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SolidCAM
The Ecosystem for Digital Manufacturing

CaseStudy

SolidCAM UK Empowers High-Precision D.A.R.L Engineering to Machine Faster, Smarter, and Without Compromise.

When D.A.R.L Engineering began expanding its CNC machining capability with advanced multi axis machines, it was clear that unlocking their full potential would depend on more than just hardware. To machine complex components efficiently, reliably, and without compromise, the business needed a CAM system capable of matching both the performance of its machines and the ambition of its manufacturing strategy. For the past five years, that system has been SolidCAM.

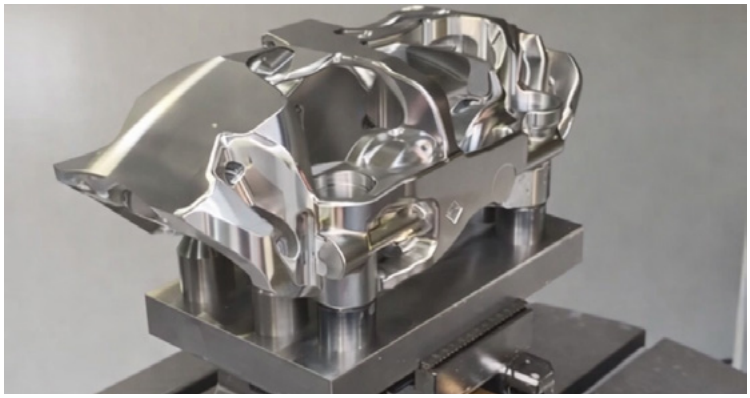
As D.A.R.L Engineering's machining portfolio evolved, from 3 Axis milling with a rotary 4th Axis through to full 5 Axis simultaneous machining, SolidCAM developed alongside the business, providing the flexibility, control, and confidence required to support increasingly complex components.

> *"SolidCAM has grown with D.A.R.L Engineering over the past five years," explains* **Stephen Abbott, CAD/CAM Manager.** *"We initially invested in the 2.5D, HSR, HSM, HSS, and 4-Axis Simultaneous modules, along with Machine Simulation for verification."*

This progressive approach to CAM investment ensured that each new machine could be utilised, without compromise at the programming stage.

"After purchasing a 3 Axis DMG with a rotary 4th Axis, followed by two Hardinge 5 Axis machines, it soon became clear we also needed iMachining and 5 axis Simultaneous machining, as well as Edge Breaking. This has helped us machine components as efficiently as possible, ensuring parts come off the machines burr free." **continues Stephen Abbott.**

Family run business, D.A.R.L Engineering, is a high precision engineering company manufacturing complex machined components where quality accuracy, and repeatability are fundamental.



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Operating across demanding applications, the business has built a strong reputation for delivering consistently high quality parts while continually improving efficiency and responsiveness.

With an expanding mix of 3 Axis, 4 Axis, and 5 Axis CNC machines, along with lathes and a Mill-Turn, programming efficiency and process reliability are critical. Components must be manufactured accurately, optimised for machine performance, and delivered to the shop floor with complete confidence. SolidCAM provides D.A.R.L Engineering with a single CAM platform capable of supporting this varied machining environment without limitation.

"*There's not been a job to date that I haven't been able to program in SolidCAM,*" **says Stephen.** "*The software never lets me down, even when I push it to the limits. iMachining helps us produce fast cycle times and the software as a whole gives us excellent results on all of the components we manufacture.*"

This reliability is particularly important because all SolidCAM programming at D.A.R.L Engineering is carried out remotely. In this environment, certainty at the CAM stage is essential. By modelling all tools, holders, and clamping systems directly within SolidCAM, the team can generate reliable, collision free toolpaths long before a job reaches the machine.

Machine Simulation plays a vital role in this workflow, providing full visibility of machine movements and enabling programs to be verified with confidence. This reduces risk, protects valuable machine tools, and minimises unnecessary downtime on the shop floor. Verified programs can be released knowing that they will run as intended, supporting predictable and efficient production.

One of the most significant gains in machining performance has come from the adoption of SolidCAM's iMachining technology. By applying intelligent roughing strategies that maintain constant cutting conditions, iMachining allows D.A.R.L Engineering to remove material far more efficiently than with traditional toolpaths. This has resulted in dramatically reduced cycle times, extended tool life, and improved machine utilisation.

In practical terms, these savings are substantial. Some components are now roughed more than five times faster than previously possible, reducing both production time and tooling costs. Importantly, these gains are achieved while maintaining stable cutting conditions and consistent part quality.

SolidCAM's full integration within SolidWorks further strengthens D.A.R.L Engineering's programming workflow. Working directly within the CAD environment gives immediate access to powerful modelling tools, allowing programmers to tag models to stock, create staged models, and refine machining strategies without leaving the CAM environment.

"I've used many CAM systems over the years, and SolidCAM is an excellent all round solution, whether programming a simple prismatic part or a complex component," **Stephen Abbott, CAD/CAM Manager adds**. *"Because it integrates within SolidWorks, the full set of CAD tools is immediately available. This makes it easy to tag models to stock or create staged models, helping us produce components vibration free and, in some cases, complete parts in a single operation."*

Being able to reduce setups and improve rigidity during machining has had a direct impact on part quality and process consistency. In some cases, components that previously required multiple operations can now be completed in a single setup, improving efficiency while reducing the opportunity for error.

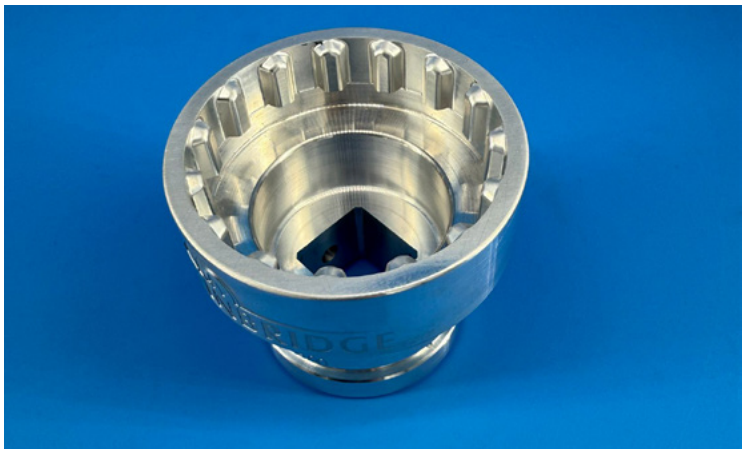
Beyond the software itself, the support and expertise provided by SolidCAM UK have been a key factor in D.A.R.L Engineering's long term confidence in the system. With experienced engineers providing practical application support, the relationship extends beyond technical assistance to a genuine engineering partnership.

"The main reason we chose SolidCAM UK was for their excellent support and the services they provide," **says Stephen.** *"Being an engineer for over 25 years and utilising SolidCAM for over a decade, it's great to be able to speak to like minded engineers with similar experience to myself."*

For D.A.R.L Engineering, this level of support ensures that new machines, strategies, and technologies can be adopted smoothly and effectively, allowing the business to continue evolving its manufacturing capability with confidence.

Today, SolidCAM is an essential part of D.A.R.L Engineering's digital manufacturing infrastructure. It enables faster programming, safer machining, and increased capability across a wide variety of components and machining strategies.

"Since purchasing SolidCAM, it has become invaluable; enabling us to manufacture parts faster and more efficiently, and to produce components we simply wouldn't have been capable of machining without it. We very much look forward to carrying on working with Solidcam UK in the future and expanding our product portfolio as and when necessary to fulfil program demands." **Stephen concludes**.



By combining advanced CAM technology with robust verification and experienced technical support from SolidCAM UK, D.A.R.L Engineering continues to machine faster, smarter, and without compromise; fully realising the potential of its CNC investment.