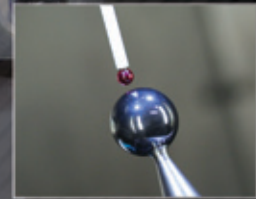


Delcam



Professional
Services



Complete Manufacturing Solutions



Complete CAD/CAM Solutions

- 150 subsidiaries and partners in 80 countries
- More than 800 employees
- The world's largest CAM development team
- 40,000 customers worldwide
- 40 years of experience developing CAD/CAM solutions
- Headquartered in a purpose-built 63,000 sq. ft. facility in Birmingham, UK



Delcam plc headquarters, Birmingham, UK



Complete Manufacturing Solutions

Delcam is renowned for providing the very best quality of support and training to its global customer base; this ensures our customers make the best use of Delcam's solutions, allowing them to maximise productivity whilst keeping costs to an absolute minimum.

Over the years Delcam's engineering teams have amassed a wealth of expertise in a diverse range of industries, customers, technologies and applications. In order to enable customers to benefit from this accumulated knowledge and expertise, a dedicated services division has been established called Delcam Professional Services Ltd.



DID YOU
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Delcam has more
CAM developers
than any other
company.

"Globally local..."

For more information about our services, visit
www.delcam-services.com



The Delcam Edge

Complete Manufacturing Solutions



Advanced Manufacturing Facility (AMF)

At the core of the Delcam Professional Services (DPS) offering is its Advanced Manufacturing Facility (AMF), equipped with some of the most impressive machining and inspection technologies. The AMF serves a number of vital roles within Delcam's organisation but, fundamentally, provides a one-stop-shop for customers to experience new technology.



Custom Software Team

Delcam employs more CAM software developers than any other vendor. The core software produced by this team is truly world-beating and allows our customers to resolve their most difficult manufacturing challenges. Over the years, an increasing number of DPS's clients have seen the benefit of investing in its Custom Software Solutions team, to provide software solutions that have been tailored to meet specific needs of the client.

Programming Support

Even using the world's most powerful suite of software tools, there are times when Delcam clients have a need to increase their CAD/CAM programming capacity. DPS serves this need through its Programming Solutions team; with more than 100 years of experience, this team can provide a wealth of complementary CAD/CAM services.



Project Consultancy

Projects undertaken by DPS invariably require a high-degree of technical expertise. Backed up by the AMF and Custom Software teams, DPS provides a group of consultant engineers who specialise in project management, liaison with OEMs and systems integration. This expert team's main purpose is to ensure your projects run smoothly, with all objectives achieved on time, every time!



I believe the combination of leading edge software, hardware and expertise provided by Delcam Professional Services represents a phenomenal offering to new and existing customers around the world. We really can give our customers the Delcam Edge!

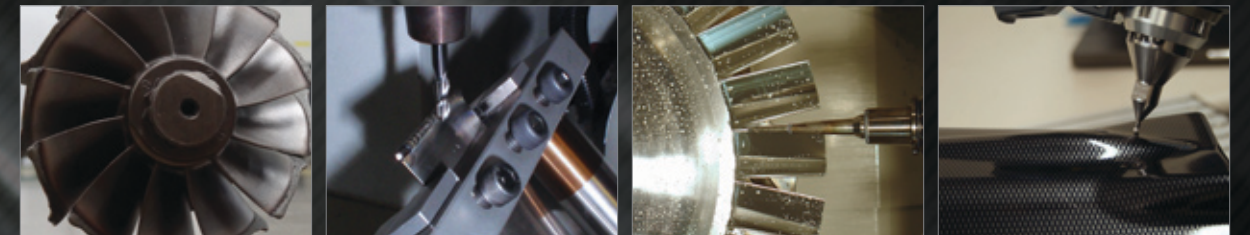
Clive Martell, Chief Executive, Delcam plc

ADAPTIVE MACHINING

Delcam advanced the state of production with our industry leading adaptive manufacturing solutions, giving our customers the Delcam Edge.

In an ideal world a manufacturing process is capable of producing a consistent quality of part every time. In reality there are so many variables which, if ignored, can result in parts being produced which are outside allowable tolerances.

Adaptive manufacturing replaces the traditional, linear approach of CAD to CAM to CNC machine to final inspection with one which uses in-cycle inspection to constantly adapt the process. DPS's adaptive manufacturing solution is built on Delcam's industry leading CAD and CAM software toolkit. Our advanced turn-key systems can be configured to suit the specific needs of a given application, ensuring parts are produced to the required standards.



DPS has experience of working with a range of inspection technologies, including optical (structured-light, laser) and contact scanning as well as on-machine touch probes, to serve customers in a diverse range of applications including:

Aerospace

- Blades/blisks/turbines repair and overhaul
- Turbine defect detection/removal
- Mechanised edge profiling
- Automated polishing/finishing

Composites

- Adaptive drilling/milling
- Software fixturing of flexible parts
- Robotic trimming

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Professional Services expertise has been developed through completion of over 3000 projects in the last decade alone.

BENEFITS

- Drastic reduction in concessions
- Far less manual re-work
- Increased productivity
- Enhanced part quality/consistency
- Removal of health and safety concerns
- Better utilisation of equipment
- Greater process flexibility
- Increased profitability



“Delcam's adaptive manufacturing solution is transforming the world of maintenance, repair and overhaul in the aerospace sector. Delcam are proud to supply services to this growing industry.”

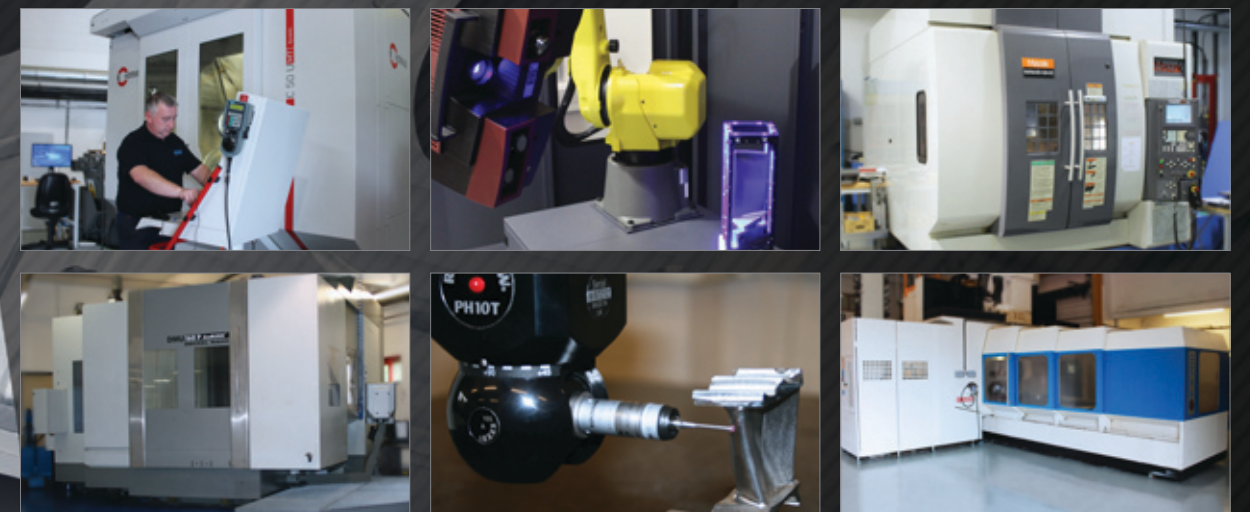
Paul Wilkinson, General Manager, DPS Ltd

ADVANCED MANUFACTURING FACILITY

At the core of the Delcam Professional Services offering is its Advanced Manufacturing Facility (AMF) equipped with some of the world's most impressive technologies driven by a team of highly-skilled operators.

Certified to AS9100 and ISO 9001 standards, the AMF represents a unique offering to new and existing customers alike. Besides providing complimentary machining resource for our busy client base, the AMF also offers a low-risk, low-cost environment for customers looking to trial revolutionary new technology. We are able to provide a wealth of services including:

- High-speed machining
- Advanced 5-axis milling
- Fixture and part manufacture
- Reverse engineering
- Component inspection
- Process development
- Technology trials
- Repeatability studies
- Robotic systems
- Automation trials



Delcam's AMF Capacity:-

Hermle C50U MT 5-Axis Mill-turn (Siemens 840D)
DMG DMU 160P 5-Axis (Siemens 840D)
Huron KX200 5-Axis (Siemens 840D)
Mazak Variaxis 630 5-Axis (Mazatrol Fusion)
Huron VX12 (Siemens 840D)

GOM ATOS ScanBox (Structured light scanning)
Poli Galaxy CNC CMM (Part inspection)
Poli Sky CNC CMM (Part inspection)
Romer Inspection Arm (Portable part inspection)



“The AMF is our secret weapon. Many of our customers are stunned by the range of services we offer and are keen to take advantage of our truly world-beating technology.”

Brett Hopkins, Business Development Manager, DPS USA

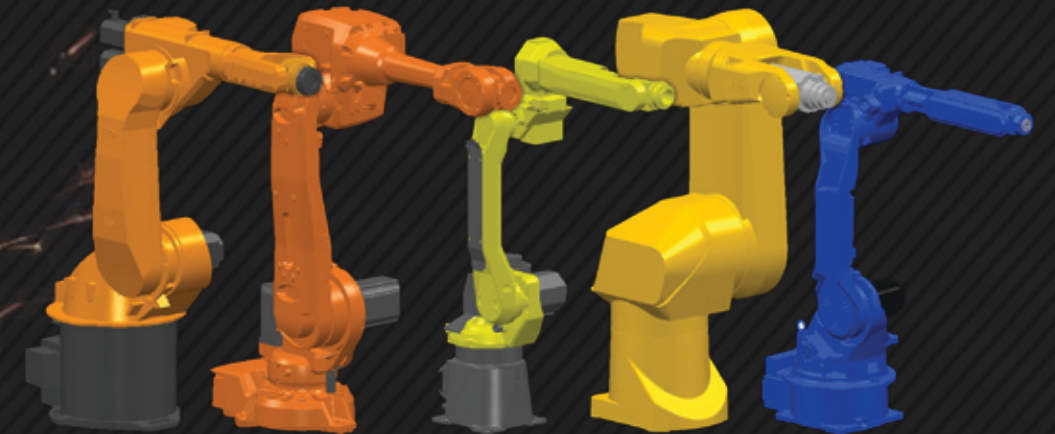


ROBOTIC SOLUTIONS

Delcam has gained extensive expertise in integrating robots into a wide range of industries. Historically, robots have suited applications such as “pick and place”, spot welding and painting/spraying; here absolute accuracy is not as important as dimensional repeatability and platform flexibility. Recent innovations in robotic control systems, specifically optical monitoring systems, allow robots to achieve levels of accuracy which are similar to many CNC milling machines.

For many customers the only way to program a robot is through lengthy “teach and learn” activities. By using Delcam’s robot software toolkit, DPS is able to create even the most complex of programs thus ensuring the customer gets the most out of the robotic platform. The ability to program, simulate, review and refine toolpaths has generated great interest in a number of applications which include:

- Drilling and trimming - Using the increased dexterity of a robot versus a traditional machine tool
- Vision and Ultrasonic inspection systems - Exploiting positional flexibility and overall reach
- Grinding/polishing/finishing systems - Allowing the complete removal of manual operations and the associated health and safety problems



KUKA

ABB

FANUC

STÄUBLI

MOTOMAN

BENEFITS

Accurate 3D simulation showing exactly how your robot will behave

Dedicated Robot Native Language Translators (RNLs) to ensure your robot is driven exactly as programmed

Manual axis adjustment to avoid singularities

Support for an ever growing list of popular robots such as KUKA, ABB, Fanuc, Motoman, Staubli, Epson and Kawasaki

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Only 10% of our robot applications involve milling? Delcam has also developed systems for grinding, finishing and inspection.



“Delcam and FANUC have combined their advanced technologies to produce world class adaptive robotic solutions for industry”

Roger Harris, Sales Manager, FANUC Robotics (UK)

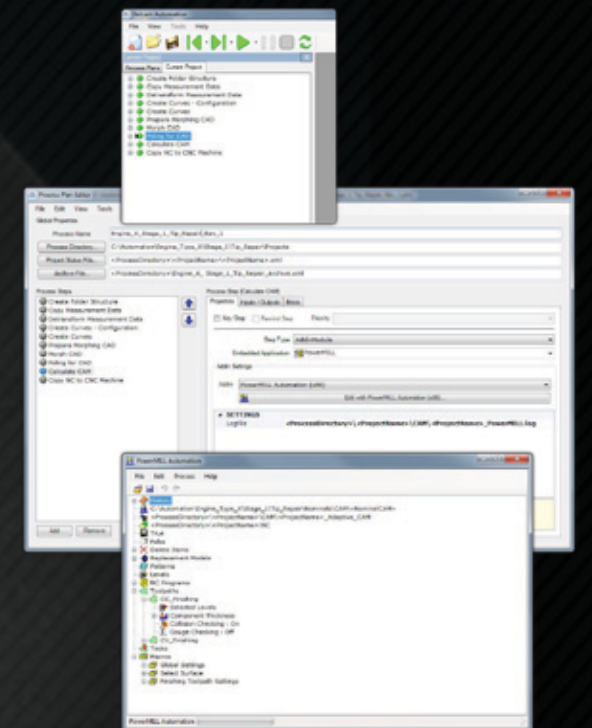
CUSTOM SOFTWARE

The Custom Software team within DPS offers a truly unique service. Building on Delcam's core software, this focused team of engineers work with clients to develop solutions which are tailored to their specific needs. By following the same development and coding standards as used by the main Delcam development teams, the Custom Software engineers are able to provide systems which can have a significant impact on customer productivity. As well as providing CAD/CAM based solutions we also have experience in applications including:

Process Automation: Many design and manufacturing tasks are either repetitive or formulaic, based on a number of key process steps and options. Delcam acknowledges the growing desire, in many industries, to reduce the reliance on highly-skilled system operators. In these cases Delcam is able to tailor solutions to automatically carry out design and programming activities across a number of Delcam and third-party products, reducing the cycle time of each task and allowing processes to function with minimal human intervention, thus improving efficiency and part quality.

Order Management: It may surprise you to hear that many of the projects undertaken by the Custom Software team do not make use of Delcam's core software. Some customer projects require systems for managing orders and integrating this management with other 3rd party software tools. Adding our Order Management software backbone into your process allows you to control the lifecycle of each order and allows your customers to place and review their orders over the Internet.

We believe the use of custom software solutions has the potential to transform many customer design and manufacturing facilities and encourage interested parties to contact us for further information.



BENEFITS

Reducing reliance on human operators

Streamlining, monitoring and recording complex processes

Releasing skilled operators to focus on other tasks

Monitor and react to unforeseen errors automatically

Increase work-cell productivity

Minimise part concessions and costly rework

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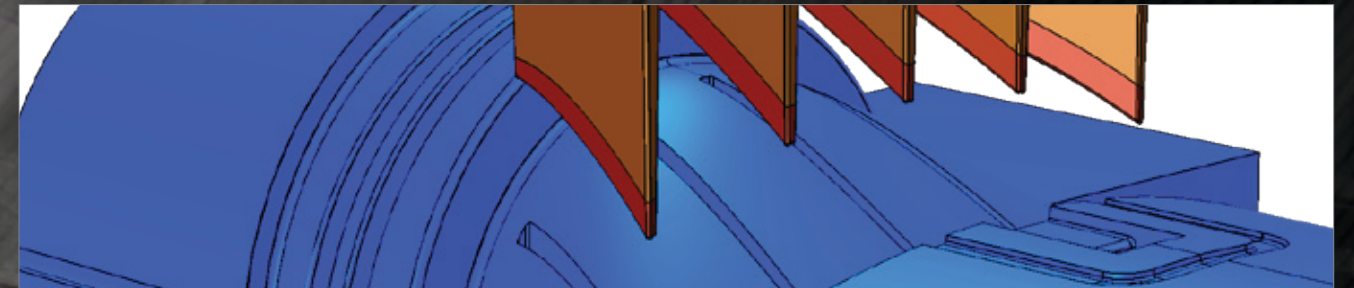
The largest
single program
developed and
maintained by the
Custom Software
team contains in
excess of 80,000
lines of code!



“Our ability to tailor a solution to meet the needs of a specific industry or application always gives our customers a significant advantage over their competition”

Luke Edwards, Senior Software Engineer, DPS Ltd

PROGRAMMING SOLUTIONS

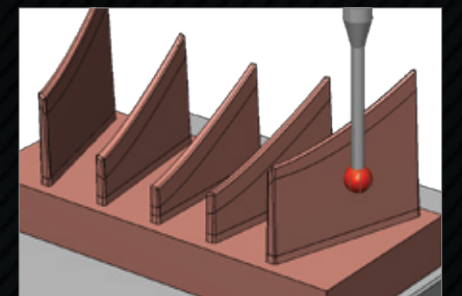
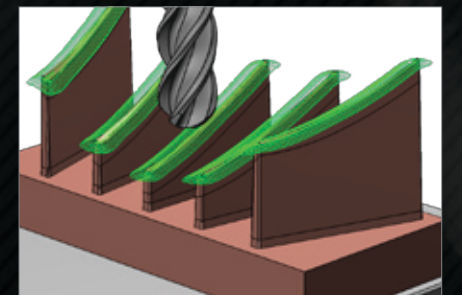


The Programming Solutions team provides a hugely valuable service. When unusual projects arise, many of our customers turn to DPS to assist with the design and programming of the manufacturing process. This is especially relevant to those who lack the time, resource or expertise to serve this need themselves.

Backed up by the very latest versions of Delcam's software, and with access to the developers of the software themselves, this team can support a range of CAD design activities including tooling, fixturing and electrode design, CAD repair work and prototyping.

Not surprisingly, CAM programming is our specialty with expertise in all scales of project, right through to advanced multi-axis milling and complex robotic solutions.

Customers with an occasional need for reverse engineering can also rely on DPS to rapidly create accurate 3D models in a wide range of CAD formats.



BENEFITS

Reduced bottle necks by freeing-up existing resources

Highly efficient programming resulting in increased productivity

Access to the latest in CAD/CAM tools

Exposure to the latest hardware/technology

Rapid turn-around of even the most complex job

Hassle free, professional project management

Highly affordable service

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Delcam's Professional Services Team
has in excess of 650 man years of
engineering experience!

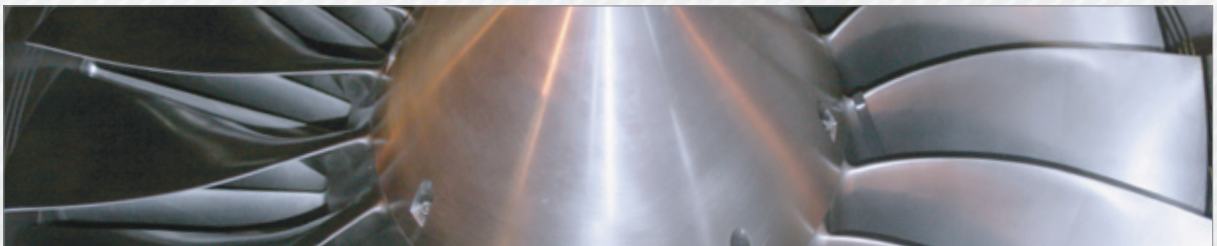


“Many of our clients have the occasional need for additional programming resource. We believe our Programming Solutions team provide an excellent level of service, giving real cost and efficiency benefits to our customers.”

Nick Hill, Operations Manager, DPS Ltd

INNOVATIVE SOLUTIONS

The world of manufacturing moves at an amazing pace. Our experience suggests the ability to embrace new technologies in an efficient way can transform productivity and profitability, even in the most challenging of markets.



Delcam recognizes the importance of innovation and invests more than 50% of its software royalties into research and development. We believe this visionary approach has allowed Delcam to grow into one of the world's largest specialist manufacturing software and service providers.

We share our passion for innovation with an increasing number of like-minded technology partners. Working as an integrated team, DPS is able to provide a forum for customers with a desire to improve their production systems. Backed up by Delcam's AMF services, we offer our customers a truly world-beating opportunity in industries and applications including:

- Additive manufacturing
- High-efficiency machining
- Plunge machining
- Multi-axis machining
- In-cycle inspection
- Software fixturing
- Optical metrology
- Scanning/digitising probes
- Adaptive CAD modelling
- Process automation
- Robot programming
- Turn-key solutions

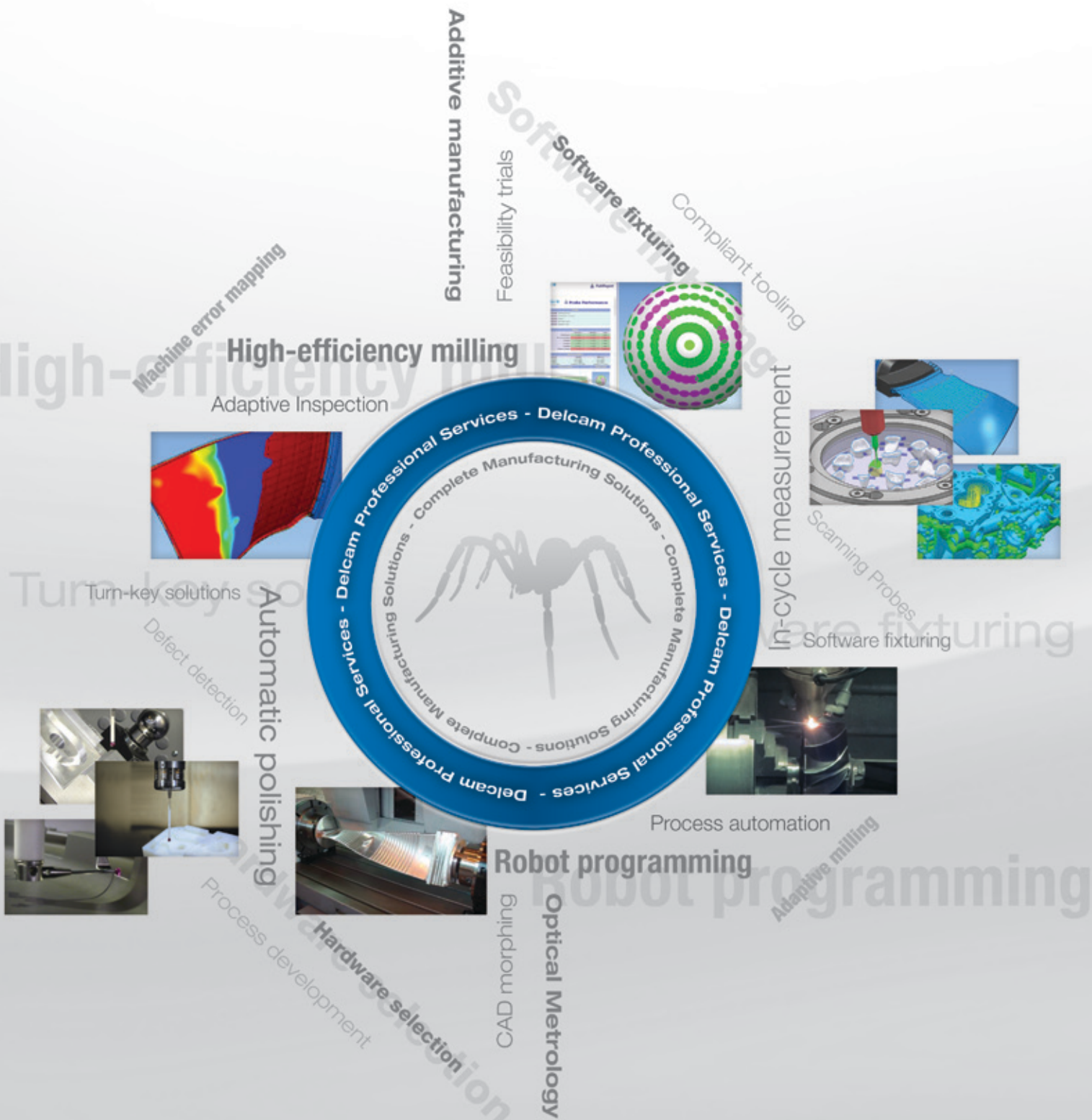
**DID YOU
KNOW**



Delcam is proud to work with some of the world's most forward thinking companies. The vast majority of our projects involve the signing of non-disclosure agreements which allow our customers to protect priceless intellectual property and maximise their return on investment.

BENEFITS

- | | |
|--|--|
| Embrace more efficient technologies | Reduced reliance on manual operations |
| Maintain your competitive edge | Automate processes for increased productivity |
| Improve part quality and consistency | Removal of human error and reduced concession rate |
| More efficient use of existing resources | |



We are major innovators in global manufacturing and work with a wide range of suppliers to develop truly revolutionary solutions. It is no coincidence that our most successful customers share our passion for innovation.

Martin Boon, Major Account Manager, DPS Ltd



Complete Manufacturing Solutions
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