

INDUSTRIAL



SABIC SOLUTIONS FOR INDUSTRIAL SEGMENT

Industrial segment covers a very broad range of applications, from Walkie-Talkies to Personal Protection Equipment, from Wind Turbines to Additive Manufacturing (3D Printing), from Test Sockets to Robotics and the list goes on.

Most of these applications have been around for many years and with each evolution of a newer generation model or design and with enhanced functionalities, the properties of materials that go into the making of such applications become increasingly more technically demanding. SABIC is keeping pace with such demand with our Specialty Thermoplastics and we have been a preferred supplier to many OEMS of these applications, be it for our specially lubricated compounds (LNP™ LUBRICOMP™), material with thermal conductive

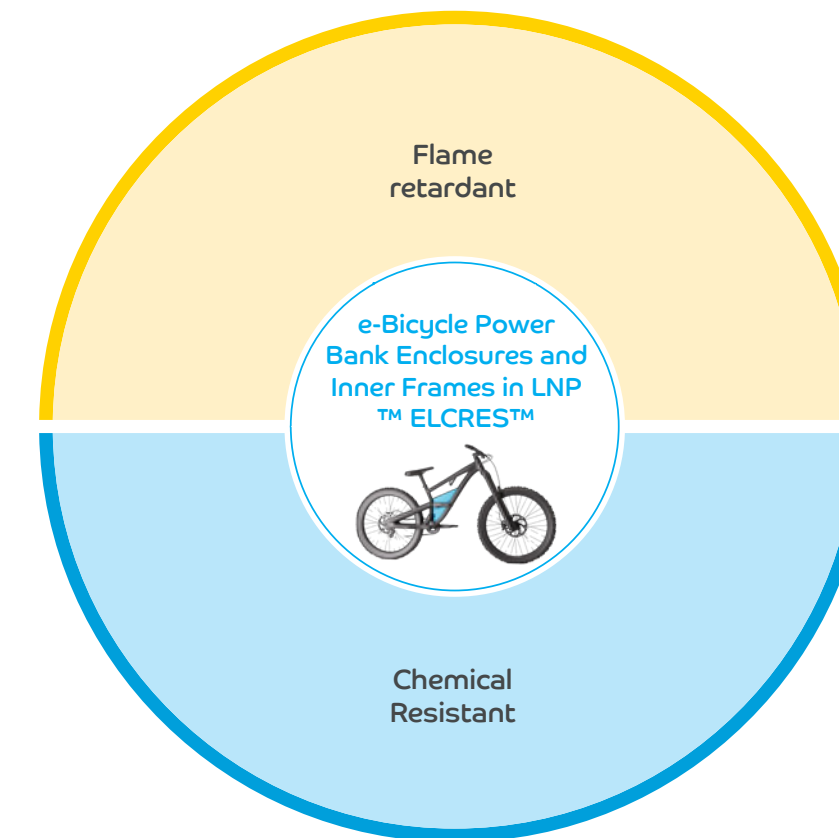
properties (LNP™ KONDUIT™), super strong material for metal replacements (LNP™ ELCREST™), dimensionally stable (LNP™ THERMOCOMP™) or high-heat resistant material (ULTEM™).

We also offer sustainability version of these materials (LNP™ ELCRIN™) to help our environmentally friendly customers reduce their carbon footprints and to achieve their sustainability goals.

Our Specialties offerings also include various Catalysts for the chemical industry.

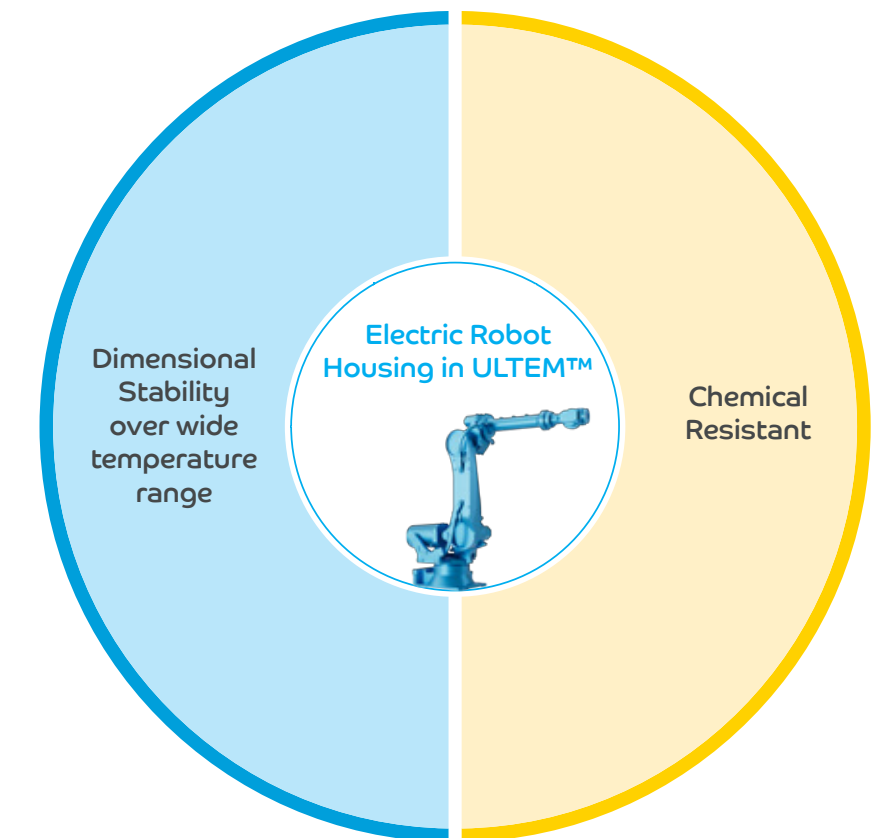
E-BICYCLE POWER BANK ENCLOSURES AND INNER FRAMES IN LNP™ ELCREST™

- Flame retardant
- Chemical Resistant



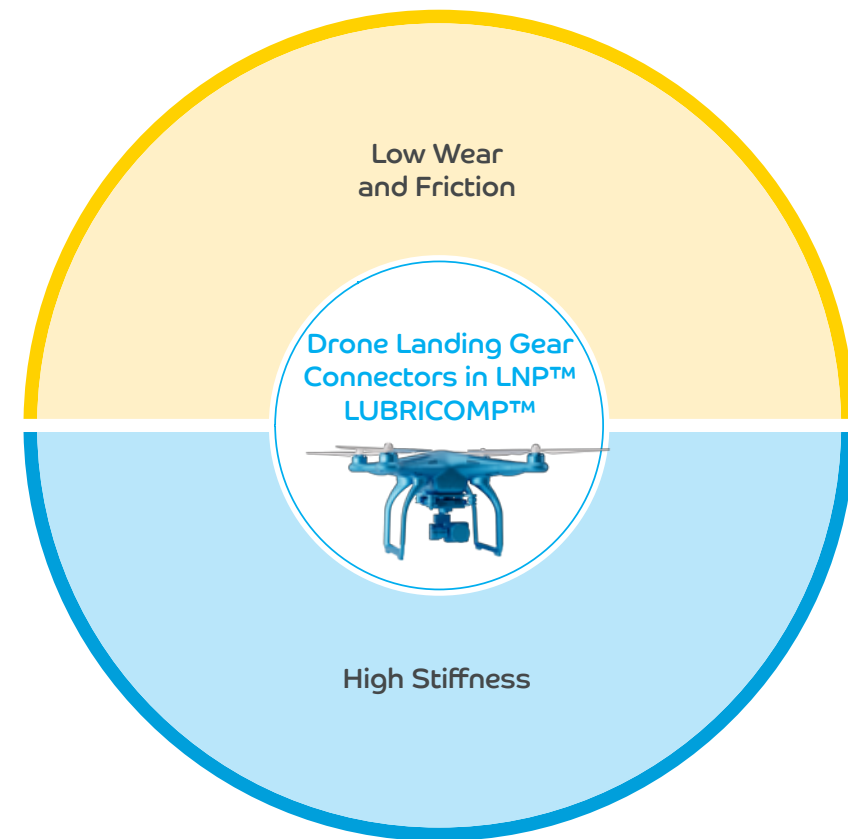
ELECTRIC ROBOT HOUSING IN ULTEM™

- Dimensional Stability over wide temperature range
- Chemical Resistant



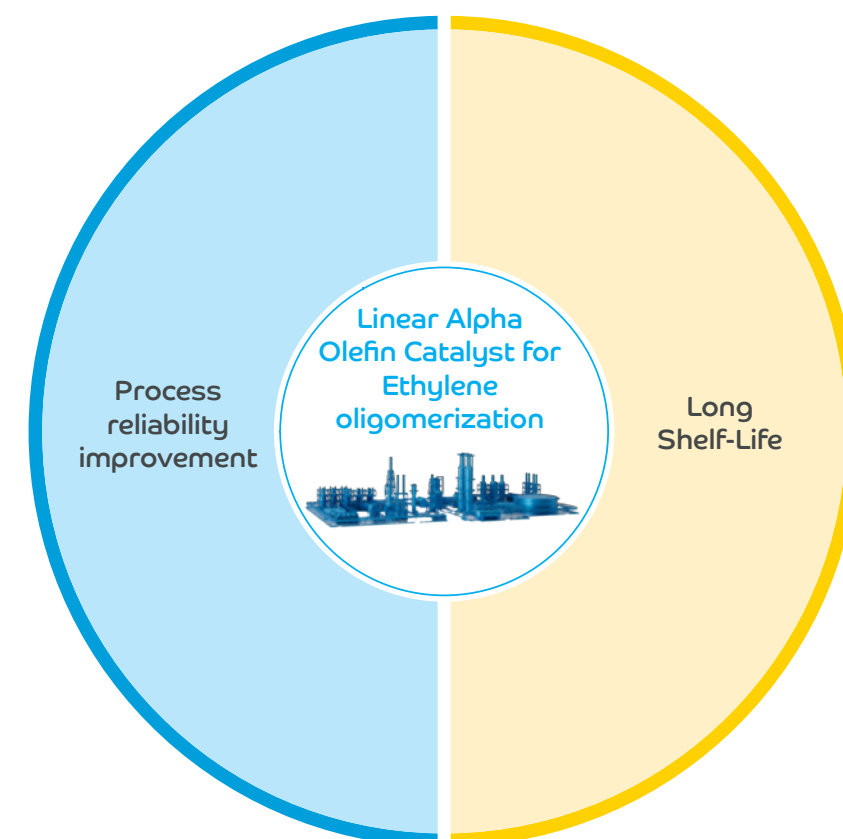
DRONE LANDING GEAR CONNECTORS IN LNP™ LUBRICOMP™

- Low Wear and Friction
- High Stiffness



LINEAR ALPHA OLEFIN CATALYST FOR ETHYLENE OLIGOMERIZATION

- Process reliability improvement
- Long Shelf-Life



Large Format Additive Manufacturing (LFAM)

LNP™ THERMOCOMP™ Compounds



SOLUTION SUMMARY

- These 3D printing materials are available in pellets instead of filaments
- Available in different base resins combined with different fillers to provide stiffness, dimensional stability
- Easy to print into large parts such as car bodies, aerospace parts, etc
- Each part weighs >100kg

VALUE PROPOSITION

- 3D printable - pellet fed
- Easy processability
- High stiffness
- Low warpage



Conveyor Belt Application

SABIC BR4610 Polybutadiene Rubber



SOLUTION SUMMARY

- Successfully qualified for conveyor belt application in mining and construction industry
- Offers excellent abrasion resistance, good cut & chip resistance, and higher durability for conveyor belts

VALUE PROPOSITION



- Abrasion Resistance
- Better aging
- Surface Finish
- Local availability



Rubber Seals

SABIC® EPDM 245 Rubber



SOLUTION SUMMARY

- Excellent compression set properties
- Suitable for different molding applications, such as bushes, grommets, seals & gaskets, O-Ring etc.
- Can be used as a plasticizer to improve the processability of the rubber compounds

VALUE PROPOSITION



- Excellent weather and heat resistance
- High mechanical properties
- Excellent Compression Set properties
- Good processability



Unsaturated Polyester Resin for Pipes

SABIC® PGI/PGT/DPG Propylene Glycols



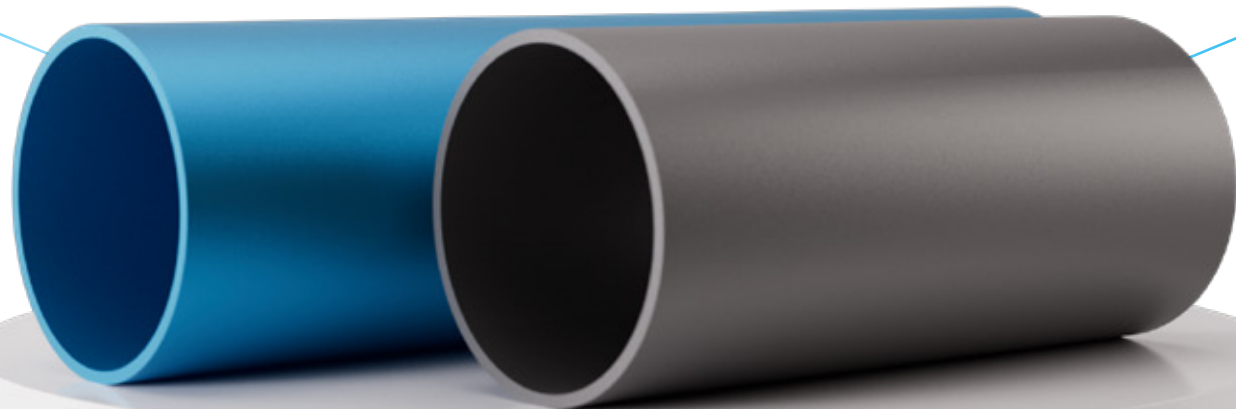
SOLUTION SUMMARY

- Used in the production of unsaturated polyester resin
- Works as a deicing agent in wall paint industries
- SABIC material share of this application is 100%

VALUE PROPOSITION



- Mechanical strength
- Good solvent resistance
- High Aesthetic
- Durability



Oil Transfer Hose

SABIC® SPVC 80S Polyvinyl Chloride



SOLUTION SUMMARY

- Commonly used in the production of high-pressure pipes for the oil and gas industry, medical tubing and catheters, high-performance electrical insulation materials, and specialized laboratory equipment
- Strong, durable, and resistant material
- Can withstand extreme pressure, high temperatures, and harsh environments
- SABIC material share of this application is 60%

VALUE PROPOSITION



- Flexibility
- Excellent Installation
- Mechanical strength
- Reduced cost



Unmanned Aerial Vehicle (UAV) Propeller Blades

LNPT™ THERMOCOMP™ Compounds



SOLUTION SUMMARY

- Very tough material to withstand high working load and air friction
- Wear resistant to stainless steel shaft and resistant to pesticides
- Provides geometry and property consistency on the blades for flight stability
- Each part weighs ~300 grams

VALUE PROPOSITION



- High stiffness
- Chemical resistance
- Easy processing
- Good weatherability



Animal GPS Tracker

LNPT™ THERMOCOMP™ Compounds



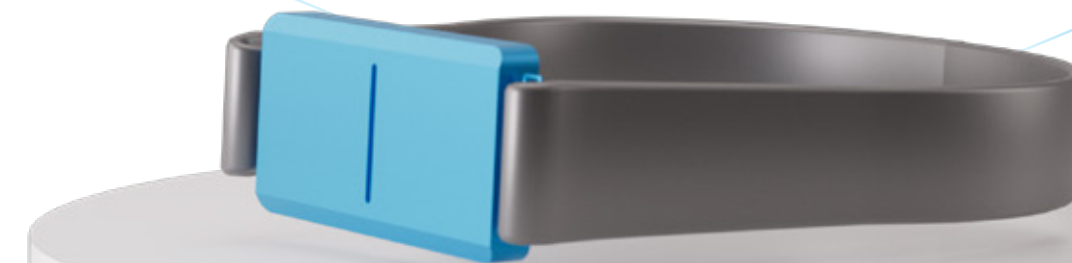
SOLUTION SUMMARY

- Part-lasering capability with stable plating performance
- Laser weldable with other materials
- Good resistance to farm chemicals
- Each part weighs <100 grams

VALUE PROPOSITION



- High stiffness
- Can be plated
- Chemical resistance
- Good aesthetics



Electric Robot Arm Housing

ULTEM™ Resins



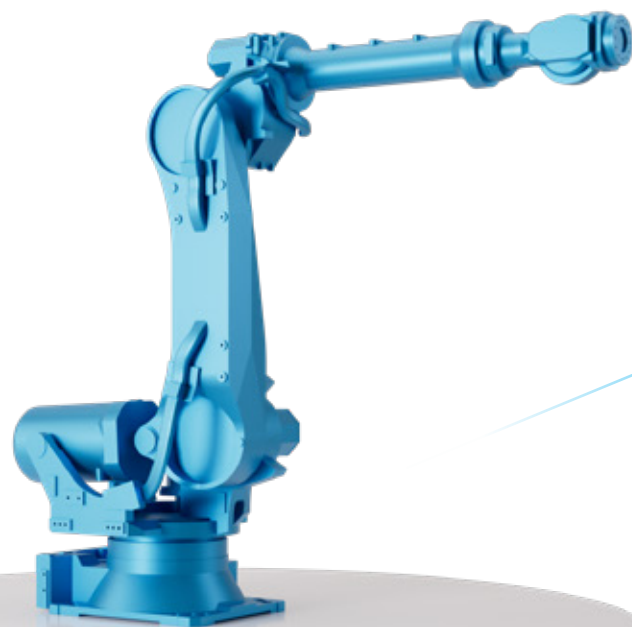
SOLUTION SUMMARY

- High stiffness with good resistance to industrial chemicals
- Good electrical resistance properties while maintaining dimensional stability over a wide temperature range is also key
- Each part weighs ~500 grams

VALUE PROPOSITION



- High stiffness
- Good chemical and UV resistance
- Dimensional stability
- High voltage resistance



Thermal Conductive Solution for Signal Tester Housing

LNPT™ KONDUIT™ Resins



SOLUTION SUMMARY

- Thermal conductivity to protect inner PCB and electronic components to avoid data distortion
- Good impact needed for hand-held devices with good aesthetics
- Heat resistant over broad operating temperatures
- Each part weighs ~100 grams

VALUE PROPOSITION



- Thermally conductive
- Light weight
- Impact resistance
- Heat resistance



Commercial Food Service Trays

ULTEM™ Resins



SOLUTION SUMMARY

- Meets certain food-contact approvals
- For the trays to be re-usable, it has to withstand convection oven temperatures, dishwasher and detergent resistance, with good stiffness and impact resistance
- Each part weighs ~200 grams

VALUE PROPOSITION



- Heat resistance
- Food contact approved
- Good mechanical properties
- Chemical resistance



Ethylene Oxide Catalyst for Chemical Industry

Ethylene Oxide Catalyst



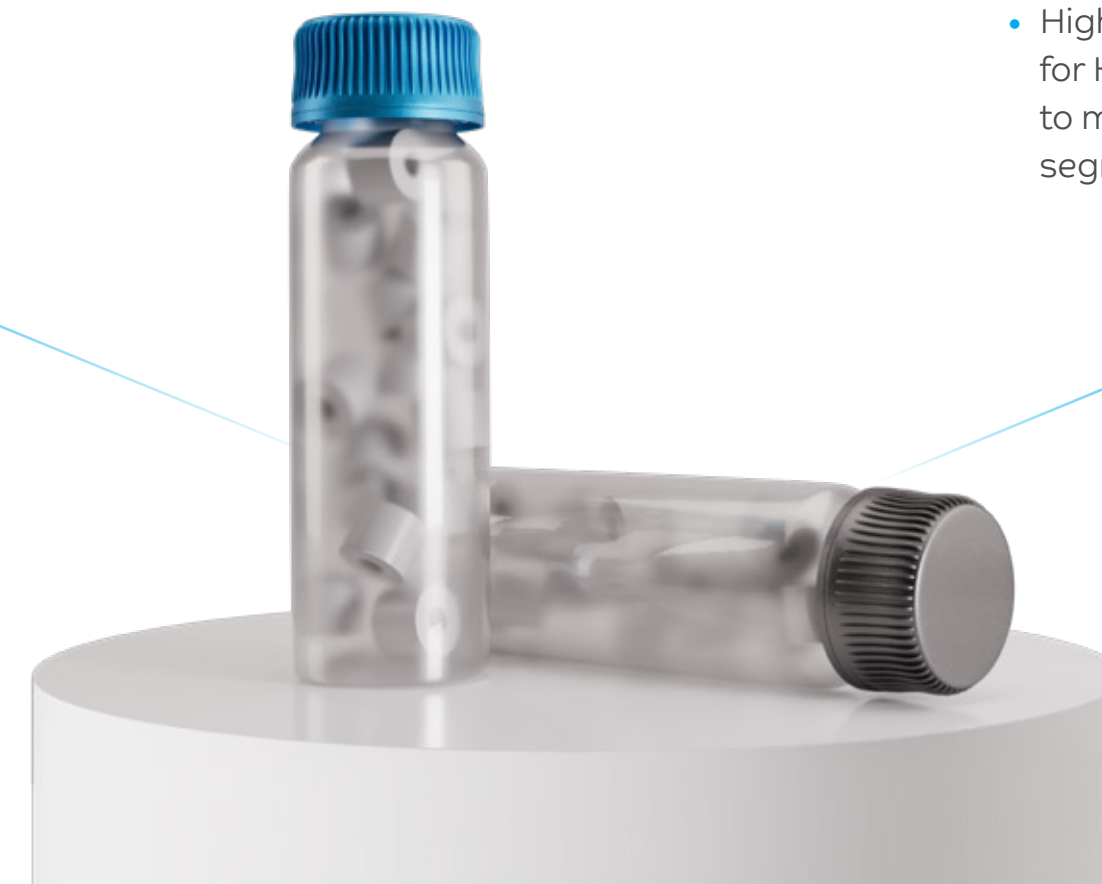
SOLUTION SUMMARY

- Flexibility of products and product distribution (EO, EO & EG or EG only)
- High product quality and high on-stream factor
- Percentage usage of SABIC material is <10%

VALUE PROPOSITION



- High Activity Catalyst that tolerates high inlet CO2 concentration
- High Selectivity Catalyst used in modern low CO2 technology
- High Selectivity Catalyst for High CO2 offering to medium CO2 market segment



Homogeneous Catalyst (LAO) for Ethylene Oligomerization

Linear Alpha Olefin Catalyst for Chemical Industry



SOLUTION SUMMARY

- Designed to produce full-range LAO products
- Product distribution can be shifted to meet market volume demand
- Lower polymer formation, which improves process reliability
- Percentage usage of SABIC material is <10%

VALUE PROPOSITION



- Low variable cost
- Long shelf-life (robust supply chain)
- Readily available raw materials
- Above-benchmark performance for LAO production



Homogeneous Catalyst for Ethylene Dimerization

Butene-1 Catalyst for Chemical Industry



SOLUTION SUMMARY

- Improved Butene-1 process performance and reliability
- Percentage usage of SABIC material is >60%

VALUE PROPOSITION



- Low variable cost
- Strong maturity edge (high competitiveness)



Ziegler-Natta Co-catalyst used in the Polyolefins Industry

Tri-Ethyl Aluminum (TEAL) Co-catalyst



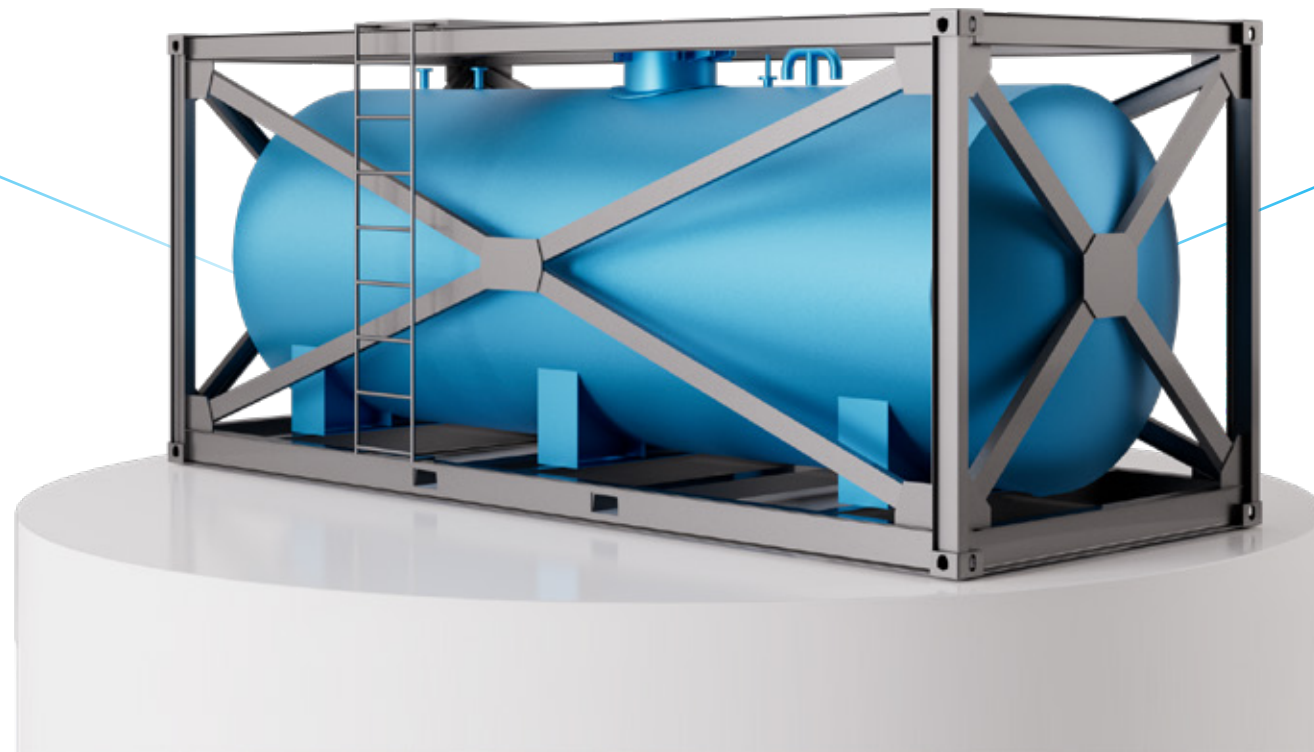
SOLUTION SUMMARY

- Better yield in production of PE and PP
- Produces better efficiency in overall feedstock consumption
- Results in less energy intensity in the process of manufacturing PE and PP
- Percentage usage of SABIC material is 90%

VALUE PROPOSITION



- High active co catalyst applied in the PE/PP manufacturing process



Enhanced Foam for Core of Wind Turbine Blades

LNPT™ COLORCOMP™ Compounds



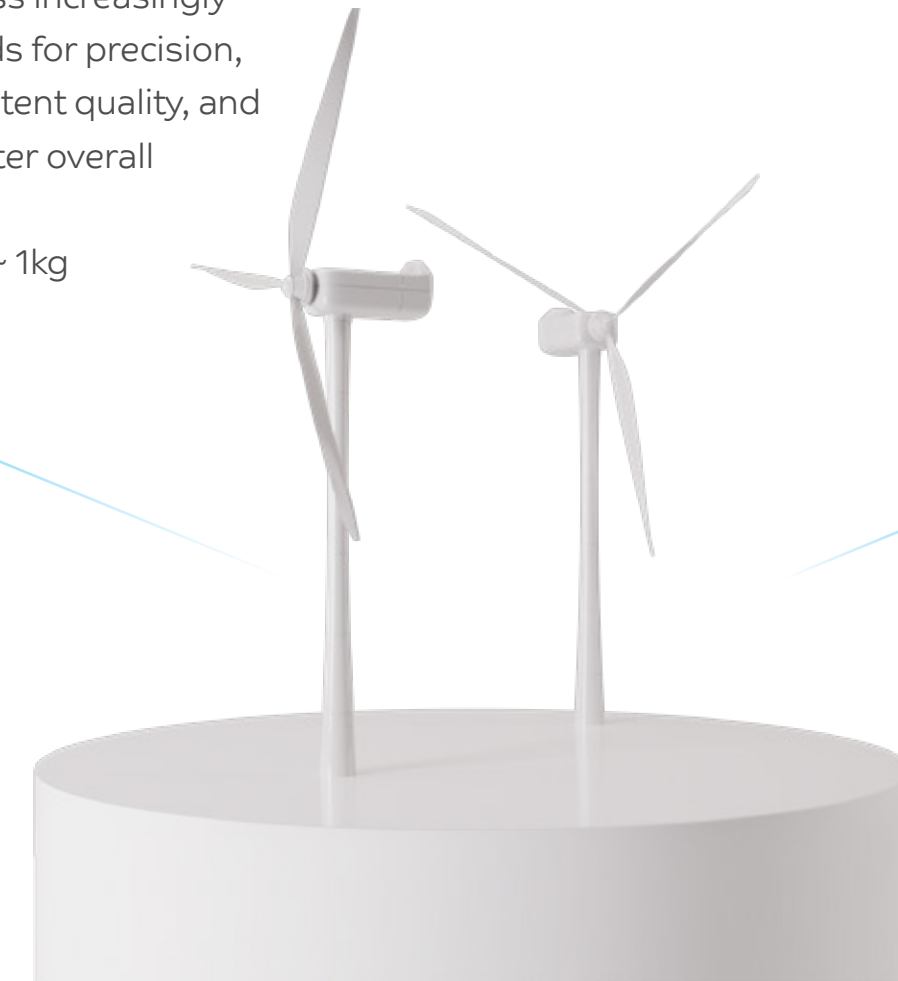
SOLUTION SUMMARY

- Uses nano technology to reduce weight and improve mechanical properties, enabling the final part to be lighter and more efficient in use
- Can help designers create new, longer blades that address increasingly stringent standards for precision, weight and consistent quality, and contribute to greater overall energy generation
- Each part weighs ~ 1kg

VALUE PROPOSITION



- Lightweight
- Good stiffness
- Impact resistance
- Easy processing



E-Bicycle Power Bank Enclosures and Inner Frames

LNPT™ ELCRES™ resins



SOLUTION SUMMARY

- Meets certain e-bike regulations around batteries
- Flame retardant material which has passed stringent drop tests, and mechanical strength maintained over broad temperature range
- Each part weighs ~100 grams

VALUE PROPOSITION



- Chemical resistance
- Impact resistance
- ECO flame retardant
- Easy processing

