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Showcasing solutions for Automotive Electrification



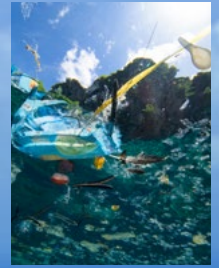
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# Sustainability

your challenges... our solutions

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## Working in collaboration to help protect the planet

The damage being done by the rising amount of plastic litter found in the oceans was highlighted by the Blue Planet documentary narrated by British broadcaster and naturalist, Sir David Attenborough, and has become a global issue.

To help tackle the problem, the European Commission has proposed new rules targeting the 10 single-use plastic products most often found on Europe's beaches and seas. This follows the publication of the European Strategy for Plastics in a Circular Economy earlier this year that aims to deal with the urgent need to tackle the environmental challenges caused by the production, use and consumption of plastics as well as plastic packaging.

Legislation surrounding the lifecycle of plastics is a complex area and many individual countries, inside

and outside of the EU, are also working on their own initiatives. However, there is now a clear political will to tackle the issue and many responsible companies are also leading the way and going beyond legal requirements.

At 3M, we are committed to working in collaboration with our customers and suppliers to develop product and packaging solutions that reduce the use of plastics where possible. For example, a new range of 3M water filters have been made with 53 per cent less plastic than the original design and we are using a new tool to integrate lifecycle thinking into all our packaging developments.

Many of our product solutions also encourage sustainable business practice; such as the use of 3M window films to reduce energy use and 3M™ DI-NOC™ architectural finishes to transform interior spaces instead of re-fitting them. The DI-NOC range is available in more than 1,000 different colours, finishes and textures and was featured in a stunning installation at Milan Design Week 2018.

This summer has seen a number of wildfires destroy habitats and endanger lives. Local 3M teams sprang into action when wildfires struck in Rafina, Greece, and Lancashire and Manchester in the

UK and made donations of personal protective equipment and medical products to fire crews.

Finally, we are making some changes to the structure of the EMEA Sustainability team and will be sharing a full report on this in the next issue.

STOP PRESS: As we finalised this newsletter, we heard that 3M has been included in the Dow Jones Sustainability Index for the 19th consecutive year and has once again received a Gold rating for corporate social responsibility from EcoVadis. A fantastic achievement.

Best regards,  
Rich



Visit the [3M Sustainability website](#):



## A showcase of solutions for Automotive Electrification



The Battery Show and Conference, held in Hannover earlier this year, was the ideal opportunity for 3M to present a wide range of solutions for Automotive Electrification to key players in the industry.

A show-stopping stand was created for the event that incorporated a number of interactive new demonstrations,

showing how materials like 3M™ Novec™ Dielectric Fluid can be used to cool high powered batteries.

The stand attracted crowds throughout the two-day event, with a lot of interest shown in 3M's solutions for key industry challenges such as electrical insulation, thermal management and battery safety.

Said market development manager for 3M's Electronic Materials Solutions Division, Michael Kopka: "The battery show was a great opportunity to showcase 3M solutions for Automotive Electrification across a range of divisions and highlight our strengths in Sustainability, Technology and Design."

## Showcasing a more sustainable design solution



A record number of designers, architects and creative professionals flocked to Milan Design Week 2018, with more than 100,000 visiting the Triennale Design Museum where 3M staged its Wonder beyond Imagination exhibit.

For the installation, 3M Design collaborated with the Commercial Solutions Division to bring to life a multisensory experience featuring 3M™ DI-NOC™ architectural finishes, a design solution that contributes to

sustainability by transforming existing spaces rather than re-fitting them.

"As designers and architects, everything we create is built on the availability of materials and how they behave," said Eric Quint, vice-president and chief design officer at 3M. "This year we wanted to highlight the freedom and flexibility in design when realised through 3M's material sciences, creating endless possibilities inspired by curiosity."

## Lightening the load for electric vehicles

Manufacturers of electric vehicles strive to make them as light as possible to reduce density and fuel consumption. As well as saving costs and contributing to a reduction in CO<sub>2</sub> emissions, reducing the weight of electric vehicles also gives them a longer driving range.

A new compound has been developed by A. Schulman - a leading international supplier of high-performance plastic compounds, composites, powders and resins - together with 3M that can reduce the weight of components for electric vehicles by 15 per cent without compromising on performance.

This innovative compound uses a combination of 3M's hollow glass microspheres and A. Schulman's filler systems to reduce density and can be used with existing tools so manufacturers don't need to make any changes to their processes.

Said technical sales manager, Darren Hall: "The compound is revolutionary for the Automotive industry as it is low density and has strong insulating properties, but is strong enough to withstand the injection moulding process. It is also scratch

resistant and has a contemporary matt finish."

The compound also has a number of environmental benefits as it uses less energy in the manufacturing process, due to the removal of some polymers, and the plastic parts can be separated, ground into powder and re-used at end of life.

Added Darren: "This new compound really is as good as it gets and offers the perfect balance between lightness and strength."



## 3M volunteers are helping solve world challenges

The third group of 3M Impact volunteers spent two weeks in Chengdu, China, this August working on a number of community projects in priority areas such as public health, the environment and education.

Among them was Stefanie Engbrocks, a Marketing Operations manager from 3M Germany who, together with fellow employees from as far afield as Jamaica and Brazil, supported an education provider specialising in STEM (Science Technology Engineering and Maths) subjects.



This was part of 3M's global volunteer programme that is giving 50 employees the opportunity to spend two weeks working overseas on a community project to help solve some of the world's greatest challenges.

Speaking just after she returned, Stefanie said: "Meeting 3Mers from all over the world and working together on a project to make an impact was such an energising experience. And we had so much fun along the way."

"This included exciting metro rides in the morning, great and very spicy food and working hard in various settings. Above everything was great diversity as we were a very mixed team representing 10 nations."

Stefanie's group follows two previous cohorts that have spent two weeks in Bangalore, India, in May and Campinas, Brazil, in early June.

Christin Schack from 3M Sweden was among the group that travelled to Brazil, along with Jens Ohman from 3M Finland; Avnee Thakrar from 3M UK and Ireland; and Johannes Leykauff from 3M Germany.



Christin's group volunteered with the Espacio Crescer y Vencer, an organisation that provides vulnerable children and adolescents with education, affection and respect.

Speaking about the experience, Christin said: "The centre is well equipped with extremely passionate and professional staff and volunteers, but they had an urgent need to find more donors. We developed a communication plan and created a number of tools, such as an updated website, to help them achieve this in a sustainable way."

"I wanted to participate in the project as I am so fortunate in my life and wanted to give something back. I believe that we did from the feedback we received, but I also took away so much and am determined to do more of this kind of volunteering now I am back home."

Jens and his group volunteered at the Eufreten Foundation that helps children from some of the largest slums in the region build their confidence and resilience.

Said Jens: "It was great interacting with the wonderful children at Eufreten. They don't have a lot, but remain positive and energetic and are extremely well behaved. The Foundation is doing a great job teaching them life skills and giving them hope for the future."



## 3M donates safety equipment to firefighters

Fire crews battling wildfires in Rafina, Greece, and Lancashire and Manchester in the UK received a donation of personal protective equipment from 3M in July.

In Greece, the 3M team donated 1,200 respirators to the Technical Services Department of the Municipality of Rafina to share with local fire-fighting teams.

The wildfires were raging just 30 km away from the 3M office in Athens and the team wanted to do all it could to help the local fire services dealing with the emergency.

In addition to supplying the model 9322 respirators, 3M Greece donated a range of 3M medical products, such as 3M™ Steri-Strip™ Reinforced Adhesive Skin Closures and 3M™ Micropore™ Surgical Tape, to the Red Cross.

Meanwhile, in the UK, 3M donated a total of 150 3M ultra-comfortable 7500 Series Reusable Half Masks and 200 flame-retardant FirstBase 3 bumpcaps - which protect wearers' heads from ultraviolet rays as well as bumps - to Lancashire Fire and Rescue Service and Greater Manchester Fire and Rescue Service to help them deal with wildfires.

Karis Higson, segment marketing executive for the 3M Personal Safety Division, said: "The brave men and women of these two fire and rescue services put themselves in harm's way to protect local residents in a difficult situation, as they do every day."

"At 3M, we are committed to providing first-class protection against a wide range of workplace hazards, including those faced by emergency services workers, so we wanted to help in any way possible."

## Protecting the oceans from harmful plastic litter

The amount of plastic litter found in the oceans is growing at an alarming rate and endangering wildlife, as highlighted by the Blue Planet documentary narrated by British broadcaster and naturalist Sir David Attenborough.

This is a global issue and a recent news article in the US predicted that ‘without action, the oceans will likely contain more plastic than fish by 2050’.



To help tackle the problem, the European Commission has proposed new rules targeting the 10 single-use plastic products most often found on Europe’s beaches and seas.

Together these items – such as plastic straws, cutlery, plates, drinks cups and cotton bud sticks - make up 70 per cent of all marine litter.

Under the new rules, where alternatives are readily available and affordable, single-use plastic products will be banned from the market. For products without straight-forward alternatives, the focus will be on limiting their use with the introduction of new regulations.

It is anticipated that the rules will be adopted in the second half of 2019, with a six-year transition period.

This follows the European Strategy for Plastics in a Circular Economy, published in January 2018, that aims to deal with the urgent need to tackle the environmental challenges caused by the production, use and consumption of plastics as well as plastic packaging.

3M takes a lifecycle approach to packaging engineering and is committed to designing new solutions with an improved environmental footprint.

Said 3M Business Packaging manager and Regulatory and Sustainability manager, Ralf Fiala: “Our packaging engineers use a software modelling tool to ensure that we integrate lifecycle thinking into all packaging developments. We are also making great progress in the area of reducing packaging waste and in increasing the amount of recycled materials that we use in packaging.

“Many of our customers are taking the initiative and going beyond legal requirements and we are committed to working with them to find more sustainable packaging solutions.”

Legislation is a complex area and many individual countries, inside and outside of the EU, are also working on their own initiatives. For example, in the UK, the Government is planning to use the tax system to reduce the production and use of single use plastic items.

Said Government Markets and Public Affairs manager, Tony Bellis: “This follows the success of a nationwide scheme to reduce the number of plastic bags provided by retailers by introducing a small charge for consumers, which has resulted in an 80 per cent reduction.”

In addition, UK retailers have formed a Plastics Pact committing to making all plastic packaging reusable, recyclable or compostable by 2025.

Tony added: “We are working closely with our customers as well as industry federations to find ways to reduce plastic packaging. We have had a number of successes, such as removing the plastic packaging on individual packs of Post-it® Notes sold in bulk.”

In the US, ocean plastics are dominating industry sustainability conversations. Many companies are taking the lead developing recycling solutions for plastics, but a number are fiercely opposed to proposed legislation around food related plastics.

Said 3M Responsible Sourcing manager, Doreen Purpur: “A number of the industry organisations we belong to have plastics on the agenda and many companies are trying to find ways to be part of the solution, for example by setting reusable, recyclable or compostable goals as well as increasing the amount of recycled content used in their plastic products and packaging.”

Chris Lancette, Packaging Sustainability and Regulatory Compliance manager, added: “The waste issue, both economic and environmental, created by the Chinese ban on plastic imports has sent the US plastic recycling industry into a near tailspin, but recyclers are responding.”

“We are members of the Association of Plastic Recyclers - which has partnered with Plastic Recyclers Europe to help advance plastic recycling - and are planning to host a Design For Plastic Recyclability seminar in the near future.”

### Filters that enhance water quality and use less plastic

3M has added to its range of AP2 water filters for mains-fed water coolers and reduced the amount of plastic used in the process.

Utilising an enhanced filtration technology, the new 3M AP2-G filters use 53 per cent less plastic than the original AP2 range without compromising performance; making them a more compact and cost-effective choice for operators of cold water dispensing machines.

By using less plastic in the production process due to the smaller cartridge dimensions, the filters reduce waste and represent a more resource efficient source of clean, great tasting, quality drinking water.