

White Motorcycle Concepts:

White Motorcycle Concepts strengthens digital capability to accelerate sustainable innovation

Case study



White Motorcycle Concepts (WMC) is an R&D-led engineering business focused on reducing CO₂ emissions across the motorcycle industry. By developing advanced aerodynamic technologies and licensing them to global manufacturers, the company plays a critical role in supporting the sector's transition towards more sustainable mobility.

As demand for its innovation increased, WMC identified a key digital constraint that was limiting speed, flexibility and growth potential.

The Challenge

WMC operates at the cutting edge of digital engineering. Advanced CAD, Computational Fluid Dynamics (CFD) modelling and rapid prototyping are embedded in its development process. However, high-resolution 3D scanning of complete motorcycles and components was outsourced to third-party providers.

While effective in early-stage R&D, this reliance introduced delays at a critical point in the innovation cycle. Each scanning project required extended lead times, slowing design iteration and delaying validation. The transfer

of sensitive data outside the organisation also created confidentiality and intellectual property risks.

As OEM partners increasingly expected rapid, data-driven collaboration, these constraints began to impact agility. Scanning was no longer a peripheral service, it had become central to WMC's ability to scale.

The business recognised that bringing this capability in-house was essential to improving productivity, protecting IP and unlocking new commercial opportunities.



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The Solution

With support from Made Smarter East Midlands, WMC invested in advanced high-resolution 3D scanning technology and embedded it directly into its existing digital engineering workflow.

This was not simply an equipment upgrade. The investment was guided by a structured digital roadmap to ensure alignment with long-term growth strategy. Specialist hardware was integrated with CAD, CFD and rapid prototyping systems, creating a seamless digital pipeline from physical motorcycle to refined prototype.

Four engineers were trained in digital metrology, scanning techniques and post-processing, ensuring the knowledge and capability were retained within the business.

The result is a fully connected digital environment where scanning, modelling, simulation and prototyping operate as a unified system.



The Benefits

The introduction of in-house scanning has significantly accelerated WMC's development cycle.

Lead times have reduced from weeks to days, enabling faster design iterations and more responsive collaboration with OEM partners. Engineering time is used more efficiently, and improved data accuracy has strengthened right-first-time validation, reducing rework and increasing confidence in results.

By internalising scanning, WMC has also gained greater control over sensitive intellectual property and removed dependency on external providers. Engineering capacity has increased without the need to expand headcount, allowing the company to manage more concurrent projects.

Beyond operational improvements, the new capability has opened up additional commercial avenues. WMC can now offer digital twin creation, reverse engineering and advanced aerodynamic data services, strengthening its position as a high-value digital innovation partner within the motorcycle sector. What was once a bottleneck in the process has become a strategic asset.

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The Future

WMC sees this project as a foundational step in its wider digital transformation journey.

The business plans to further integrate scanning data into automated design optimisation and simulation workflows, supporting faster and more intelligent product development. Exploration of AI-driven performance modelling and predictive lifecycle analysis is already underway.

By strengthening its digital infrastructure today, WMC is building the capability required to lead tomorrow's sustainable motorcycle innovation, enabling cleaner, more efficient vehicles and expanding its global commercial partnerships.



“Made Smarter has accelerated our digital transformation and strengthened our competitiveness. The combination of funding, expert advice and structured digital road mapping enabled us to confidently implement technology that would otherwise have been significantly more difficult to justify and deliver.”

Ian Hird, Commercial Director, White Motorcycle Concepts.