

Engineering, Architecture and Manufacturing

Increasing Productivity by Enabling Advanced Engineering
Designs with professional grade tools



Design Engineering, Architecture, and Manufacturing in the Modern Era.

Engineering and design workflows that simply did not exist 3-5 years ago have radically altered the way products and structures are developed and built today.

- Advances in simulation and analysis, digital twins and generative design are enabling new design paradigms that bring designs to market faster and more cost effectively.
- Integrated design, additive manufacturing and IoT technologies are driving better designs despite ever increasing product complexities.
- Augmented reality, virtual reality and real-time photo-realistic rendering are enhancing design and collaboration.
- Building Information Modeling (BIM) is driving better design and manageability of projects and is being adopted as a government mandated technology for projects across the globe.

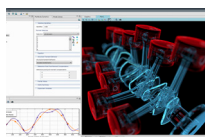
Engineering, architecture and manufacturing use cases



Product Design (2D/3D CAD)

PAGE 05

Take full advantage of your 2D and 3D CAD software features to efficiently develop models and prototypes.



Simulation and Analysis (CAE)

PAGE 06

Drive performance of Computer Aided Engineering (CAE), including finite element analysis (FEA), computational fluid dynamics (CFD), and multibody dynamics (MBD).



Visualization

PAGE 07

Efficiently enable visualization tools for creating real-time photo-realistic images and animations, as well as xR tools to view and collaborate on designs in context, by visualizing in real-world scale.



Architectural Design

PAGE 08

Meet the demand for increased customization and shorter development cycles, even with large data sets representing the most complex building projects.



Mechanical, Electrical and Plumbing

PAGE 09

Proficiently handle mechanical, electrical and plumbing (MEP), as well as HVAC system design and analysis to minimize waste and leverage ecologically-sound designs.



Structural Engineering

PAGE 10

Capitalize on applications for analyzing structural components to meet safety and building code regulations.

Engineering, architecture and manufacturing use cases



Logistics

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Design and improve logistical processes and systems as well as quality control to reduce costs and increase customer satisfaction.



Manufacturing Automation

PAGE 12

Listen to your manufacturing floor to make better, real-time decisions - resulting in increased production and higher quality.



Immersive Technologies

PAGE 13

Expand into immersive technologies such as artificial intelligence and virtual reality to develop smarter designs and simulate your product ideas.



Employees On the Go

PAGE 14

Mobilize your workforce to achieve increased productivity, both inside and outside of the office.

Product design - 2D & 3D CAD



Dell Precision 5860 Tower workstation provides scalable performance for CAD applications, such as:

Dassault Systèmes - SolidWorks® and CATIA®,
Autodesk Inventor®, AutoCAD® PTC, Creo®
Siemens NX™

Combine with a single or dual Dell UltraSharp monitors and a wireless 3DConnexion SpaceMouse to take advantage of the CAD software's features and to maximize productivity.

Recommended products

- A** Dell Precision 5860 Tower
- B** Dell UltraSharp 27 4K USB-C Hub Monitor -U2724D*
- C** Dell Premier Multi-Device Wireless Keyboard and Mouse - KM7321W
- D** Wireless 3DConnexion SpaceMouse Pro*

Mobile solution

- E** Dell Precision 3581*
- F** Dell Performance Dock - WD222TB4*
- G** Dell Pro Wireless Headset - WL5022*
- H** Dell EcoLoop Pro Briefcase - CC5623*

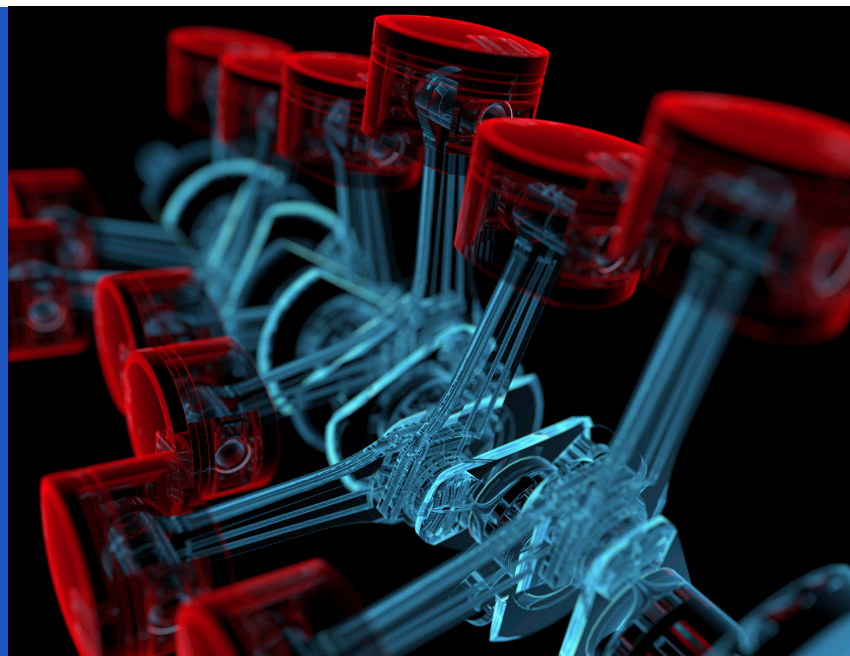
Dell Precision workstations provide the interactive performance to increase productivity, which drives faster time to market and more opportunities for iteration, resulting in better product design.

* Not pictured



Simulation and analysis (CAE)

Power optimization, generative design and digital twin technology to provide better part design and faster time to market.



The Dell Precision 7960 Tower or 7680 mobile workstations provide scalable performance for CAE applications, such as:

ANSYS® Mechanical™, Fluent®, Discovery™ Live Altair® HyperWorks®, solidThinking® COMSOL Multiphysics®

Combine with a single or dual Dell UltraSharp monitor(s), wireless keyboard and mouse and wireless headset for an exceptional user experience.

Dell Precision workstations provide the extreme performance to enable new paradigms in CAE such as digital twins, multi-physics, optimization and generative design.

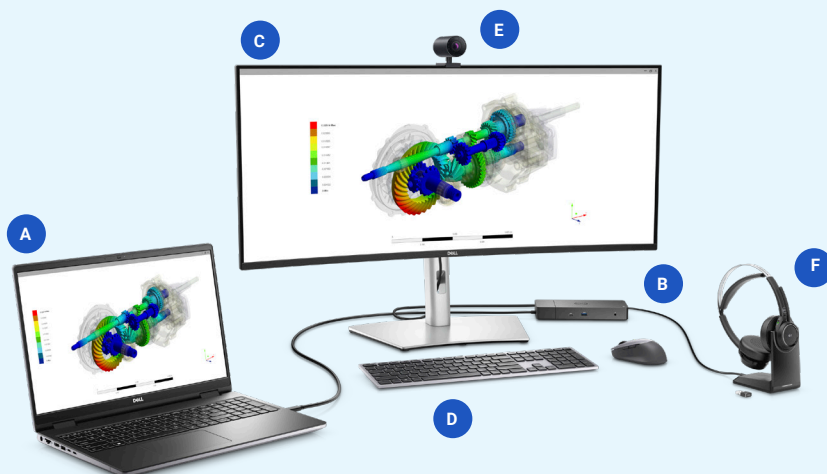
Recommended products

- A** Dell Precision 7680
- B** Dell Performance Dock – WD19DCS
- C** Dell UltraSharp 38 Curved USB-C Hub Monitor - U3824DW 2-in-1
- D** Dell Premier Collaboration Keyboard - KB900
- E** Dell UltraSharp Webcam - WB7022
- F** Dell Premier Wireless ANC Headset - WL7022
- G** Wireless 3DConnexion SpaceMouse Pro*

Desktop solution

- I** Dell Precision 7920 Tower*

* Not pictured



Visualization

Create photo-realistic images in real time, animations and use AR/VR tools to view and collaborate on designs in context, real-world scale.



The Dell Precision 5820 Tower or 7780 mobile workstation provides scalable performance for visualization applications, such as:

Dassault Systèmes® SOLIDWORKS Visualize, 3DEXCITE, Autodesk® 3ds Max®, VRED, Siemens PLM Teamcenter® Visualization

Dell Precision workstations provide the CPU and GPU performance to make visualization an extension of the design process.

Include 4K displays and a VR solution to amp up your work space.

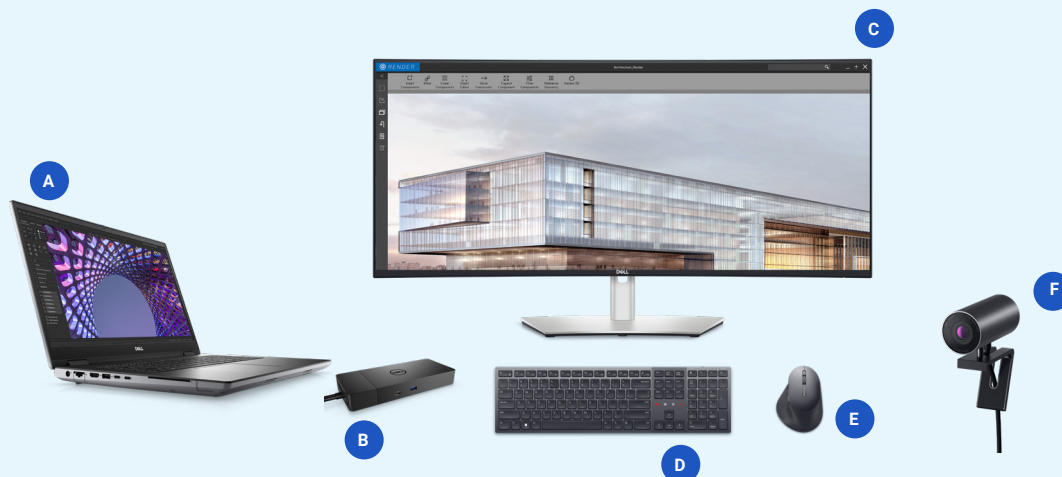
Recommended products

- A** Dell Precision 7780
- B** Dell Performance Dock – WD19DCS
- C** Dell UltraSharp 38 Curved USB-C Hub Monitor - U3824DW
- D** Dell Premier Collaboration Keyboard - KB900
- E** Dell Premier Rechargeable Mouse - MS900
- F** Dell UltraSharp Webcam - WB7022
- G** HTC VIVE Pro 2 - Virtual Reality Headset*

Desktop solution

- I** Dell Precision 5820 Tower

* Not pictured



Architectural design

Meet competitive demands and meet competitive demands and delight your clients utilizing design reviews in a rich mixed reality environment.



The Dell Precision 3660 Tower workstation provides space-savings and powers architectural applications, such as:

Autodesk Revit®, AutoCAD® GRAPHISOFT®
ARCHICAD Bentley Software MICROSTATION
Robert McNeel & Associates Rhino®

Precision workstations provide the interactive performance to increase productivity, drive faster time to market and open more opportunities for iteration, resulting in better building and site planning, design and more collaborative workflows. With Precision you can also show your work in VR/AR applications.

Dual monitors, wireless keyboard and mouse and wireless headset provide a more comprehensive work space.

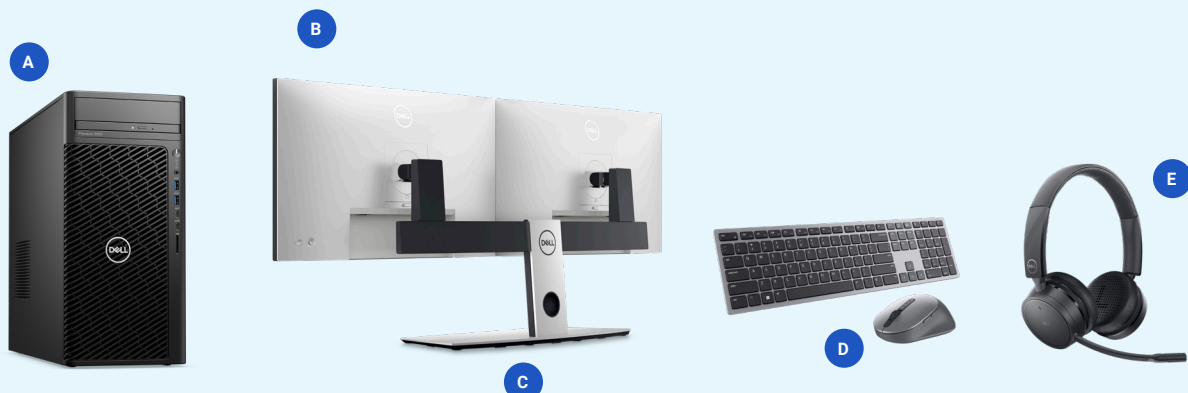
Recommended products

- A** Dell Precision 3660 Tower
- B** Dell UltraSharp 27 4K USB-C Hub Monitor - U2723QE
- C** Dell Dual Monitor Stand MDS19
- D** Dell Premier Multi-Device Wireless Keyboard and Mouse - KM7321W
- E** Dell Pro Wireless Headset - WL5022
- F** 3DConnexion SpaceMouse Wireless*
- G** HTC Vive Pro*

Mobile solution

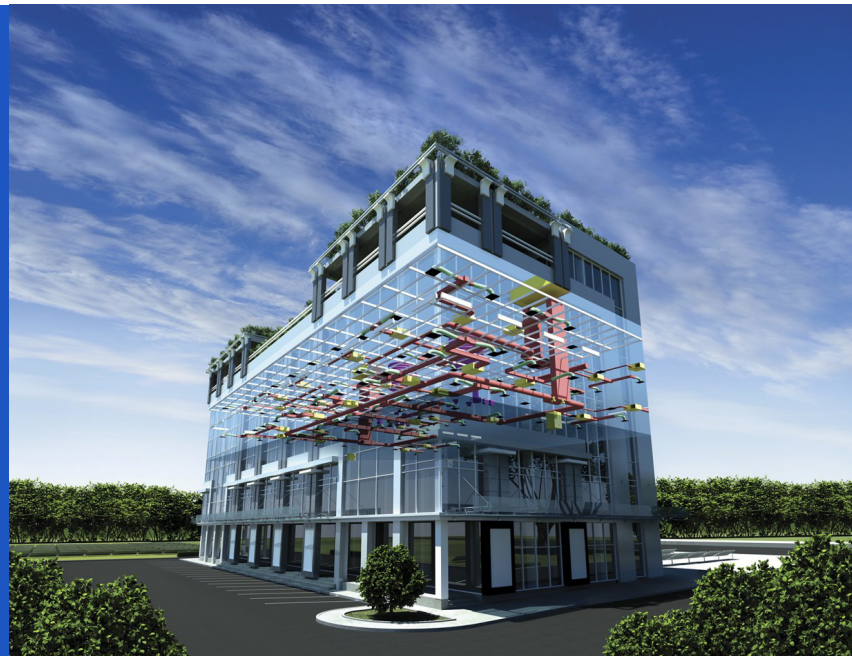
- H** Dell Precision 7680*

* Not pictured



Mechanical, electrical and plumbing

Perform clash detection before construction to avoid costly mistakes. Also, scan projects and use for detailed retrofit and modifications.



The Dell Precision 7875 Tower provides outstanding performance and reliability for MEP and HVAC applications, such as:

Autodesk® Revit® MEP, AutoCAD® MEP, Navisworks® Trimble® PipeDesigner™, DuctDesigner™

Dell Precision workstations provide the GPU and CPU power to view and analyze complex data sets.

Include 4K monitor(s) and a Wireless 3DConnexion SpaceMouse to enhance the workspace and productivity.

Recommended products

- A** Dell Precision 7875 Tower
- B** Dell UltraSharp 27 4K USB-C Hub Monitor - U2723QE
- C** Dell Dual Monitor Arm - MDA20
- D** Dell UltraSharp Webcam - WB7022
- E** Dell Premier Multi-Device Wireless Keyboard and Mouse - KM7321W
- F** Wireless 3DConnexion SpaceMouse*

* Not pictured



Structural engineering

Simulate and analyze alternate solutions to deliver optimized designs more efficiently and at a reduced cost.



The Dell Precision 5860 Tower workstation provides scalable performance and reliability for structural engineering applications, such as:

AutoCAD® Revit® Structure, Advance Steel, Tekla® Structural Designer, Bentley Software MICROSTATION, STAAD.Pro, RAM(R) Steel

With a single or dual Dell UltraSharp 4K display, experience incredible image quality and color accuracy.

Recommended products

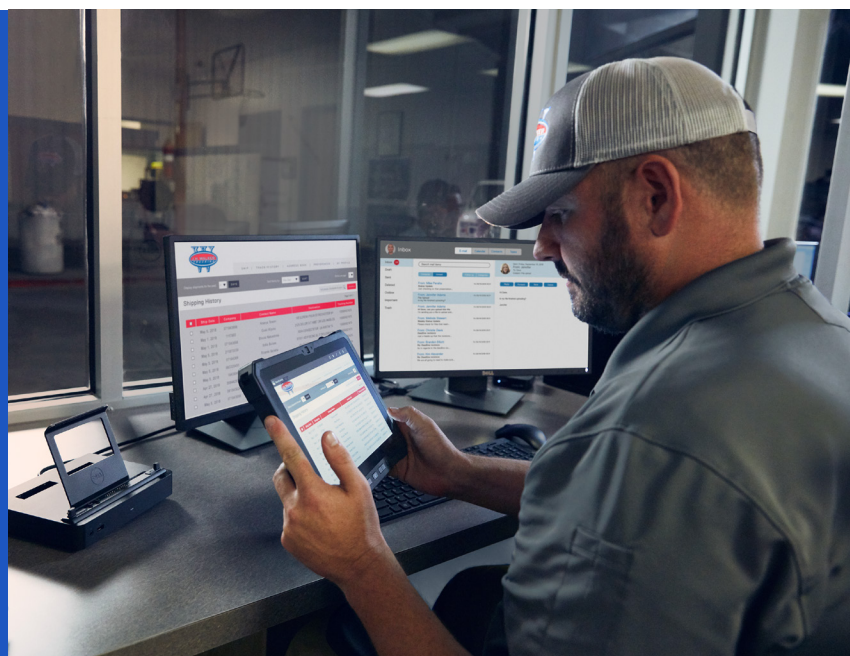
- A** Dell Precision 5860 Tower
- B** Dell UltraSharp 32 HDR PremierColor Monitor - UP3221Q
- C** Dell Premier Multi-Device Wireless Keyboard and Mouse - KM7321W
- D** Dell Slim Soundbar - Ariana - SB521A*
- E** Dell UltraSharp Webcam - WB7022*

* Not pictured



Logistics

Keep the manufacturing floor and deliveries moving with rugged systems that thrive in tough environments.



Dell Rugged solutions are built for world-class reliability in harsh environments where dust, water, extreme temperatures and vibrations are present. Get the toughest jobs done with stunning performance, reliable connectivity and outdoor-readable displays.



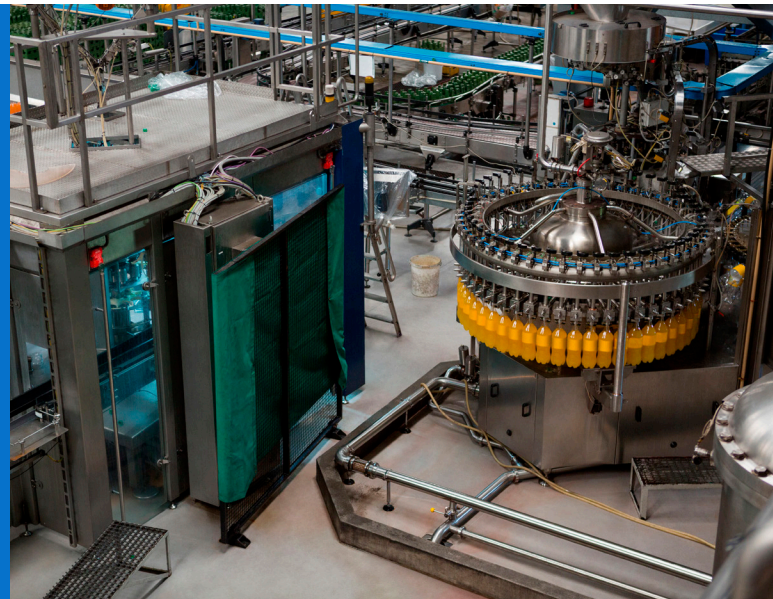
Recommended products and accessories

- | | |
|--|---|
| A Latitude 7230 Rugged Extreme Tablet | F Mobile Stand |
| B Detachable Keyboard | G Flexible Handle |
| C Rotating Hand Strap | H Rugged Active Pen |
| D Magnetic Mount | I Dell 27 USB-C Hub Monitor - P2725HE* |
| E Rigid Handle | |



Manufacturing automation

Connect scanners, programmable logic controllers (PLCs) and motors, to integrate relevant data with intelligent upstream applications.



Integrated and automated

Dell Edge IoT products are fanless, designed and engineered to withstand harsh industrial conditions and operate reliably 24x7. Multiple deployment options such as inside control cabinets, on a DIN rail, or outside a cabinet without a mount provide customizable IoT solutions for the manufacturing floor.

Also consider embedding a rack workstation inside manufacturing equipment or as standalone units on the floor because they can withstand extended temperatures and provide outstanding performance.

Make informed decisions based on available data and continuously identify overall volume of products in production and apply set criteria, such as historical performance, to identify ideal products for auditing.



Immersive productivity

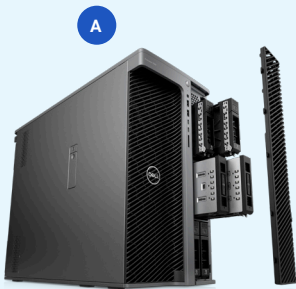
Take your designs to new levels with artificial intelligence and Xreality.



Dell has “Ready for VR” and AI solutions that are optimized for the intensive graphic and processing power that they require. Our solutions are verified and certified by our Dell Technology Partner Program to ensure reliable performance.

Apply immersive technologies to existing business processes or develop new ones to creative or enhance your competitive advantage and drive the future of design and factory.

Recommended products



Additional setups

- A Dell Precision 5860 Tower
- B HTC Vive Pro[†]
- C X-Rite Colorimeter i1Display Pro
- D Dell UltraSharp 32 HDR Monitor UP3221Q

Mobile solution

- E Dell Precision 7780
- F Dell Performance Dock – WD19DCS
- G Dell EcoLoop Pro Backpack - CP5723

* Not pictured

† Not available in all countries

Employess on the go

Run to Meetings. Collaborate. Present.
Rock it. Repeat.



Stay connected and get more done with Latitude notebooks.

Get to work fast and stay productive with Dell Latitude notebooks and 2-in-1s, which provide small, light, and stylish designs for smart and secure end-user experiences. With optional 5G connectivity*, 5MP IR cameras featuring intelligent privacy, and the best audio quality ever in a 7000 series**; the Latitude 7340 and 7440 Ultralight laptops deliver innovation in both collaboration and connection.

*4G LTE antenna and 5G available only at time of system purchase. Mobile Broadband Subject to service provider's broadband subscription and coverage area; additional charges apply.

**Based on Dell internal analysis, October 2022.

Recommended accessories



- A** Dell Latitude 7340/7440 Ultralight
- B** Dell 14 Portable Monitor - P1424H
- C** Dell EcoLoop Urban Backpack
14-16-CP4523G
- D** Dell Thunderbolt 4 Dock - WD22TB4
- E** Mobile Speakerphone Adapter -
MH3021P
- F** Dell Wireless Mouse-WM126

* Not pictured