

How can we protect our goods without harming our planet?

Explore innovative prototypes at K 2019

To meet the needs of a changing world, we must find ways to protect all kinds of goods through efficient solutions that can enable a circular economy.

At K 2019, you can explore how we're working with a wide range of partners to develop sustainable and innovative solutions.

We'll be showcasing over 140 prototypes at our stand (Hall 8A, K48). Below you'll find a list of those connected to our **PROTECT** domain.

While you can get a general overview of our prototypes on this page, K 2019 will provide a perfect platform to explore them. Here you can meet our experts and ask challenging questions, exchange ideas and visions and forge new relationships. We'll be there to listen, learn, discuss and be inspired. What challenges will you explore with us at K 2019?

Protect

Prototype

Description

The PE based Spouted Pouch by Dow and Menshen

The reverse spout sealing technology invented by Dow and Menshen enables efficient and robust incorporation of spouts into mono-material, PE or PP-based pouches with outstanding packaging quality, while the medium-to-high barrier properties of the pack are not compromised.

Design for Recyclability: PHORMANTO™ film for chicken

Based on polyethylene, PHORMANTO™ technology is transforming the market in fresh chicken through a disruptive change of packaging. It enables shelf life extension, ensuring freshness and quality for up to two weeks. Hermetic packaging gives consumers a new and better shopping experience.

Design for Recyclability: PHORMANTO™ film for snacks

How do you ensure that preservative-free and on-the-go snacks made from natural ingredients are packaged without compromising nutritional, crispness and taste? The answer is a flexible thermoformed package with PHORMANTO™ films, combined with modified (protective) atmosphere technology that prolongs shelf life. This packaging is also very versatile and offers innovative shelf appeal.

Ultra thin high-performance stretch film

Despite a thickness of only 9 microns, the film provides excellent tear and puncture resistance, maintaining load stability and packaging integrity. The key performance characteristics are high wrapping efficiency on fully automated stretch wrappers and securing loads with the minimal amount of grams of stretch film per pallet.

Heavy duty shipping sacks (HDSS) with 30% recycled polyethylene

HDSS for industrial applications. The bag integrates 30% recycled polyethylene. The amount of virgin material used in the structure was not increased but the bag maintains its mechanical properties and performance, and meets regulatory and industry standards.

Refrigerated cabinet

Refrigerated cabinets insulated with Dow VORATEC™ and VORACOR™ technology enable enhanced thermal insulation and energy efficiency, which helps meet stringent energy and environmental regulations. These low global warming potential (GWP) solutions enable compliance with European F-gas regulation and international environmental protocols.

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Prototype	Description
<p>Premium optics collation shrink</p>	<p>A downgauged 35 microns collation shrink film for consumer packaging applications with outstanding transparency and gloss for better brand recognition and shelf appeal. Excellent holding force for enhanced package integrity and protection during transportation. Optimized balance between stiffness and toughness, ensuring high performance on the packing line.</p>
<p>Hot melt adhesives for food packaging</p>	<p>When it comes to hot melt adhesives in packaging, consumers want high performance and manufacturers need easy-to-process and cost-effective solutions. The AFFINITY™ polyolefin elastomers product portfolio can help.</p>
<p>PE films-based stand up pouch by Dow and Mespac</p>	<p>Dow and Mespac work together to create best practices in PE-based, mono-material packaging production. This packaging solution shows how a PET/PE laminate can be replaced with PE/PE based laminate structure, allowing to produce mono-material pouches in an efficient and economical manner. Most suitable for detergent and dry food packaging.</p>
<p>Barrier Machine Direction Oriented PE Pouch by Dow/ALPINE/BOBST/ELBA</p>	<p>Designed for recyclability: thanks to high stiffness and great optics these MDO-PE films can replace current BOPET or BOPP structures. The MDO-PE film provides the barrier needed for excellent food preservation, while combining it with conventional blown film PE offers a complete, sustainable solution for medium-to-high barrier applications.</p>
<p>Lighter vacuum skin packaging for meat by Dow, W&H and ESI</p>	<p>Our solutions enhance vacuum skin packaging performance to keep products such as meat, fish, cheese and processed meat fresh for longer. They enable very good seal through contamination, exceptional seal integrity, and improved liquid retention for better protection. They also allow for easy opening and an improved skin effect.</p>
<p>High-performing barrier shrink bags by Dow and Kuhne</p>	<p>Our broad resin portfolio enables the design of high-performance barrier shrink bags to keep products like meat and cheese fresh for longer. With high puncture and tear resistance these bags ensure good pack integrity and enable superior meat adhesion and seal integrity, resulting in packaging that protects and looks good.</p>
<p>PA-free thermoformed vacuum package</p>	<p>This new solution is polyamide-free, designed for recyclability barrier thermoformed package. It can be applied to create fresh food packaging for products such as cheese. It has good thermoformability, toughness and puncture resistance, offering packaging efficiency and good content protection.</p>
<p>PE film based pet food bag</p>	<p>This solution shows how PET/PE laminate can be replaced with monolayer PE-based film structure. OPULUX™ optical finishes are included for high gloss and increased thermal resistance. INNATE™ and ELITE™ resins create an outstanding stiffness/toughness balance and pack integrity. Most suitable for non-laminate, surface print pack designs.</p>
<p>Dishwasher tablets pack enabled by Polyethylene</p>	<p>This commercially available stand up pouch was designed for recyclability. Its PE-based structure has replaced PET/PE design, while maintaining excellent packaging performance while using existing production equipment. The pouch includes a zipper for re-sealing and a laser notch for enhanced consumer convenience.</p>

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Prototype	Description
Machine direction oriented PE enabled Pouches	These 'RECYCLE ME' pouches are the answer to the current market drive for recyclability. Replacing PET/PE or BOPP/PE laminates, this MDO-PE/PE pouch provides excellent gloss, transparency and haptics. It also offers dimensional stability, strength, stiffness, excellent machinability and exceptional sealability.
X-ENVIRO MDO-PE Pouches	Created by Berry bpi group in collaboration with Dow, these pouches are the proof that OPET and OPP can be replaced in flexible packaging. Designed for recyclability, this MDO-PE/PE pouch delivers excellent pack performance, has a good seal window and a premium look. Suitable for food, hygienic and other flexible packaging.
PE film-based cereal pouches by Dow, Kellogg's and Berry	This PE-based barrier Pouch was created with the primary target to maintain premium look with good packaging run rates and design for recyclability. High-performance Dow resins were selected to drive stiffness and ability to stand on the store shelf. Zipper technology, matte finish and a see-through window complete the structure.
Renewable cardboard brick bio-based PE enabled	This liquid carton is made with Dow's LDPE renewable resins produced from tall oil, a residue from paper production and one of our contributions to the circular economy. Our bio-based polymers produce less carbon emissions than fossil-PE resins and reduce the use of non-renewable raw materials.
Downgauged lamitube for toothpaste by Dow and Essel	Downgauging leads to less plastic in packaging, which contributes to sustainability. Working with Essel, we developed a new structure based on our innovative resin combination. Dow's performance resins and copolymers achieve a 12% thickness reduction while keeping excellent lamitube performance.
Ultra-fast packaging lamination	SYMBIEX™ solventless adhesive is Dow's ultra-fast curing adhesive. It is globally established as one of the most efficient innovations in the production of barrier laminates. Running on the Nordmeccanica's Duplex SL One Shot™ lamination line, it allows for equipment simplification, boosts productivity, and enables inventory reductions, as well as increasing efficiency and material savings.
Sensory packaging by Dow, IMMER Group and Reicofil	Dow's unique POUCHUG™ sensory packaging technology gives brand owners a broad variety of designs and shapes that elevate packaging to new levels. Benefits include a natural look and feel for outstanding shelf appeal, and extraordinary haptics for product differentiation with sustainability in mind. Collaboration with IMMER Group and Reicofil.
Labels for food packaging	Dow's water-based acrylic adhesive provides efficient and multipurpose solutions to a broad range of filmic label challenges – from food and beverages, to home and personal care products, and durable goods. INVISU™ is specifically designed for self-adhesive labelstock producers who are targeting the growing market of film-based labels.
Reusable windshield cleaner kit	Automotive windshield cleaner kit using reusable PacXpert™ flexible packaging. The consumer fills the pouch with fresh water, adds the supplied windshield tablets and shakes it to create the cleaning solution. PacXpert™'s durability ensures the pouch can be reused multiple times without losing its strength. Lightweight and compact, it stores easily in any vehicle's glove box.

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Prototype	Description
Recyclable flexible packaging	Recyclable flexible packaging suitable for multiple applications. PacXpert™ technology combined with innovative polyethylene delivers packaging that is designed for recyclability. It is light weight and transports more efficiently than conventional containers, ultimately reducing CO ₂ emissions and fuel consumption.
Pouch made with recycled materials	Versatile design of this PacXpert™ pouch enables the use of post-consumer recyclate in the film structure.
Downgauged Heavy duty shipping sacks (HDSS)	100 microns HDSS for industrial applications providing a cost-effective packaging solution that enables high product protection. Enabled by Dow's innovative polymers solutions.
Tenter-frame BOPE	Tenter-frame BOPE film is developed to replace standard OPP, OPA or OPET materials in multilayer flexible packaging, enabling the packaging value chain to design PE-rich structures for pouches, printing films and other packaging elements. The films, based on INNATE™ resins, deliver excellent mechanical properties, great puncture and impact resistance, performing well in low temperature environments and have outstanding optics. It's available in both glossy and matt versions.
Recyclable Barrier Film for Liquid Packaging	Indian Plastic Waste Management rules – implemented in 2018 and driven by local government – are driving brand owners to use mono-material PE laminate which can feed the well-established PE recycling stream. Dow is leading the initiative to develop PE/PE laminate solution for blown film, which can replace existing PET/PE laminates.
PE films-based stand up pouch by Dow, Totani and Accredo	This solution shows how OPET/PE laminates can be replaced with PE/PE-based laminate structures. Dow's INNATE™ and ELITE™ performance resins create an outstanding stiffness-toughness balance and pack integrity, while AFFINITY™ sealants provide seal integrity and hermeticity in all PE structures. Most suitable for detergent and dry food packaging.
Agricultural film incorporating 65% of PCR	A 30μ stretch film with outstanding optics, while incorporating 65% of recycled material, enabled by ELITE™ 5100G. This semi-forced, non-thermic film is used to boost the growth of corn salad on the fields. Being collected after use, recycled, and used again in the same application, it exemplifies a closed loop of circular economy.
PIR-based thermoformed cheese package by Dow and Vizelpas	This barrier polyamide/PE recycled industrial film incorporates up to 10% in both lidding and bottom web films, using Dow's compatibilizers to maintain good optics and mechanical properties. It is a new solution that allows converters to reduce their industrial barrier scrap with clear cost and sustainability benefits.
Shopping bag with recycled barrier films from cheese packaging by Dow and Vizelpas	Barrier PA-EVOH-PE films for food packages can have a second life using Dow's compatibilizers to enhance the quality of PE films incorporating this recyclate. This shopping bag has been produced with up to 70% of recycled barrier films from former thermoformed cheese trays.
Design for recyclability: PA-free thermoformed tray package	This new solution is Polyamide-free, designed for recyclability barrier thermoformed package. It can be applied to create fresh food packaging for products such as cheese, sliced ham. It has good thermoformability, toughness and puncture resistance, offering packaging efficiency and good content protection.

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Prototype	Description
VP30: impact resistant rice packaging	VIDEPLAST VP30 film for rice packaging is made with high-performance resins. This results in 20% thinner packages with 2x more impact resistance, greater transparency, brightness and better print quality – all important aspects for packaging differentiation. In addition, this film improves brand owners' productivity up to 35%, resulting in more cost efficiency.
PE-based stand-up pouch by Dow and Plasbel	This mono-material stand up pouch has been redesigned with our partner Plasbel to increase recyclability and minimize packaging materials use. MDO PE film, produced with Dow performance resins, maximizes stiffness and optics for a good final packaging appearance and machinability like non-recyclable PET/PE laminates.
Durable pouch for camping	Lightweight and highly durable flexible packaging for camping activities. Easy to use and puncture resistant, stores flat when empty, making it an ideal solution for outdoor activities.
Ketchup stand up pouch with high-solids adhesive by Dow	This PET/ALU/PE structure contains ADCOTE™ adhesive for high speed metal lamination. It offers good wettability on aluminum and metallized films and enables high lamination speed up to 400m/min. It also demonstrates excellent solvent release and chemical/thermal resistance. In addition, the structure uses DOWLEX™ sealant which offers great cost-to-value.
Pillow pouch enabled by superfast solventless adhesive by Dow	MOR-FREE™ L Plus adhesives achieve high line speed for more efficient packaging production: PAA decay and cross linking enable full cure in two to five days, bond development allows for faster slitting time for production wheel optimization. They also deliver improved optics on semi-barrier structures, easy and reduced cleaning frequency.
Pillow pouch enabled by efficient solventless adhesive by Dow	MOR-FREE™ L 75-300 solventless adhesive enables high speed lamination for more efficient packaging production at 400mpm, providing excellent wettability and comfortable pot life stability. Faster PAA decay than standard general performance adhesives is achieved. It is easy to process, handle and clean.
Designed for Recyclability Barrier Pouch by Dow, Reifenhäuser and HP	Replacing incumbent PET/PE or BOPP/PE laminates, this PE/PE blown-film-based pouch provides excellent gloss, transparency and haptics. It also offers dimensional stability, strength, stiffness, excellent machinability and exceptional sealability. Dow sealants provide a low seal temperature and a good operating window on the packaging line.
Caps and closures	The outstanding performance of EVERCAP™ resins addresses packaging industry megatrends and issues that impact lives throughout the world. Reduced removal torque allows containers to open and close more easily. Improved shelf life helps reduce food waste too. This solution also delivers consistent, reliable tamper evidence systems that offer safety and security for consumers and manufacturers.

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