonators.**

Among the key RADILON® XTREME technical characteristics ... Melting temperature, 280°C (+20°C compared to PA6.6); glass transition temperature, 90°C (+20°C compared to PA6.6); moisture absorption at saturation, 7% (-25% compared to PA6.6).

RADISTRONG®: IDEAL FOR METAL REPLACEMENT.

RADISTRONG® specialities are available in nylon 6 and 6.6 versions. Due to their characteristics, they are ideal for metal replacement in critical applications where high performance not attainable

by traditional engineering plastics is required.

The new Radistrong® long-fibre specialities are manufactured by pultrusion and are available with from 20% to 60% glass-fibre or carbon-fibre fill.



RADISTRONG® A LGF60W 3739 BK12

Pedal support made of PA6.6-LGF60, featuring excellent creep resistance and superior impact strength.

Application sector: AUTOMOTIVE.

The main advantages of the new RADISTRONG® long-fibre specialities compared to conventional polyamides include:

- Superior impact strength
- Improved creep and fatigue resistance
- Greater mechanical resistance and stiffness at high temperatures

RADILON® D: NATURALLY PERFORMING.

Ideal for injection and extrusion moulding, these materials are produced from PA6.10, a biopolymer obtained from sebacic acid (64% by weight). Sebacic acid is a product of natural origin extracted from the seeds of the castor oil plant, which is grown mainly in India and China in semi-arid regions and, for this reason, does not compete with agricultural food products. Radilon® Ds ensure a high level of sustainability, as well as excellent performance. These RadiciGroup PA6.10 polyamides feature properties that are the equivalent of, if not superior to, those of conventional polyamides. **Compared to PA6 and PA6.6, RADILON®D polyamides show ...** reduced moisture uptake, less loss of tensile strength and tensile modulus under wet conditions, better chemical resistance to zinc chloride and calcium chloride, and improved glycol resistance.

RADILON® Ds are ideal for automotive applications:

FUEL LINES

FUEL LINE CONNECTORS

PNEUMATIC CONDUIT

BRAKE CONDUIT AND UNDER-THE-BONNET COMPONENTS

RADILON® DT: OUR PA6.12 SPECIALITIES.

Nylon 6.12 engineering plastics with good mechanical properties and excellent chemical resistance, even to zinc chloride solutions. **RADILON®DTs ensure:** good hydrolysis resistance, exceptional resistance to stress cracking even in contact zones between conduits and fittings, and good dimensional stability because of low moisture absorption. RADILON®DTs are ideal for applications in the automotive and industrial sectors.

For more information on our products: info.plastics@radicigroup.com

Our concrete commitment on the Sustainability front...

Concrete action has always been the distinguishing trait of RadiciGroup's commitment to sustainability. This commitment was rewarded in June 2014, when Radici Novacips SpA, headquarters of the RadiciGroup Plastics Business Area, obtained EPD Process Certification for its Environmental Product Declaration preparation and internal verification system and afterwards, when it published EPDs for its Radilon® A and Radilon® S, PA 6 and PA6.6 engineering plastics. Radici Novacips SpA is now about to take another important step by publishing two more EPDs: an EPD for its Heramid® reduced environmental impact post-industrial engineering plastics and an EPD for the recovery and recycling system for these same products.

Sustainability highlights ...

September 2015: RadiciGroup has once again lived up to its commitment to transparent communication with its stakeholders by releasing its 2014 Sustainability Report, which gives as faithful as possible a picture of the Group's industrial activities and achievements in economic, social and environmental sustainability. For the fourth year in a row, the RadiciGroup Sustainability Report has obtained external assurance at the GRI B+ Application Level of conformity to the Sustainability Reporting guidelines (Ver. 3.1) issued by the Global Reporting Initiative, the most widely accepted global standard for non-financial reporting.

Concrete actions and results on the sustainability front: a few figures...

128 million euros: Investments during the 2010-2014 period to support Group company competitiveness through: research and development, product and service innovation, plant and technology maintenance and introduction of the best available technologies (BAT), improvement in production efficiency, improvement in product and service quality, assurance of employee health and workplace safety.

2.5 million euros: Investments in 2014 just for the environment and safety.

-26%: Percentage reduction in total direct and indirect greenhouse gas emissions in 2014 compared to 2013. The percentage reduction in total direct emissions in 2014 was -46%. The percentage reduction in total direct emissions in the 2010-2014 five-year period was -78%.

45.3%: The percentage of RadiciGroup's 2014 energy consumption from renewable resources (mostly hydroelectric energy). In 2013, the percentage was 44.3%.

63%: The percentage of water saved in 2014.

July 2015: After obtaining EPD Process Certification for its EPD process management and control system, and creating and issuing EPDs for its PA6 and PA6.6 Radilon® A and Radilon® S engineering plastics, Radici Novacips SpA, the headquarters of the RadiciGroup Plastics Business Area, issued the EPDs for its HERAMID® post-industrial engineering plastics and its polyamide scrap recovery service, a process to obtain the secondary raw material used in the production of the HERAMID® products. The two EPDs – available on the Environdec website at [EPD HERAMID®](#) and [EPD Polyamide Scrap Recovery Service](#) – are further tangible examples of how RadiciGroup follows the principles of consistency and transparency in the implementation of its sustainability programme: more specifically, the objective measurement and communication of the environmental impact of its products and services.

What does sustainability mean to RadiciGroup? Concrete consistent actions.

IN THE PLASTICS INDUSTRY, RadiciGroup is one of the most highly regarded manufacturers of polyamide and polyester engineering plastics for applications in many industries such as: AUTOMOTIVE – ELECTRICAL AND ELECTRONICS – TECHNICAL INDUSTRIAL – FURNISHINGS – CONSUMER GOODS – SPORT. With six plants strategically located in Italy, Brazil, the United States, Germany and China, RadiciGroup Plastics offers processing, quality control, research and development, and technological development support. A network of sales units – with a strong presence in Italy, Germany, France, Spain, Great Britain, the USA, Brazil, China and India – makes RadiciGroup Plastics a truly global organization, capable of meeting the needs of its customers worldwide. WWW.RADICIGROUP.COM/PLASTICS

RADICIGROUP – 2014 sales revenues of EUR 1.025 billion. Production and sales sites in Europe, North America, South America and Asia. Diversified businesses focusing on chemicals, plastics, synthetic fibres and nonwovens. Know-how. Vertically integrated nylon production. Constant commitment to guaranteeing its customers quality, sustainable innovation and reliability. All this is RadiciGroup, a leader in nylon chemicals. RadiciGroup products are used in applications such as: APPAREL – FURNISHINGS – AUTOMOTIVE – CONSUMER GOODS – CONSTRUCTION – ELECTRICAL AND ELECTRONICS – HOUSEHOLD APPLIANCES – SPORT. RadiciGroup, with its Chemicals, Plastics, Synthetic Fibres and Nonwovens Business Areas, is part of a larger industrial group that also includes textile machinery and energy