

Urethane Systems – Our solutions at K 2022

Dr. Markus Eckert, Head of Urethane Systems business unit

Düsseldorf, June 21, 2022

Urethane Systems focused on high performance PU elastomers, adhesives, sealants and coatings



>60 years of urethane experience

1950s

K 2022

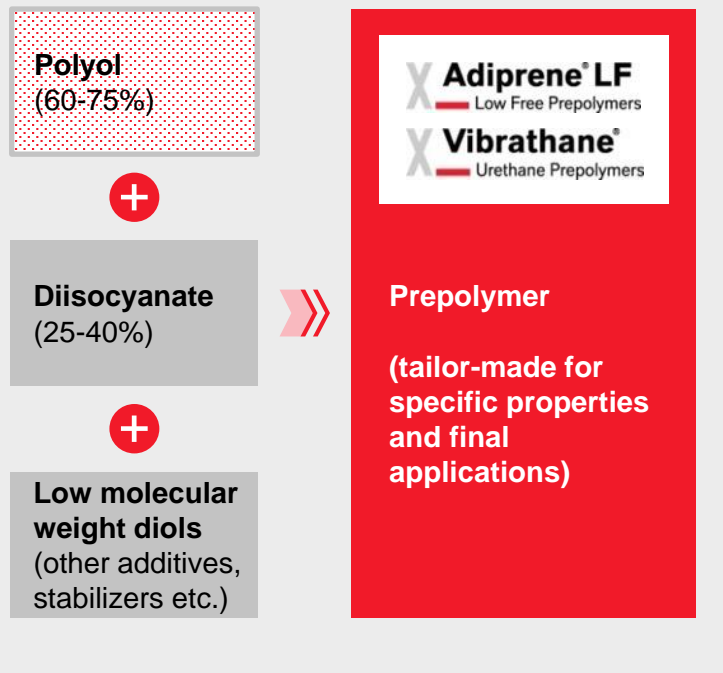
Adiprene[®] LF
Low Free Prepolymers

Vibrathane[®]
Urethane Prepolymers

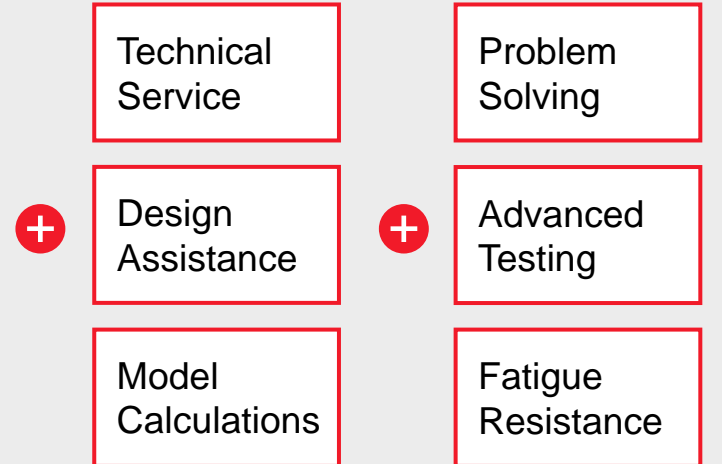


A world leader in specialized PU prepolymers and application know-how

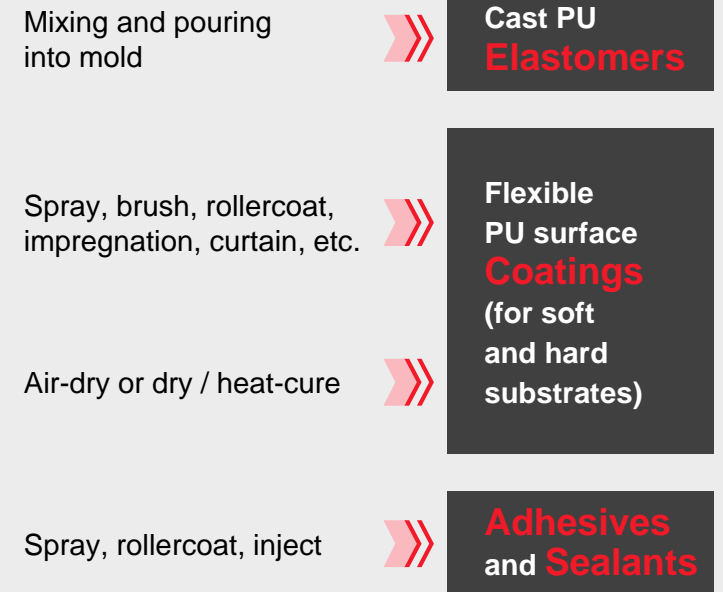
Prepolymer production



Curing and application development



Production of end product



LANXESS expertise

Customer expertise











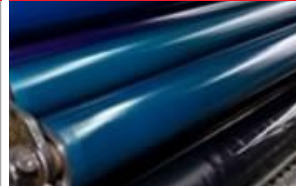

















Experts for many specialized applications

Thickness

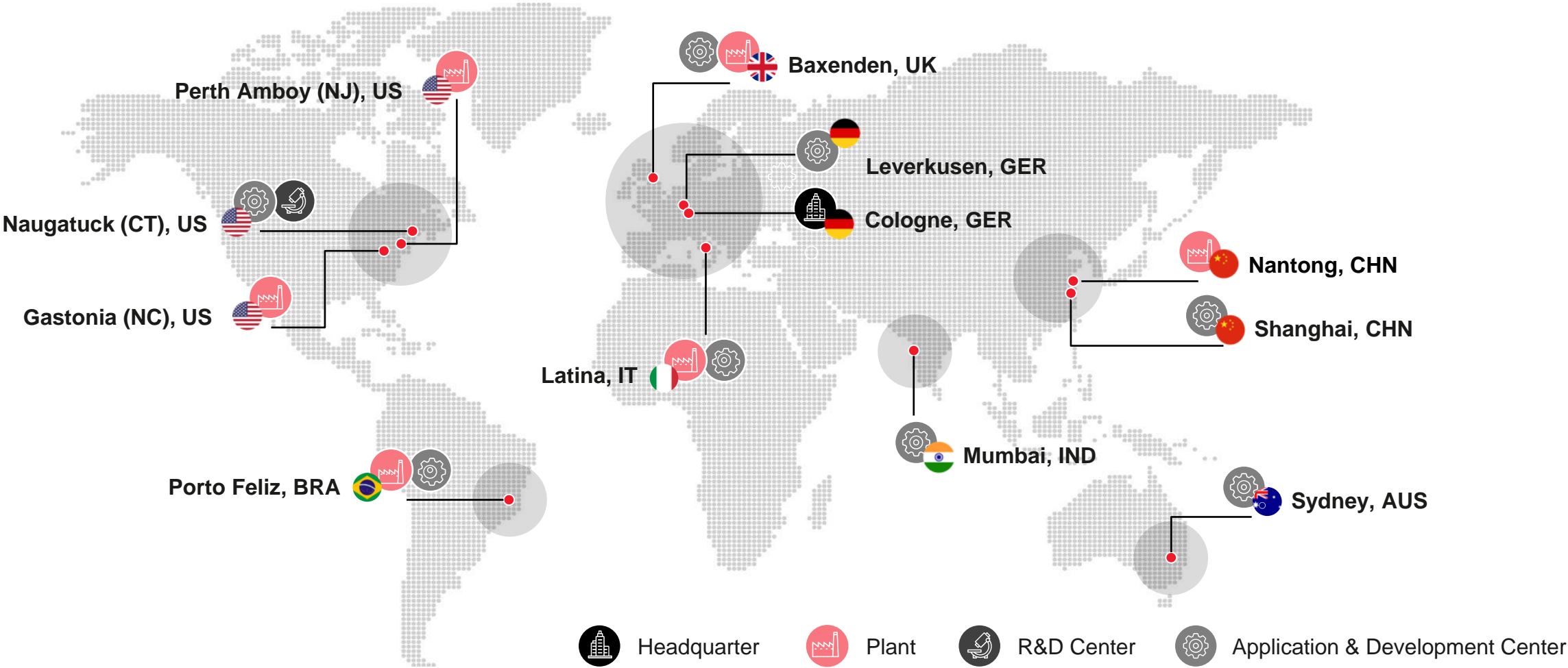
100 mm



<0,1 mm

Wheels 	Mining 	Subsea Oil & Gas 	Oil Pipelining 	Cosmetics 	Agriculture 	Infrastructure 
Machinery 	Recycling 	Seals 	Paper 	Food 	Belts 	Concrete Molds 
Electronics 	Sports Track 	Abrasives 	Carpet Underlay 	Medical 	Fabric Belts 	Ballistics 
Sealants 	Textiles 	Coil Coatings 	Adhesives 	Construction 	Automotive 	Metal Protection 

Global coverage for our customers



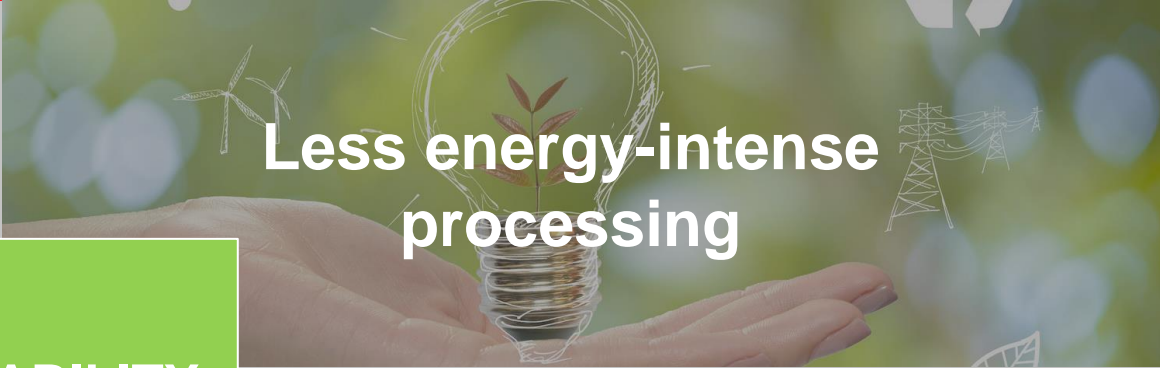
Enabling sustainability in the polyurethane industry shapes our activities



Levers for improved sustainability in the polyurethane industry



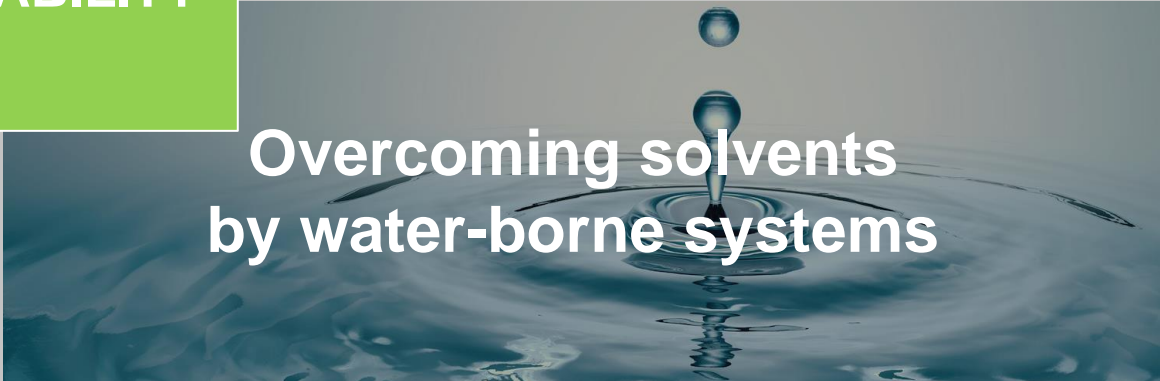
Superior industrial hygiene



Less energy-intensive processing



Improved CO₂ product footprint



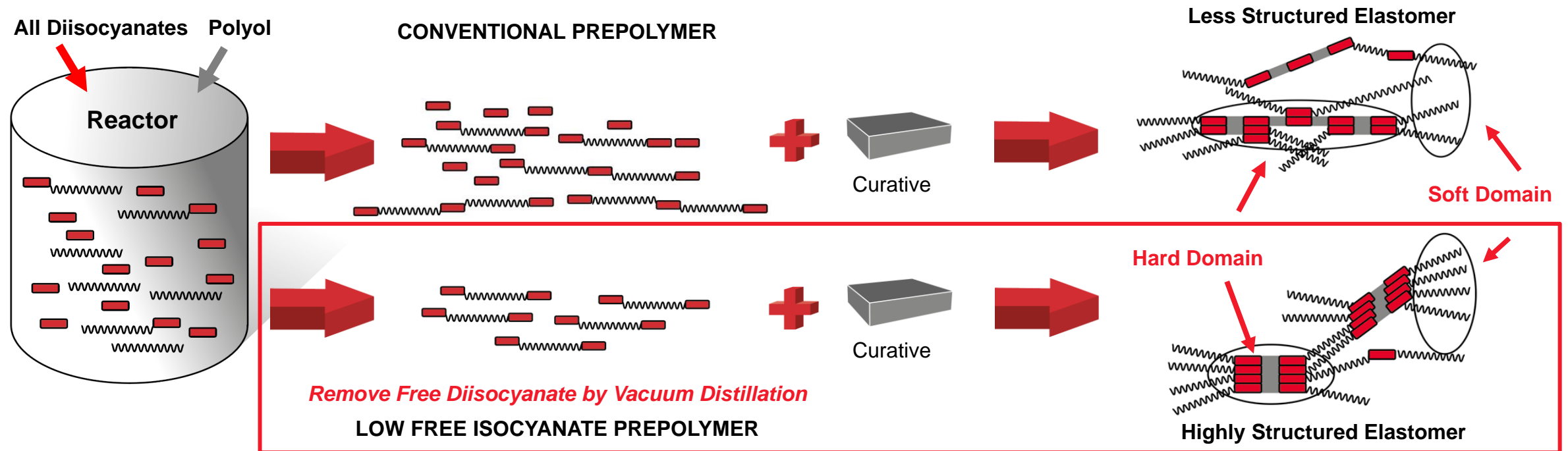
Overcoming solvents by water-borne systems

SUSTAINABILITY

It's a joint journey!

Low free (LF) isocyanate urethane systems drive safety and performance

Superior industrial hygiene enabled by low-free isocyanate prepolymers



Benefits

- Unsurpassed industrial hygiene
- Excellent performance
- Superior processing & productivity

Novel hot cast & cold cure systems allow energy savings of up to 60%

Concept to polyurethane casting

Hot Cast
&
Hot Cure

Hot Cast



Hot Cure



Hot Post Cure



Electricity at the maximum range

Hot Cast
&
Cold Cure

Hot Cast



Cold Cure



Cold Post Cure



Electricity turned off

Benefits

Energy Consumption
per polyurethane system

100%

-60%

~40%

Hot Cast &
Hot Cure

Hot Cast &
Cold Cure

■ Material Equipment

■ Curing

■ Post Curing

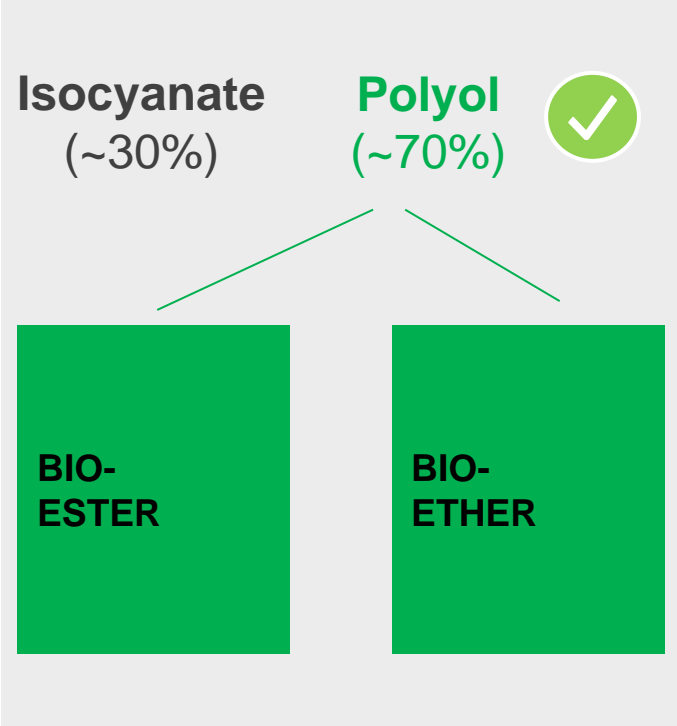
Energy savings further contribute to CO₂ emissions reduction for a more sustainable world

Adiprene Green systems benefit from up to ~90% bio content - Reduced product carbon footprint

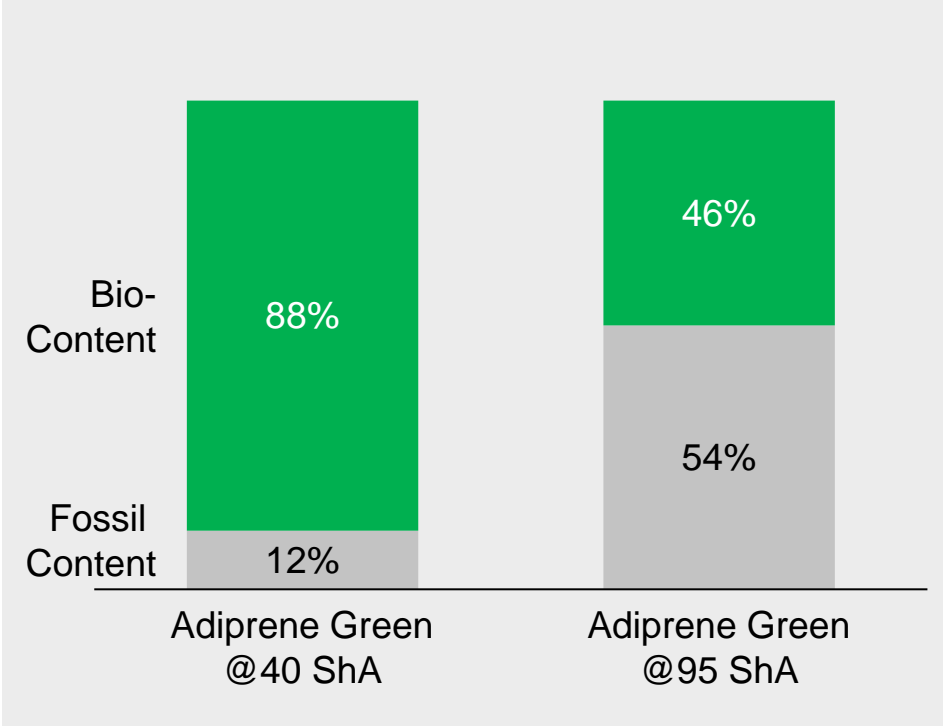


Adiprene Green helps reducing CO₂ emissions

Bio-based raw materials as lever



Bio-content of selected ether systems



Benefits

- Systems mainly based on LF technology to optimize sustainability profile using MDI, TDI and pPDI as backbone
- **Up to ~90% bio-content** – component to be derived from industrial scale source

Pellart® high performance water-based systems with better environmental footprint for all layers of coatings

Pellart® lacquers meet high requirements of modern and innovative automotive interior

Primer

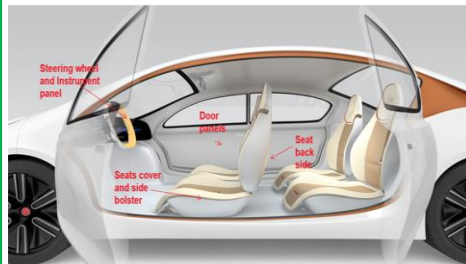
Sustainability



- Environmental-friendly, water-based lacquers
- No volatile organic compounds (VOC) – No fogging
- Ready-to-use-formulation – Less chemical waste

Base lacquer

Excellent performance



- Light color design – Yellowing performance
- Chemical resistance – Allowing cleaning of the surfaces with alcohol
- Silent surfaces – No squeaking
- Design options – Challenging geometries

Top lacquer

Benefits

- Perfectly harmonized system across all layers
- Full removal of solvents



Leading innovator to drive sustainability

Industry leading technical and analytical capabilities to deliver state-of-the-art material solutions



Global manufacturing network ensures consistent products and reliable local supply



Decades of expertise in the design, formulation, and use of urethane systems across a range of applications



Committed to bringing sustainability along the polyurethane value chain to a new level



LANXESS

Energizing Chemistry