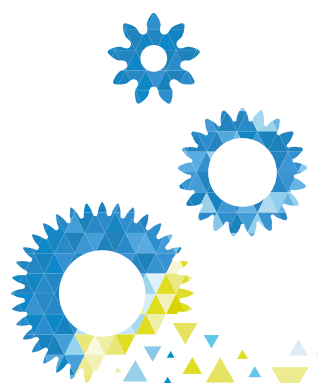


YOUR WAY TO  
**TURNKEY  
HIGH-PERFORMANCE  
POLYMER GEARS**  
VICTREX™ GEAR SOLUTIONS

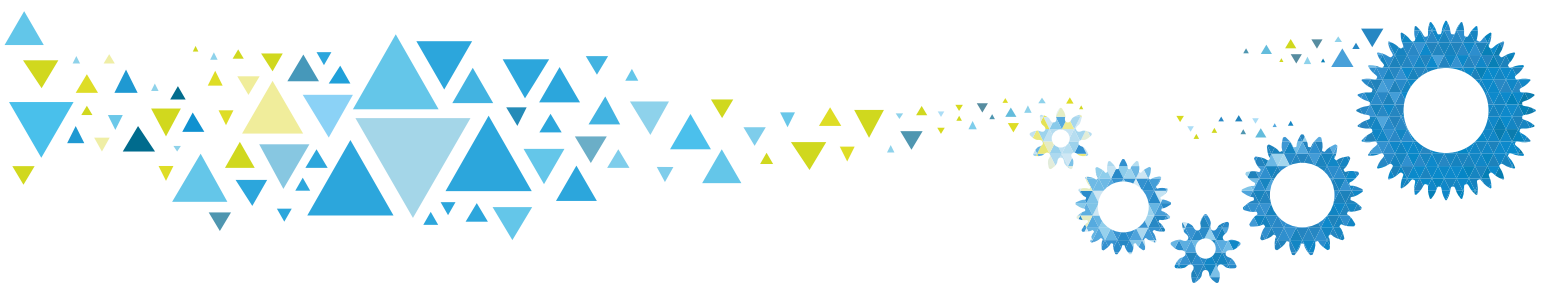


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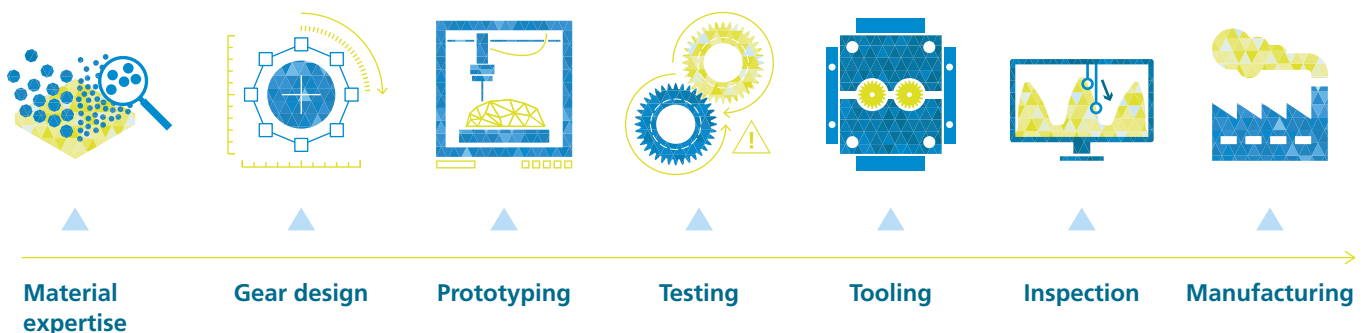
# GEAR SOLUTIONS BEYOND METAL PERFORMANCE

Across all industry sectors, there is an increased need for high-performing, high-precision gears that work reliably even in the most demanding environments. Solutions must offer 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. Polymers are being used in an increasing number of applications where traditional metal components have been specified but no longer meet application needs. Victrex Gear Solutions include high-precision gear design, testing and manufacturing capabilities across a wide range of polymers – from engineering polymers used in consumer and industrial components to VICTREX™ PEEK high-performance polymers for use in the most extreme and demanding environments.

**By working with Victrex you will benefit from rapid development processes such as material selection, part and tool design, testing and validation, and precision manufacturing capabilities to develop and launch state-of-the-art gears that solve your key challenges while reducing overall time-to-market.**

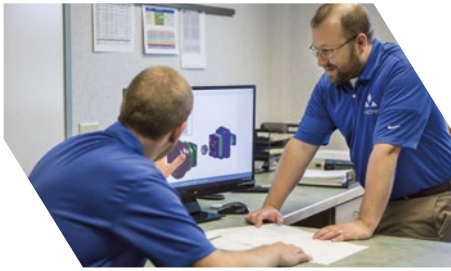


## FROM MATERIAL TECHNOLOGY TO GEAR MANUFACTURING



## FULLY INTEGRATED APPROACH STREAMLINES PRODUCT DEVELOPMENT FROM CONCEPTION TO PRODUCTION




## INTEGRATED VICTREX GEAR SOLUTIONS






### ▲ DESIGN AND ANALYSIS

-  **Design approach** developed over 25 years to harness advantages of thermoplastic gear characteristics
-  **Custom and commercial analysis packages** to predict polymer gear behavior
-  **System level approach** to gear component design

### ▲ PROTOTYPING AND TESTING

-  **Integrated prototyping services** to quickly and cost effectively reflect production intent and reduce 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 characterise gear mesh performance



### ▲ MANUFACTURING AND QUALITY

-  **On-site mould manufacturing** including micro-moulding for streamlined product qualification
-  **On-site injection moulding** to maintain precise and accurate production
-  **On-site QC lab** to verify net shape and statistically acceptable parts




Share your gear challenges with us, our team has the passion backed by a proven track record of over 25 years in the polymer and gear industry, to provide you with concept-to-production expert support from the best material choice to the optimal net shape gear.

## IT'S TIME TO RETHINK METAL GEARS



-  **Precise and repeatable manufacturing** ensures net shape components with as little as 20µm tolerances
-  **Reduced part cost** no secondary machining, hardening, or finishing operations
-  **Low friction and wear** corrosion resistance, reduced need for lubrication

-  **Similar or better NVH performance** when compared to metal scissor gears
-  **Vibration isolating properties** increase life for components throughout the gear train
-  **Lower cost for high-volume production** due to injection-moulding manufacturing process

-  **Lower energy consumption** with up to 70% weight reduction
-  **Improved responsiveness** from up to 80% reduced moment of inertia
-  **Possibility of hybrid technology** with moulded inserts of metal, composites or other plastics



Confidence through certified and traceable material solutions

**50+ YEARS**  
OF EXPERIENCE  
in engineering customised polymer and plastic injection moulding precision gears

400 works years of technical expertise with  
60 scientists, engineers and technicians sharing  
17 Ph.D.s that are focused on 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, VICOTE™ Coatings, APTIV™ film and VICTREX Pipes™. With production facilities in the UK backed by sales and distribution centers serving more than 30 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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