



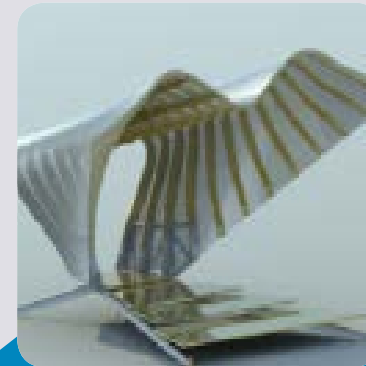
# Do more with Dell Precision and SOLIDWORKS 2014



“ Dell and SOLIDWORKS have been working together over many years to help engineering professionals develop some incredible new innovations.

Our joint focus has always been on the development of solutions that allow our customers to focus on their project rather than the technology or software they’re using to do the job. That’s why with Dell’s latest range of Precision workstation solutions and SOLIDWORKS 2014 we think you have the perfect solution. ”

Andy Rhodes,  
Executive Director and General Manager  
Dell Precision.



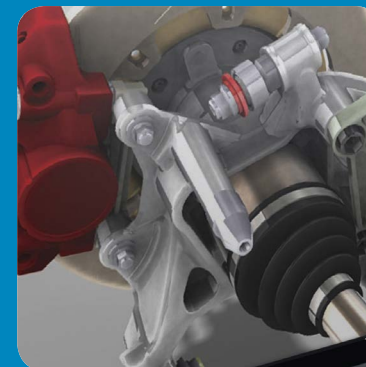
**Top 10 must-haves for  
SOLIDWORKS 2014**



**Why certification  
really, really matters**



**Your workstation  
environment just  
the way you want it**



**SOLIDWORKS 2014  
highlights**



**All gain, no pain —  
get up to 57% faster  
performance**



**Performing under  
fire — SOLIDWORKS  
and Dell Precision in  
action**



# SOLIDWORKS 2014 and Mark's



[www.solidolutions.co.uk](http://www.solidolutions.co.uk)



See performance gains of SOLIDWORKS 2014 on the latest Dell Precision workstations

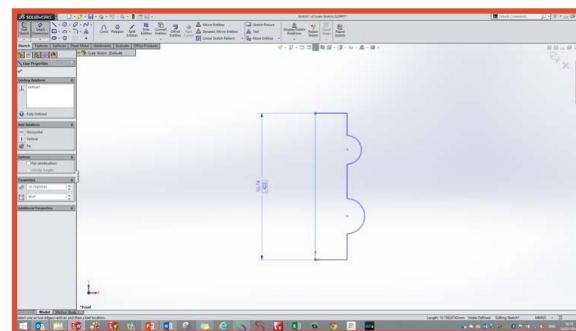
SOLIDWORKS 2014 builds on the success of previous versions to deliver improved performance, more focused design tools, integrated workflows and enhanced visualisation. To help us to gain a clear impression of the new version, we asked Mark Rushton, Pre-Sales Technical Manager and one of the Elite Application Engineers at Solid Solutions, to select his top ten features of the new release.

Despite Mark protesting that selecting just ten features was no trivial task, we persisted, resulting in his top ten...

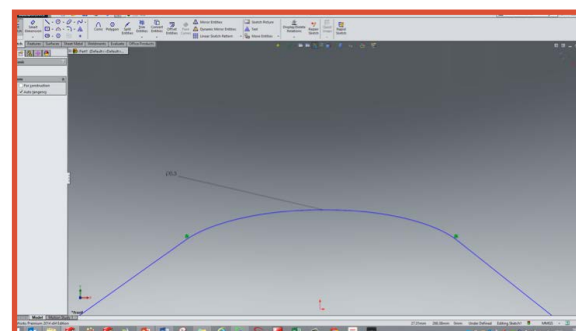
[Click on the images](#)

## Top 10

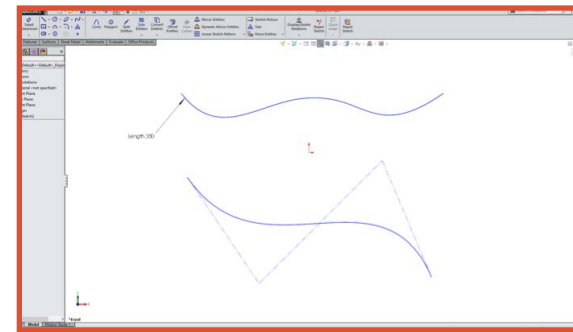
### 1 Sketches



### 2 Conics



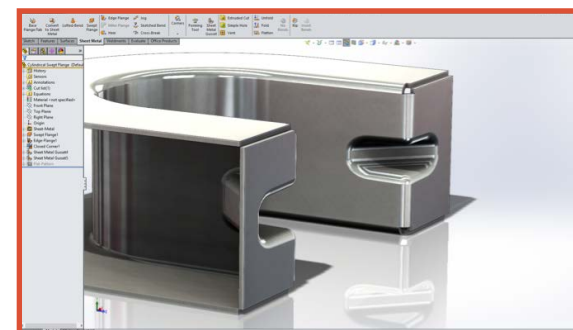
### 3 Splines



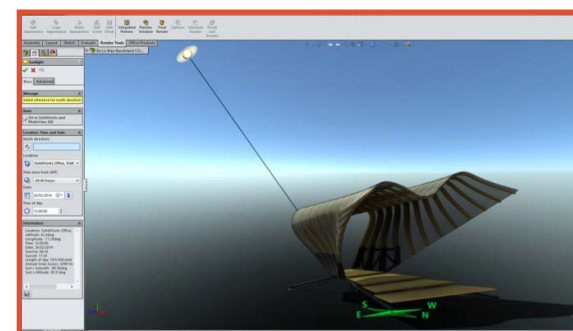
### 4 Replace Sketch Entity



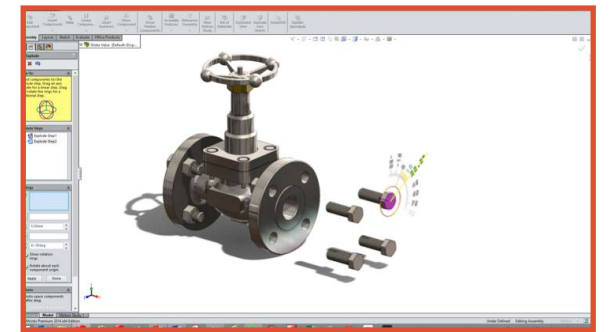
### 5 Sheet Metal



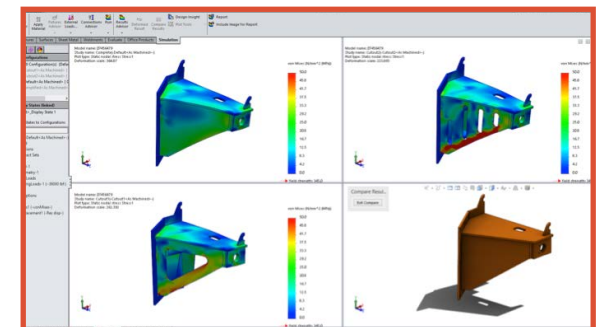
### 6 Sunlight in PhotoView360



### 7 Explode with rotations



### 8 Simulation



### 9 Slot Mate



### 10 Augmented Reality in eDrawings Mobile





# Why certification really, **really** matters

**“Our strong relationship with DELL extends to certification, testing, performance, and the selection of the right system to do the job”**

Aaron Kelly  
Vice President of Product Management  
SOLIDWORKS

On the frontline, professional designers and engineers demand a stable reliable platform to run CAD/CAM and CAE software. It's fundamental. That's why at Dell we invest thousands of hours with independent software vendor (ISV) partners like SOLIDWORKS rigorously testing our Dell Precision workstations so we can deliver tested, fully optimised solutions that can help you drive down costs and raise efficiency and productivity. This combination of purpose-built solutions and a common passion to enable the world's most

creative minds has helped Dell forge lasting partnerships with some of the most advanced software companies in the world including SOLIDWORKS.

Find out more about the  
**Dell Precision Technology Partner Program**



download the full interactive  
guide to view this video



Certification provides a clear-cut assurance that a specific combination of hardware and software meets all the key requirements to deliver high performance. The process includes:

- Dell provides the ISV partner with a variety of workstations to test.
- The ISV takes the hardware through its paces, running the application through a wide variety of test scenarios.
- Any issues are fed back to Dell and we work closely with the ISV to resolve them, meaning that the system is pre-tested to ensure that the workstation runs the application in exactly the way it was designed.

Example: If an issue arises relating to a graphics card, we then work with the card manufacturer to ensure that they make the necessary changes to the graphics driver. It's a collaborative process. The most significant part of certification involves testing with professional graphics. This is one of the most complex aspects of any 3-D software as it needs to work with graphics cards from multiple vendors. Testing typically includes loading and spinning a model and running through different viewing states – such as wireframe, shaded or rendered – to check it displays correctly. Geometry is often modified to see if the model updates correctly.

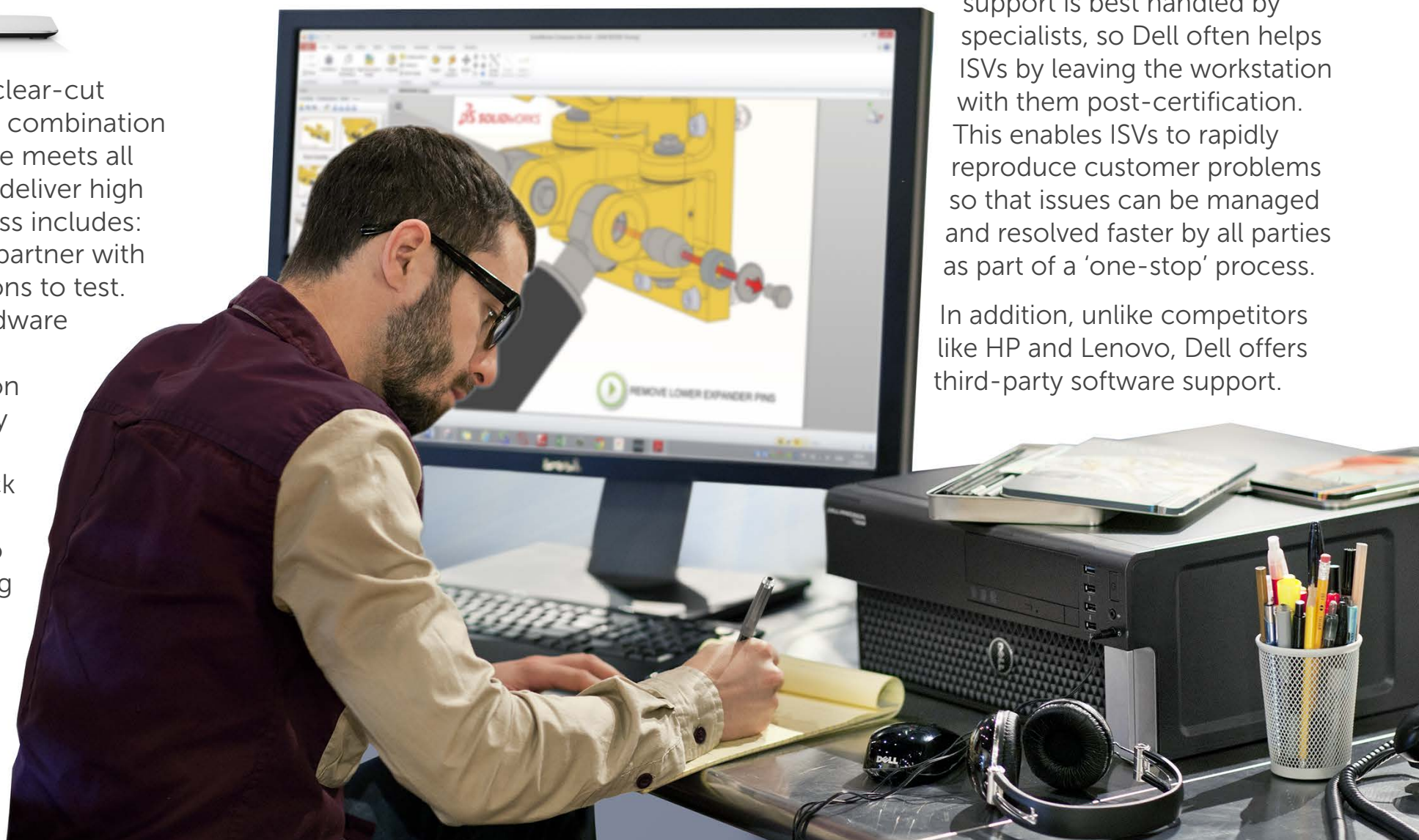
**“Technically speaking, if a customer buys a non-certified workstation not all parties are fully responsible for support.”**

Ongoing support is a huge upside to buying a certified workstation – and the only way you can be sure to avoid the danger of getting the run-around. Certified configurations will be supported by all parties, so if any problems arise then Dell and our certified partners will work collaboratively to resolve them.

Technically speaking, if a customer buys a non-certified workstation, not all parties are fully responsible for support.

We recognise that software support is best handled by specialists, so Dell often helps ISVs by leaving the workstation with them post-certification. This enables ISVs to rapidly reproduce customer problems so that issues can be managed and resolved faster by all parties as part of a 'one-stop' process.

In addition, unlike competitors like HP and Lenovo, Dell offers third-party software support.





# Your workstation environment just the way **you** want it

An optimised Dell Workstation for SOLIDWORKS is just the beginning. From high speed Thunderbolt™ 2 storage to a 3DConnexion 3D mouse and UltraSharp monitors, we have an extensive portfolio of accessories designed specifically for the engineering community, all selected to enable designers to work fluidly with their models.

## Top of the wishlist for SOLIDWORKS users is currently:

- 3DConnexion SpacePilot PRO 3D motion controller mouse
- Dual Dell UltraSharp 24" monitors
- External Thunderbolt 2 storage

### 3D Mouse

3DConnexion SpaceNavigator mouse technology delivers natural and intuitive navigation around and through the most popular and powerful 3D applications. Push, pull, tilt or twist functionality enables simultaneous pan, zoom, rotation and fly-through while programmable keys allow you to store favourite application functions for immediate access.

### Dell UltraSharp monitors

Award-winning Dell UltraSharp monitors deliver a perfect combination of revolutionary viewing experience, uncompromising performance and innovative product design. The monitors provide stunning clarity with exceptional resolution. Colours are true-to-life, consistently accurate and rich, utilising the state-of-the-art Dell PremierColor system, factory-calibrated to match industry standards out-of-the-box, with the option to adjust colours on-screen to suit your specific requirements.

Featuring in-plane switching technology, Dell UltraSharp monitors provide precise colours across a wide viewing angle and maximum view options, with height-adjustable stands with tilt-and-swivel and pivot features on monitors up to 32".

### Multi-monitor stands

Developed to enable users to run dual monitors side-by-side, Dell multi-monitor stands maximise viewing comfort and improve productivity. Tilt, swivel, height adjustment and horizontal slide capabilities combine with Dell VESA quick-release mounts to allow snap-on monitor convenience, while the U-shaped base and cable management slot free-up desk space and reduce cable clutter.

### External Thunderbolt 2 Storage

Thunderbolt is a dual protocol I/O innovation that dramatically increases transfer performance with high bi-directional transfer speeds and offers daisy-chaining to multiple devices via a protocol that combines PCI Express and DisplayPort protocols onto a single, highly efficient protocol. Thunderbolt 2 supports transfer bandwidth of up to 20 Gbps as well as enabling simultaneous 4k video file transfer. Thunderbolt cables deliver double the power of USB, capable of powering peripherals like external hard drives and freeing users from the restrictions associated with large data file transfers.



# SOLIDWORKS 2014 places a big emphasis on real time rendering with RealView playing a key role in its powerful design visualisation toolset



Long gone are the days when visualisation was only used to showcase final designs. Advanced rendering technologies and powerful workstation hardware now mean it can be an integral part of the design process. Visualisation can help designers and engineers make informed decisions at every stage of a product's development.

SOLIDWORKS PhotoView 360, the high quality ray trace renderer which comes with SOLIDWORKS Professional and SOLIDWORKS Premium, can produce stunning lifelike visuals. However, ray

trace rendering, which simulates light and how it reflects and refracts off objects, can be very CPU-intensive and take a considerable time to generate stills and animations.

But visualisation doesn't have to interrupt the natural flow of design. Real time rendering makes it possible to get instant feedback on new design iterations. Designers and engineers can explore new forms and materials in tandem. Feedback from participants in design or review sessions can be investigated interactively. Inside SOLIDWORKS, real-time rendering

is enabled through SOLIDWORKS RealView, which delivers realistic interactive models directly inside the viewport. Each new release of SOLIDWORKS raises the bar in terms of the visual quality offered by RealView. This is through new technologies such as Ambient Occlusion for more realistic shadows and Order Independent Transparency for rendering semi-transparent objects.

RealView requires a workstation-class Graphics Processing Unit (GPU), such as AMD FirePro or NVIDIA Quadro. As more effects are switched on, a

greater load is placed on the GPU so more powerful graphics cards help designers maintain full interactivity with the model.

RealView is not designed to replace PhotoView 360 but, when used together with the ray trace renderer, it gives SOLIDWORKS users access to a powerful design visualisation toolset that can be used from concept to final design all the way to product marketing.

# For SOLIDWORKS GHz is king

Choose the fastest processor possible and up the number of CPU cores if PhotoView 360 is important to your workflow.

Matching a workstation to your SOLIDWORKS workflow can be a daunting task. A CPU with two cores should be considered a minimum, but more cores will better support multi-tasking and cut ray trace render times, while those who use PhotoView 360 should consider a dual CPU workstation.

There's plenty of detailed advice on tap from Dell, including a configuration tool, but here are some top-level considerations:

## Storage

A Solid State Drive (SSD) will make the workstation more responsive and applications and datasets will load quicker.

## Processing power

If you've already upgraded graphics, increase CPU frequency first – graphics and IO performance will go up with CPU frequency (and architectural generation). Memory: increase memory speed, then number of DIMMs (increasing memory bandwidth).

## Graphics power

RealView requires a professional 3D graphics card, such as AMD FirePro or NVIDIA Quadro.

**Designers handling highly complex parts, very large and complex assemblies, including plant and routing design, creating large photo-realistic renderings, running very large scale complex FEA, CFD, and Kinematic Analyses.**

### Dell Precision Tower 7810

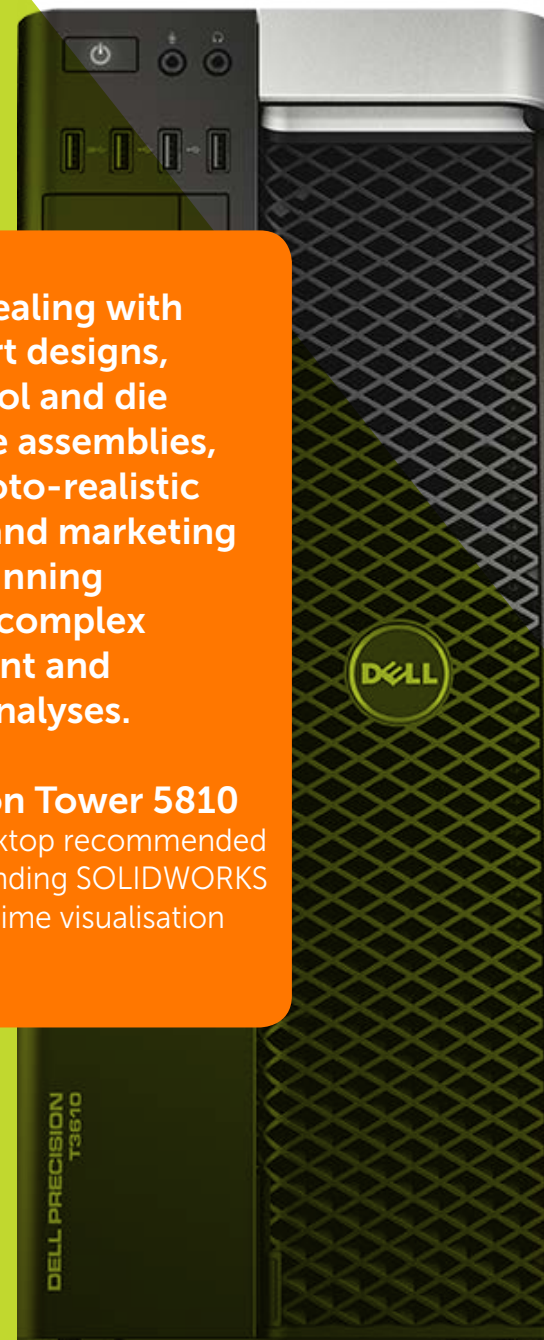
Dual CPU desktop recommended for high-end visualisation workflows where PhotoView 360 features heavily.

### Dell Precision Tower 7810



Workstation Recommendations  
Click here

### Dell Precision Tower 5810



**Designers dealing with complex part designs, including tool and die design, large assemblies, creating photo-realistic renderings and marketing materials, running moderately complex Finite Element and Kinematic Analyses.**

### Dell Precision Tower 5810

Single CPU desktop recommended for more demanding SOLIDWORKS users with real time visualisation workflows.

### Dell Precision Tower 1700 MT



**Designers working on light to moderately complex part design and light assemblies, single parts and medium sized assemblies, creating detailed drawings, schematic diagrams and BOMs, and running first pass Finite Element and Kinematic Analyses.**

### Dell Precision Tower 1700 MT

Single CPU mini tower recommended for entry-level to mainstream SOLIDWORKS workflows.



Find out more



# For SOLIDWORKS GHz is kin

## Workstation peace of mind

With Dell Precision workstations playing fundamental and business-critical roles in organisations where they are deployed, Dell services for workstations are designed to deliver the technology and expertise that make for absolute peace of mind.



### Services include:

#### ProSupport

The Dell ProSupport suite provides end-to-end hardware and software support for individuals, small businesses or large corporations, with direct 24/7 access to technical experts throughout the lifetime of a product.

#### Asset tagging

Dell Asset Tagging and Reporting Services make identifying, tracking, securing and recovering devices simple and make it easy to integrate new devices into your asset management system.

#### Keep your hard drive

Designed to enable you to retain physical control over sensitive data on failed hard drives, the service waives the requirement to return a drive under warranty when receiving a replacement, mitigating the risk of data loss, removing the need to track failed hard drives in transit and ensuring compliance.

#### Accidental damage

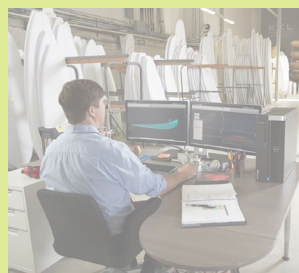
The Accidental Damage service picks up where the hardware warranty leaves off, providing repairs and replacement hardware components in mobile devices damaged by drops, spills, power surges and breakages. International coverage makes technical support available if customers experience accidental damage while travelling.

### Services for workstations

Services include **ProSupport**, **Asset tagging**, **Keep your hard drive** and **Accidental damage** cover for mobile devices.

Find out more

#### Dell Precision Tower 1700 MT



Designers working on light to moderately complex part design and light assemblies, single parts and medium sized assemblies, creating detailed drawings, schematic diagrams and BOMs, and running first pass Finite Element and Kinematic Analyses.

#### Dell Precision Tower 1700 MT

Single CPU mini tower recommended for entry-level to mainstream SOLIDWORKS workflows.

### Storage

A Solid State Drive (SSD) will make the workstation more responsive and applications and datasets will load quicker.

### Graphics power

RealView requires a professional 3D graphics card, such as AMD FirePro or NVIDIA Quadro.

Designers handling highly complex parts, very large and complex assemblies, including plant and routing design, creating large photo-realistic renderings, running very large scale complex FEA, CFD, and Kinematic Analyses.

#### Dell Precision Tower 7810

Dual CPU desktop recommended for high-end visualisation workflows where PhotoView 360 features heavily.

Choose the fastest processor possible and up the number of CPU cores if workflow.

SOLIDWORKS workflow can be a daunting task. Considered a minimum, but more cores will pay trace render times, while those who use a dual CPU workstation.

up from Dell, including a configuration tool, options:

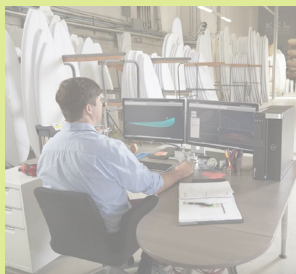


# For SOLIDWORKS 3 GHz is kind of slow

Designers working on light to moderately complex part design and light assemblies, single parts and medium sized assemblies, creating detailed drawings, schematic diagrams and BOMs, and running first pass Finite Element and Kinematic Analyses.

**Dell Precision Tower 1700 MT**  
Single CPU mini tower recommended for entry-level to mainstream SOLIDWORKS workflows.

Dell Precision Tower 1700 MT



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## Services for workstations

Services include **ProSupport**, **Asset tagging**, **Keep your hard drive** and **Accidental damage** cover for mobile devices.



## Workstations

### Dell Precision Workstation Product Recommendations

Application: Dassault Systèmes - SOLIDWORKS®

Performance Level	Entry	Standard	Performance
Typical usage	For the professional who works on light to moderately complex part design and light assemblies, single parts and medium sized assemblies, creates detailed drawings, schematic diagrams, and BOMs, and runs first pass Finite Element and Kinematic Analyses.	For the professional who works on complex part designs, including tool and die design, large assemblies, creates photo-realistic renderings and marketing materials, runs moderately complex Finite Element and Kinematic Analyses.	For the professional who works on highly complex parts, very large and complex assemblies, including plant and routing design, creates large photo-realistic renderings, runs very large scale complex FEA, CFD, and Kinematic Analyses.
Model	Dell Precision™ T1700 Workstation	Dell Precision™ Tower 5810 Workstation	Dell Precision™ Tower 7810 Workstation
Processor	Quad Core Intel® Xeon® Processor	Quad Core Intel Xeon® Processor	Dual 8 Core Intel Xeon® Processor
RAM	8GB, 1600MHz, DDR3, ECC	16GB, 1600MHz, DDR3, ECC	32GB, 1600MHz, DDR3, ECC
Graphics	NVIDIA® Quadro® K2200 AMD FirePro™ V4900	NVIDIA® Quadro® K4200 AMD FirePro™ W5100	NVIDIA® Quadro® K5200 AMD FirePro™ W7100
Primary Storage	1TB 7200 RPM SATA 6.0Gb/s	512GB, 2.5" SSD 6Gb/s	512GB, 2.5" SSD 6Gb/s
Additional Storage	Optional	Optional	Optional
Display	Single or dual 20", 24", 27" or 30" Dell UltraSharp	Single or dual 20", 24", 27" or 30" Dell UltraSharp	Single or dual 20", 24", 27" or 30" Dell UltraSharp
Operating System	Windows 7 64-bit Professional	Windows 7 64-bit Professional	Windows 7 64-bit Professional

Recommended configurations are a good starting point, but individual requirements may vary based on usage.  
Options may vary by region and sales channel.  
See Dell Precision Workstation Advisor for more product recommendations including tower, mobile and rack form factors.  
Dell Smart Selection - Pre-built based on customer insights, these best-value products are ready to ship in 24 hours.  
Dell and partner certified  
Dell Precision Performance Optimizer profile available  
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Choose the fastest processor possible and up the number of CPU cores if your workflow.

SOLIDWORKS workflow can be a daunting task. Considered a minimum, but more cores will help to reduce trace render times, while those who use a dedicated CPU workstation.

Get the full range of Dell, including a configuration tool, and more information:

## Storage

A Solid State Drive (SSD) will make the workstation more responsive and applications and datasets will load quicker.

## Graphics power

RealView requires a professional 3D graphics card, such as AMD FirePro or NVIDIA Quadro.

Designers handling highly complex parts, very large and complex assemblies, including plant and routing design, creating large photo-realistic renderings, running very large scale complex FEA, CFD, and Kinematic Analyses.

## Dell Precision Tower 7810

Dual CPU desktop recommended for high-end visualisation workflows where PhotoView 360 features heavily.





# For SOLIDWORKS 3 GHz is kind of slow

Designers working on light to moderately complex part design and light assemblies, single parts and medium sized assemblies, creating detailed drawings, schematic diagrams and BOMs, and running first pass Finite Element and Kinematic Analyses.

**Dell Precision Tower 1700 MT**  
Single CPU mini tower recommended for entry-level to mainstream SOLIDWORKS workflows.

Dell Precision Tower 1700 MT



Designers working on light to moderately complex part design and light assemblies, single parts and medium sized assemblies, creating detailed drawings, schematic diagrams and BOMs, and running first pass Finite Element and Kinematic Analyses.

Designers working on light to moderately complex part design and light assemblies, single parts and medium sized assemblies, creating detailed drawings, schematic diagrams and BOMs, and running first pass Finite Element and Kinematic Analyses.

## Services for workstations

Services include **ProSupport**, **Asset tagging**, **Keep your hard drive** and **Accidental damage** cover for mobile devices.



## Mobile workstations

### Dell Precision Workstation Product Recommendations - Mobile

Application: Dassault Systèmes - SOLIDWORKS®

Performance Level	Entry	Standard	Performance
Typical usage	For the professional who works on light to part design and light assemblies or reviewer who needs to load and approve designs.	For the professional who works on moderate part designs and assemblies, creates photo-realistic renderings and marketing materials, runs basic Finite Element and Kinematic Analyses.	For the professional who wants mobility and excellent performance who works on moderately complex parts and assemblies and occasionally creates renderings, runs FEA, CFD, and Kinematic Analyses.
Model	Dell Precision™ M3800 Workstation	Dell Precision™ M4800 Workstation	Dell Precision™ M6800 Workstation
Processor	Quad Core Intel® Core™ i7 Processor	Quad Core Intel® Core™ i7 Processor	Quad Core Intel® Core™ i7 Extreme Processor
RAM	16GB, DDR3, 1600MHz	16GB, DDR3, 1600MHz	16GB, DDR3, 1600MHz
Graphics	NVIDIA® Quadro® K1100M	NVIDIA® Quadro® K2100M AMD FirePro™ M5100	NVIDIA® K3100M AMD FirePro™ M6100
Primary Storage	512GB, 2.5" SSD	750GB 2.5" 7200 RPM	1TB Hybrid 2.5in, SATA3 with 8GB SSD Flash
Additional Storage	Optional	Optional	Optional
Display	15.6" UltraSharp QHD+ (3200x1800) Wide View Anti-Glare LED-backlit with Premium Panel Guarantee	15.6" UltraSharp QHD+ (3200x1800) Wide View Anti-Glare LED-backlit with Premium Panel Guarantee	17.3" UltraSharp™ FHD(1920x1080) Wide View Anti-Glare LED-backlit with Premium Panel Guarantee
Operating System	Windows 7 64-bit Professional	Windows 7 64-bit Professional	Windows 7 64-bit Professional

Recommended configurations are a good starting point, but individual requirements may vary based on usage.  
Options may vary by region and sales channel.  
See Dell Precision Workstation Advisor for more product recommendations including tower, mobile and rack form factors.  
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up from Dell, including a configuration tool, ations:

## Storage

A Solid State Drive (SSD) will make the workstation more responsive and applications and datasets will load quicker.

## Graphics power

RealView requires a professional 3D graphics card, such as AMD FirePro or NVIDIA Quadro.

Designers handling highly complex parts, very large and complex assemblies, including plant and routing design, creating large photo-realistic renderings, running very large scale complex FEA, CFD, and Kinematic Analyses.

## Dell Precision Tower 7810

Dual CPU desktop recommended for high-end visualisation workflows where PhotoView 360 features heavily.





# SOLIDWORKS 2014 — time travel made easy

For those of you who have yet to see the new SOLIDWORKS 2014 in action, the news is good — very good. Render times down by a third, RealView Performance improved by over 60%. All meaning that users of the latest release are getting their hands on that most elusive of commodities — more time to design.

To illustrate the point, the charts below show how SOLIDWORKS 2014 performs alongside SOLIDWORKS 2013 — running on 2014 and 2013 Dell Precision Workstation platforms respectively, both of identical specification.

## SOLIDWORKS 2014

### Graphics



### I/O



### Rendering

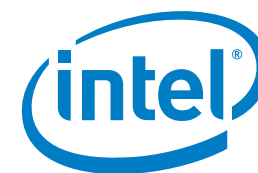


### RealView



M6800, i7-4930MX 4C 3.0GHz, 4x4GB 1600, Quadro K4100M, 500GB 7200 A04 BIOS

Source: SOLIDWORKS Performance Test carried out in Dell Labs, Austin.



**Intel Cache Acceleration Software-Workstation (Intel CAS-W) is the first enterprise-grade caching acceleration software application for workstations.**

Designed for workstation professionals who work with large data files, it provides solid state device (SSD) — at a fraction of the cost, when compared for full SSD solutions, and is offered exclusively on the latest Dell Precision tower and rack workstations.

The challenge today with current caching solutions is that all data is treated the same. Intel CAS-W solves this with a unique data caching policy that allows the user to effectively select which data type needs to be accelerated, providing better control and performance optimisation.

This “hot data” is placed on an SSD cache, fully utilizing its capacity, thus reducing the storage system latency and significantly improving performance.

The remaining less active data, referred to as cold data, can be stored on a lower performance medium such as hard drives with spinning disks. Intel CAS-W also provides reliable and consistent data acceleration regardless of the current workload of the system, and enables system memory caching, referred to as buffered cache, which pushes performance to the edge.

Testing on SOLIDWORKS and other software applications have shown significant performance boosts with Intel CAS-W.

SSD-like  
performance  
at a fraction  
of the cost



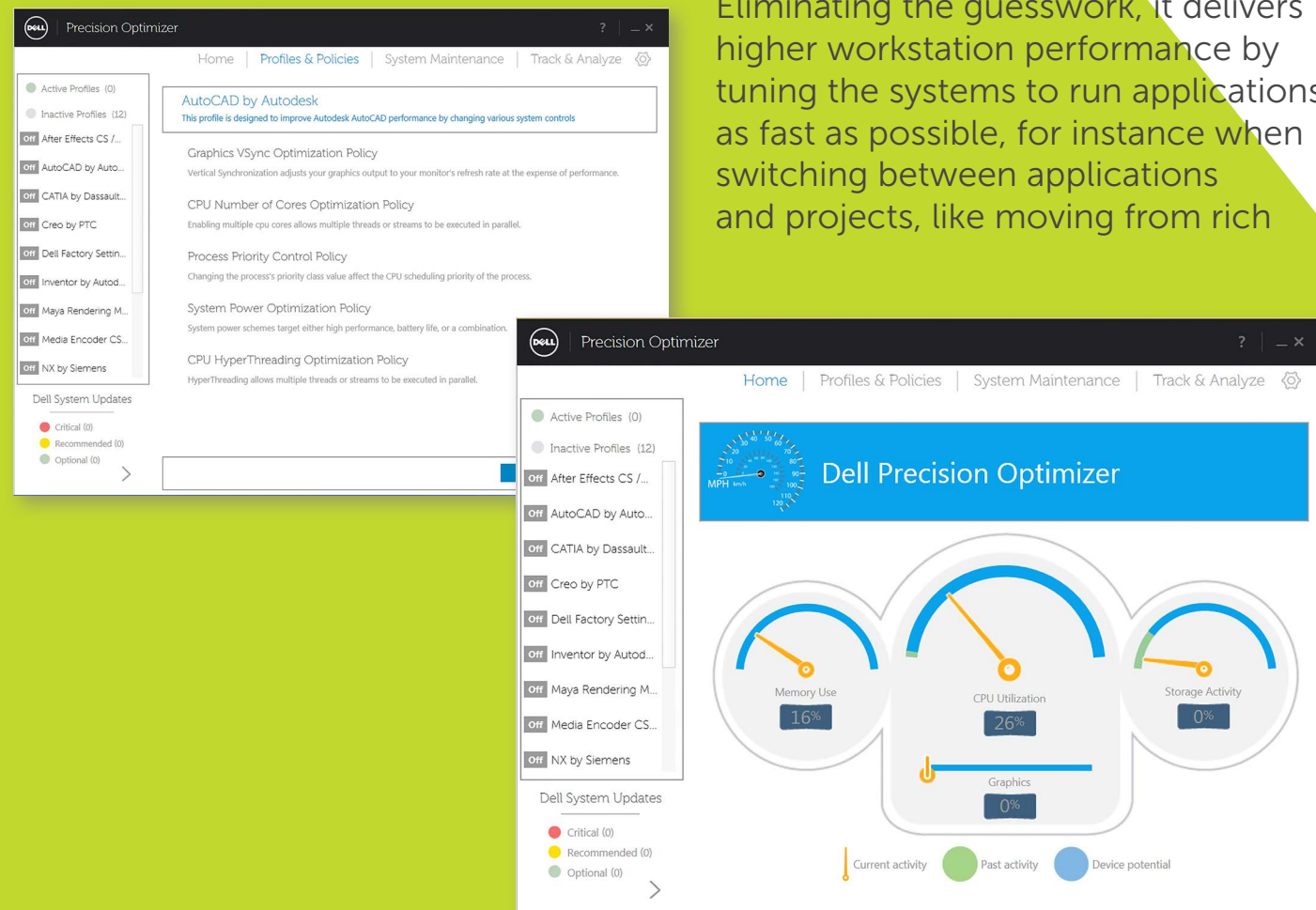
# All gain, no pain!

Get up to **57%**  
**faster** performance  
on applications  
like **SOLIDWORKS**  
using Dell Precision  
Optimiser 2.0

Dell Precision Optimiser 2.0 (DPO) is a pre-loaded software tool that offers automatic and dynamic performance tuning and optimisation for Precision workstations against pre-defined performance profiles for popular applications including SOLIDWORKS.

The software automatically adjusts system configurations such as CPU, memory, storage, graphics and operating system settings according to the application workload.

Eliminating the guesswork, it delivers higher workstation performance by tuning the systems to run applications as fast as possible, for instance when switching between applications and projects, like moving from rich



animation projects to detailed CAD design or moving from detailed design using SOLIDWORKS to structural analysis using ANSYS.

## System Maintenance

IT professionals and users gain greater system control and knowledge through automated or manual updates for new drivers, BIOS, application software, firmware and other vital components, helping to ensure that systems are running optimally and increasing user productivity.

## Tracking and Reporting

The application also includes advanced tools to analyse and model system utilisation, providing consolidated tracking and reporting on processors, memory, HDD, graphics and network usage. Uniquely, DPO 2.0 also reports on power consumption, battery state, thermal data and fans.

Detailed reports can be scheduled to run and analyse system utilisation at any time, even during intensive tasks like compiling code or rendering frames.

Watch the two-minute demo





# Performing under fire

Kee Action Sports are leaders in the design and production of a wide selection of top quality paintball products. For the past ten years, they have been using Dell Precision workstations with Intel processors to accelerate design cycles and enable faster rendering of larger files, bringing enhanced products to market faster.



## Highlights:

- **10x** bigger STL files processed, increasing efficiency and quality
- **5x** faster rendering in SOLIDWORKS
- **Photo-realistic**, new product images available in days instead of months, which enables marketing before prototype is made
- **25% cut** in development time with more enhancement cycles before manufacturing, saving money and increasing innovation
- **Design innovation** responsible for delivering new product designs that perform as well as competitors' — but at half the cost

"Our design process, with the Intel Xeonprocessor E3-1270, is twice as fast. We're able to give players what they want with Dell Precision workstations."

Simon Stevens, VP, Engineering, Research and Development, KEE Action Sports

"The Dell Precision workstations have been phenomenal, I still have hard drives in my computer from the last three generations of computers because they have such important data on them. Those drives are still doing great."

Simon Stevens, VP, Engineering, Research and Development, KEE Action Sports

## Dell workstation ecosystem in action

### Services

Dell™ Support Services  
- Dell ProSupport™

### Hardware

Dell Precision™ M6600 Mobile Workstation with Intel® Core® processor i5-2540M  
Dell Precision T1600 Workstations with Intel Xeon® processors E3-1270  
Dell Precision T1500 Workstations with Intel Core i7-880 processors

### Software

Dassault Systèmes  
SOLIDWORKS 2012  
Tebis Version 3.5, R2  
Windows® 7 64-bit



# Goodbye Mr Blue screen

## with Dell's patented Reliable Memory Technology (RMT)



While other workstations use Error Correction Code (ECC) memory, which identifies memory errors, Dell RMT notches up your protection another two levels.

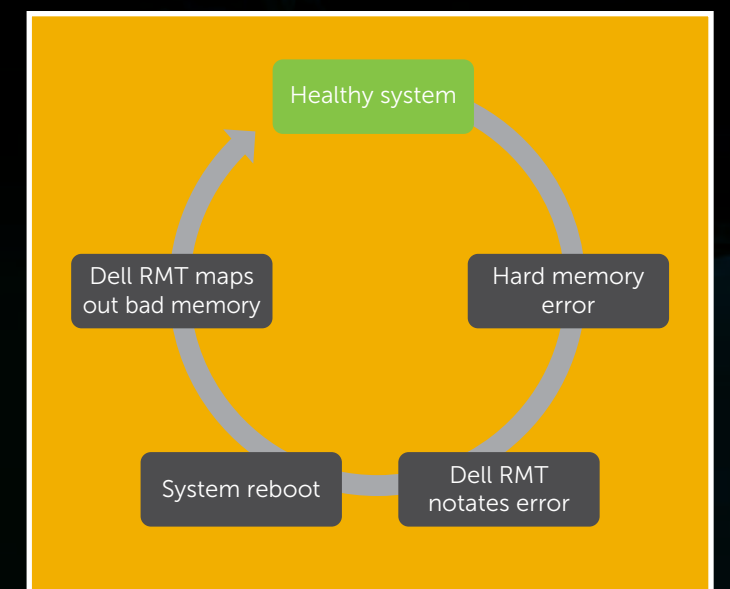
### Firstly...

Similar in concept to hard drive error-mapping technology, RMT detects hard errors and multi-bit soft errors in a DIMM, and obviates and remediates the problem. So now, instead of having to incur costly downtime and IT services such as calling IT, running diagnostics, opening the system, and replacing the faulty DIMM, on reboot RMT:

- Maps the defective portion of the individual DIMM
- Reports the defect and DIMM location in the BIOS as bad
- Removes these bad cells and a small amount of nearby cells from system memory usage
- With a simple system reboot, RMT removes the defective area from visibility to the operating system. Applications and critical systems functions will now by-pass any marked area and continue working without having to replace hardware. It's as if the bad memory never existed, ensuring smooth, error free operation, helping to reduce system crashes and application errors.

### Secondly...

Dell RMT remembers how often memory DIMM has had a memory problem. After seven times, the system notifies the user that a particular memory module might need to be changed. This saves time for the user and IT department, avoiding the need to run diagnostics and memory tests to identify the faulty DIMM system.







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**3D SOLIDWORKS**

# Workstations

## Dell Precision Workstation Product Recommendations

Application: Dassault Systèmes SOLIDWORKS®

Performance Level	Entry	Standard	Performance
Typical usage	For the professional who works on light to moderately complex part design and light assemblies, single parts and medium sized assemblies, creates detailed drawings, schematic diagrams, and BOMs, and runs first pass Finite Element and Kinematic Analyses.	For the professional who works on complex part designs, including tool and die design, large assemblies, creates photo-realistic renderings and marketing materials, runs moderately complex Finite Element and Kinematic Analyses.	For the professional who works on highly complex parts, very large and complex assemblies, including plant and routing design, creates large photo-realistic renderings, runs very large scale complex FEA, CFD, and Kinematic Analyses.
Model	Dell Precision™ T1700 Workstation	Dell Precision™ Tower 5810 Workstation	Dell Precision™ Tower 7810 Workstation
Processor	Quad Core Intel® Xeon® Processor	Quad Core Intel Xeon® Processor	Dual 8 Core Intel Xeon® Processor
RAM	8GB, 1600MHz, DDR3, ECC	16GB, 1600MHz, DDR3, ECC	32GB, 1600MHz, DDR3, ECC
Graphics	NVIDIA® Quadro® K2200 AMD FirePro™ V4900	NVIDIA® Quadro® K4200 AMD FirePro™ W5100	NVIDIA® Quadro® K5200 AMD FirePro™ W7100
Primary Storage	1TB 7200 RPM SATA 6.0Gb/s	512GB, 2.5" SSD 6Gb/s	512GB, 2.5" SSD 6Gb/s
Additional Storage	Optional	Optional	Optional
Display	Single or dual 20", 24", 27" or 30" Dell UltraSharp	Single or dual 20", 24", 27" or 30" Dell UltraSharp	Single or dual 20", 24", 27" or 30" Dell UltraSharp
Operating System	Windows 7 64-bit Professional	Windows 7 64-bit Professional	Windows 7 64-bit Professional

Recommended configurations are a good starting point, but individual requirements may vary based on usage.

Options may vary by region and sales channel.

See Dell Precision Workstation Advisor for more product recommendations including tower, mobile and rack form factors.

Dell Smart Selection - Pre-built based on customer insights, these best-value products are ready to ship in 24 hours.



Dell and partner certified



Dell Precision Performance Optimizer profile available

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# Mobile workstations

## Dell Precision Workstation Product Recommendations - Mobile

Application: Dassault Systèmes SOLIDWORKS®

Performance Level	Entry	Standard	Performance
Typical usage	For the professional who works on light to part design and light assemblies or reviewer who needs to load and approve designs.	For the professional who works on moderate part designs and assemblies, creates photo-realistic renderings and marketing materials, runs basic Finite Element and Kinematic Analyses.	For the professional who wants mobility and excellent performance who works on moderately complex parts and assemblies and occasionally creates renderings, runs FEA, CFD, and Kinematic Analyses.
Model	Dell Precision™ M3800 Workstation	Dell Precision™ M4800 Workstation	Dell Precision™ M6800 Workstation
Processor	Quad Core Intel® Core™ i7 Processor	Quad Core Intel® Core™ i7 Processor	Quad Core Intel® Core™ i7 Extreme Processor
RAM	16GB, DDR3, 1600MHz	16GB, DDR3, 1600MHz	16GB, DDR3, 1600MHz
Graphics	NVIDIA® Quadro® K1100M	NVIDIA® Quadro® K2100M AMD FirePro™ M5100	NVIDIA® K3100M AMD FirePro™ M6100
Primary Storage	512GB, 2.5" SSD	750GB 2.5" 7200 RPM	1TB Hybrid 2.5in, SATA3 with 8GB SSD Flash
Additional Storage	Optional	Optional	Optional
Display	15.6" UltraSharp QHD+ (3200x1800) Wide View Anti-Glare LED-backlit with Premium Panel Guarantee	15.6" UltraSharp QHD+ (3200x1800) Wide View Anti-Glare LED-backlit with Premium Panel Guarantee	17.3" UltraSharp™ FHD(1920x1080) Wide View Anti-Glare LED-backlit with Premium Panel Guarantee
Operating System	Windows 7 64-bit Professional	Windows 7 64-bit Professional	Windows 7 64-bit Professional


Recommended configurations are a good starting point, but individual requirements may vary based on usage.

Options may vary by region and sales channel.

See Dell Precision Workstation Advisor for more product recommendations including tower, mobile and rack form factors.

 Dell Smart Selection - Pre-built based on customer insights, these best-value products are ready to ship in 24 hours.

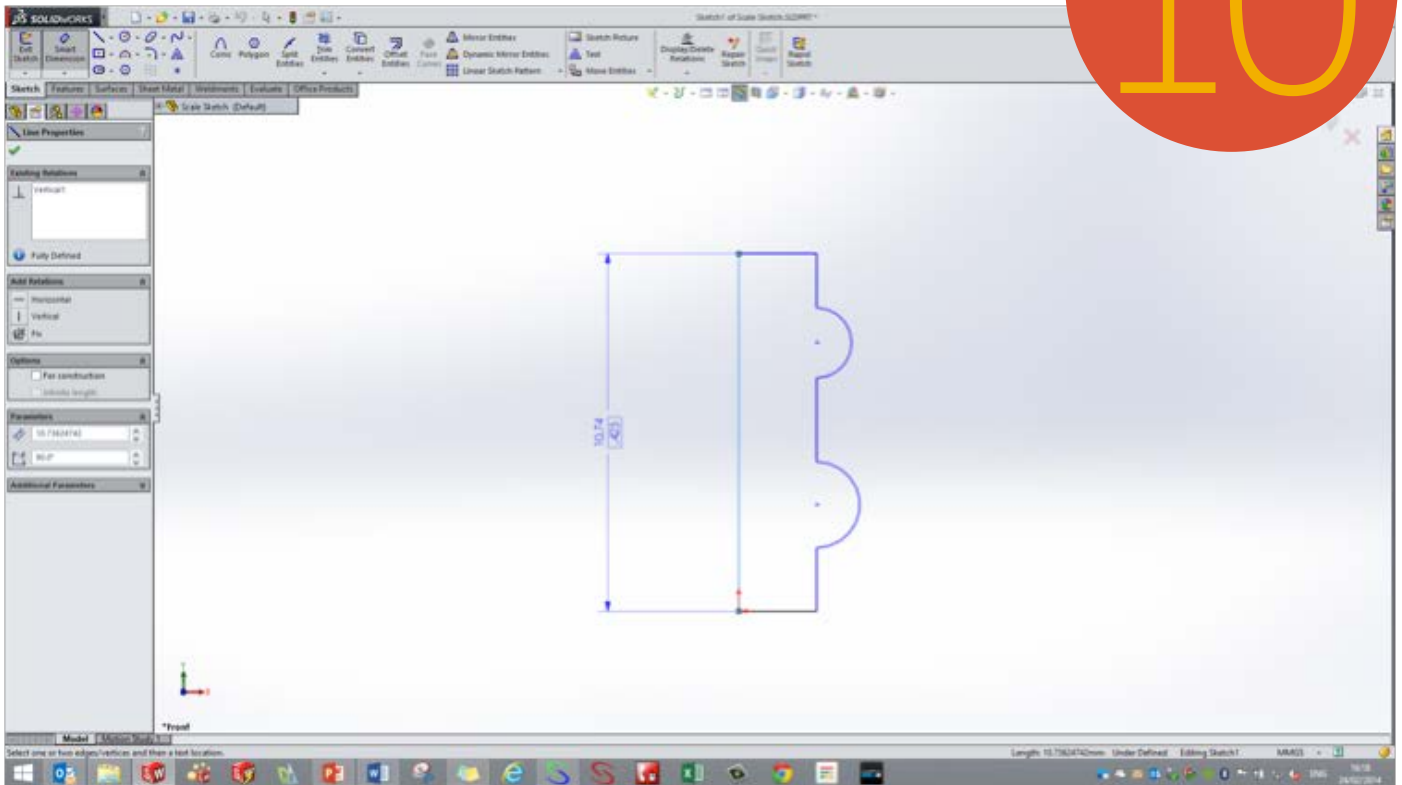
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## 1

## Sketches

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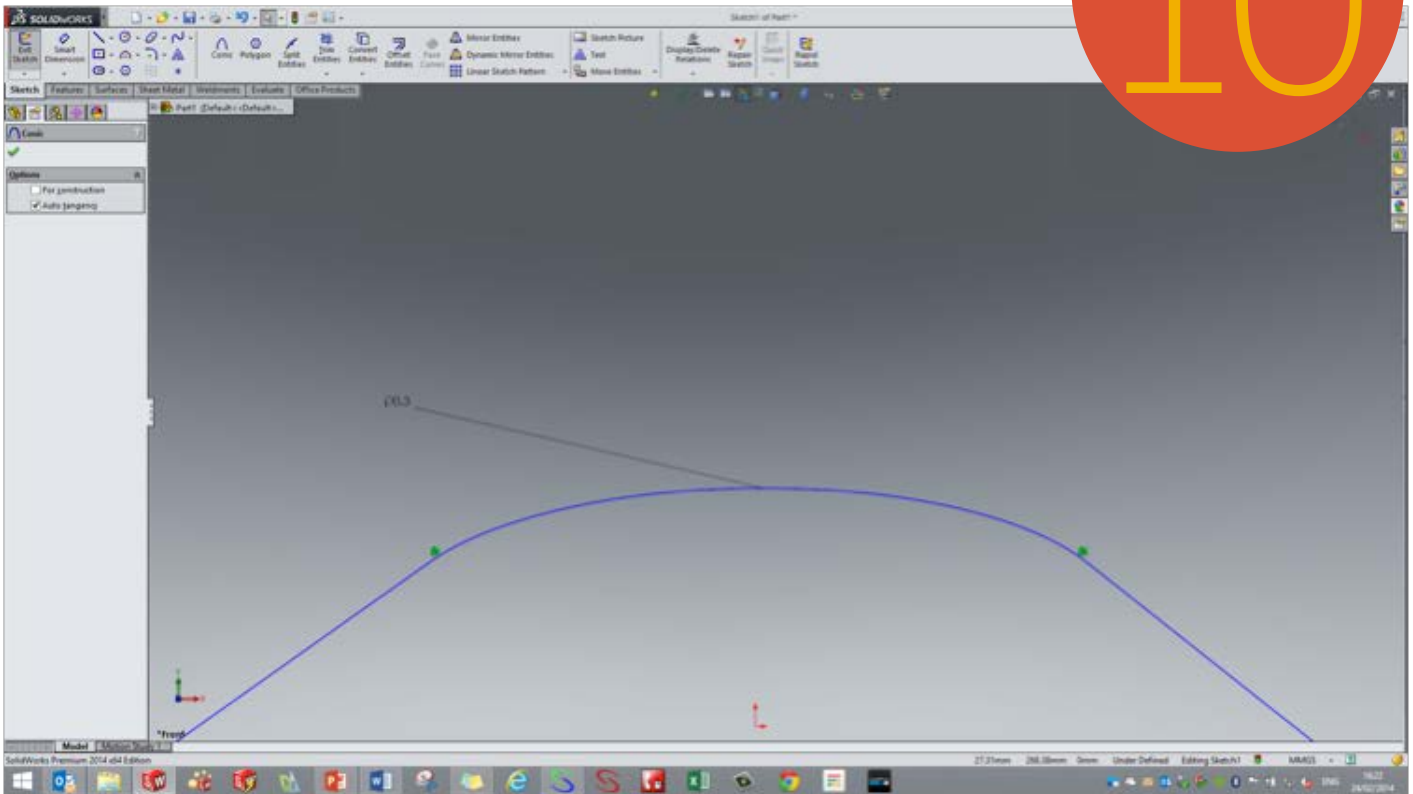
The first step into the software for most users is the sketch environment. A small but a very welcome enhancement is how sketches now scale automatically based on the first dimension that is placed. This means you can concentrate on getting the proportions and shape of your sketches correct and add dimensions with confidence, knowing that even if it was not the correct size, the first driving smart dimension added will not change those aspects.

Another addition to the sketch tools is an enhancement to the Sketch Picture functionality. This is the ability to import an image into a SOLIDWORKS sketch so you can trace around it. The image may be a photograph, a hand-drawn image or screenshot. 2014 brings the ability to drag a construction line over the Sketch Picture and set the size of the construction line, which automatically scales down the image to suit the line. This means it doesn't matter what size the sketch is, it can be scaled accurately quickly and easily.

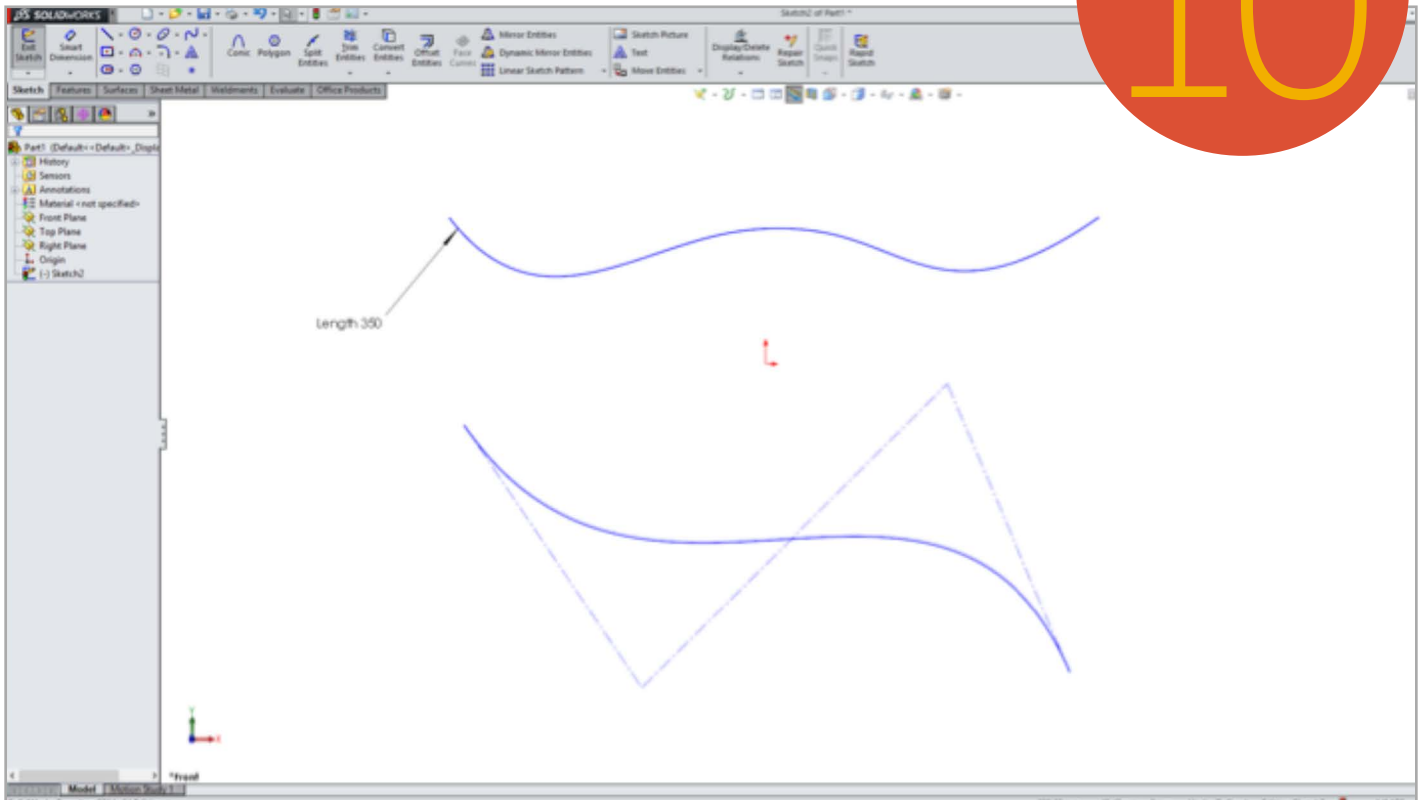


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## Conics:

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When it comes to creating complex, organic-shaped geometry, the addition to the Boundary Surface and Solid, Freeform tools and Curvature Continuity options added in SOLIDWORKS 2007 makes it very straightforward. However, three new sketch tools in SOLIDWORKS 2014 have made it even faster and simpler to lay down the basis for complex stylised features. The first is enhancements to the Conics sketch tool. A new tick box means users can automatically snap to the end points of other sketch entities and set a tangent relation to that entity at the same time. This can save many mouse clicks and makes the workflow of working with conics a lot slicker.



When it comes to splines, due to their freeform nature, they can be tricky to create and edit with full control. SOLIDWORKS 2014 brings the ability to simply drop a SmartDimension onto a spline and control its length. Very simple, but incredibly useful if we have a fixed amount of material that we are using for a particular form. It works for both 2D and 3D splines too. In addition, single-span Bézier curves are now easily achievable with the new StyleSpline function in sketches. The StyleSpline tool allows a spline to be produced by sketching construction lines which control the spline. The construction lines can have normal SOLIDWORKS sketch relations and dimensions applied to them to edit the spline.



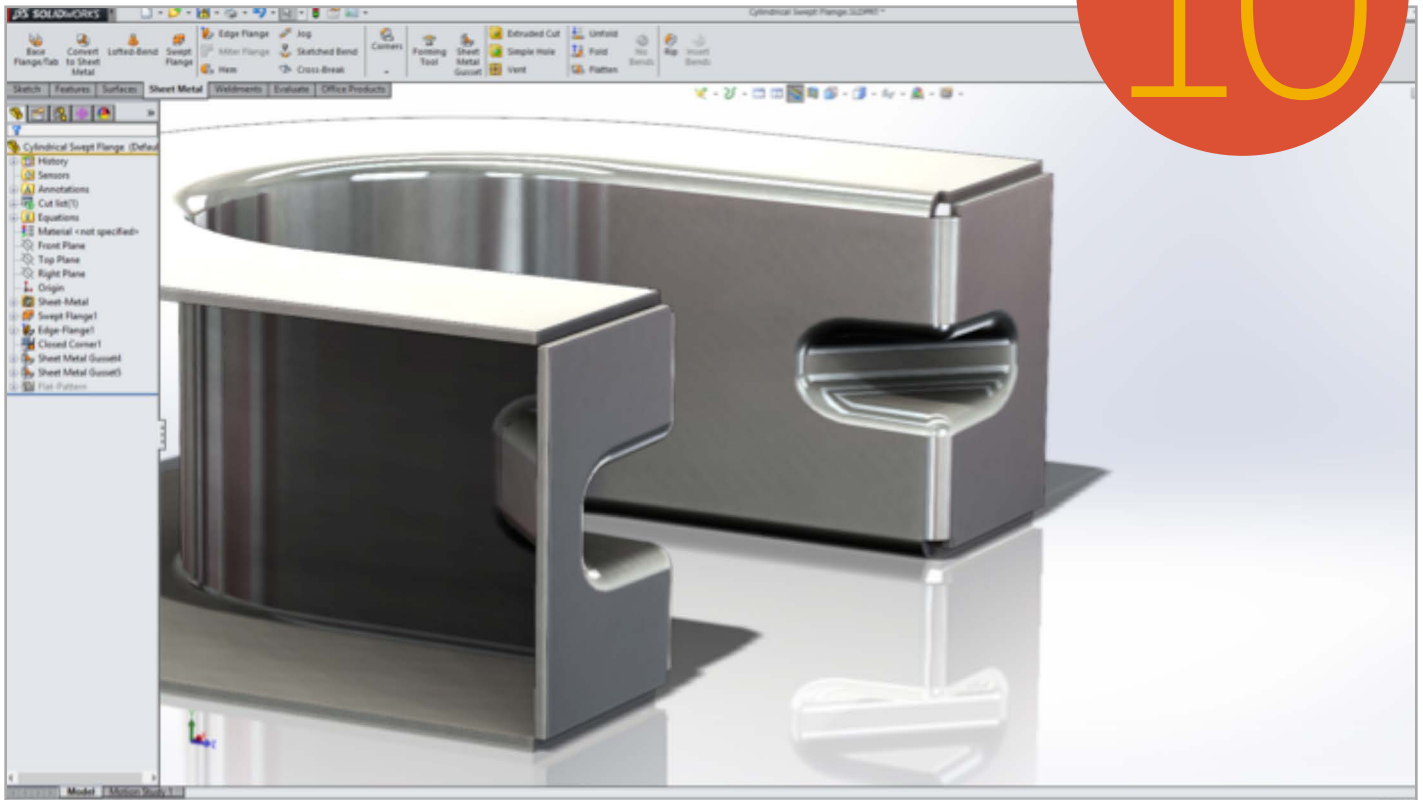
## 4 Replace Sketch Entity:

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Replace Entity

The biggest time saver in the sketch environment is the new Replace Sketch Entity command. If you delete a sketch entity which is used by a child feature (i.e: a sketch on a face the entity creates), and create a new sketch entity to replace it, you can now tell SOLIDWORKS what to replace it with. Simply sketch in the new entity before deleting the old one you want to replace, hit delete, and in the confirmation box, click Replace. Choose the new entity and SOLIDWORKS sorts out everything downstream. Very clever, and very nicely implemented.

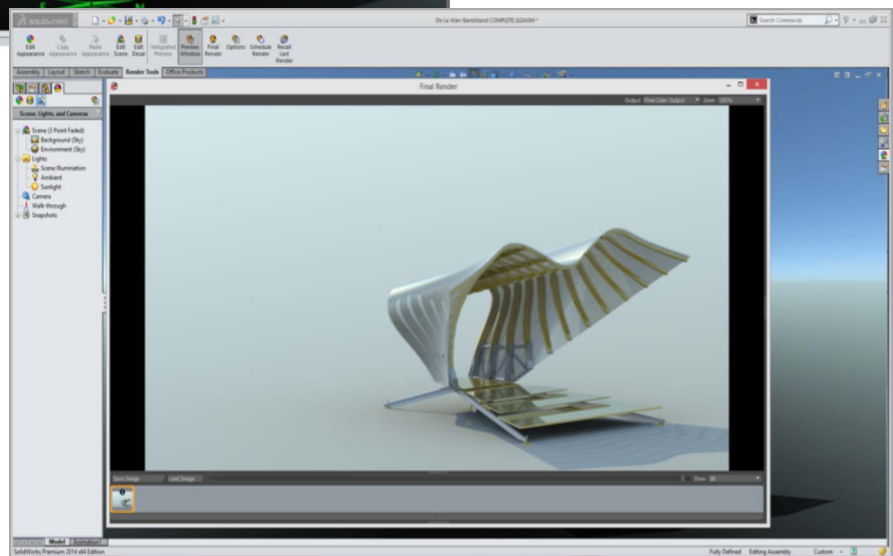
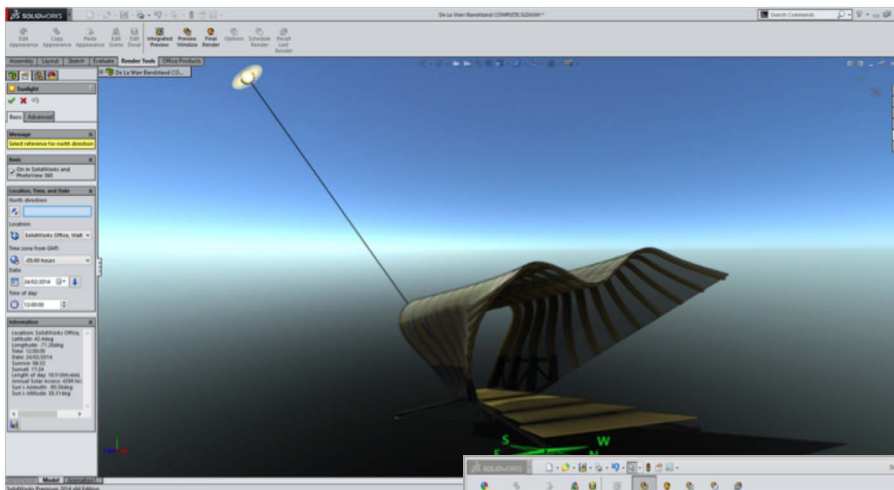


Moving from sketches into the part environment sees some powerful new sheet metal capabilities with the Sheet Metal Gusset and Corner Treatment commands. The Sheet Metal Gusset allows formed ribs to be applied across bends by simply clicking the faces either side of the bend, making such a complex operation incredibly quick and simple. The new corner treatment command gives users the ability to make sure the flat pattern is adapted to suit the chosen cutting method, for example punching or laser cutting.



## 6 Sunlight in PhotoView360

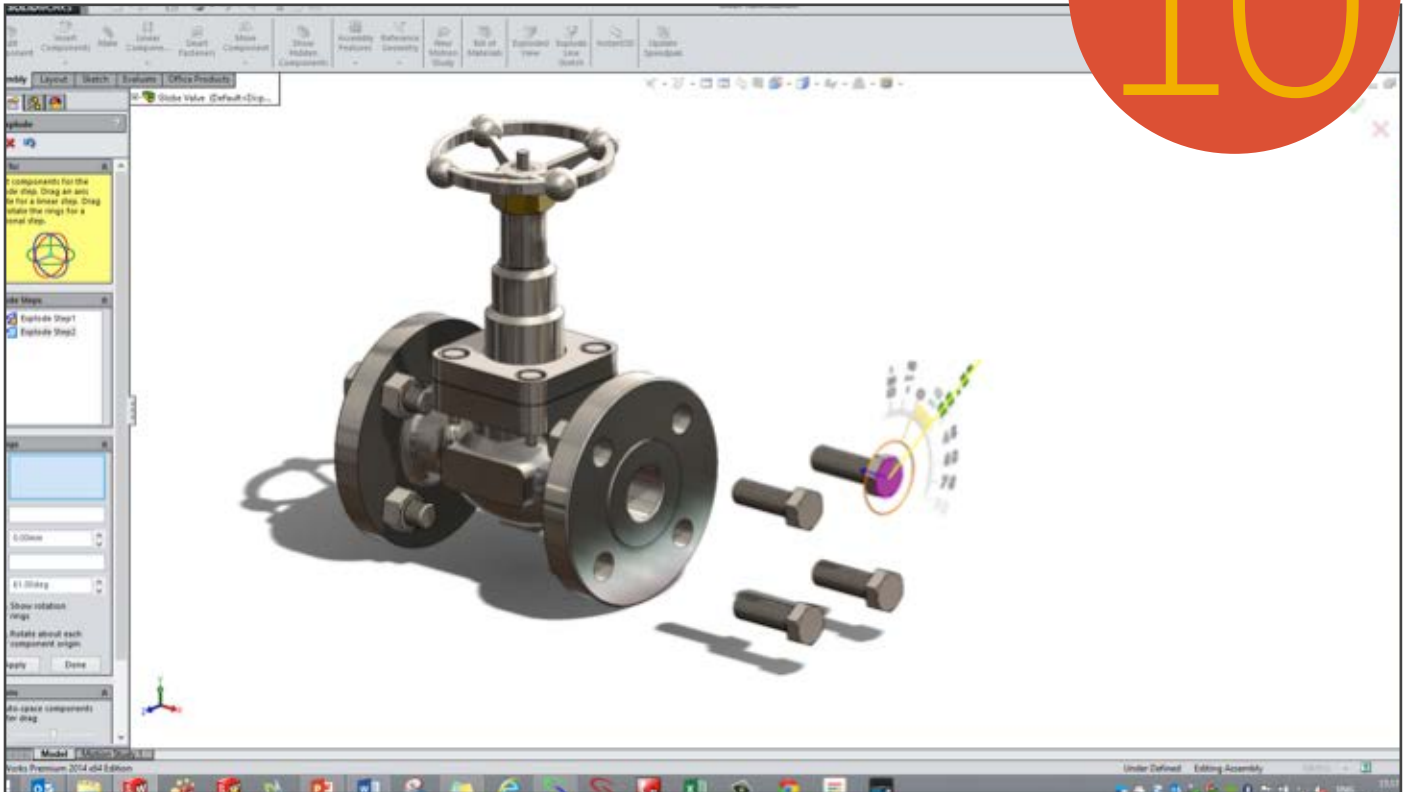
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SOLIDWORKS Professional and above includes the photorealistic rendering add-in PhotoView 360. In the 2014 version it is now possible to add Sunlight to the environment containing a part or assembly. This adds a realistic, natural lighting scheme to an already powerful and easy-to-use visualisation package. Time of day, time of year and location can be specified, making the scheme endlessly customisable. You can even run a Solar Access Study in the Motion Manager timeline, enabling a standard, or photorealistic animation of how the sunlight hitting the product, and the shadows cast by it, change throughout the day. The function is ideal for anything placed outdoors, or for solar powered designs, but is also great for realistic, naturally-lit renders.

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## Explode with rotations:

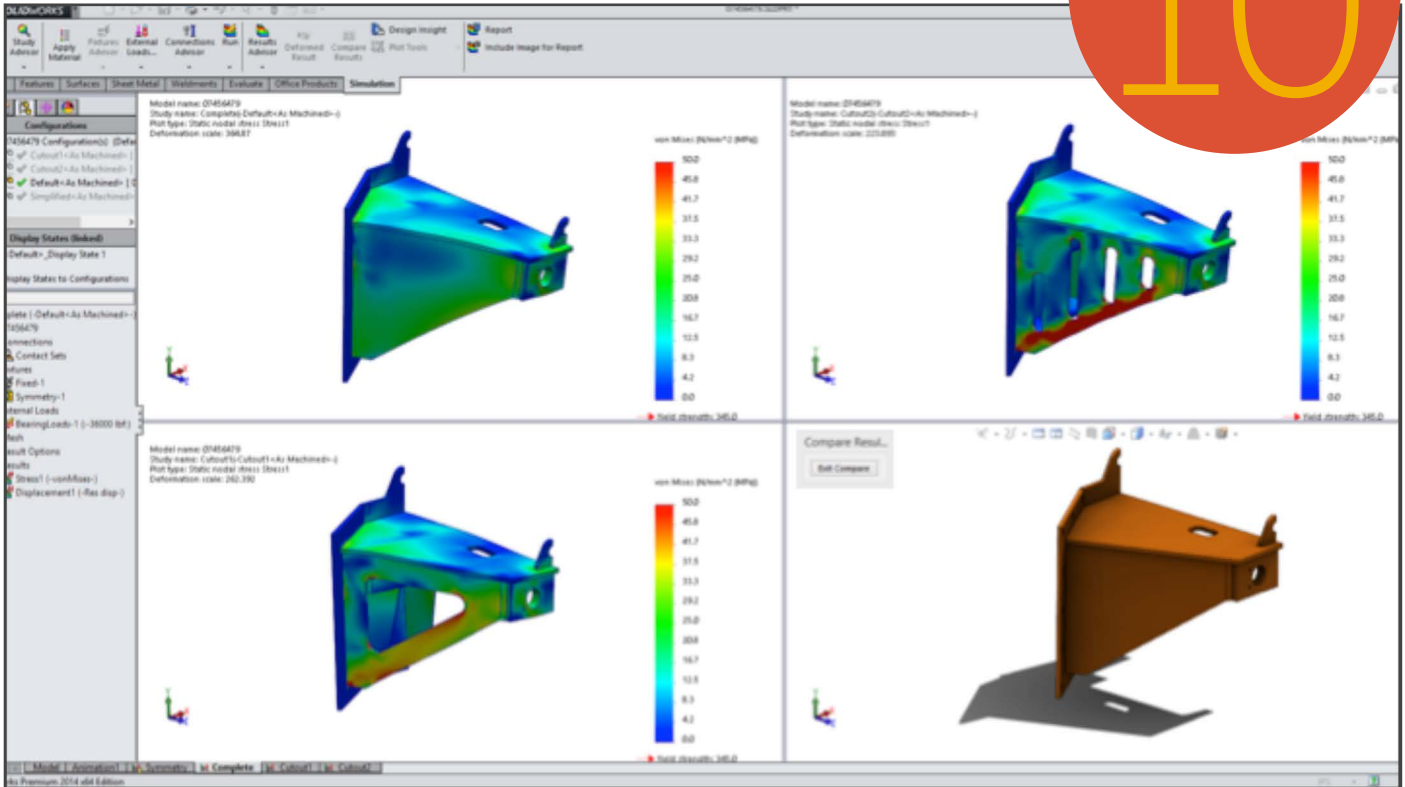
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For a number of releases, SOLIDWORKS automatically produces an animation from the setup of an exploded view. One element missing from this was the ability to add rotations to components without having to import the steps into the MotionManager and modify the animation there. SOLIDWORKS 2014 adds in the capability of rotations with the exploded view setup, so everything can be done in one operation, making it even quicker to produce clear, compelling animations of assembly and disassembly.

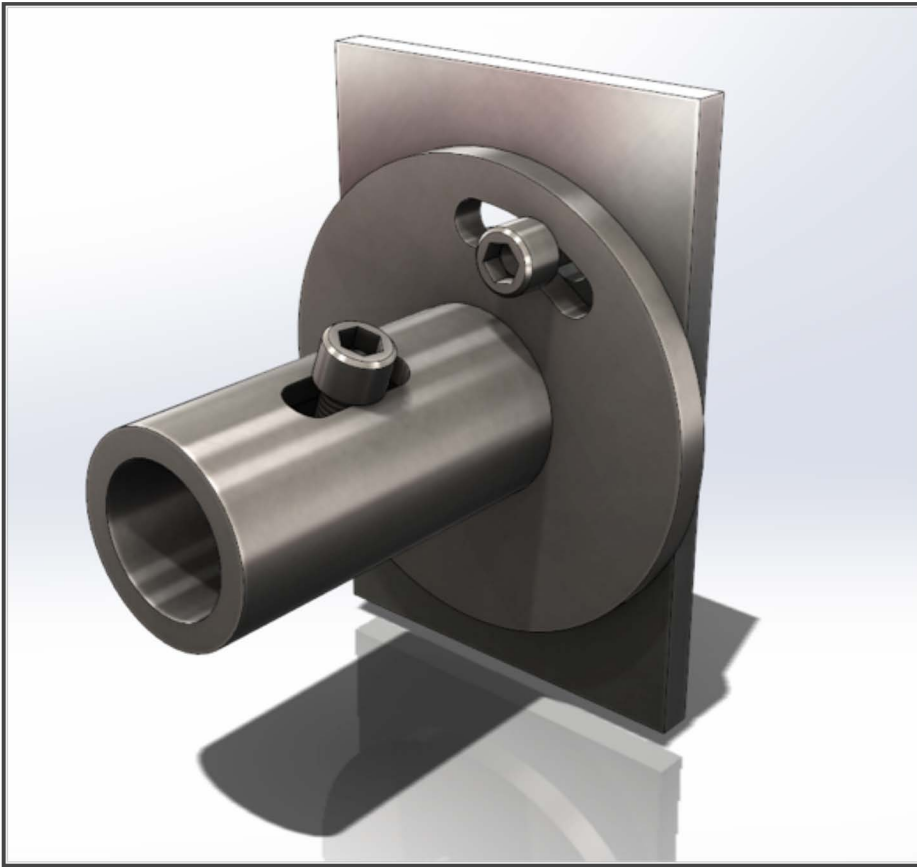


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# Simulation

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Compare Simulation results across configurations on one screen: SOLIDWORKS Premium 2014 and above sees the introduction of a powerful addition to the Simulation capabilities. Many customers will try out several different designs by utilising Configurations in SOLIDWORKS parts and assemblies and test them using SOLIDWORKS Simulation. Now the results of all the simulations across all configurations can be compared on one screen, making it clear which is best.



For many years, SOLIDWORKS has made it easy to set up complex mechanisms in the assembly environment. SOLIDWORKS 2014 welcomes the introduction of the Slot Mate. In the Mechanical Mates section of the PropertyManager, the Slot Mate can set a component at a set distance along a slot, a percentage along a slot or allow it to freely slide up and down the slot but only within the limits of the slot. This drastically reduces user input as only one Slot Mate is required where several different mates might have been required in the past.



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## Augmented Reality in eDrawings Mobile:

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SOLIDWORKS viewing software eDrawings has been enjoying success on Android and iOS for some time now, but something that is always well received is the Augmented Reality (AR) capability in the iOS version (and hopefully in the Android version soon). To activate it, simply tap the AR button on the left, print the AR code and it shows a 1:1 scale representation of SOLIDWORKS parts and assemblies sat on the AR code through the camera on your device. This is great for showing-off latest designs to prospective customers and clients.

# Workstation peace of mind

With Dell Precision workstations playing fundamental and business-critical roles in organisations where they are deployed, Dell services for workstations are designed to deliver the technology and expertise that make for absolute peace of mind.



## Services include:

### ProSupport

The Dell ProSupport suite provides end-to-end hardware and software support for individuals, small businesses or large corporations, with direct 24/7 access to technical experts throughout the lifetime of a product.

### Asset tagging

Dell Asset Tagging and Reporting Services make identifying, tracking, securing and recovering devices simple and make it easy to integrate new devices into your asset management system.

### Keep your hard drive

Designed to enable you to retain physical control over sensitive data on failed hard drives, the service waives the requirement to return a drive under warranty when receiving a replacement, mitigating the risk of data loss, removing the need to track failed hard drives in transit and ensuring compliance.

### Accidental damage

The Accidental Damage service picks up where the hardware warranty leaves off, providing repairs and replacement hardware components in mobile devices damaged by drops, spills, power surges and breakages. International coverage makes technical support available if customers experience accidental damage while travelling.