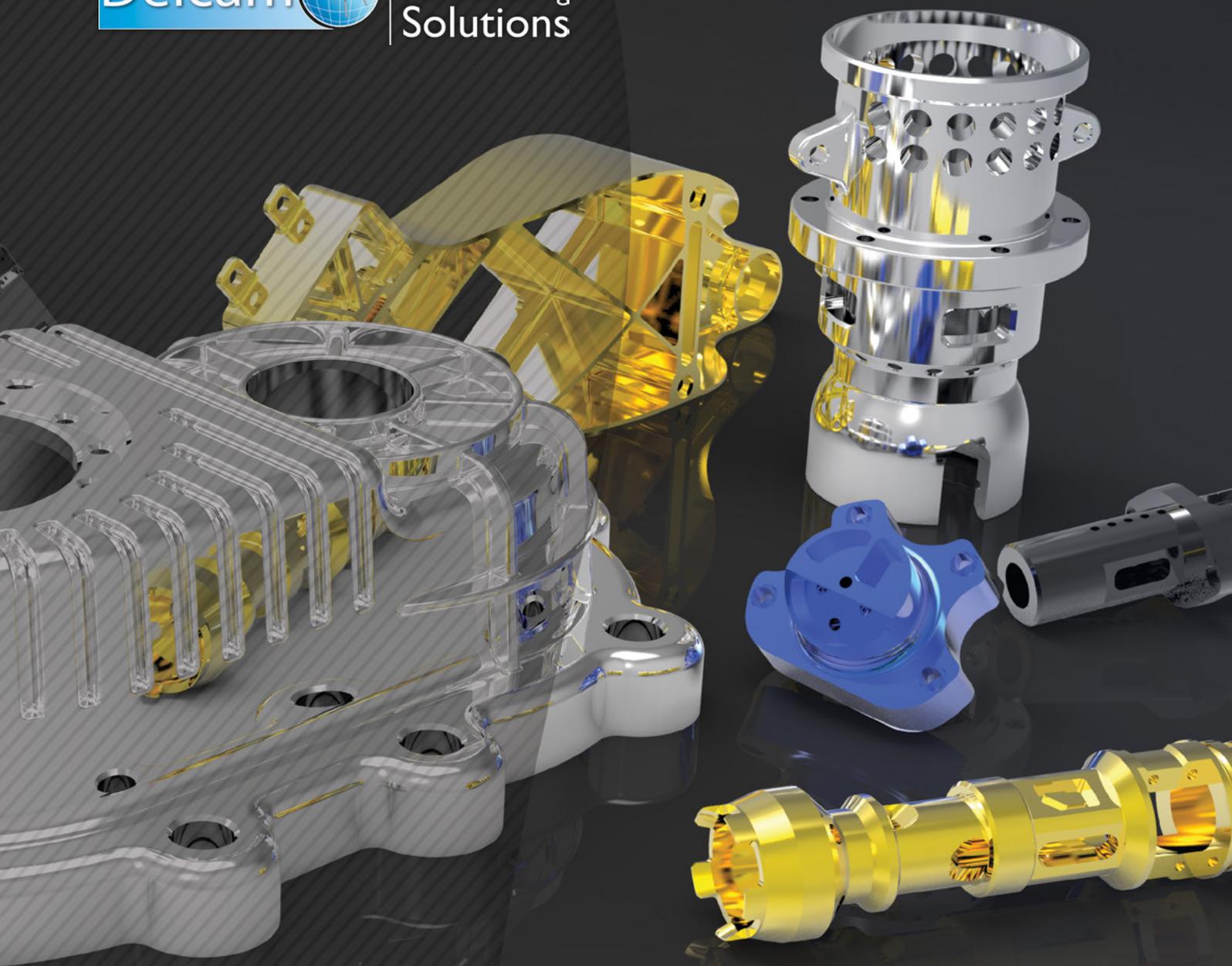




Advanced
Manufacturing
Solutions



Delcam for SolidWorks

Integrated CAM for SolidWorks for milling machines,
turning and turn/mill centres, and wire EDMs

www.delcamforsolidworks.com

Delcam

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



I believe the combination of leading edge software, hardware and expertise provided by Delcam represents a phenomenal offering to new and existing customers around the world.

Clive Martell, Chief Executive, Delcam plc

DID YOU KNOW



Delcam develops all its machining code in-house and tests it in its own Advanced Manufacturing Facility.

Delcam Advanced Manufacturing Solutions

Powering your productivity

PowerMILL



PowerMILL is the world's leading specialist NC CAM software for the manufacture of complex shapes, providing advanced machining strategies to minimise machining time and maximise finish quality.

PowerSHAPE



PowerSHAPE integrates surface, solid and triangle modelling. Design complex 3D models from scratch, or prepare imported data for manufacture, quickly, simply and accurately.

PowerINSPECT



PowerINSPECT delivers a CAD-based inspection solution that can accept data from all types of hardware, including manual and CNC coordinate measuring machines, portable arms, optical measuring devices, and CNC machine tools.

FeatureCAM



FeatureCAM is the unique CAM system that uses feature-based and knowledge-based technologies for automated machining, minimising programming times for mills, multi-tasking lathes, turn/mill, and wire machines.

Delcam for SolidWorks



Delcam for SolidWorks is an integrated CAM system for SolidWorks for programming milling machines, turning and turn/mill centres, and wire EDMs.

PartMaker



PartMaker applies a Patented Visual Programming approach to automate the programming of multi-axis Swiss-type lathes and Turn-Mill Centres.

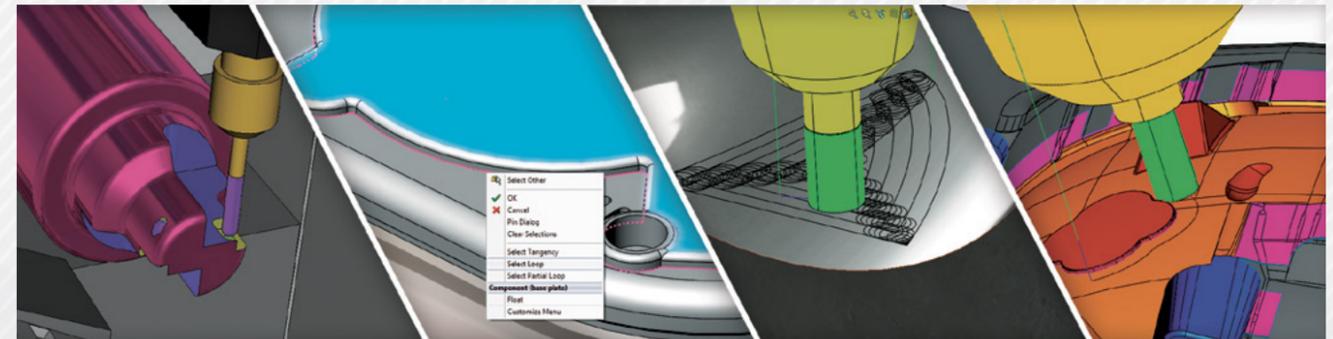
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*According to CIMdata

Delcam for SolidWorks

Fully Integrated CAM for SolidWorks



Which of these is most important to you when choosing an integrated CAM system for SolidWorks?

- SolidWorks Integration
 Associativity
 Flexibility
 Scalability
 Reliability
- All of the above?

Delcam for SolidWorks is a fully integrated feature-based CAM system for SolidWorks. Associative toolpaths minimise programming times for mills, routers, multi-tasking lathes and wire EDMs by updating automatically if your model changes.

SolidWorks Integration

Delcam for SolidWorks is completely embedded inside SolidWorks, providing a single window manufacturing solution that looks and behaves like SolidWorks.

Associative

Delcam for SolidWorks generates toolpaths that are fully associative to the design model, shortening your programming times and getting your machines cutting metal sooner.

Flexible

Delcam for SolidWorks provides a wide range of machining technologies, enabling you to program any type of machine, from mills to multi-tasking lathes and wire EDMs, quickly and efficiently.

Scalable

Delcam for SolidWorks' modular structure lets you grow your CAM system as you grow your business.

Reliable

Delcam for SolidWorks is based on over 30 years of continuous development and shares technology with PowerMILL and FeatureCAM, resulting in some of the most thoroughly tested toolpaths available in any CAM system.

DID YOU KNOW

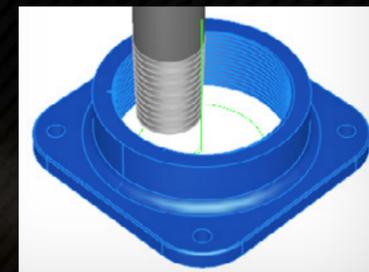
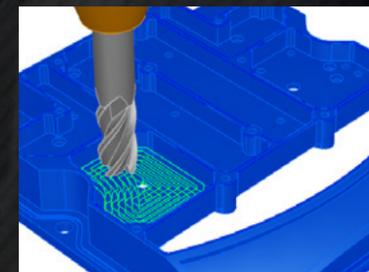


You can experience Delcam for SolidWorks completely free with Delcam for SolidWorks XPRESS. Download it now from www.delcamforsolidworks.com/xpress

DELCAM FOR SOLIDWORKS 2.5D MILLING

Do you need to program 2.5D parts in SolidWorks quickly and easily, with automation and control?

In a busy production environment every second counts, and it is essential that you produce parts as quickly and cost-effectively as possible. Delcam for SolidWorks 2.5D will calculate toolpaths directly on your SolidWorks model to create reliable NC code fast, helping you produce more parts faster.



Delcam for SolidWorks 2.5D includes:

- 2D features - holes, pockets, faces, slots, sides, chamfers and bosses
- Feature patterns
- Engraving
- 4th axis indexing and feature wrapping

Delcam for SolidWorks uses patented High Speed Machining technologies in all modules, so that your machine tools run at optimum efficiency. In combination with Delcam for SolidWorks' simple-to-use automation, this minimises the time between starting a project and holding a finished part in your hand.

BENEFITS

Comprehensive libraries of materials and tools to automate selection of all appropriate machining parameters

User-defined tool 'cribs' that only use tools available on your machine

Large library of proven post-processors so you can get your machine running sooner

Advanced machine simulation that shows you precisely how your machine will perform, eliminating costly errors

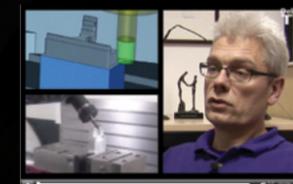
Automatic re-ordering of machining operations, to reduce tool-changes

Steps and Wizards to guide you through unfamiliar processes, reducing learning times

DID YOU
KNOW



Feature-based CAM is up to 5 times faster than conventional programming.



“We decided to go for Delcam for SolidWorks because of its full integration in SolidWorks.”

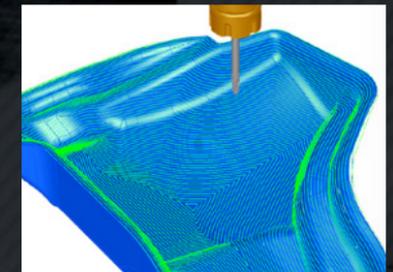
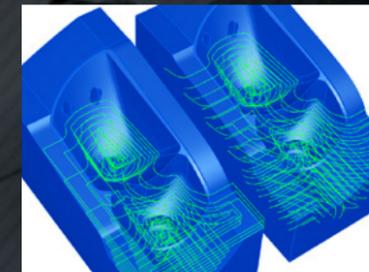
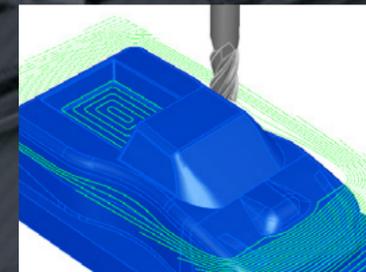
René Cleijpool, Promolding

www.delcam.tv/promolding

DELCAM FOR SOLIDWORKS 3D MILLING

Do you need to make complex parts?

Complex aerospace components, moulds, dies and automotive parts often require a combination of 2D and 3D machining strategies. Delcam for SolidWorks 3D adds a range of 3-axis milling capabilities, enabling you to broaden the range of work you can take on. With the same interface as all other Delcam for SolidWorks modules, Delcam for SolidWorks 3D is fast, powerful, flexible and easy-to-use. Delcam for SolidWorks 3D is modular, so you can grow your software as you grow your business.



Delcam for SolidWorks 3D Lite

Delcam for SolidWorks 3D Lite adds the ability to machine complex free-form single surfaces. For parts that are mainly prismatic, but have a few 3D faces as well, Delcam for SolidWorks 3D Lite provides a cost-effective solution. Select the surface to machine, and then choose the tools and strategies you need. Delcam for SolidWorks 3D Lite will also recognise all sharp edges in the 3D model, and chamfer them automatically.

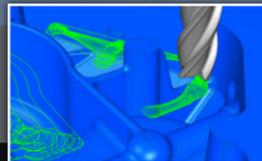
Delcam for SolidWorks 3D MX

Delcam for SolidWorks 3D MX provides the ability to machine multiple surfaces. The wide range of strategies available in Delcam for SolidWorks 3D MX enable you to tackle more complex jobs, simply and efficiently.

Delcam for SolidWorks 3D HSM

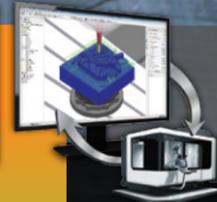
Delcam for SolidWorks 3D HSM is the complete 2 and 3D machining solution enabling you to take on the most challenging of programming tasks. Delcam for SolidWorks 3D HSM provides unrivalled power and flexibility, and includes all of Delcam for SolidWorks' powerful milling strategies and many shared with Delcam PowerMILL, including Vortex - Delcam's latest high speed roughing technology.

Vortex



Revolutionising High Speed Roughing

Vortex* is Delcam's latest high-speed area clearance technology. Deeper cuts use the full flute length as the cutting surface, allowing you to gain the maximum benefit from solid carbide tooling and reduce machining times by up to 60%. It can be used for 2 and 3-axis roughing, positional 5-axis area clearance and for rest machining based on stock models or reference toolpaths.



MachineDNA

Revolutionise Your Manufacturing Process

MachineDNA* is Delcam's groundbreaking technology fully integrated inside each Advanced Manufacturing CAM solution that calibrates your machine tools and feeds back the data to Delcam for SolidWorks. Toolpath strategies such as Vortex are automatically optimised to account for your specific machine tool characteristics, producing better quality parts even faster.

*Patent pending

BENEFITS

Uses the same interface as all Delcam for SolidWorks modules, so is easy-to-use and quick to learn

Fully scalable allowing for steady growth of your business

Knowledge-based programming gives consistent results, independent of user experience level

Wide range of powerful machining strategies, enabling you to make very complex parts quickly and simply

“Delcam for SolidWorks provided every capability that we needed to handle the toughest programming tasks”

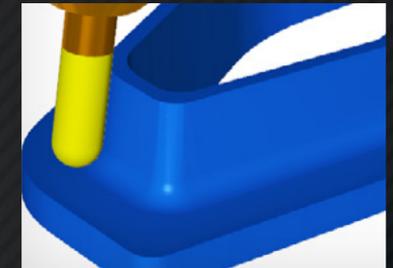
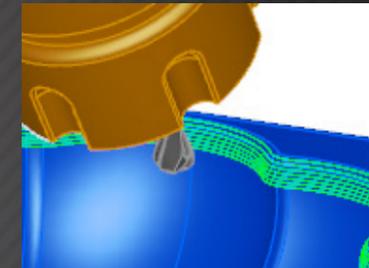
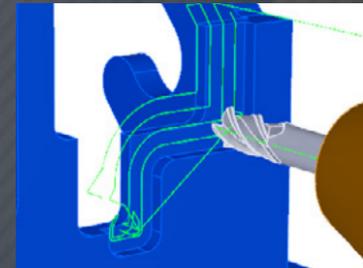
**Tim Stamps, Apex Manufacturing
and Design**

DELCAM FOR SOLIDWORKS 5-AXIS MILLING

Do you want to reduce setup times while improving part quality?

5-axis machining enables you to machine complex parts with shorter cutters, reducing vibration and improving surface finish. You can machine the whole part in a single setup, saving you time, and eliminating errors.

Delcam for SolidWorks 5-axis provides both positional and continuous 5-axis control, offering a wide range of strategies to make programming your multi-axis machines simple. Powerful collision avoidance and gouge protection ensure that the tool axis is re-aligned automatically if any part of the tool or tool-holder assembly interferes with the part. Tool motion is kept as smooth as possible, eliminating dwell marks and tool chatter, giving you the best quality parts quickly and efficiently.



BENEFITS

OF POSITIONAL 5-AXIS

- Can be used on horizontal or vertical machining centres
- Simplifies machining of deep cores and cavities
- Enables you to use shorter cutters, improving surface finish
- Reduces setups, saving you time and money, while eliminating setting errors
- Allows easy access to undercut regions

BENEFITS

OF CONTINUOUS 5-AXIS

- Enables you to machine very complex parts, using a wide range of strategies
- Produces high quality parts through collision avoidance with smooth tool motion
- Uses any type of tool geometry for greater flexibility
- Provides full gouge prevention for reliable production
- Machines all types of 3D model, including STL

DID YOU
KNOW



You can change the machine tool at any time, and Delcam for SolidWorks will re-create all the G-code automatically.

“Delcam for SolidWorks is about twice as fast as anything else out on the market. It became so easy for me to machine parts when Delcam for SolidWorks came out – it was literally inside of the SolidWorks we were versed at using.”

Ron Davenport, Sutter Instrument Corporation

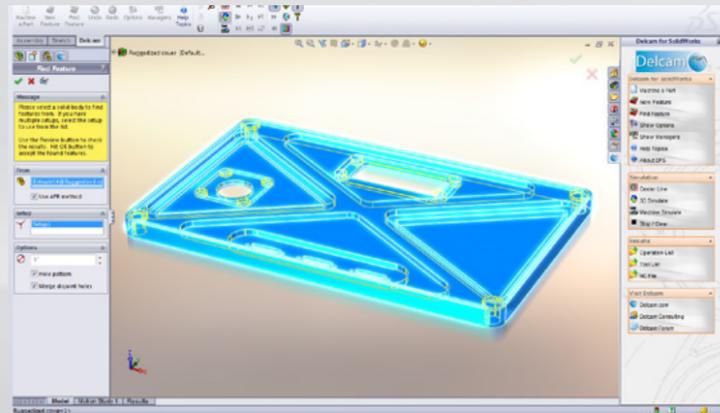
WHAT MAKES DELCAM FOR SOLIDWORKS UNIQUE?

FeatureRECOGNITION

Do you want to create toolpaths on your SolidWorks models, for everything from the simplest parts to the most complex?

Programming basic features such as holes, pockets and bosses manually is not only tedious but wastes valuable machining time and is prone to error. Delcam for SolidWorks provides you with three powerful FeatureRECOGNITION options that identify a wide variety of SolidWorks features, either interactively, fully automatically or through the SolidWorks Feature Manager. NC code is then generated for your machine tools using knowledge-based intelligence. Delcam for SolidWorks' built-in, fully customisable FeatureRECOGNITION finds and machines:

- 2D features such as holes, pockets, faces, slots, sides, chamfers and bosses
- 3D features such as angled holes and indexed features
- Turn features such as grooves, bores and turned profiles
- Turn/mill features such as indexed holes and pockets



“Delcam for SolidWorks has allowed me the freedom to try new things and create more complicated and complex designs”

David Crenshaw, Crenscor Machining
www.delcam.tv/crenscor

DID YOU KNOW



Delcam for SolidWorks creates a single assembly file containing all the manufacturing operations for effective PDM/PLM integration.

BENEFITS

Machining of basic features is automatic, but totally controllable and easy to configure

Machining features created from SolidWorks design features are completely associative; if the SolidWorks design model changes, the NC code updates automatically

Features will be found even if they overlap or intersect

Leaves you more time to concentrate on more challenging issues

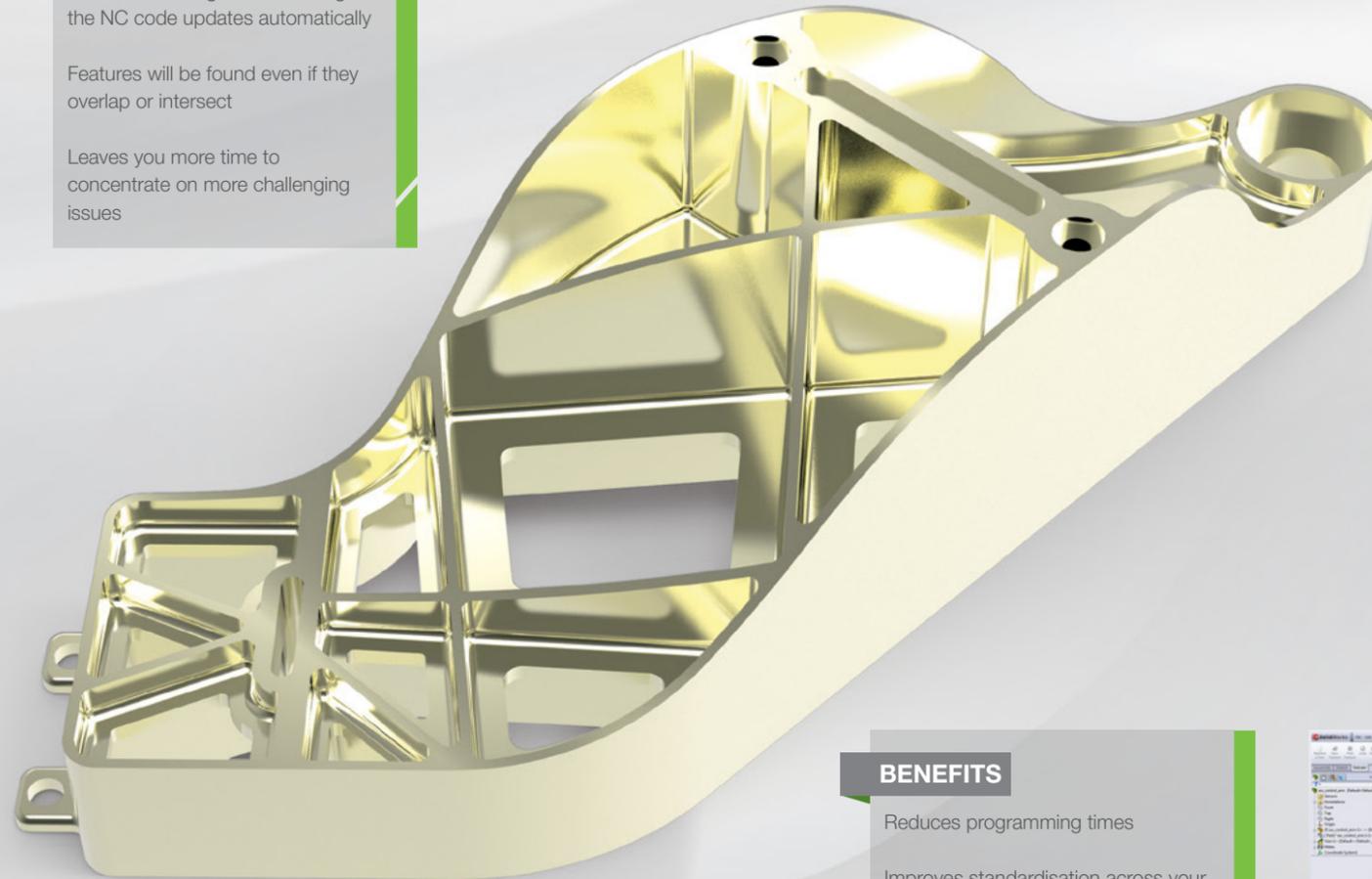
BENEFITS

Eliminates the need to re-program multiple part variations

Minimises the learning curve

Looks and behaves like SolidWorks

Consistent workflow across all product modules



BENEFITS

Reduces programming times

Improves standardisation across your organisation

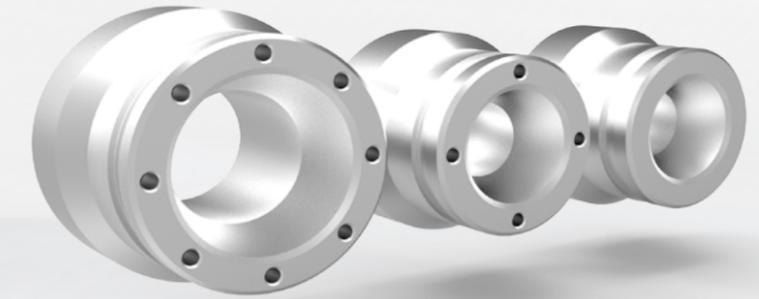
Automates manufacturing details

Manufacturing is associatively linked to part design

Workflow

Do you want to manufacture your parts using the familiar SolidWorks workflow?

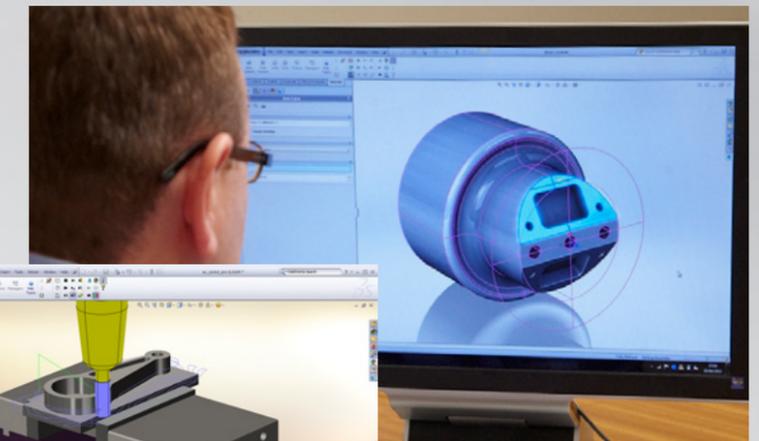
Programming parts in Delcam for SolidWorks is like working in any other SolidWorks document, making full use of the SolidWorks workflow. By retaining the same SolidWorks shortcut menus, keyboard shortcuts, mouse gestures and 3D mouse support, your learning curve is greatly reduced. As Delcam for SolidWorks operates in the assembly environment, fixtures and clamps can also be introduced and quickly collision checked before manufacturing. Support for SolidWorks configurations enables you to manufacture multiple variations of a part quickly and efficiently.



Associativity

Do you want to only program your part design once?

Delcam for SolidWorks is fully associative with your SolidWorks part. You can create machining features directly on SolidWorks geometry, using edges, sketches, faces or SolidWorks design features. Toolpaths then automatically update for both 2.5D and 3D models if the part design changes. In addition, Delcam for SolidWorks updates your manufacturing processes by automating tool selection, feeds and speeds, stepovers and stepdowns. All CAM operations are contained in a single assembly file and do not alter the original SolidWorks part.

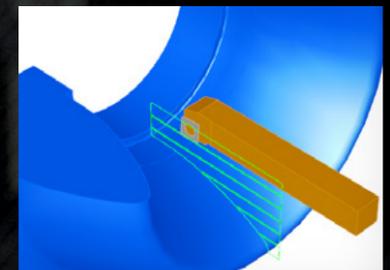
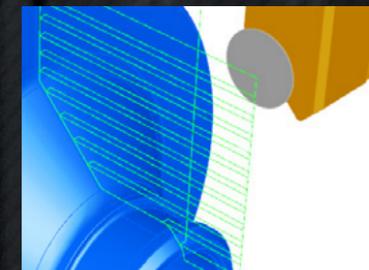
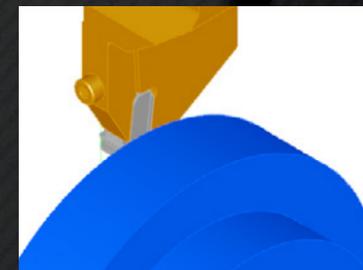


DELCAM FOR SOLIDWORKS TURNING

Do you need to produce high quality turned parts quicker?

Delcam for SolidWorks TURN lets you take full advantage of your NC turning centre to produce turned parts inside SolidWorks quickly and efficiently. Powerful but easy-to-use, Delcam for SolidWorks TURN uses Delcam for SolidWorks' feature-based programming to accelerate programming by choosing appropriate tools and settings automatically, based on the part's SolidWorks feature geometry. Toolpaths are fully associative with the part, so if any feature changes, all affected G-code is recreated automatically.

Delcam for SolidWorks TURN has a comprehensive library of standard thread forms, both Metric and Inch, making programming even simpler. Turning operations can be ordered intelligently to prevent scarring from swarf being dragged along the part. Delcam for SolidWorks TURN takes full advantage of your machine's canned cycles, reducing program size and giving shorter machining times.



BENEFITS

Produce more parts faster by reducing programming times

Gain consistent results through fully customisable knowledge-based programming

Check programs quickly and accurately, preventing scrap using built-in graphical simulation

Avoid damage caused by swarf build-up, using No-Drag turning

Use continuous material feed utilising bar-feeding and pull-feeding, or utilise the sub-spindle for even greater flexibility

DID YOU
KNOW



You can add your own routines for any feature at any time, for ultimate customisation.

“The visual aspect is what I really, really like. It is very robust! Simple, clean, effective.”

Mike Stringer, Custom Product Development

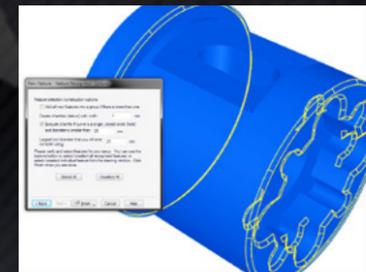
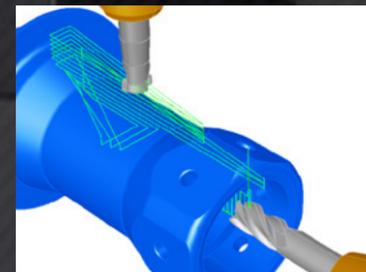


www.delcam.tv/cpd

DELCAM FOR SOLIDWORKS TURN/MILL

Do you want reliable production of precision parts on everything from the simplest turn/mill equipment to the most complex?

Modern turn/mill machines can produce high-quality precision parts quickly. The challenge is to create the most efficient toolpaths possible, so you can make parts faster, and maximise your profitability. Delcam for SolidWorks TURN/MILL combines Delcam for SolidWorks TURN with Delcam for SolidWorks 2.5D, enabling you to program any combination of milled or turned features in a single setup, and make full use of multi-tasking machines.



Delcam for SolidWorks TURN/MILL adopts the same knowledge-based philosophy as all Delcam for SolidWorks modules. Lead times are shortened through the automatic selection of all tools, strategies and settings based on the geometry of the part. Turning and milling operations are re-ordered automatically to provide the shortest possible cycle time.

For dual spindle, multi-turret machines with B-axis control, Delcam for SolidWorks Multi-Turret Turning (MTT) enables you to carry out 5-axis machining operations on your turn/mill machine. With efficient part transfer between spindles, NC code can be generated for all major controls, including Fanuc, Okuma, Heidenhain and more.

“Why program it 10 times when you can program it once? Configurations makes life easy, I don't have time to make life complicated.”

Neil Wilkinson, Superstar Components

DID YOU
KNOW



Delcam for SolidWorks' knowledge base is stored centrally, so any changes you make are instantly available to all users.

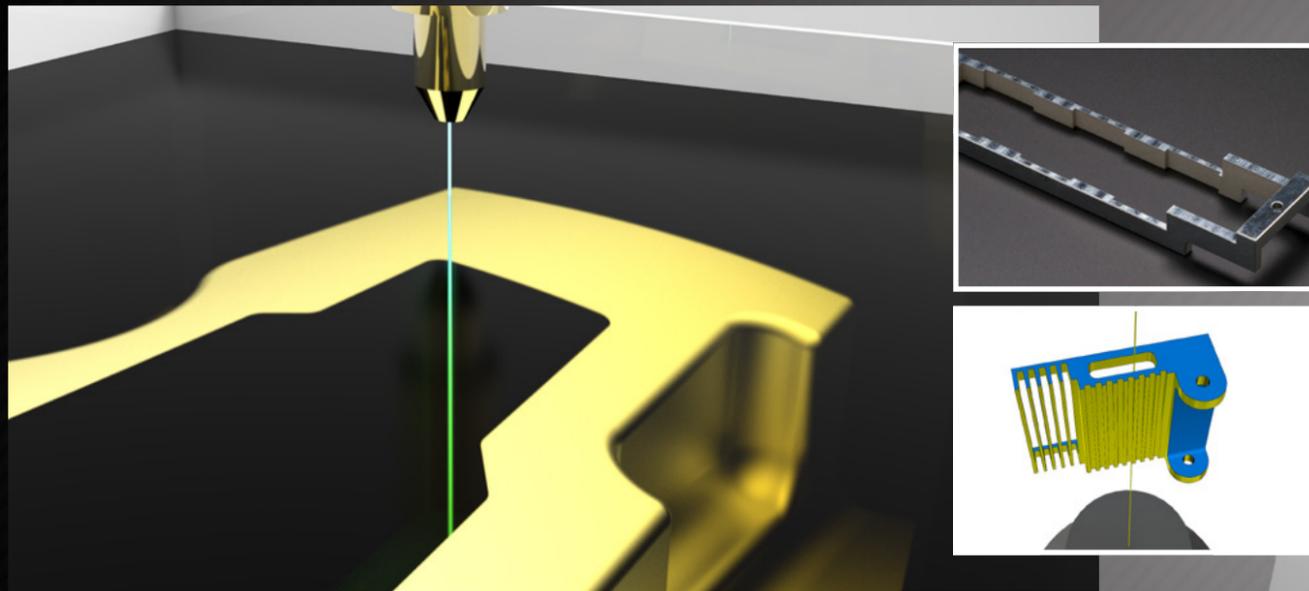
BENEFITS

- Maximise your return-on-investment by using fully proven post-processors to shorten machine commissioning times
- Better handling of interrupted cuts and improved chip breakage for significantly higher part quality
- Use any common configuration of machine, including those with C or Y-axis milling, and sub-spindles
- Reduce your manufacturing costs by machining complex parts in a single setup
- Increase programming speed through knowledge-based automation

DELCAM FOR SOLIDWORKS WIRE

Do you need fast, accurate control of wire EDMs?

Delcam for SolidWorks WIRE uses the same knowledge-based approach as all other Delcam for SolidWorks modules, enabling you to program 2 and 4-axis wire EDMs inside SolidWorks with ease. Based on the geometry of the part, Delcam for SolidWorks WIRE selects all appropriate settings automatically, generating ready-to-use toolpaths in seconds. Suitable for all types of wire EDM applications and machines, Delcam for SolidWorks WIRE will reduce your programming times and help you produce high accuracy parts quickly and simply.



DID YOU KNOW ?

Delcam for SolidWorks guarantees on-going compatibility with the latest versions of SolidWorks, and supports new SolidWorks functionality and operating system requirements.

“By using the feature recognition and toolpath algorithms of Delcam for SolidWorks, we were able to write programs for, and build, hundreds of machined components in only five weeks.”

Tim Stamps, Stamps Engineering

BENEFITS

Reduce programming time through fully customisable knowledge-based automation

Avoid wire breakage and subsequent down-time by using the cutting conditions database to choose all appropriate settings automatically

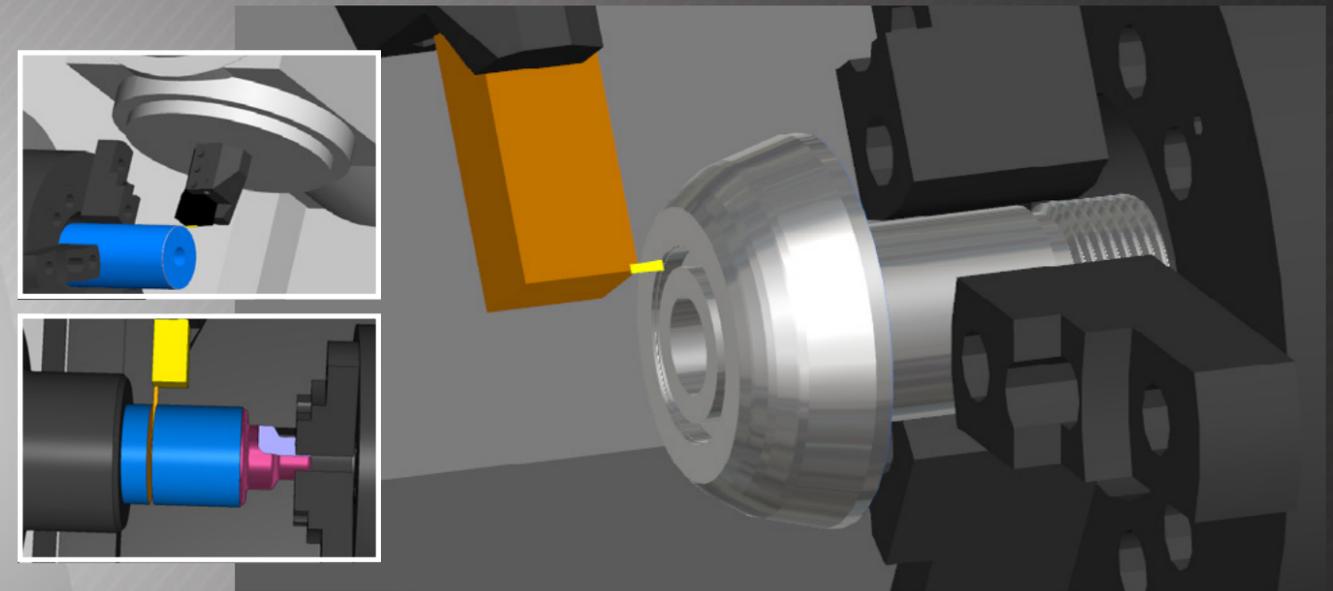
Reduce machine commissioning times through proven post-processors for all industry-leading machines, including AgieCharmilles, Fanuc, Mitsubishi and Sodick

Increase the range of parts you can offer to your customers thanks to the wide range of feature types supported by Delcam for SolidWorks WIRE, including dies, punches and sides

MACHINE SIMULATION

Do you want peace of mind that your toolpaths are always right?

Delcam for SolidWorks offers comprehensive machine simulation inside SolidWorks. Accurate, on-screen animations of your whole machine, tool assembly, stock and finished part, give you the peace of mind that you can run your programs safely. You can simulate the same set of toolpaths on a variety of machines, to help you decide which machine in your facility will be most appropriate.



BENEFITS

Check parts fully before running them on the machine

Eliminate scrapping parts due to programming oversights

Save time and money by eliminating machine down-time due to repairs

Correct any potential problems before they cost you money

“Delcam has done a great job integrating its CAM functionality into the SolidWorks environment.”

Craig Therrien, SolidWorks Corporation

DID YOU KNOW ?

Delcam for SolidWorks has achieved a 'Designed for SolidWorks' level of integration.

TECHNICAL PARTNERSHIPS

With the largest development team in the CAM industry*, Delcam holds regular meetings with technical partners to make them aware of our latest innovations. In return, Delcam learns about new machine tool and cutting tool technologies. This assists with the development of new software features and enhancements to enable you to take maximum advantage of the latest industry equipment.



Technical Collaboration

Delcam has developed strong relationships with a wide range of key stakeholders in the CAD/CAM industry, helping you to take advantage of the latest generation of machine tools and cutting strategies.



Post Processors

With machines of all types becoming more sophisticated and complex, close relationships are also important in the development of post processors to ensure a smooth transfer of CAM programs to any new machines.

Research and Development

Delcam works with technical partners from enterprises, universities and R&D centres to jointly research, develop and implement cutting edge CAD/CAM technologies. Projects are jointly funded by partners and funding agencies such as the European Commission and the UK Technology Strategy Board. This enables Delcam to develop the latest technologies to benefit your production requirements both now and in the future.



SUPPORT & MAINTENANCE

Everyone knows that business costs must be kept as low as possible but some cost-cutting measures could actually cost you more in the long term. Software maintenance safeguards your business, letting you get the best possible return on your investment and helping you stay one step ahead of your competitors.

Protect Your Investment

Your machine tools are an expensive investment and it is essential that they perform as efficiently as possible. The CAD/CAM software that helps you run those machines is under continuous development, becoming ever more efficient and cost-effective. Software maintenance ensures you are always at the forefront, using the best technology available and maximising your return.



Avoid Costly Re-training

Regular releases, several times per year, help you stay ahead of the competition through continuous improvements to your manufacturing processes. Regular incremental upgrades also allow you to schedule training effectively and avoid the disruption caused by occasional releases of fundamentally redesigned software.

Get Help and Support

What happens when you hit a problem? With a maintenance contract, help is just a phone call or email away, in your own language, from your local Delcam Sales Partner. Delcam's support engineers are located at more than 300 offices worldwide and have thousands of man-years of experience between them. This knowledge and experience not only covers Delcam's products but also the specific manufacturing technologies and processes used within the market sectors that Delcam serves. The combination of all these resources ensures that whenever a problem occurs, your downtime is kept to a minimum by getting the help you need, when you need it.



Quickly Learn New Features

With every major release you receive a DVD kit containing a detailed "What's New" booklet to keep you fully up-to-date with all the latest tools and how to use them. You can also view and download tutorial videos on the new features and improvements from the Learning Zone at www.delcam.tv/lz, available in many different languages.



“ We've been working with Delcam for quite a number of years now. We find their software extremely flexible and very easy to use. A lot of our customers use Delcam; it's probably one of the most preferred systems on the market. ”

Neil Stuart, DMG UK

www.delcam.tv/dmg

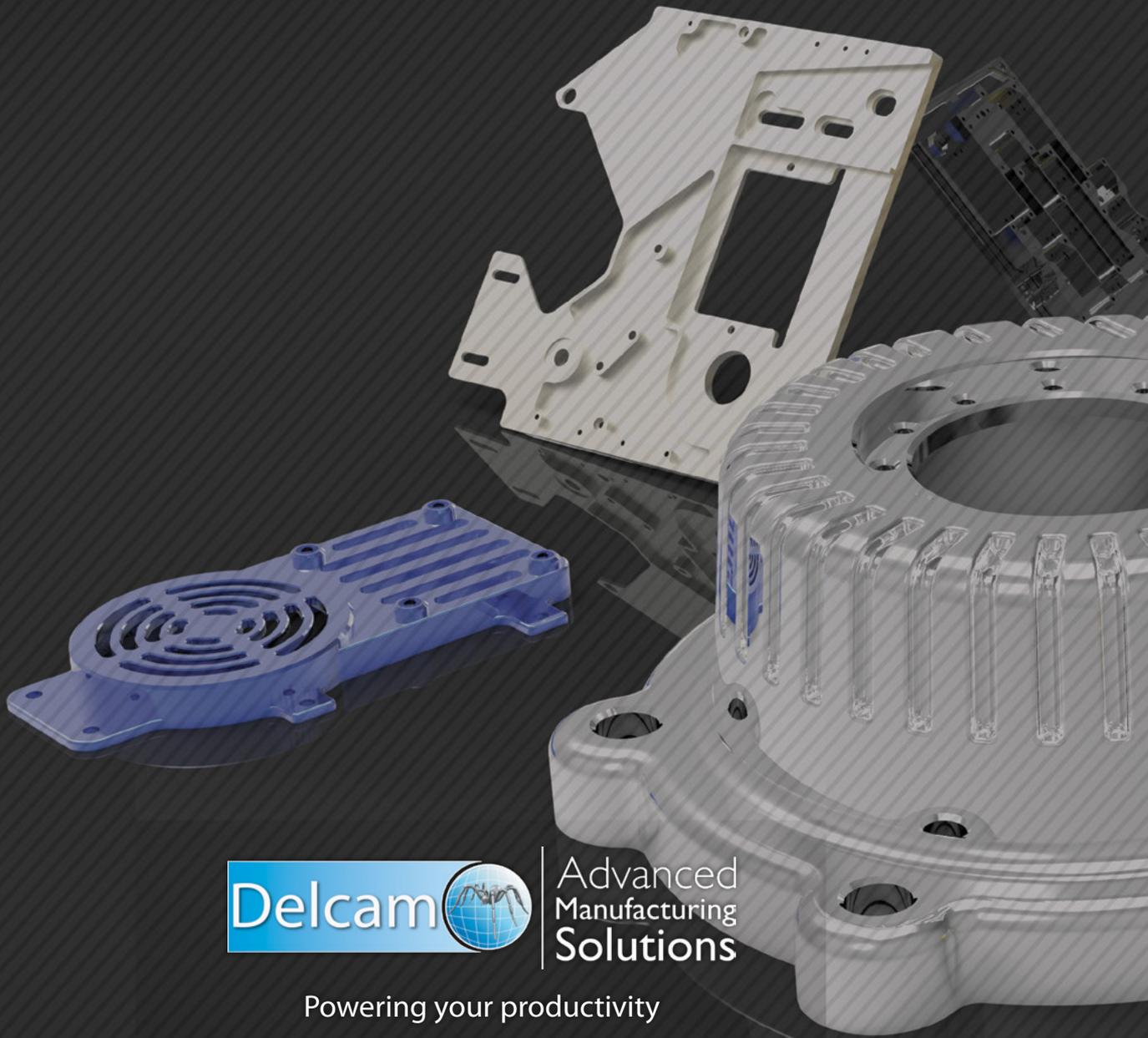


“ Delcam's technical support is great. We get upgrades and new software versions fast and implement them quickly. We can keep using 100% of our machines, be more efficient and make more money. ”

Vincent Cote, APN

www.delcam.tv/apn

*According to CIMdata



Powering your productivity

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