

## **Future-Ready Manufacturing: A Practitioner's Perspective on Innovation, Sustainability, and Technology**

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### ***From the Shop Floor to the Future***

The manufacturing industry, especially in the automotive and precision engineering sectors—is undergoing a profound transformation. Innovation, sustainability, and rapid technological advancement are no longer optional; they are essential to staying competitive and achieving long-term growth. At Precision Camshafts Ltd. (PCL), I have witnessed firsthand how embracing these forces has become critical to building resilience and driving progress.

### ***Innovation: A Mindset, Not Just a Function***

At PCL, we believe innovation must be embedded in the very DNA of an organisation. It's not the sole responsibility of R&D, it should influence every function, from product development and customer engagement to process optimisation and cultural practices.

Our evolution from a camshaft manufacturer to a solutions-driven company offering electric vehicle (EV) and global engineering services is a testament to this mindset. Through close collaboration with OEMs across geographies and the adoption of agile development approaches, we've transformed traditional manufacturing into a platform for co-creation and rapid adaptation.

We also believe in fostering intrapreneurship, encouraging teams to challenge conventions, take initiative, and experiment with new ideas, even within legacy systems. This culture of innovation has been key to our growth and resilience in a fast-changing industry.

### ***Sustainability: Good for Business and the Planet***

At PCL, sustainability is not just a responsibility, it's a strategic priority that balances environmental care, operational efficiency, and social impact. We have made significant strides toward reducing our carbon footprint by commissioning a 15 MW solar power plant, implementing energy-efficient practices, and minimizing waste across our operations. Our focus on electric vehicle (EV) solutions aligns with the global shift toward cleaner, more sustainable transportation. Beyond the factory floor, we are deeply committed to community development through skill-building programs, educational support, and ethical business practices that create long-term value for all our stakeholders.

### ***Technology: Making Us Smarter and Faster***

At PCL, we view digital transformation not as a trend but as a necessity—the backbone of smart manufacturing. By embracing Industry 4.0 technologies, we are redefining how we operate, make decisions, and deliver value to our customers.

Modern manufacturing demands speed, accuracy, and adaptability, and technology enables us to achieve all three. From digital planning tools that streamline production schedules to predictive maintenance systems that detect potential issues before they disrupt operations, we are using smart technologies to stay ahead of the curve.

One of the most impactful shifts has been our ability to capture and analyse real-time data across our operations. This allows our teams to make faster, more informed decisions—reducing human error, eliminating inefficiencies, and ensuring consistent quality. Whether it's adjusting production parameters or optimizing supply chains, data-driven insights have become central to our daily operations.

We've also adopted digital twins and IoT-enabled quality control systems, which help us simulate, monitor, and enhance production processes with greater precision. These tools not only improve output but also extend equipment life and reduce unplanned downtime.

Customer-centricity is another critical area where technology has made a difference. We now integrate customer feedback directly into product development and lifecycle management, allowing us to respond faster to market needs and continuously improve our offerings.

However, technology alone doesn't drive transformation, people do. That's why we invest heavily in training and upskilling our workforce. From shop-floor technicians to design engineers, our teams are equipped with the digital tools and knowledge needed to thrive in a tech-driven environment.

In essence, technology at PCL is not just about automation—it's about empowering people, enhancing performance, and staying future-ready.

## ***Closing Thoughts***

As we stand at the crossroads of change, innovation, sustainability, and technology are not isolated themes, they are interconnected levers for future-ready manufacturing.

At PCL, we are committed to this journey and look forward to learning and growing together with others in the industry.

Leaders today must not only embrace these principles within their organisations but champion them across value chains and industries. It is this collective momentum that will shape the manufacturing landscape of tomorrow.

I look forward to continuing learning and collaboration as we navigate this exciting era of transformation.