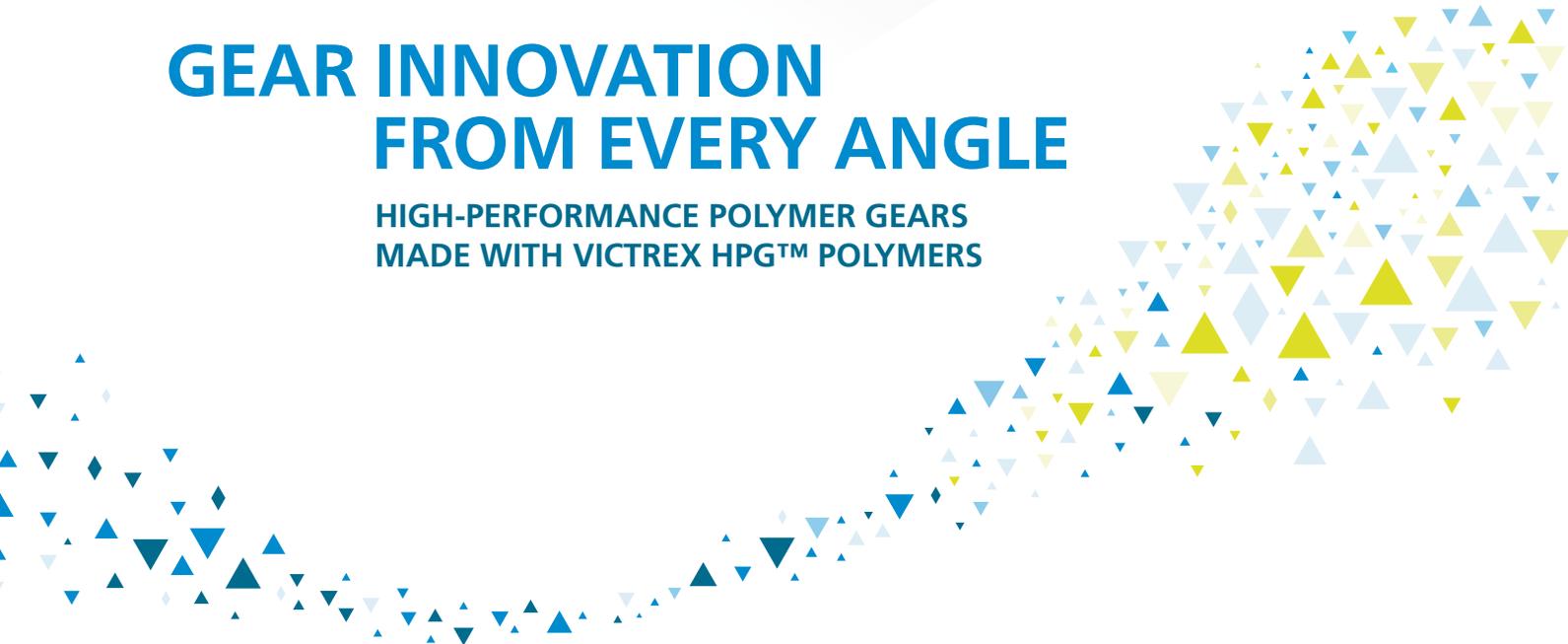


GEAR INNOVATION FROM EVERY ANGLE

HIGH-PERFORMANCE POLYMER GEARS
MADE WITH VICTREX HPG™ POLYMERS



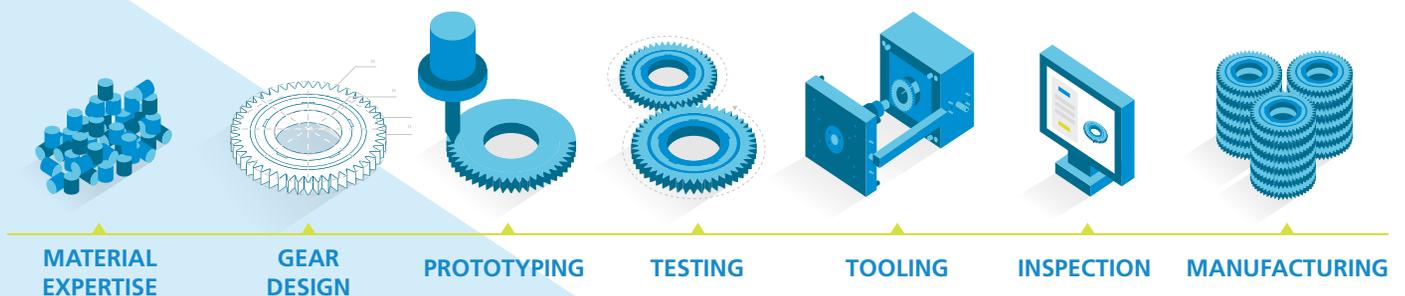
PEEK GEAR SOLUTIONS BEYOND METAL PERFORMANCE

Across all industry sectors, there is an increased need for high-performing, high-precision gears that work reliably even in the most demanding applications. Solutions require improved reliability, reduced noise, vibration, harshness (NVH) and greater efficiency while following the trend for smaller packaging sizes, additional design freedom and lower overall system costs compared to precision metal gears. VICTREX™ PEEK polymer solutions – including the VICTREX HPG™ (High-Performance Gear) product family – have increasingly become a viable alternative where traditional metal components have been specified but no longer meet customer needs.

Victrex Gear Solutions include high-precision gear design, prototyping, testing and manufacturing capabilities using VICTREX HPG™ polymers that help our customers gain a competitive advantage while focusing on their core strength.

FROM MATERIAL TECHNOLOGY TO GEAR MANUFACTURING

By working with Victrex you will not only benefit from unparalleled PEEK expertise but also enjoy a fast 360° development process from initial concept to mass production of state-of-the-art gears that help improve performance and drive cost out while accelerating overall time-to-market.



INTEGRATED GEAR SOLUTIONS FROM CONCEPTION TO PRODUCTION



▲ DESIGN AND ANALYSIS

-  **Polymer-specific design approach** developed over 35 years to leverage advantages of thermoplastic gear characteristics
-  **Custom and commercial analysis packages** to predict polymer gear performance
-  **System level approach** gear design to make the system work, not just the gear



▲ PROTOTYPING AND TESTING

-  **Integrated prototyping services** to quickly and cost-effectively reflect production intent and accelerate overall time to market
-  **Ability to produce a wide range** of polymer and/or metal prototypes using various processes
-  **On-site component testing** to validate design and evaluate gear mesh performance



▲ MANUFACTURING AND QUALITY

-  **On-site tool shop** including micro-moulding for streamlined product qualification
-  **On-site injection moulding** to enable precise and fully automated high-volume production
-  **On-site Quality Control lab** to verify net shape and in-spec parts

IT'S TIME TO RETHINK METAL GEARS

Partner with Victrex for your next gear project. Our team has the passion backed by a proven track record of over 35 years in the polymer and gear industry, to provide you with a 360° tailored expert support.



Compared to metal gears, VICTREX HPG™ polymers enable a range of benefits:

-  **Precise and repeatable manufacturing** ensures net shape components with tight tolerances
-  **Reduced part cost** no secondary machining, hardening, or finishing operations
-  **Reliable performance** through low friction and wear, corrosion resistance and reduced need for lubrication
-  **Improved NVH performance** up to 50% reduced NVH (noise, vibration, harshness)
-  **Vibration isolating properties** enables lifetime increase for components throughout the gear train
-  **Lower cost for mass production** due to economical one-step injection-moulding manufacturing process
-  **Lower energy consumption** due to a weight saving of up to 70%
-  **Improved responsiveness** from up to 80% reduced moment of inertia
-  **Possibility of hybrid technology** with overmoulded inserts of metal, composites or other plastics



40+ YEARS

of collaboration with market leaders along the value chain

Confidence through proven, reliable and cost-effective solutions

700+ people waking up every day focusing on PEEK
40 countries served by Victrex across our markets
10+ mio gears in automotive applications made with VICTREX™ PEEK

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Victrex is an innovative world leader in high-performance polymer solutions with products sold under the brand names of VICTREX™ PEEK, APTIV™ film and VICTREX Pipes™. With production facilities in the UK and USA backed by sales and distribution centers serving more than 40 countries worldwide, our global sales and technical support services work hand-in-hand with OEMs, designers and processors offering assistance in the areas of processing, design and application development to help them achieve new levels of cost savings, quality, and performance.

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