



POLYMER PRECISION
SOLUTIONS



HIGH-PERFORMANCE POLYMER SOLUTIONS

Precision is our standard.

Mobility

New Energy

Industry



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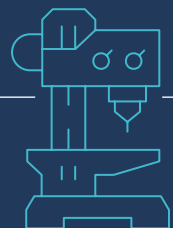
ABOUT POLYMER PRECISION SOLUTIONS

One partner. Full precision chain.

We co-develop, manufacture and assemble precision injection moulded components made of polymers and elastomers - in high volumes, with highest consistency, from concept to delivery.

70+

Moulding Machines



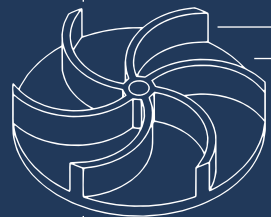
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Technology and
production centers
in **Belgium & Poland**



100M+

Pump impellers delivered



80 years

Rubber expertise



5 μ m

Flatness tolerance



4

Material families



MARKETS WE SERVE

Precision where it matters most.

Three segments. One consistent standard. Whether you build vehicles, energy systems or industrial equipment - we deliver the polymer precision your application demands.

Mobility

Safety and function-critical components with micron precision for commercial vehicles and passenger cars.

- Powertrain
- EV Systems
- ADAS
- Brake systems
- Fuel systems



New Energy

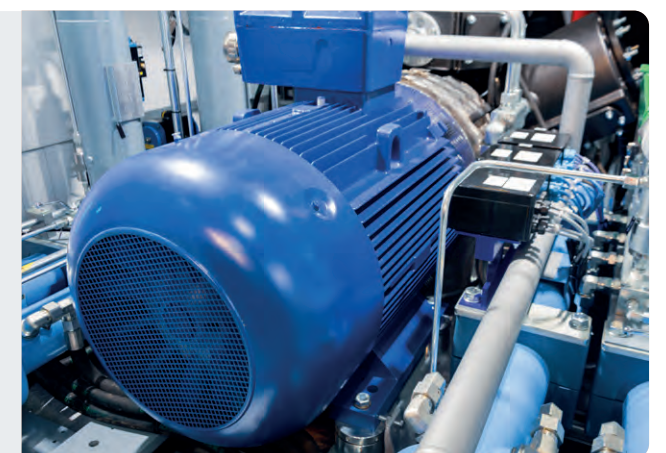
Function and safety-relevant precision components and seals for hydrogen production and energy storage systems.

- Electrolyzer
- Energy storage
- Hydrogen

Industrial

Precision components and assemblies for demanding industrial markets - from appliances to HVAC systems.

- Appliances
- HVAC
- Consumer
- Household





MATERIALS

Four materials. One source.

Our material tetrad covers the full spectrum of high-performance polymers – giving you design freedom without supplier complexity.



Thermoset Composites

- Heat resistance >200 °C
- Zero sink marks
- Extreme media resistance
- Metal replacement



High-Performance Thermoplastics

- PEEK, PPS, filled grades
- High volumes, fully automated
- Design freedom
- Micron precision



Solid Rubber

- 80 years expertise
- 800+ own compound recipes
- In-house laboratory
- Bonding on metal & plastic



Liquid Silicone Rubber (LSR)

- Shore A 10–80
- Fast cycles, fully automated
- Multi-material combination
- High volumes

MULTI-MATERIAL

Better together. Higher performance.

Different challenges require different materials. By combining different technical materials in one product, superior performance can be achieved.

Combining properties - hybrid moulding

K+K Moulding

Two materials. One shot. Fully automated – thermoplastic with rubber, LSR or thermoset. No bonding. No extra steps.



Fuel pump

Metal-to-Plastic

Fewer suppliers. Lighter weight. Gears, housings and pump components converted to composites.



Double clutch gearbox

Insert Moulding

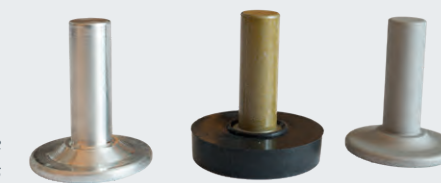
Metal, magnets or threads overmoulded – fully integrated into the polymer part.



Overmoulded parts

Rubber Bonding

Bonding of rubber and metal or other materials. The connection is stronger than rubber strength.



Valve Cartridges

Engineering all four materials. Delivering from one source.

Multi-material engineering from a single production partner reduces interfaces, shortens your supply chain.

Your benefits:

Fewer suppliers

Shorter supply chain

Design freedom



THERMOSET COMPOSITES

When heat and fluids demand more.

A physical and chemical reaction during moulding creates an irreversible 3D crosslink inside the material – unlocking properties no thermoplastic can match.

- **Heat resistance** – stable above 200 °C, no creep, no deformation under sustained thermal load
- **Dimensional stability** – zero sink marks even at high wall thickness; as-moulded tolerances held
- **Media resistance** – petrol, diesel, AdBlue, oils, aggressive chemicals – no swelling or degradation
- **Electrical insulation** – very good thermal and electrical insulation properties
- **Fewer process steps** – less machining than metal; no coating required; direct-to-function

Processing routes

Compression moulding

Transfer moulding

Injection moulding

Why replace metal?

Weight reduction

No coating needed

Fewer parts

Lower total cost

Complex geometry in one shot

RUBBER & LSR

80 years of elastomer expertise.

Two elastomer platforms – solid rubber and liquid silicone – covering the full range of sealing, damping and functional elastic applications.

Solid Rubber

Compression and transfer moulding for technical rubber components. Rubber bonded to metal and plastic in-house. Complex designs with narrow tolerances – backed by our own rubber laboratory and proprietary compound library.

800+
Own compound recipes

±0.01 mm
tolerance

Custom recipes

Metal bonding

In-house lab

Compression moulding

Transfer moulding

Kaniow, Poland

Lommel, Belgium

Liquid Silicone Rubber (LSR)

Fully automated LSR injection moulding with fast cycle times. Combinable with thermoplastics and thermosets for hybrid parts. Ideal for precision sealing and sensor protection in demanding environments.

10–80
Shore-A-Range

Full
Automation

Injection moulding

Fast cycles

Multi-material

High precision

In-house rubber laboratory

- Temperature and chemical resistance
- Pressure and tensile force—
- Aging, swelling, humidity and contamination testing

All performed in-house at Kaniow for fast iteration and validated compound performance.



CO-DEVELOPMENT

Your partner from day one.

Avoid costly late-stage changes. We enter your project at concept phase – aligning material, tooling and production from the start.

1

Customer Insight

Define technical specifications from your requirements – material, mould design, manufacturability.

Requirements

Feasibility

Material selection

2

Co-Design & Optimise

Co-design using in-house expertise in moulding, materials and measurement. Concept to production-ready design.

DFM

Simulations

3D engineering

3

Prototype & Validate

Near-serial functional prototypes. Precise measurement and lab testing before ramp-up.

Near-serial prototyping

CMM

Lab testing

4

Industrialise & Launch

Full-scale production with fast ramp-up and stable high-quality output from day one.

Inline QC

Traceability

Smooth upscaling

VALIDATION & TESTING

No surprises at launch.

Close-to-serial prototypes and in-house testing mean every variable is resolved before volume production begins.

Near-serial Prototypes

representative of production

Shorter Time-to-market

through upfront iteration

Smooth Ramp-up

with stable process from day one

Measurement & Inspection

- **Inline inspection**
100% inline camera and laser DMC – integrated into the production line.
- **Tactile & optical**
3D CMM, camera vision and laser for full dimensional verification.
- **Surface quality**
Roughness and flatness down to 5 µm on moulded parts.
- **Lab testing**
Temperature, chemical, mechanical, aging – all in-house.



Five moulding processes. One quality.

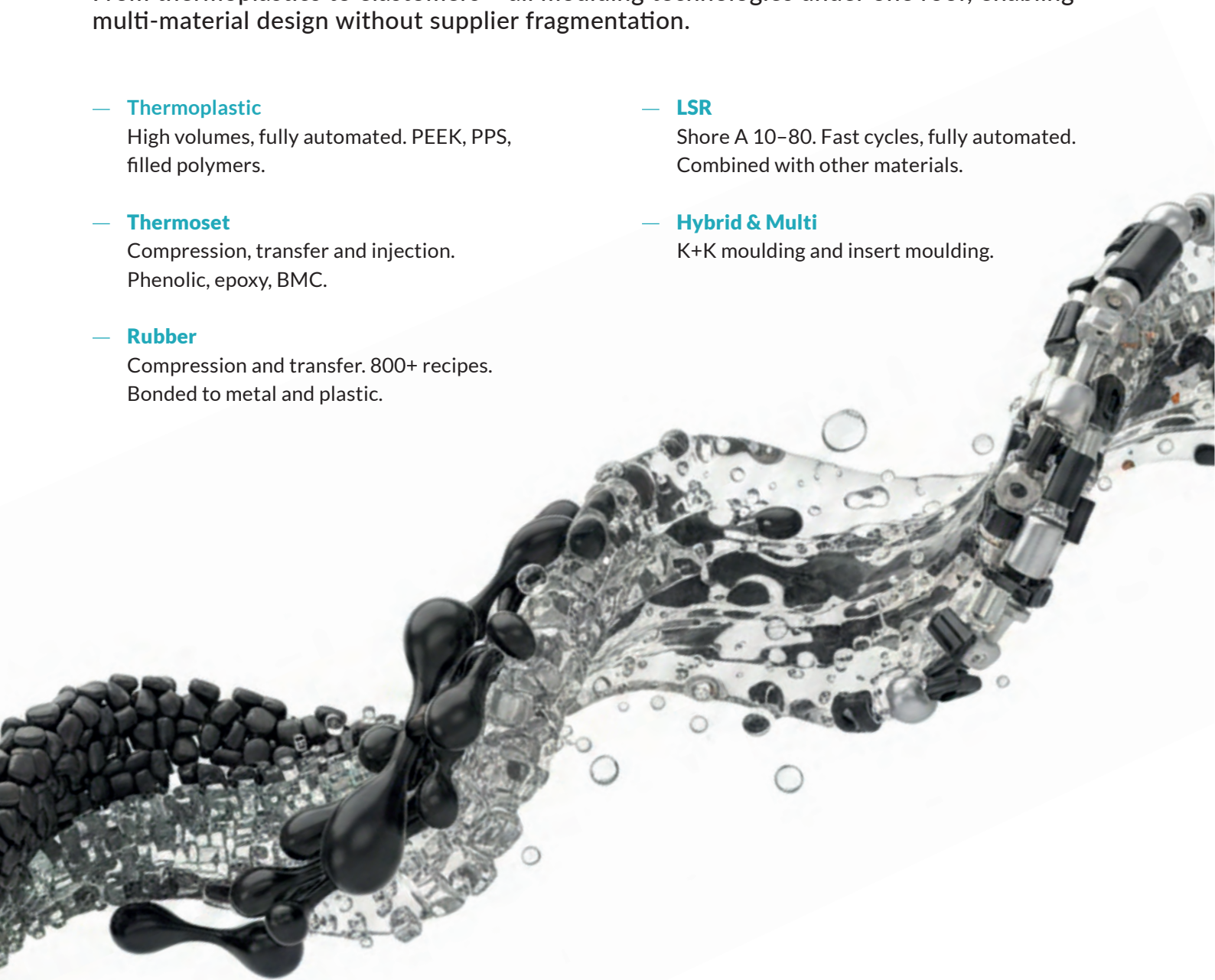
From thermoplastics to elastomers – all moulding technologies under one roof, enabling multi-material design without supplier fragmentation.

- **Thermoplastic**
High volumes, fully automated. PEEK, PPS, filled polymers.

— **Thermoset**
Compression, transfer and injection. Phenolic, epoxy, BMC.

— **Rubber**
Compression and transfer. 800+ recipes. Bonded to metal and plastic.
- **LSR**
Shore A 10–80. Fast cycles, fully automated. Combined with other materials.

— **Hybrid & Multi**
K+K moulding and insert moulding.



70+
Moulding Machines

2 Technology and production centers in **Belgium & Poland**

Finished to the last micron.

Moulding is the beginning. Our in-house finishing capabilities take every component to its final functional, dimensional and aesthetic specification.

Dimensional finishing

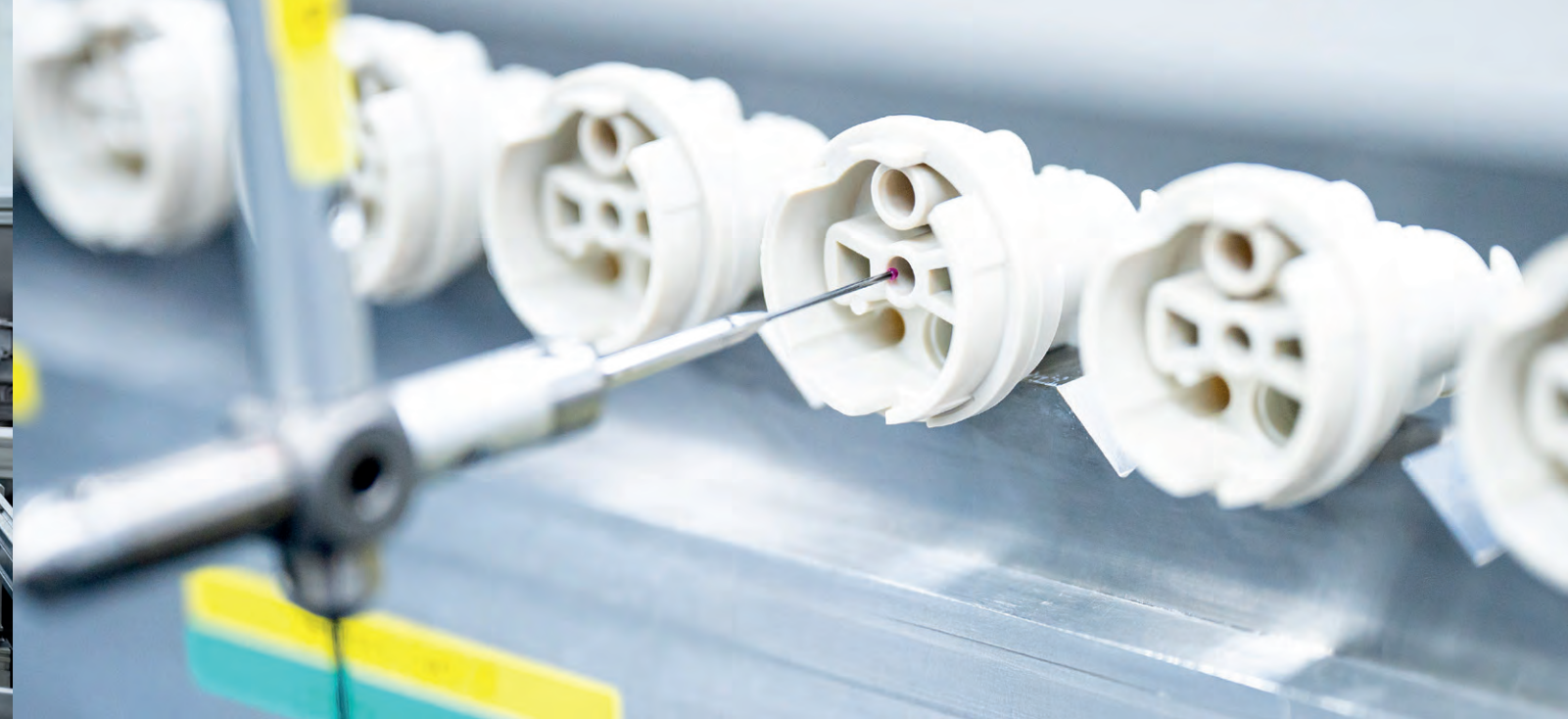
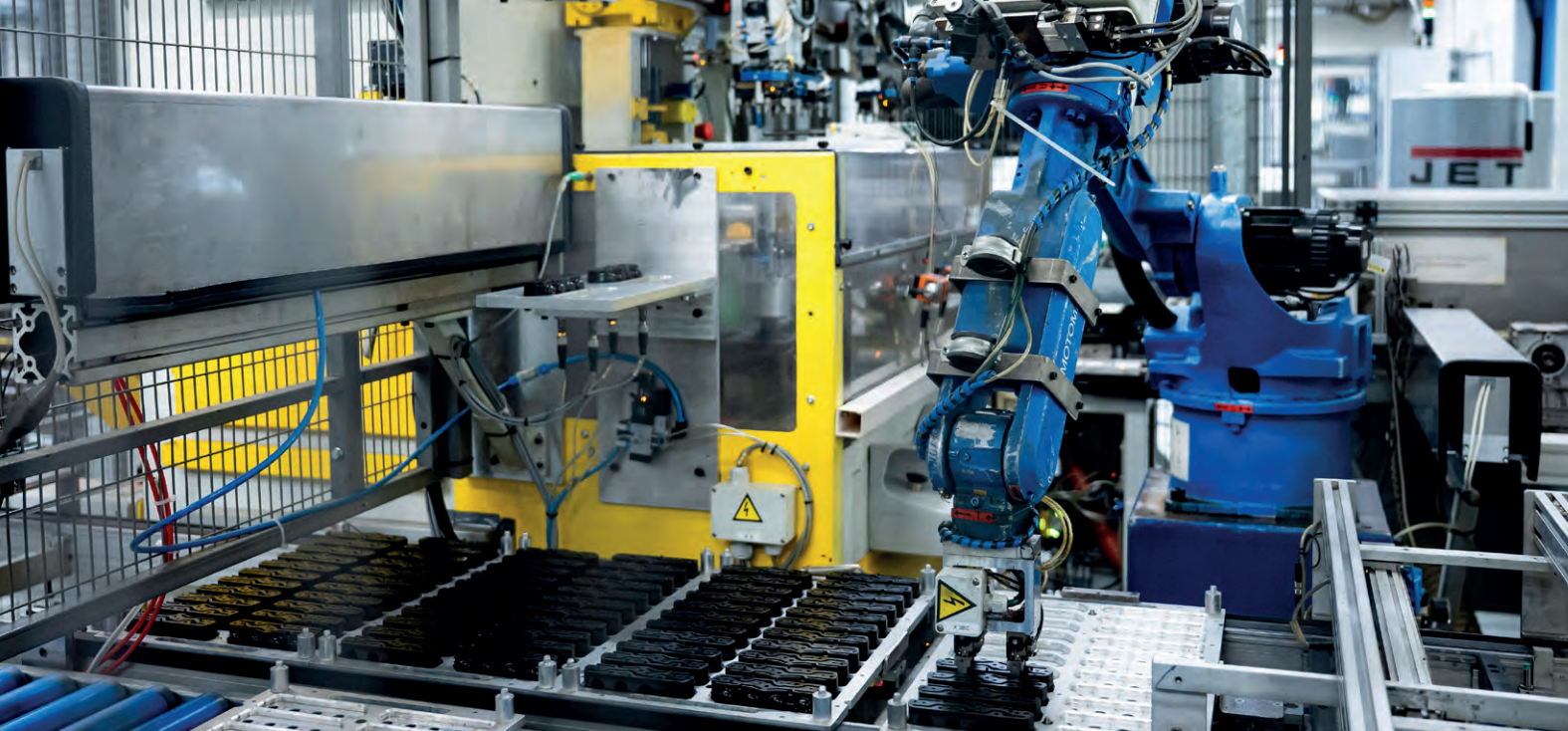
- **Flat grinding**
Single & double-sided lapping
- **Centerless grinding**
OD and X-axis CNC
- **Pocket milling**
Eccentric CNC micron milling



Functional finishing

- **PVD coating**
Physical vapour deposition
- **Laser treatment**
Marking & surface activation
- **Curing & washing**
Post-cure, cleaning, traceability
- **Deflashing**
Automated & manual
- **Surface quality**
Controlled roughness & gloss
- **Traceability**
Laser coding, data matrix





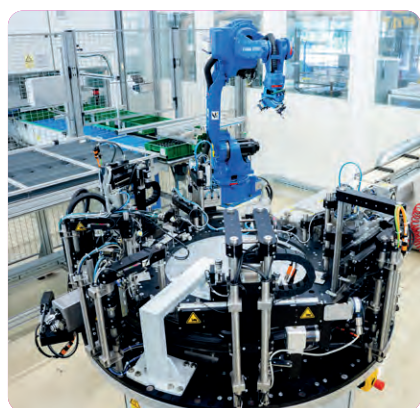
ASSEMBLY

Ready to install.

Three levels of automation – adapted to your volume, complexity and integration requirements. One partner from moulding through to finished assembly.

Fully automated

High-volume, closed-loop lines with inline inspection and zero manual intervention.



Semi automated

Flexible lines for mid-volume or complex variants – operator-assisted with machine support.



Manual

Skilled operators for low-volume, high-complexity or prototype assemblies.



Shorten your supply chain.

Moulding, finishing and assembly from one partner – fewer interfaces, faster delivery, single accountability.

QUALITY & CERTIFICATIONS

Certified. Traceable. Zero-defect.

Quality is not a department – it is built into every step of our process, from raw material intake to final delivery.

IATF 16949

Automotive quality management system

ISO 9001

Quality management system

ISO 14001

Environmental management system

Quality assurance at every stage.

- **Digital traceability:** Full lot traceability from raw material to finished part – laser coding, data matrix and ERP-linked process records at every station.
- **Inline & offline inspection:** Camera, laser and tactile measurement systems integrated into production lines. 3D CMM for first-article and statistical sampling.
- **Process capability:** Cpk-monitored processes, SPC in critical applications, PPAP and APQP support for automotive programmes.
- **Supplier qualification:** Incoming material inspection and approved supplier lists – quality controlled from raw material to finished component.
- **0-defect:** Mindset embedded in every process step – from compound design and mould simulation to inline inspection and final delivery audit.



Co-development

Thermoset

Thermoplastic

Precision machining

Testing

CASE STUDY | MOBILITY

Pump Impeller – 100 million delivered.

Composite and thermoplastic impellers for passenger car engine pumps – gasoline, diesel, AdBlue and e-fuels.

Challenge

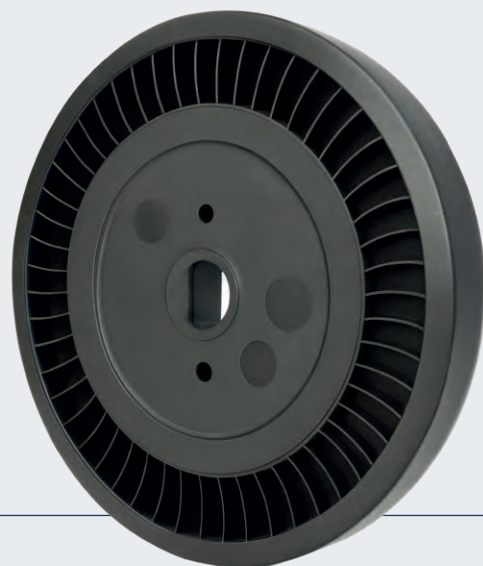
Complex vane geometry with angles up to 55° – required micron-level flatness and thickness consistency across high-volume production to meet pump efficiency targets.

Solution

Co-developed thermoset composite and thermoplastic impellers with in-house double-sided lapping. Compound selection optimised for media resistance (AdBlue, e-fuels). Fully automated production with inline dimensional verification.

Result

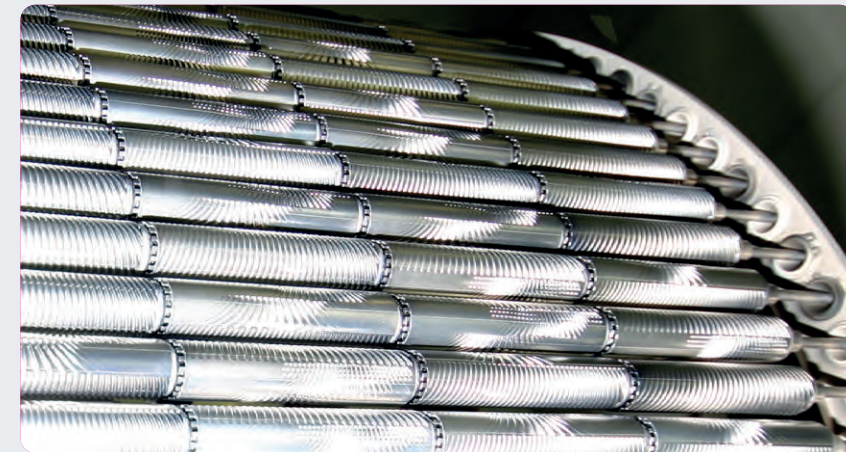
Series production running since over 20 years. Consistent quality at scale – trusted by multiple Tier 1 suppliers and OEMs globally.



CASE STUDY | MOBILITY

Further references.

Two additional mobility cases illustrating our co-development depth – from sensor-critical optics to EV thermal management.



Radar Reflector & ADAS Systems

Dust-free thermoset production with aluminium PVD coating for radar-reflecting properties.

Lightweight protection housings for LiDAR, radar and parking sensors – co-developed for multiple Tier 1 ADAS programmes.

Co-development

Thermoset

PVD coating

Hybrid

EV Thermal Management

Precision covers, housings and insulation for EV motor, battery and ECU thermal management – multi-material, co-developed and assembled as ready-to-install modules.



Co-development

Thermoplastic

Thermoset

Assembly

More mobility applications

Beyond these cases, we also supply powertrain & brake components, fuel system assemblies and a wide range of pump and housing parts across the mobility sector.

Proven across three industries.

You've seen our mobility track record. The same material expertise, co-development model and zero-defect mindset are now powering the next generation of energy and industrial systems.



Hydrogen Storage Clean power

New Energy

Hydrogen and energy storage systems demand media resistance, dimensional stability and sealing performance under extreme conditions – exactly where our thermoset and LSR capabilities excel.

Electrolyzer
Sealing elements, precision frames and insulation components for H₂ production systems

Energy storage
Battery management housings, insulation parts – high media and thermal resistance

Thermoset LSR PEEK / PPS

The same standard. New applications.

Our co-development model, material expertise and zero-defect mindset are fully transferable – whatever your industry, whatever your precision challenge.



Appliances HVAC Consumer

Industrial

High-volume precision components for demanding industrial environments – proven materials, automated production, consistent quality.

Pumps & HVAC
Impellers, valves, seals and housings for fluid and air management

Appliances
Precision moulded components and assemblies for household equipment

Thermoplastic Thermoset Rubber LSR

Your application not listed?

Let's discuss your requirements and identify the right material and manufacturing solution. Get in touch with our engineering team: info@polymer-precision.com

OUR LOCATIONS

Two competence centers.

Not two factories – two complementary technology profiles. Each site leads in distinct material and process capabilities, together covering the full Polymer Precision Solutions value chain.

Lommel

Belgium • Technology Competence Center

Thermoset composites (phenolic, epoxy) • High-performance thermoplastics (PEEK, PPS) • LSR • Development center • High volumes • Polymer machining

Profile

— Development center

— Micron precision moulding

— Polymer machining

— High volumes

— Co-development

Leading in

Pumps

Thermal Management

New Energy





125

employees

Kaniow

Poland • Technology Competence Center

Technical rubber compression and transfer moulding • Post-processing • Dimensional finishing • Rubber laboratory • Polymer machining

Profile

— Rubber moulding

— Post-processes

— Semi-auto assembly

— Rubber laboratory

— Polymer machining

Leading in

Rubber

Finishing

Assembly

CONTACT

Ready to raise your precision standard?

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