



Advanced
Manufacturing
Solutions



PowerINSPECT

World leading hardware-independent
inspection software

www.powerinspect.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

?

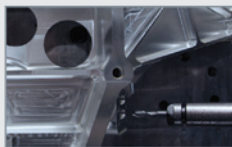
Delcam develops all its machining code in-house and tests it in its own Advanced Manufacturing Facility.

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



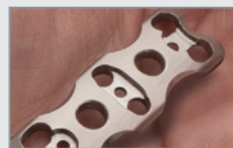
FeatureCAM is the unique CAM system that uses feature-based and knowledge-based technologies for automated machining, minimising programming times for mills, multi-tasking lathes, turn/mill, and wire machines.

Delcam for SolidWorks



Delcam for SolidWorks is a SolidWorks Gold Partner product that revolutionises CAM programming inside SolidWorks.

PartMaker



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

Connect with Delcam

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*According to CIMdata

PowerINSPECT

World leading hardware-independent inspection software



What are the most important factors to consider when choosing an inspection solution?

- ☐ Ease-of-use ☐ Clarity ☐ Speed ☐ Flexibility ☐ Customisation ☐ CAD capability
- ☒ All of the above?

PowerINSPECT is the preferred choice for thousands of organisations around the world. The ability to work with many types of inspection hardware including manual and CNC CMMs, portable arms, laser scanners, optical devices, and CNC machine tools makes PowerINSPECT ideal in every environment.

Easy to Use

PowerINSPECT's simple graphical user interface allows fast, easy and interactive programming.

Clear

PowerINSPECT produces reports with detailed, colour-coordinated text and images giving immediate feedback.

Fast

PowerINSPECT saves time at each stage from CAD reading through to programming and reporting. Reuse points to minimise the amount of measuring time required.

Flexible

PowerINSPECT is a single platform for all your inspection needs. It can be used with all types of measuring device.

Customisable

PowerINSPECT is fully customisable, from tailored reporting to customised add-ins and standalone client applications.

Compatible

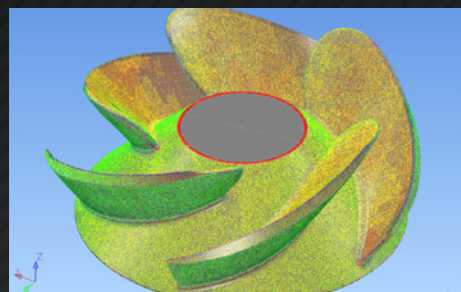
PowerINSPECT can quickly and easily read nominal data, including assemblies, from all mainstream CAD formats.

“Delcam has given us the capability to machine and inspect components in one operation within the 5-axis manufacturing cell.”

Kingsley Dyer, Strata Manufacturing

POWERINSPECT OVERVIEW

Fast and accurate inspection requires powerful functionality combined with ease-of-use. PowerINSPECT provides sophisticated but easy-to-use inspection and reporting capability for a wide range of measuring equipment, making it an ideal partner in a wide range of inspection and measurement environments.



Alignments

PowerINSPECT provides alignment methods for prismatic parts as well as free-form surfaces. Create alignments using geometric features, CAD surface or edge points, or a combination - whatever the job requires. If subsequent measurement results uncover problem areas, you can improve the alignment using a variety of best fit strategies. Multiple alignments can create independent verification of distinct areas or components within an assembly.

Full CAD Capability

PowerINSPECT's market-leading CAD capability allows you to use all mainstream CAD formats, providing maximum flexibility to work with data from customers or suppliers. A powerful CAD file manager allows you to manage complex layered parts, create assemblies from multiple CAD models and easily extract nominal data from geometric features.

Clear Graphical Displays

Colour-coordinated graphical displays of measured deviations and errors in the part allow you to see at a glance whether measured points and features are in, above, or below tolerance. This makes measurement results easy to understand and allows you to output graphical reports with a single click.

Surface Inspection

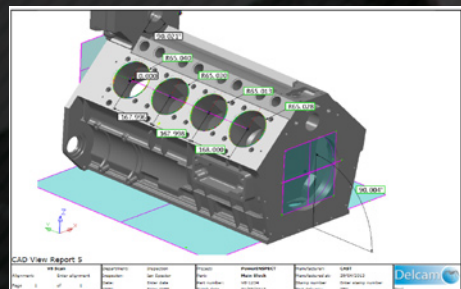
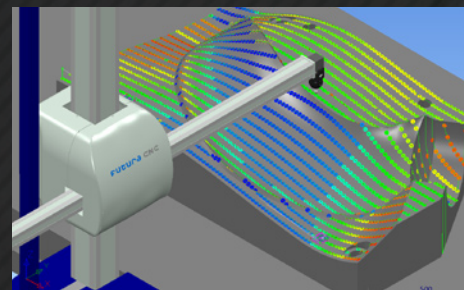
Colour-coded surface inspection provides you with real-time feedback about conformance to the CAD model. This feedback on each measured point consequently improves decision making and minimises wasted measurement.

GD&T

PowerINSPECT has a wide range of geometric measurement functionality including GD&T features such as true position, parallelism and concentricity. If you are using a CAD model, PowerINSPECT allows you to select geometric features including GD&T callouts interactively from the CAD view. PowerINSPECT can also detect nominal values and feature types when you measure against CAD.

Simulation

Machine simulation and collision detection in PowerINSPECT simplify and speed up the programming of inspection sequences. Offline programming is made much easier by the collision detection which highlights problems in probe paths, allowing the user to fix problems before transferring the sequence to the machine.



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There are
over 10,000
PowerINSPECT
installations
around the world.*

* Data correct as of 2012.

“Each measurement is
10 times faster.”

Donald Snow, CS Tool Engineering

BENEFITS

Use PowerINSPECT with a range of inspection equipment

Run a variety of inspection devices with confidence

The intuitive user interface maximises productivity by reducing training time and making measurement tasks easier

Extract maximum design intent from mainstream CAD formats

Create reports quickly

POWERINSPECT ON THE SHOP FLOOR!

Using PowerINSPECT with a portable device you take the measurement to the part, eliminating inspection bottlenecks. With an intuitive interface, short learning curve and powerful feature set, PowerINSPECT is the inspection tool for the shop floor.

Inspection Routines Made Simple

PowerINSPECT 'PlayOnly' makes in-process inspection faster, easier and more consistent. Sequences are programmed offline and passed to the shop floor where the operator loads the sequence and is guided through the inspection routine, but cannot change it.

Consistency and Repeatability

'Bouncing Ball' is a colour-coded probe path that guides you to the inspection points. PowerINSPECT makes measurement simple with visual and audible aids and the ability to specify the number of measured points required for a geometric feature. Guided measurements to single points or cross sections ensure routines are repeatable and consistent.

Batch Measurement

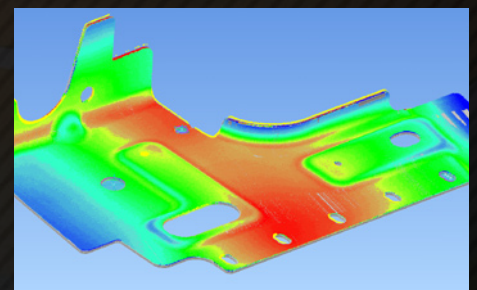
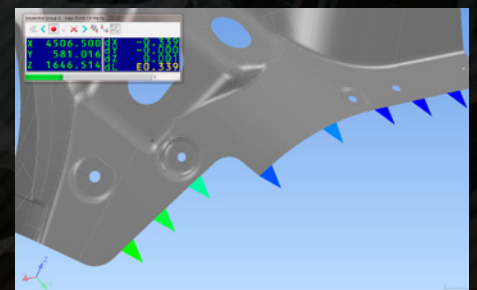
Measure a batch of components using PowerINSPECT's 'Measures' functionality. Duplicating the inspection sequence across the batch gives consistent and repeatable inspection data that can be exported to Microsoft Excel® or SPC specific software such as QDAS® or Lighthouse®.

Reporting

With single-click report generation you can see the entire inspection results quickly. Any potential issues can then be highlighted with the aid of images and colour-coded text. Reports can also be exported to Microsoft Excel®.

Custom Actions

You can automatically print reports once an inspection has completed, or stop the inspection when a feature is out of tolerance using PowerINSPECT's Custom Actions feature. Scripts written for specific actions can also be called as a 'Custom Action'.



BENEFITS

Improve manufacturing capabilities by adding in-process inspection

Reduce wastage and costs with real time feedback and single-click reporting - measurement data is available instantly

Complete portability - inspect anywhere on the shop floor

“Five minutes with PowerINSPECT saves an hour out on the assembly floor.”

Roger Timmons, Rayco Manufacturing

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PowerINSPECT can measure with two portable devices such as a tracker and an arm simultaneously.

POWERINSPECT IN THE INSPECTION ROOM

The comprehensive range of features in PowerINSPECT makes it the complete solution for manual and CNC CMMs. Inspection sequences generated from CAD can be created online or offline and can easily be transferred between devices.

Full CNC

Collision detection in PowerINSPECT CNC enables inspection sequences to be run without operator intervention. Automatic probe and stylus changing, continuous contact scanning, and automatic report generation mean an operator's time can be used more efficiently.

Raster Strategies

Creating raster strategies in PowerINSPECT is quick and simple. Probe paths containing a raster pattern of points can be automatically created for the whole part, groups of surfaces or a single selected surface.

Section Capabilities

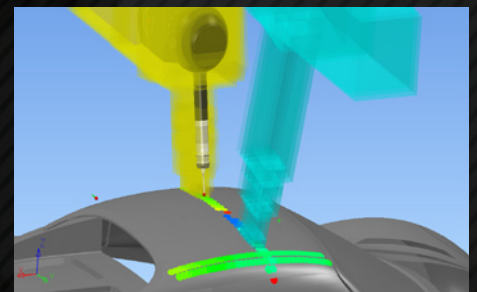
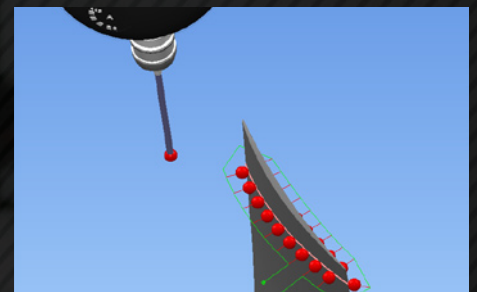
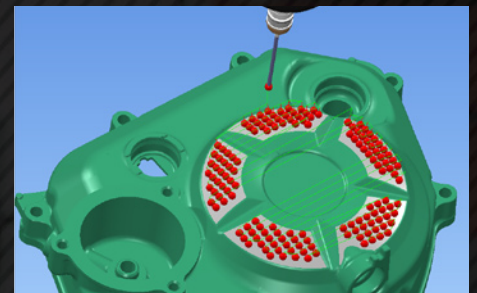
Probe paths for sections are generated automatically when a section plane is created. This helps to ensure consistency and efficiency. An interactive user interface then allows you to easily control the limits of the section.

Dual Column

One seat of PowerINSPECT can connect to and drive both columns of a dual column machine. Internationally renowned collision prediction routines also ensure that collisions between the two columns never occur.

Probing Techniques

To achieve flexible and efficient probing you can select from a wealth of scanning and touch trigger strategies. A variety of different methods for probe path generation and the ability to use 'Head Touches' ensure that you always have the most efficient method of inspection.



BENEFITS

Embedded strategies help to ensure the most efficient probing methods are selected

Pre-programmed inspection routines for common geometric shapes

Fast application of best-practice probing techniques

Machine simulation and collision detection simplify the programming of inspection sequences

“Without a 3D CAD file and PowerINSPECT, I don't know any other way we could have verified those dimensions.”

Gary Puhl, J.P. Pattern

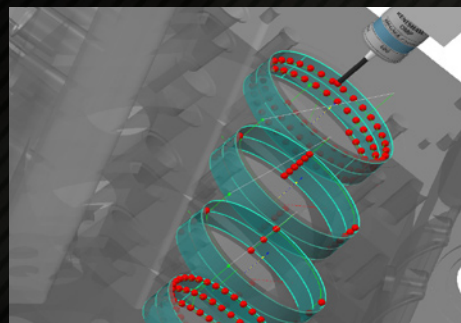
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PowerINSPECT Manual and PowerINSPECT CNC have the same user interface, allowing you to easily switch between inspecting on a portable device and a CNC CMM.

POWERINSPECT IN THE MACHINE SHOP

PowerINSPECT OMV is the complete inspection solution for measuring parts whilst they are still on the machine. Time penalties and set-up errors that may be incurred when transferring the part to the inspection department can be reduced. The inspection report highlights machining errors so they can be rectified before the part is removed from the machine.



Simple Offline Programming

Machine productivity is not compromised when programming an inspection sequence within PowerINSPECT OMV as the application runs offline. Inspection sequences are easily programmed using the intuitive graphical interface.

Multi-axis Capability

Complex free-form and prismatic parts are quickly inspected with PowerINSPECT OMV multi-axis. Up to two rotary axes can be controlled, as well as the three linear axes, to rotate the part or probe so all accessible features can be inspected.

Software Fixturing for Machining

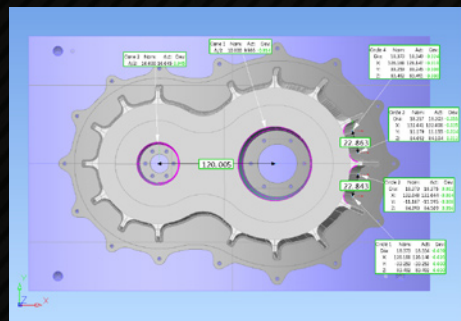
Complex free-form parts, very large parts, and parts with varied form or stock can be easily and accurately aligned for machining using the power of the PowerINSPECT alignments. Expensive fixtures become redundant as part holding becomes the only requirement.

All Mainstream Controllers

OMV uses standard machine controller measuring functions. Machine tools fitted with any of the mainstream CNC machine controllers can be configured to realise their inspection capabilities.

Process Integration

PowerINSPECT can be automated to give a bespoke inspection solution as part of a complete manufacturing process.



“With PowerINSPECT OMV the process is much easier and much faster. This means I can take more measurements in much less time.”

Steve Davies, Pro-Mil

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Delcam developed PowerINSPECT OMV to minimise set-up time in its own Advanced Manufacturing Facility.

BENEFITS

PowerINSPECT OMV builds on the toolpath programming and simulation technology from Delcam's award-winning CAM software solution, PowerMILL.

Program inspection routines for 3 and 5-axis components easily

Maximise machine productivity

Develop multi-axis measurement sequences quickly thanks to pre-programmed routines for standard features



POWERINSPECT IN PROTOTYPING

PowerINSPECT is an ideal solution for measuring prototypes, tooling and other one-off components. Powerful functionality combined with ease-of-use provides a fast, flexible tool for creating new inspection routines.

Fast Measurement

PowerINSPECT provides quick and easy programming of measurement sequences allowing you to measure parts with minimal preparation. 'Geometric Multimeasure' allows you to measure repeated features without creating them first, and even determine the geometric feature type and nominal values when you are measuring with a CAD model.

Read All CAD Formats

Delcam's market-leading CAD reading functionality helps you to create inspection sequences quickly and accurately. This functionality supports assemblies and detailed structure trees, allowing you to create geometric features interactively from the CAD model. This ensures speed and accuracy and minimises training requirements.

Immediate Feedback

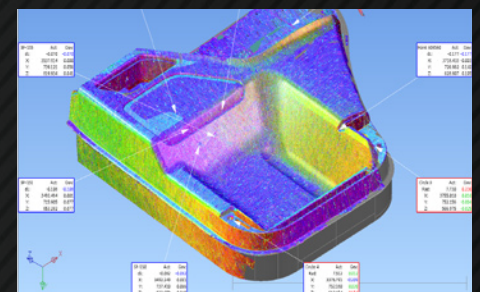
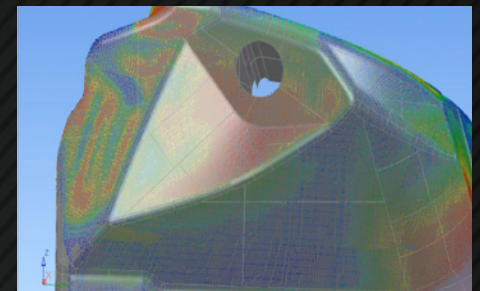
PowerINSPECT updates the measurement results with every probed point, giving you immediate feedback and helping you to make informed decisions as quickly as possible.

Flexible Alignments

PowerINSPECT provides fast and flexible alignment functionality, including a variety of powerful best fit strategies. This allows you to align difficult components - including free-form shapes and parts without fixtures - quickly and easily.

Easy to Read Reporting

Reporting in PowerINSPECT is quick to create and easy to understand, ensuring that inspection information is accessible to everyone who needs it. Graphical report summaries can be created with a single click, and more comprehensive reports combining images and text can be created with minimum effort.



BENEFITS

Compare parts and tooling against all mainstream CAD formats

View results instantaneously with colour-coordinated on-screen feedback

Quick and easy inspection routines

Work with Laser scanning and output to CAD



www.delcam.tv/forceindiaf1

“ I would recommend Delcam PowerINSPECT to any company that wanted to reduce the amount of time it took to take measurements, and to improve the accuracy of the measurements they were taking. ”

Tony License, Force India F1

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Delcam Exchange provides conversion between CAD formats and is integrated with the PowerINSPECT installation. You can also use Delcam Exchange as a standalone CAD translator and viewer.

POWERINSPECT IN DESIGN STUDIOS

PowerINSPECT provides powerful functionality for clay modelling applications. Streamlined, easy-to-use features allow users to concentrate on the model making process. Even with minimal training modellers can quickly become more productive.

Quick Calibration and Alignment

PowerINSPECT includes probe calibration strategies and alignment methods specifically designed for clay modelling applications. These combine speed with ease-of-use, reducing training requirements and allowing you to focus on the measuring and modelling tasks.

Curve Digitising

Digitising allows you to capture the shape of a clay model with points, curves and edges. You can refine curves by removing points or taking additional points. Gap functionality allows you to omit a particular region and re-measure it later.

Exporting to CAD

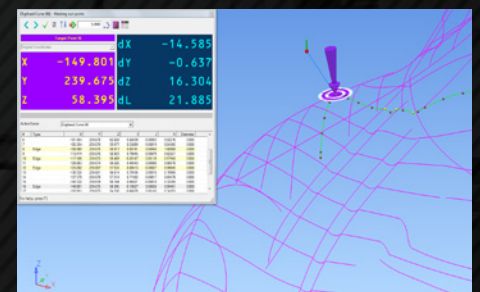
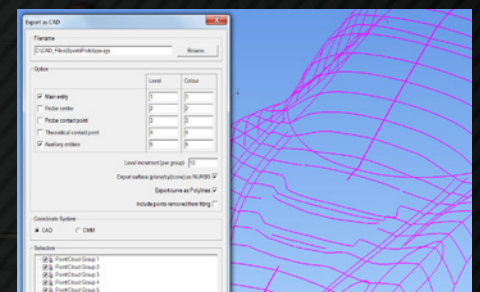
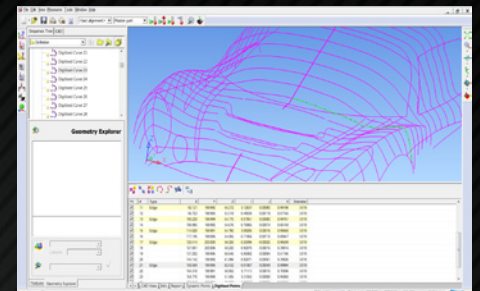
All measured features in PowerINSPECT can be exported in a range of formats for use in your CAD system. Digitised curves can be output as points, curves or polylines.

Curve Editing

You can use partial CAD data to create digitised curves more quickly and graphical selection functionality allows you to select boundary curves. Cross sections can be created directly in the CAD view and can be transformed, mirrored and scaled.

Marking Out

PowerINSPECT provides marking out functionality for building a clay model from known curves and points. PowerINSPECT helps you to guide a scribing tool to mark out the required points and curves. The curve transformation makes it faster and easier to create scale models and mirror images.



BENEFITS

Minimise measurement time with quick and easy digitising

Reduce the need for re-measuring with powerful and intuitive editing and mirroring of digitised curves

Work with a wide range of CAD packages

Streamline the marking out process with guidance to curves or points, from digitised data or CAD

CMMs have been used in design studios for more than 20 years. Delcam's design solution is a reliable, affordable and future-proof upgrade for maximising productivity in modelling and clay milling applications.

Dr. Manuela Klingler-Kohler, Stiefelmayer-Messtechnik GmbH & Co. KG

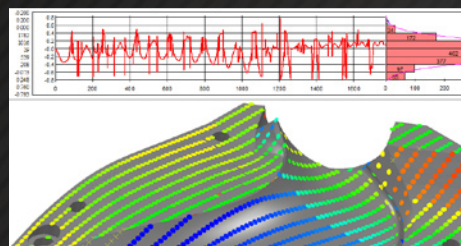
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Delcam Clay Milling combines PowerMILL toolpaths with PowerINSPECT's device connection technology to provide simple light machining on suitable CMMs.

REPORTING

PowerINSPECT helps you quickly create professional, attractive reports that are easy to understand. Whether it's a single page summary, or a detailed report with text, tables and images, you can create a permanent record of the inspection reports with minimum delay.

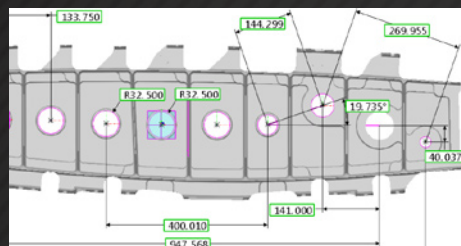


Create Reports in a Single Click

Any screen view in PowerINSPECT can be formatted and output as a report with a single click. This is the fastest and easiest way to highlight any problems or areas of particular concern.

Assess Results Quickly

Colour-coded inspection results are quick and easy to create and allow you to assess results at a glance.

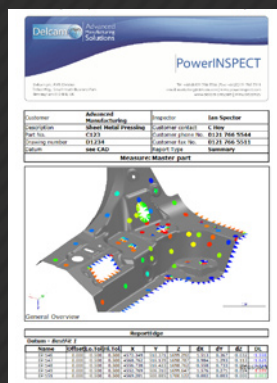
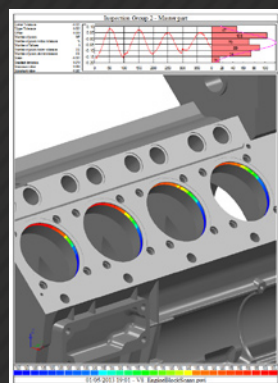
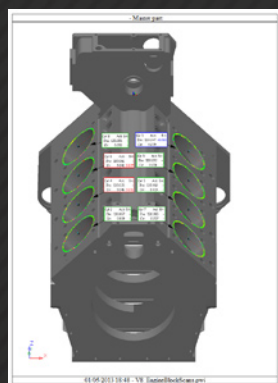


Annotate Results Easily

On-screen report labels are automatically positioned for clarity, speed and ease-of-use, but you can also position labels manually where maximum control is required.

Add Images to the Report

Full tabular reports are automatically created in PowerINSPECT as you create the inspection sequence. Easily create additional clarification by adding images from the graphics window.



“Every job is different and the reports can be tailored to each one. The reports are clearer and much more detailed than anything we could do before, and we can insert a PowerINSPECT screen image anywhere we choose.”
Marty Heald, Concepts NREC

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PowerINSPECT builds the report as you program the inspection sequence, and automatically updates it as you measure new features.

CUSTOMISATION

PowerINSPECT's powerful, wide-ranging and easy-to-use functionality can be customised or enhanced to meet specific needs. Highly specialised and automated processes can also be replicated for PowerINSPECT to maintain optimum process performance.

Customisation via Automation

PowerINSPECT can be automated from any object-oriented programming language, making the product an advanced open system. These modules can be add-ins or standalone applications. Many add-ins are pre-installed for each PowerINSPECT version, and new ones can be loaded afterwards.

Custom Action Sequence Items

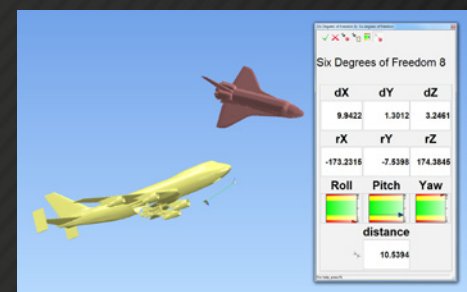
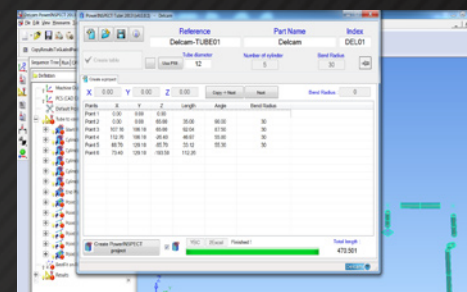
Custom action sequence items can be used to run commands or scripts, adding logic to the inspection sequence. For example, 'stop measuring if an item is out of tolerance' or 'automatically print the report on measurement completion'.

Changing Units

Swapping from inches to millimetres is possible in a single click. You can receive a session in inches and easily measure the items or produce a future report in millimetres.

Customised Reporting

PowerINSPECT report templates can be customised with specific company logos and company details. This can then be set as a default to ensure consistency of appearance throughout all company reports.



BENEFITS

Automation makes PowerINSPECT extremely flexible. Use automation to create tailor-made applications

Quickly create sequence items or automatically export results to a preferred format using add-ins

Develop new features that are not in the core product using automation

“Great news. We got the order because of this special application! Many thanks.”
Sergio Di Lenardo, Steen Metrology Systems

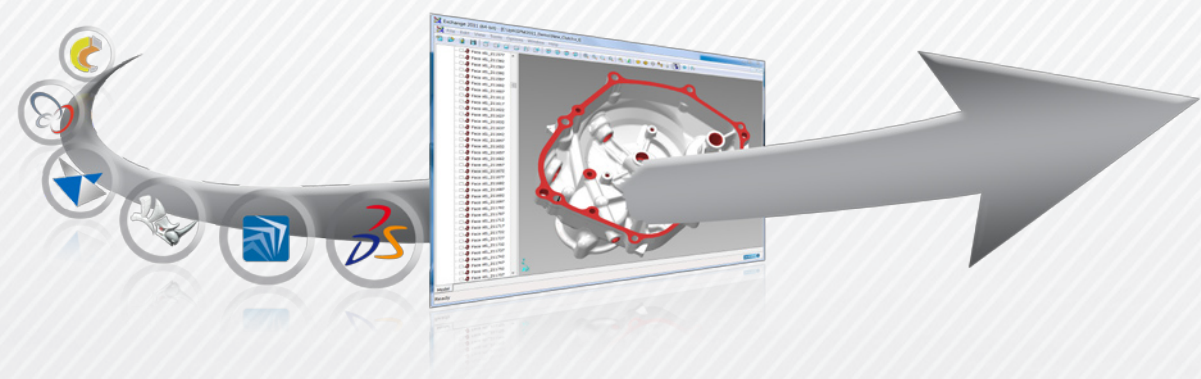
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Delcam Professional Services can provide automated solutions for specific manufacturing applications.

EXCHANGE

Delcam Exchange converts data files from virtually any source to formats that your own CAD/CAM software can read and use. Avoid wasting money on expensive seats of CAD just so you can translate incoming data. Delcam Exchange uses a unique voucher system that lets you try different output formats as long as there is no change to the original file. Delcam Exchange lets you see exactly what is in any input file before choosing to buy a voucher. Only pay for what you use.



SECURE

All translations occur on your own PC with no need to upload files over the internet



POWERFUL

Delcam Exchange converts between all of the most common CAD formats



COST-EFFECTIVE

'Try before you buy'. Only pay for the translations you need



FLEXIBLE

Easily upgrade with additional CAD formats as your business grows



Commercial CAD Formats	Read	Write
AutoCAD (DWG & DXF)	✓	✓
CATIA	✓	
CATIA 5	✓	✓
Cimatron	✓	
Elite	✓	
IDEAS	✓	
Inventor	✓	
Pro-Engineer	✓	
Rhino	✓	✓
Solid Edge	✓	
SolidWorks	✓	
SpaceClaim	✓	
TopSolid	✓	
Unigraphics NX	✓	

Neutral Formats	Read	Write
ACIS	✓	✓
IGES	✓	✓
Parasolid Export	✓	✓
STEP	✓	✓
VDA	✓	✓
Delcam Formats	Read	Write
DDX	✓	✓
DGK	✓	✓
DMT	✓	✓

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 inspection devices are an expensive investment and it is essential that they perform as efficiently as possible. The software that helps you run those devices 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.

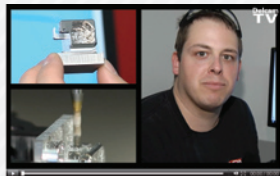
Get Help and Support

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.



www.delcam.tv/apn

“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



Advanced
Manufacturing
Solutions

Powering your productivity

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