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Ingenuity for life

Presenting Solid Edge ST9

Dan Staples, VP Mainstream Engineering R&D

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Ingenuity for Life – Driving the Digital Enterprise

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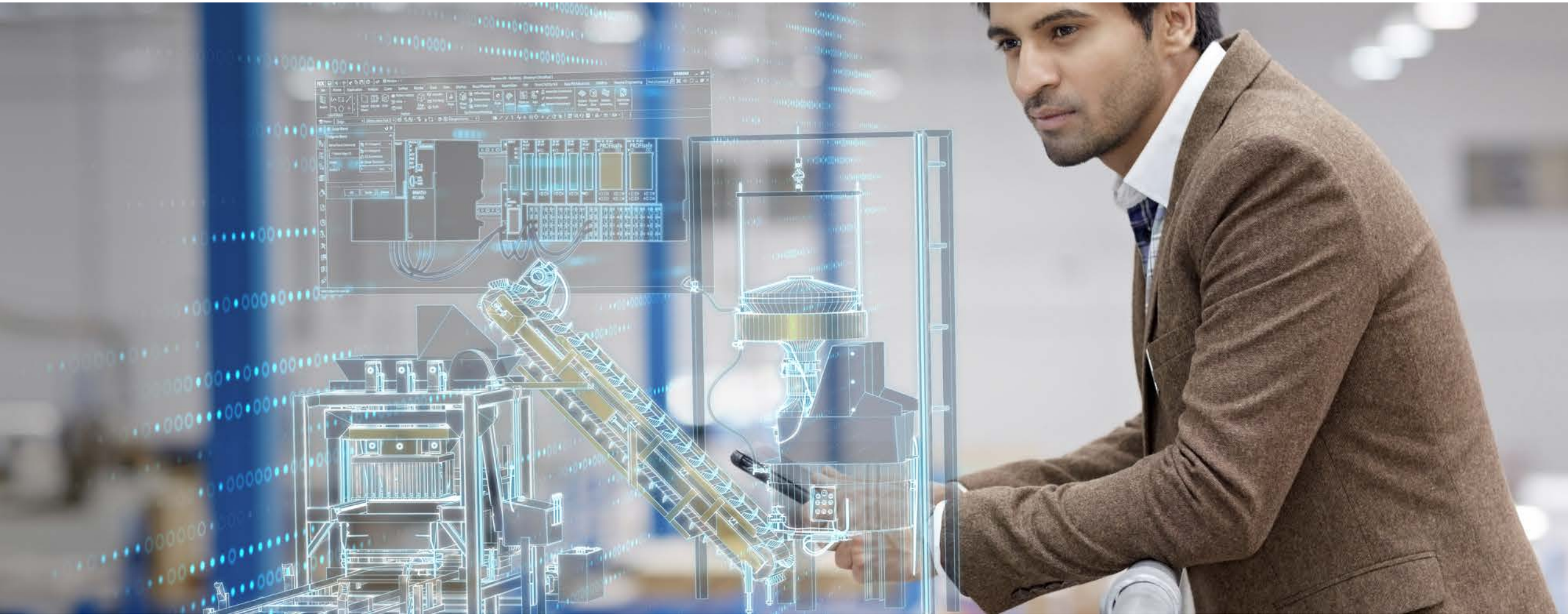

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Solid Edge ST9: Expand your horizons

Siemens Solid Edge ST9 combines the cloud capabilities and data management you need, with unprecedented flexibility and excellence in 3D CAD. Move to Solid Edge and expand your horizons.

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Cloud enabled design – on your terms.

Dataset courtesy of Zumex

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Cloud enabled design – on your terms.

Fast and flexible 3D modeling.

Dataset courtesy of Zumex

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Fast and flexible 3D modeling.

Scalable data management.

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CAD that follows wherever you go

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Cloud enabled design – on your terms.

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CAD that follows wherever you go

Share CAD files easily across teams and sites

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Cloud enabled design – on your terms.

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CAD that follows wherever you go

Share CAD files easily across teams and sites

CAD that’s reliable

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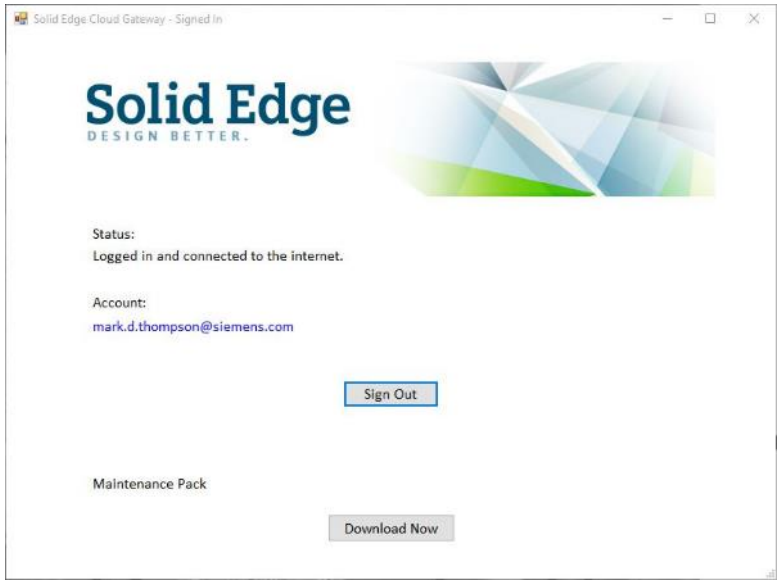

CAD that follows wherever you go

- ✓ Login to start, license on the cloud
- ✓ Personalized settings available anywhere
- ✓ Updates installed from the cloud, but only when wanted
- ✓ Access designs anywhere

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Cloud enabled design – on your terms.

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Share CAD files easily across teams and sites

- ✓ Uses popular cloud storage services such as Dropbox, One Drive, Google Drive, and Box
- ✓ Changes at one site are synchronized with others
- ✓ Automatic file locking at other sites during edits

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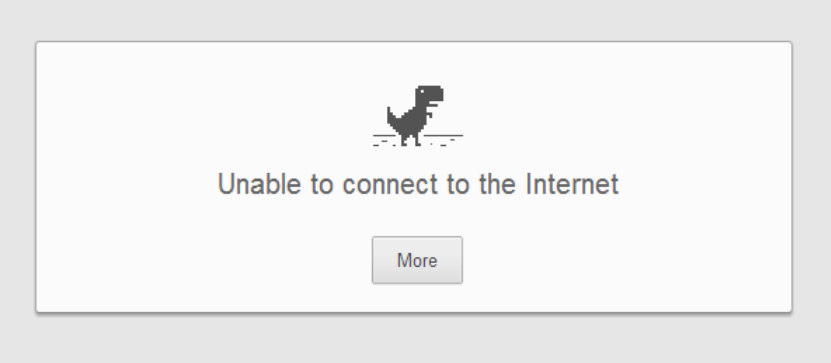
Cloud enabled design – on your terms.



CAD that’s reliable

- ✓ If the internet goes down, Solid Edge doesn’t
- ✓ Files are local
- ✓ Performance is fast, regardless of internet speed

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Flexible licensing

- ✓ Node locked, floating, or cloud based

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Cloud enabled design – on your terms.

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Flexible licensing

✓ Node locked, floating, or cloud based

Flexible purchasing

✓ Perpetual, or subscription - monthly or yearly

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> “Being able to run my CAD software offline is critical to me, as I often work at my client’s premises where I don’t have access to the internet.”
>
> Ryan Spoering, Founder, Lab Machinist Solutions, LLC

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Cloud enabled design – on your terms.

Fast and flexible 3D modeling.

Scalable data management.

Move to Solid Edge!

Dataset courtesy of Zumex

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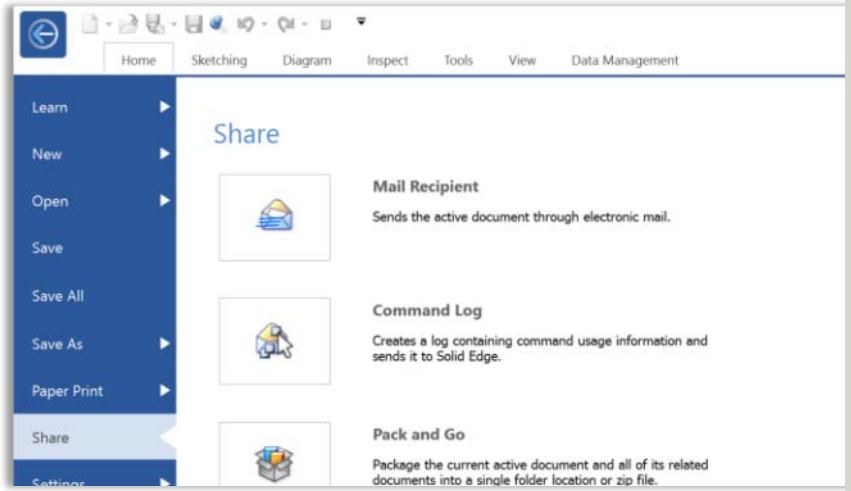
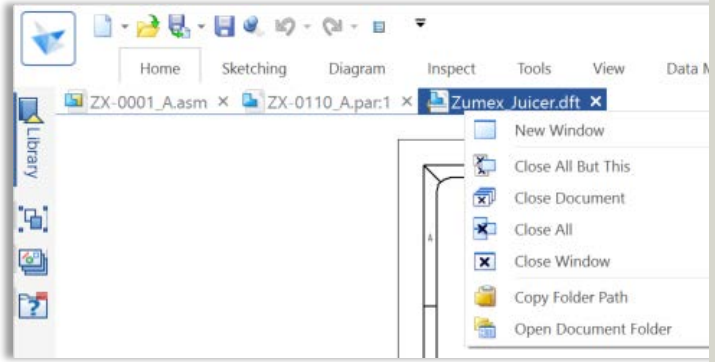
Improved User Interface

Fast and flexible 3D modeling.

SIEMENS





Improved User Interface

- ✓ Increased consistency with Microsoft Office behavior
- ✓ Tabbed documents for quicker multi-document work
- ✓ High resolution monitor support
- ✓ Academic themes to simplify learning curve for students

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Fast and flexible 3D modeling.

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Catchbook & Solid Edge

Ingenuity for Life

Fast and flexible 3D modeling.

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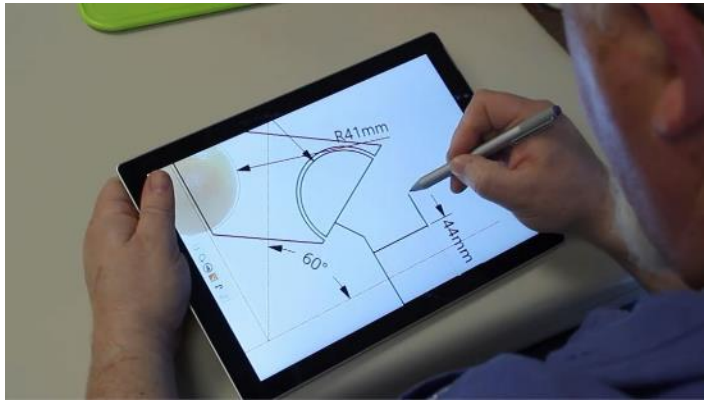

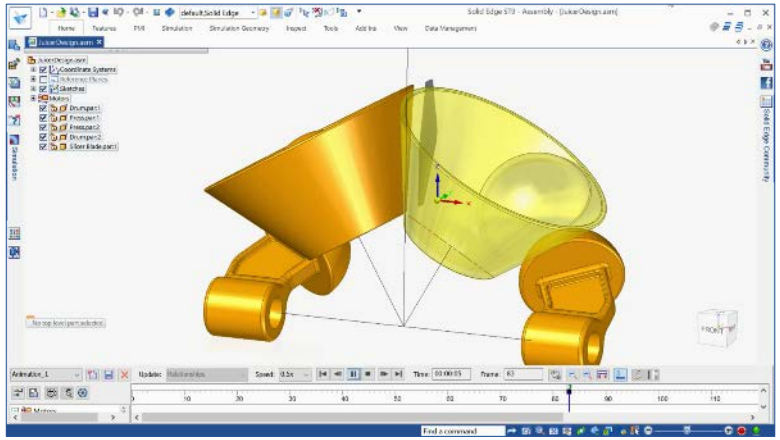

Catchbook & Solid Edge

- ✓ Capture ideas quickly on tablet and smartphone
- ✓ Draw and trace accurately
- ✓ Create 3D models in Solid Edge from Catchbook sketches

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Featured product: Zumex Soul

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Synchronous Technology

Fast and flexible 3D modeling.

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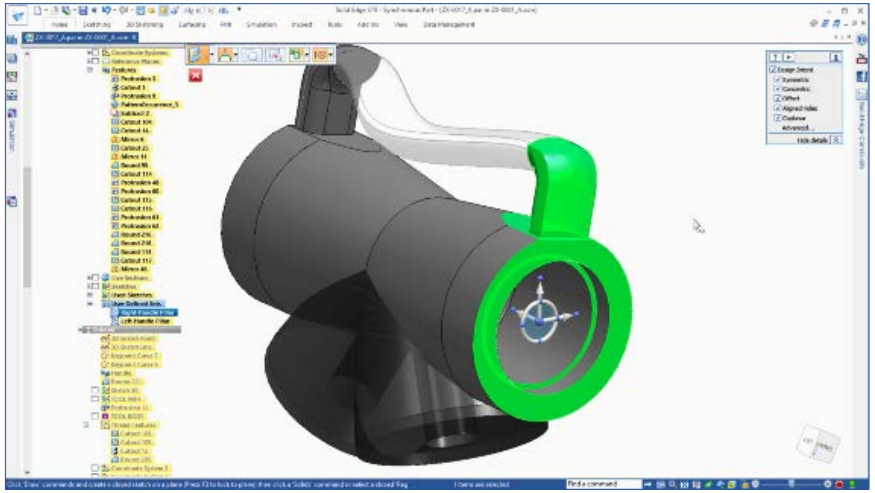

Synchronous Technology

Top user request

- ✓ Improved ordered/synchronous hybrid modeling experience
- ✓ Enhanced: multi-body, 3D sketch, mirror, Design Intent, in-context

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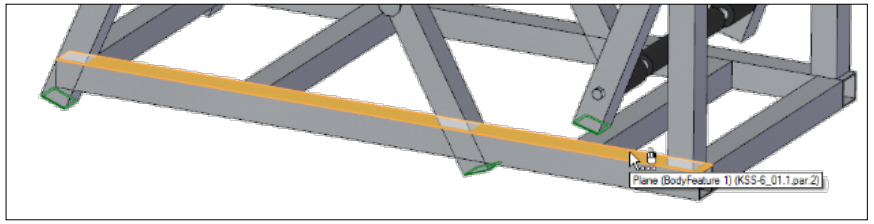
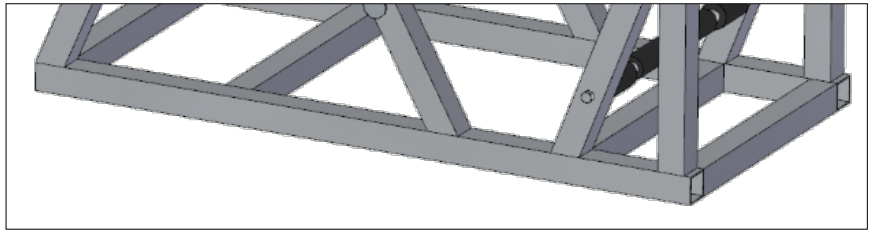
Fast and flexible 3D modeling.





Synchronous Technology

- ✓ Improved ordered/synchronous hybrid modeling experience
- ✓ Enhanced: multi-body, 3D sketch, mirror, Design Intent, in-context
- ✓ Multi-face replace in an assembly

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Fast and flexible 3D modeling.

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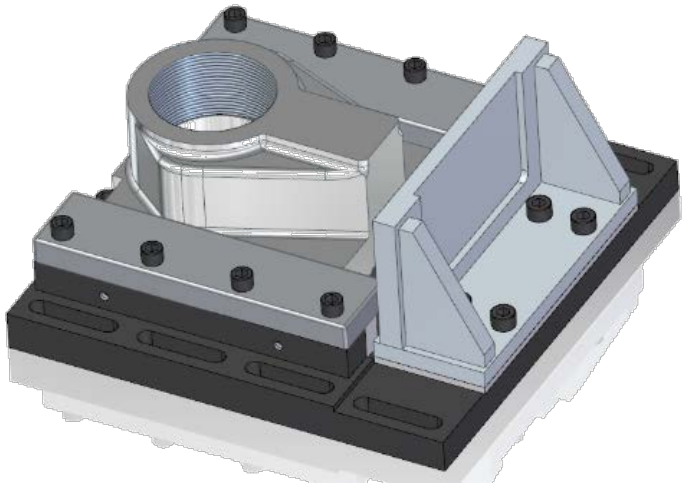

Synchronous Technology

- ✓ Improved ordered/synchronous hybrid modeling experience
- ✓ Enhanced: multi-body, 3D sketch, mirror, Design Intent, in-context
- ✓ Multi-face replace in an assembly
- ✓ Create threaded hole features from threaded shaft Booleans

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Fast and flexible 3D modeling.

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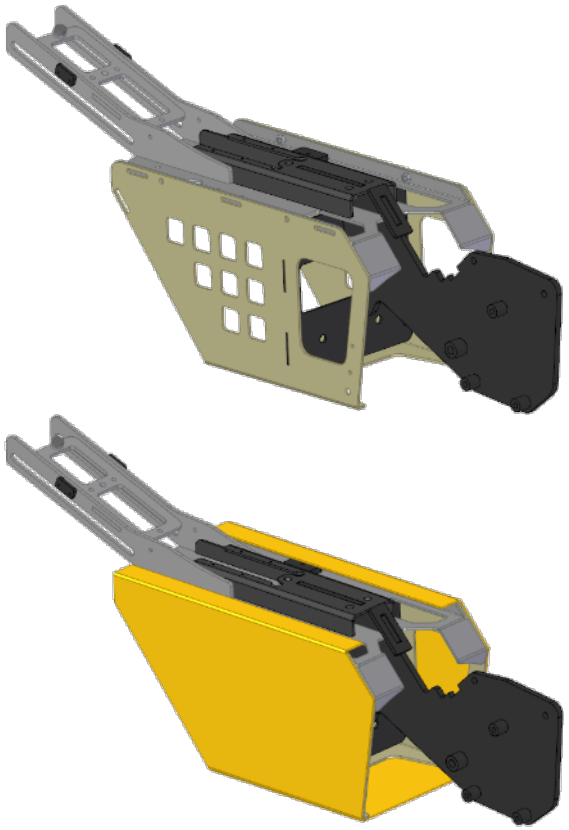

Synchronous Technology

- ✓ Improved ordered/synchronous hybrid modeling experience
- ✓ Enhanced: multi-body, 3D sketch, mirror, Design Intent, in-context
- ✓ Multi-face replace in an assembly
- ✓ Create threaded hole features from threaded shaft Booleans
- ✓ Sheet metal contour flange creation from edges of multiple parts

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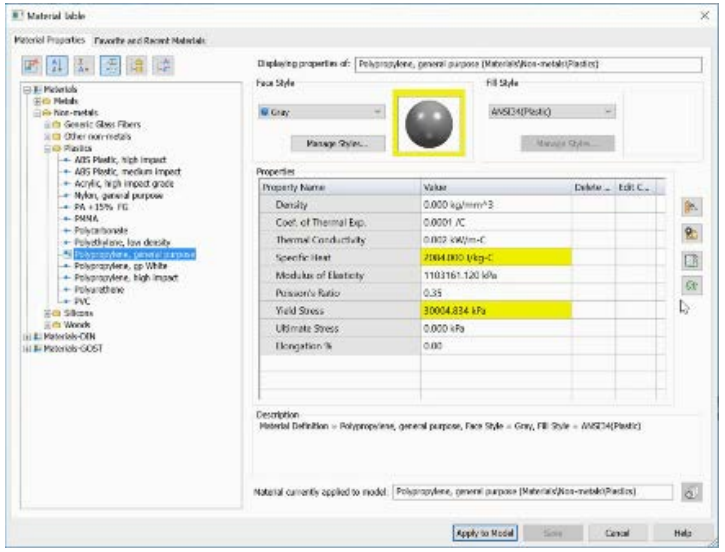
Fast and flexible 3D modeling.



Synchronous Technology

- ✓ Improved ordered/synchronous hybrid modeling experience
- ✓ Enhanced: multi-body, 3D sketch, mirror, Design Intent, in-context
- ✓ Multi-face replace in an assembly
- ✓ Create threaded hole features from threaded shaft Booleans
- ✓ Sheet metal contour flange creation from edges of multiple parts
- ✓ Better material library management

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Fast and flexible 3D modeling.

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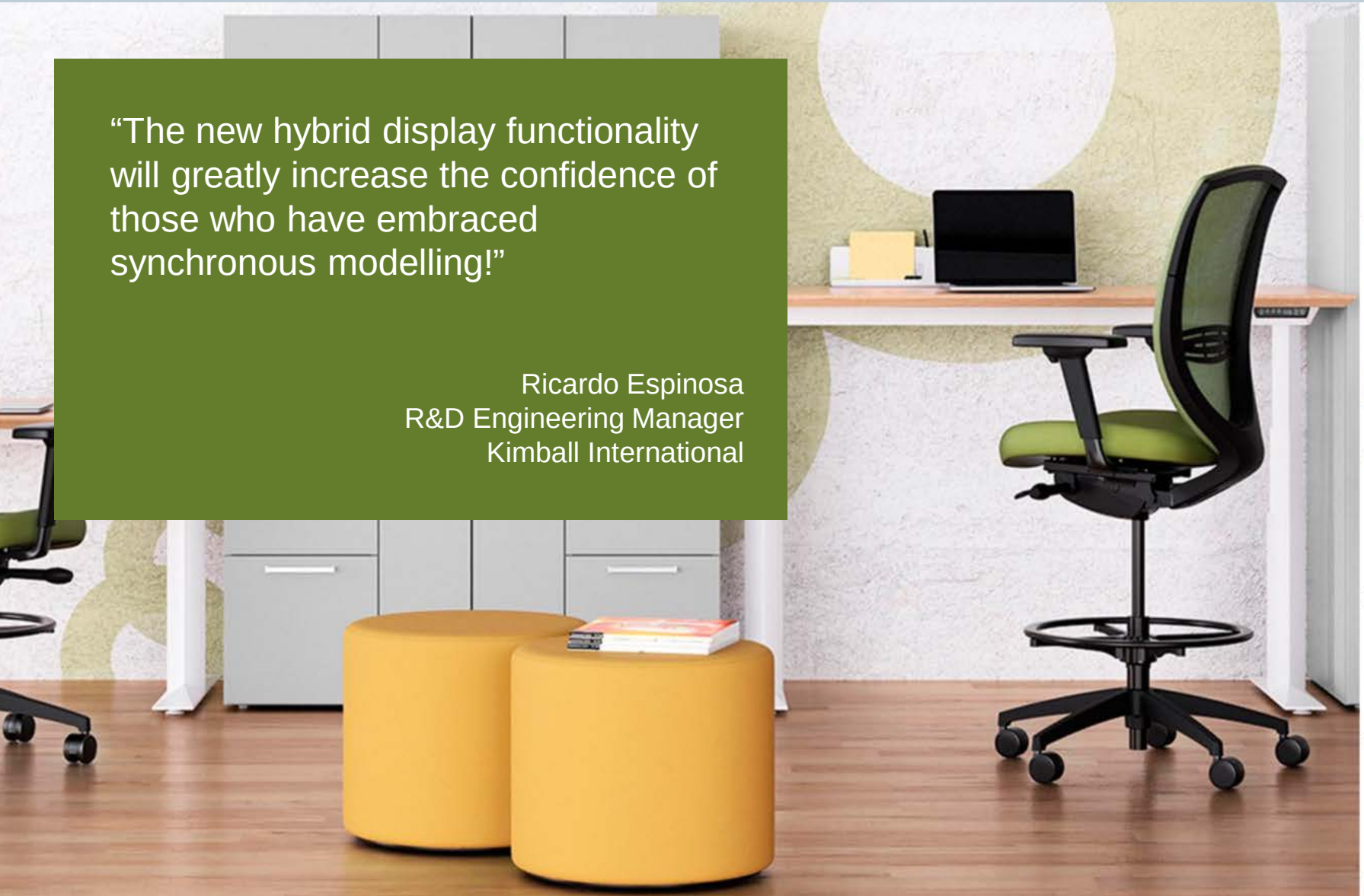

“The new hybrid display functionality will greatly increase the confidence of those who have embraced synchronous modelling!”

Ricardo Espinosa
R&D Engineering Manager
Kimball International

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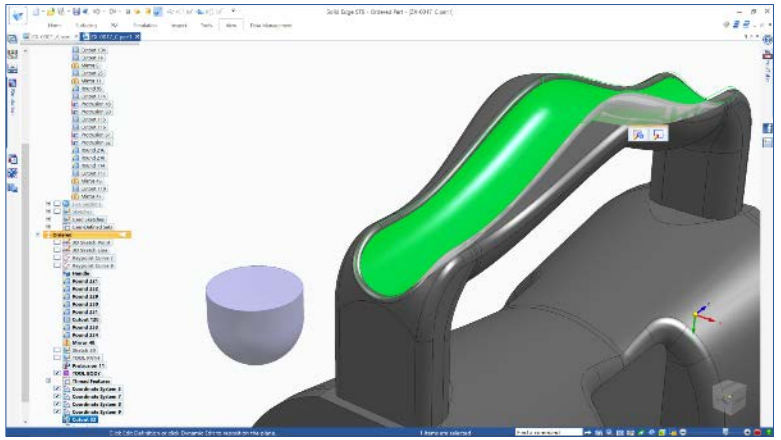
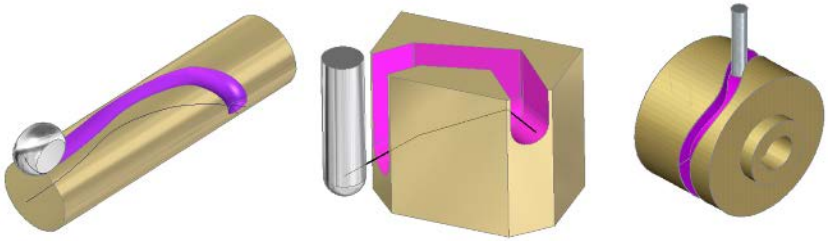
Solid Sweep

Fast and flexible 3D modeling.





Solid Sweep

- ✓ Sweep a solid body along a 2D or 3D path
- ✓ Simulate machine tool operations like milling
- ✓ Create complex protrusions

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Fast and flexible 3D modeling.

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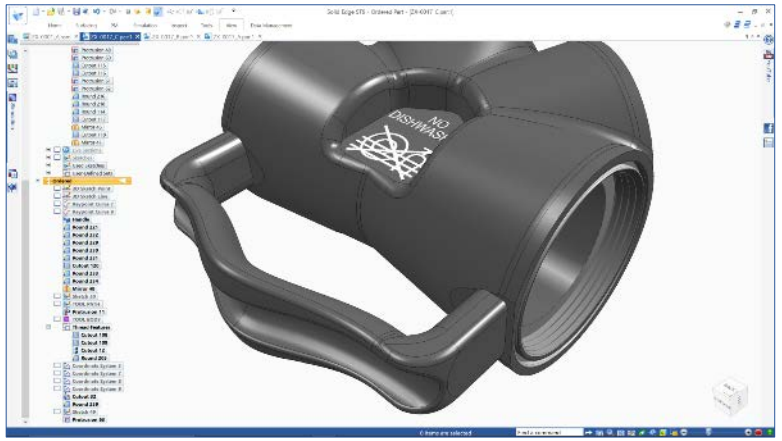
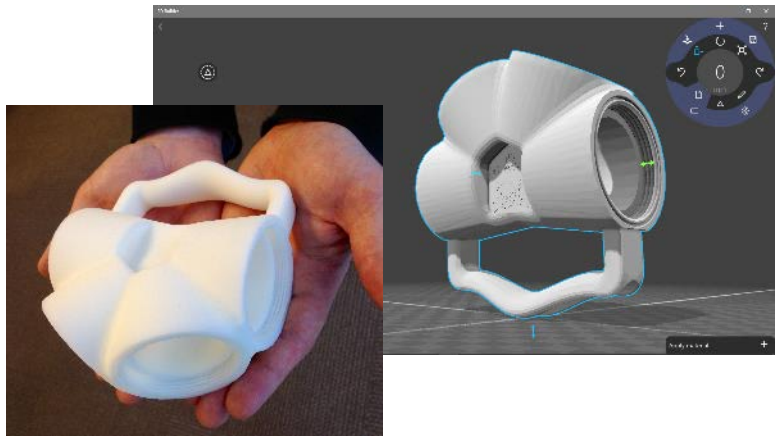
3D Printing

Ingenuity for Life

Fast and flexible 3D modeling.





3D Printing

- ✓ Send to 3D Builder for print preparation or online order
- ✓ Solid Print preview with tolerance control
- ✓ Drag & drop sketch blocks e.g. for text and logo reuse

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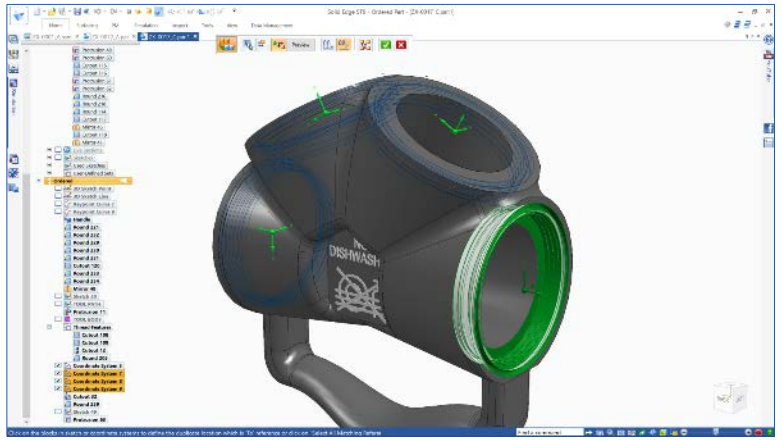
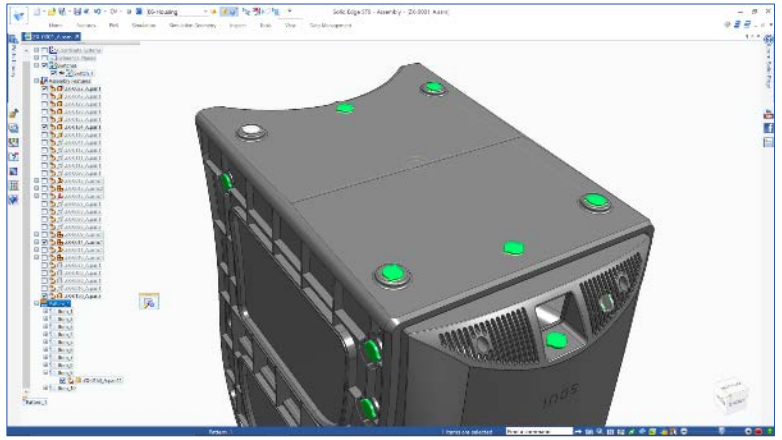
Enhanced Patterning

Fast and flexible 3D modeling.





Enhanced Patterning

- ✓ Duplicate faces, features, and bodies across multiple planes
- ✓ Drive with coordinate systems, sketch blocks, sketch patterns
- ✓ Ideal for plant layout

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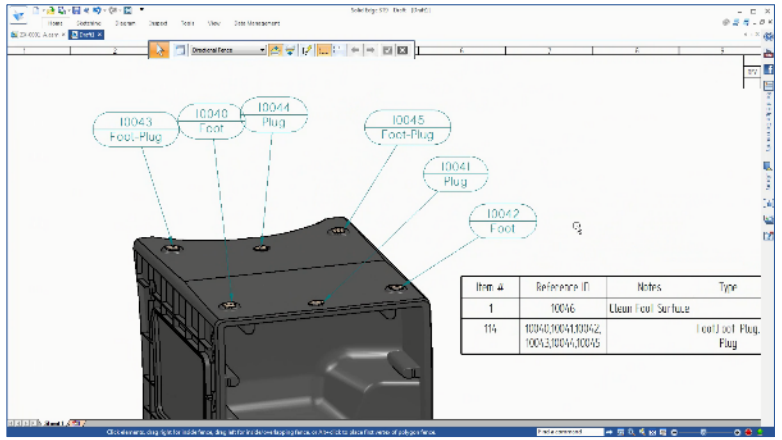
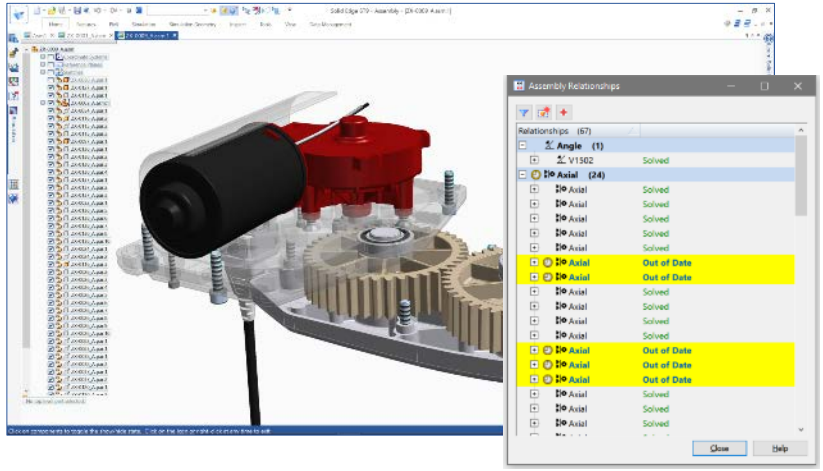
Enhanced Assembly Management

Fast and flexible 3D modeling.





Enhanced Assembly Management

- ✓ Assign unique properties to occurrences (e.g. for MRP integration)
- ✓ New Relationships Manger to easily review and edit relationships
- ✓ New Toggle Display tool to intuitively hide and show components
- ✓ New Isolate view tool to ease working with specific components

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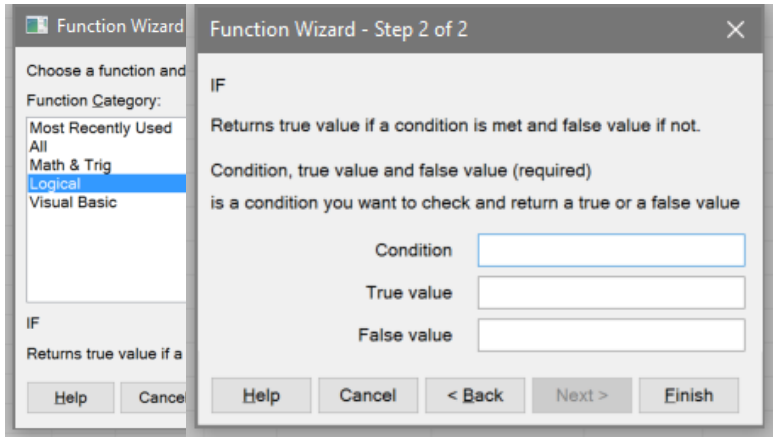
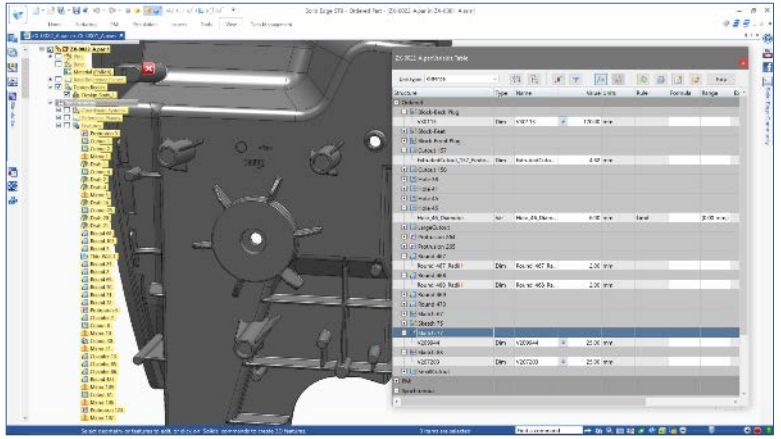
Variable Table Enhancements

Fast and flexible 3D modeling.





Variable Table Enhancements

- ✓ More powerful design automation:
  - ✓ Added Functions (e.g. Logic, Conversion)
  - ✓ Improved Variable Rule Editor (e.g. building in limits)
  - ✓ Improved handling of multiple units
- ✓ Find variables easily with structured grouping and sorting

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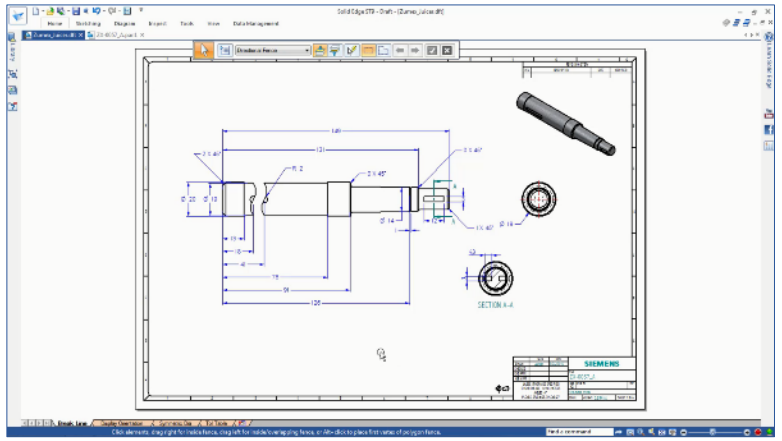
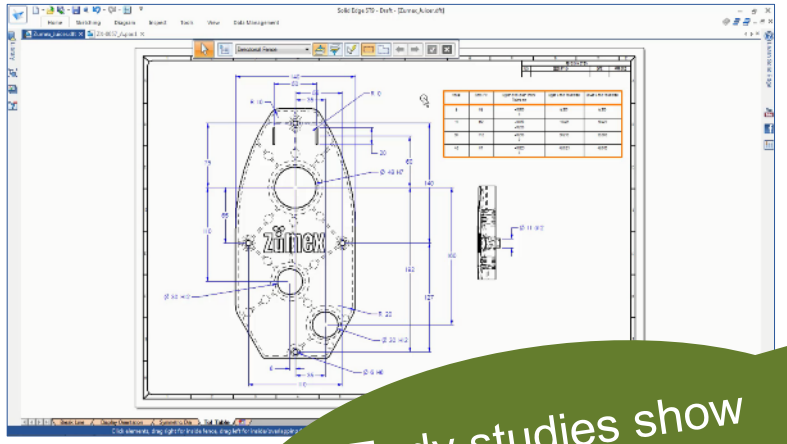
Enhanced Drawings

Fast and flexible 3D modeling.





Early studies show
28% time saving
vs. single core use

Enhanced Drawings

- ✓ Improved section and broken view capability
- ✓ Quicker view orientation and style modification
- ✓ Improved readability for symmetric diameters
- ✓ New Tolerance Table for easy reference of tolerance dimensions
- ✓ Improved Paper Print preview
- ✓ Multi-core processing during drawing view updates

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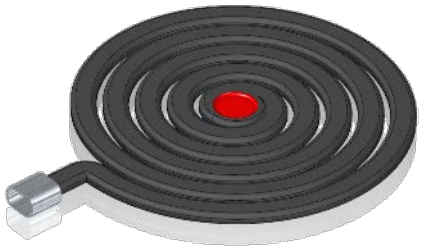
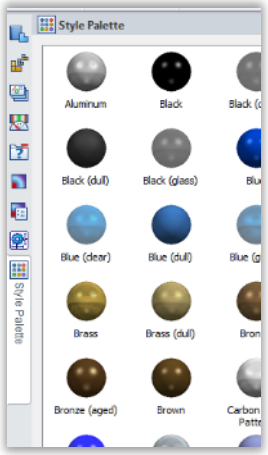
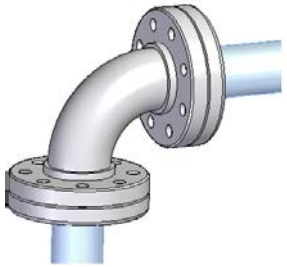
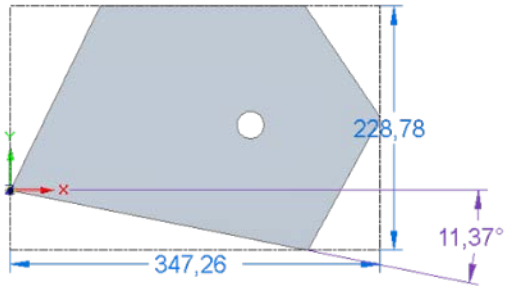
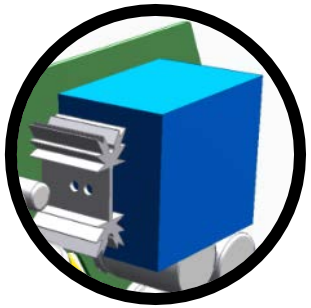
Fast and flexible 3D modeling.











Best of the Rest

- ✓ Spiral curve
- ✓ Drag and drop appearances at assembly level
- ✓ Piping enhancements for improved usability
- ✓ Ability to re-orient sheet metal flat patterns for accurate costing
- ✓ Avoid costly mistakes with automatic sheet metal clash detection
- ✓ Easily remove proprietary detail at the part level with Enclose
- ✓ Plus many more…

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Fast and flexible 3D modeling.

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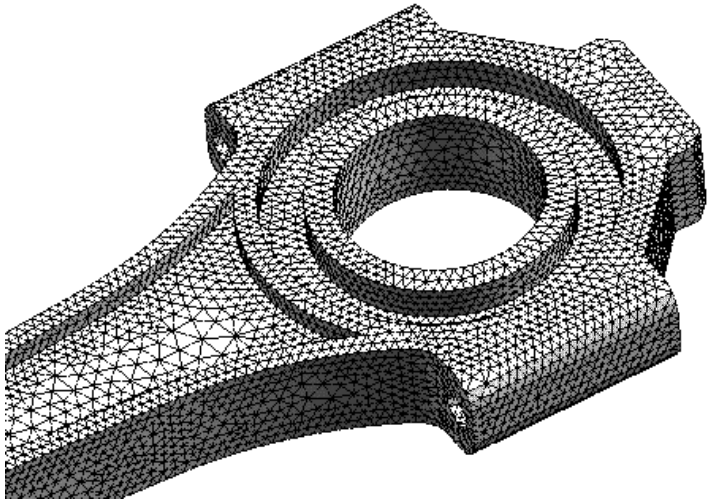

Enhanced Simulation

- ✓ Suppression of Boundary Conditions for easier “what-if” scenarios
- ✓ Maximized Quad elements for more accurate surface meshing
- ✓ Improved Meshing Performance

Average **4x** time saving seen for a variety of models

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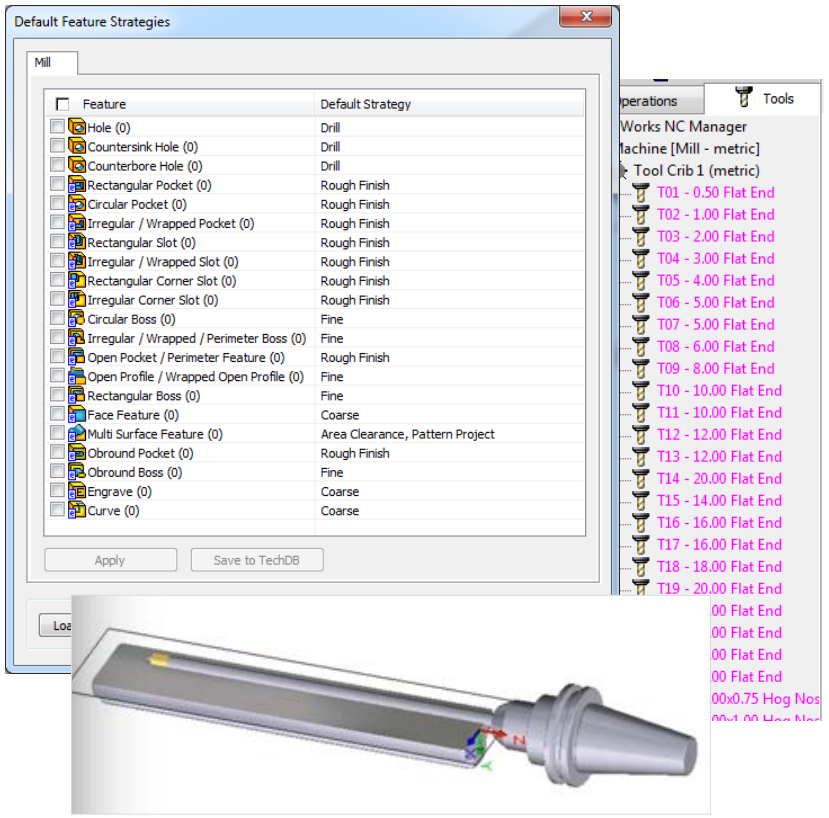
Fast and flexible 3D modeling.



Enhanced Manufacturing - CAMWorks 2016 for Solid Edge

- ✓ Better Automatic Feature Recognition:
  - ✓ Simplify Features option
  - ✓ Improved tool selection for deep features
- ✓ Edit Default Strategies directly (no need to enter TechDB)
- ✓ Volumill Pre-Drilling option to reduce milling costs
- ✓ New Gun-Drilling Cycle for extraordinarily deep holes
- ✓ Tool Management Tree added to CAMWorks PathFinder

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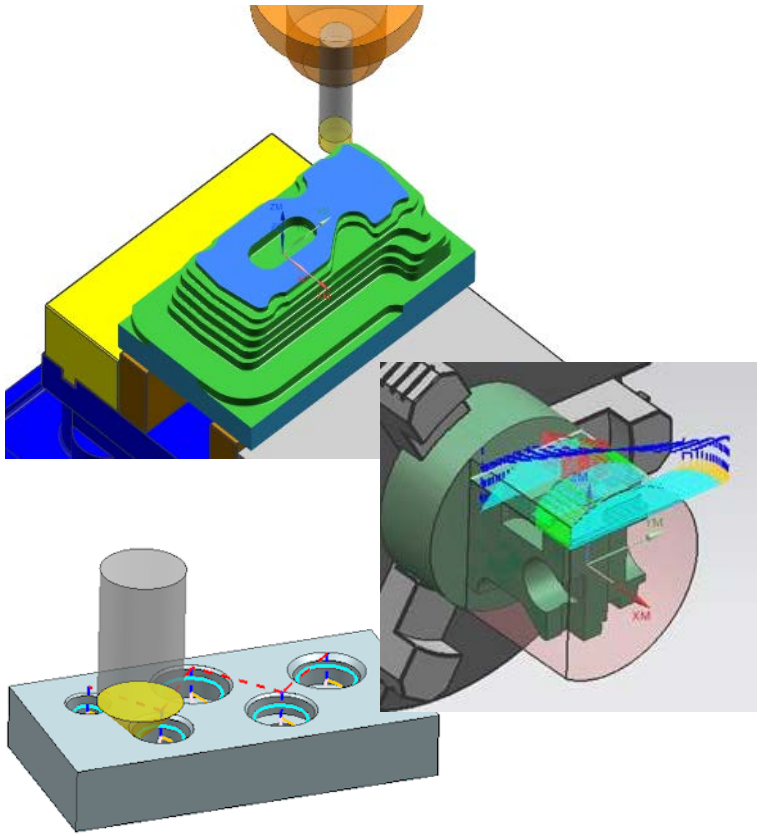
Fast and flexible 3D modeling.



Enhanced Manufacturing - CAM Express 10

- ✓ Automatically generate toolpath based on Solid Edge PMI
- ✓ Generate In-Process Workpiece (IPW) in background
- ✓ Improved corner smoothing for better surface finishes
- ✓ Automatic Cut Pattern direction for Follow Periphery
- ✓ New Boss Milling and Thread Milling (for Boss) operations
- ✓ New Chamfer Milling operation for holes

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Cloud enabled design – on your terms.

Fast and flexible 3D modeling.

Scalable data management.

Move to Solid Edge!

Dataset courtesy of Zumex

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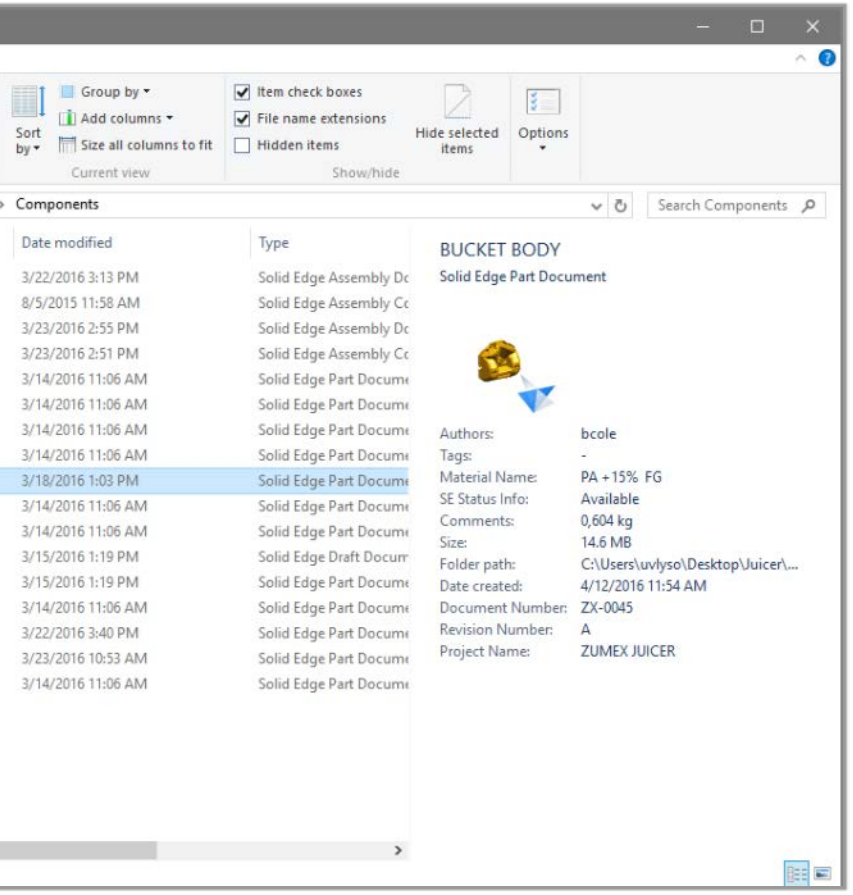
Scalable data management.

Built-in Data Management

Scalable data management.



Built-in Data Management

- ✓ Zero setup: No extra IT resources, no SQL, no databases
- ✓ Instant search for files:
  - ✓ Windows Explorer integrated searching
  - ✓ Search by any file property (Supplier, Revision, Material)
  - ✓ Where Used for impact analysis

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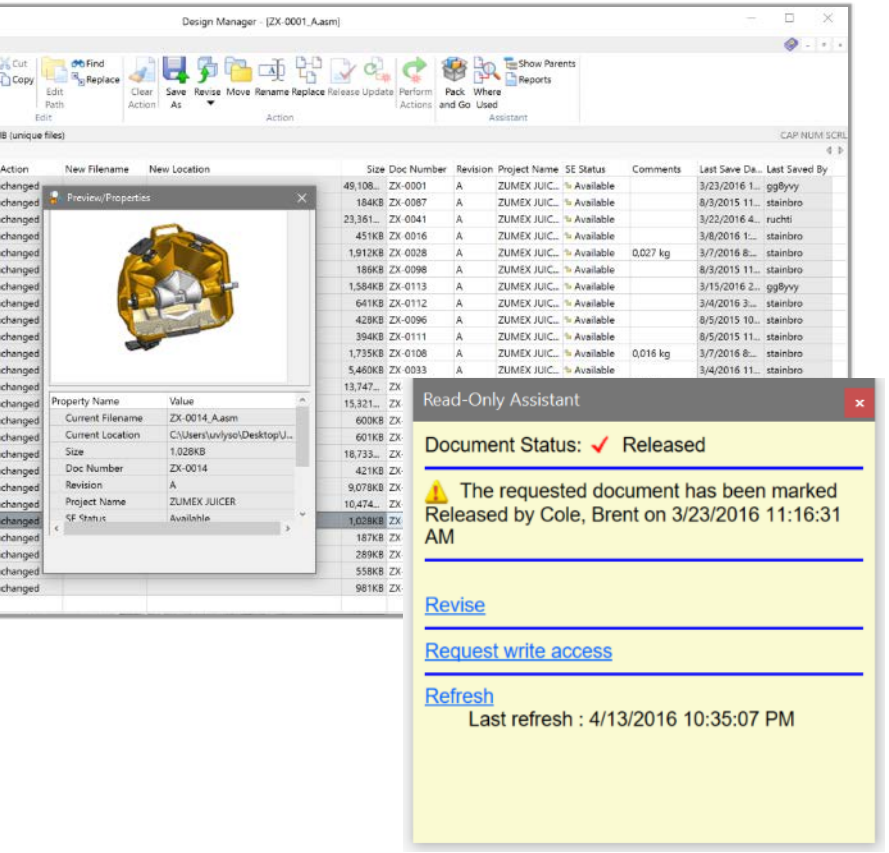
Scalable data management.



Built-in Data Management

- ✓ Organized data:
  - ✓ Protects against duplicate filenames
  - ✓ Document number generator
- ✓ Automated revisions, including associated drawings
- ✓ Revision and release management through Design Manager utility
- ✓ Pack and Go associated data (e.g. send to suppliers or customers)

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Scalable data management.

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"Design Manager allows me to quickly review and edit the properties of an assembly and all its components at the time of releasing – this will result in faster and more accurate releases"

Matt Johnson, Design Engineer, PAC Worldwide

Scalable data management.

Built-in Data Management

- ✓ Collaborate seamlessly with several sites using popular cloud storage services (e.g. Dropbox, One Drive, Google Drive, Box)
  - ✓ Changes at one site are synchronized with others
  - ✓ Automatic file locking at other sites during edits
  - ✓ Off-site data backup
- ✓ Works with existing local and network vaults also

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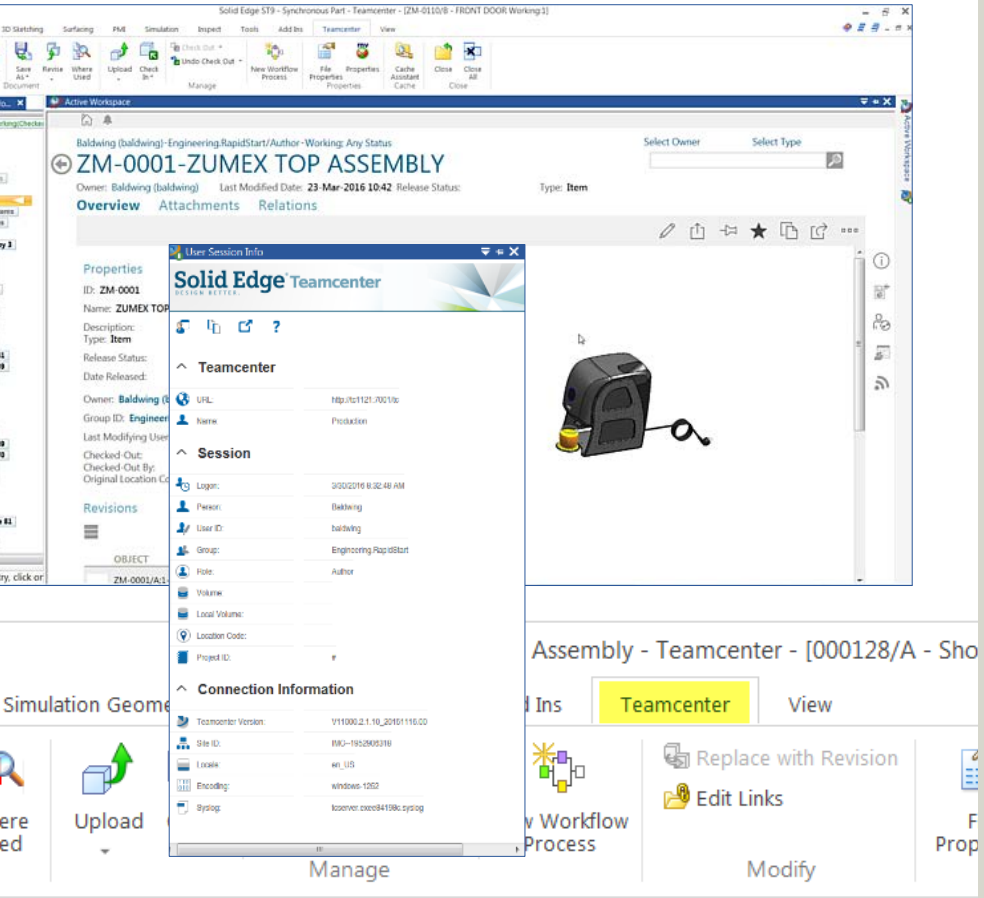
Enhanced Teamcenter Integration for Solid Edge

Scalable data management.



Enhanced Teamcenter Integration for Solid Edge

- ✓ Active Workspace now embedded in Solid Edge for streamlined access to product and process data
- ✓ New Teamcenter dedicated ribbon bar for quicker everyday tasks
- ✓ Better visibility of Teamcenter session information
- ✓ Enhanced check-in interface

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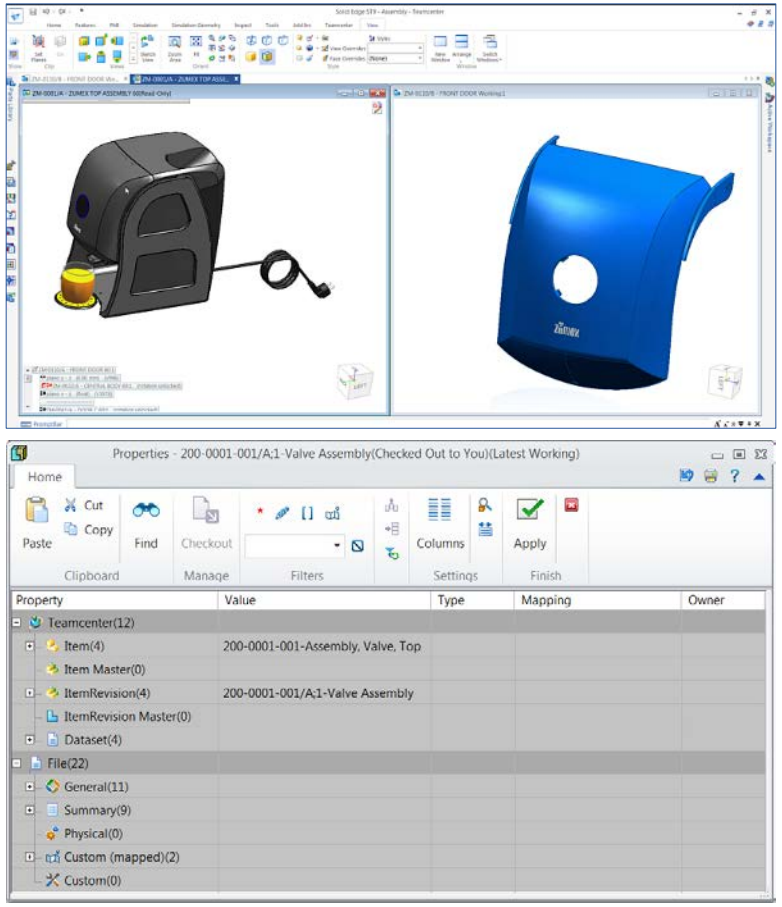
Scalable data management.



Enhanced Teamcenter Integration for Solid Edge

- ✓ Improved visibility of standard and custom properties in dialogs
- ✓ Full access to Teamcenter properties and mapping to Solid Edge
- ✓ Open multiple revisions of the same part for making comparisons
- ✓ Initiate new workflow processes directly from Solid Edge

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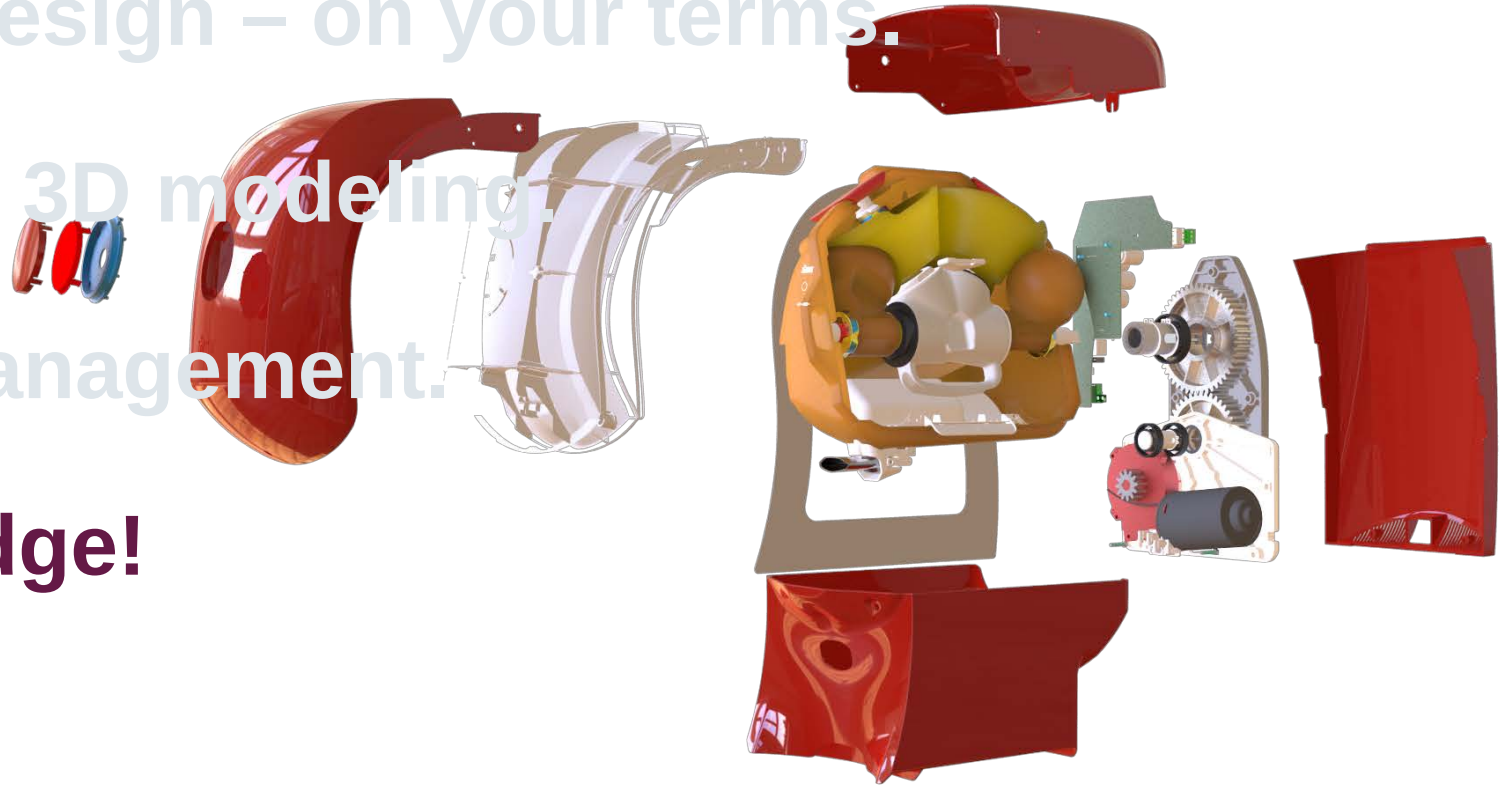
Cloud enabled design – on your terms.

Fast and flexible 3D modeling.

Scalable data management.

Move to Solid Edge!



Dataset courtesy of Zumex

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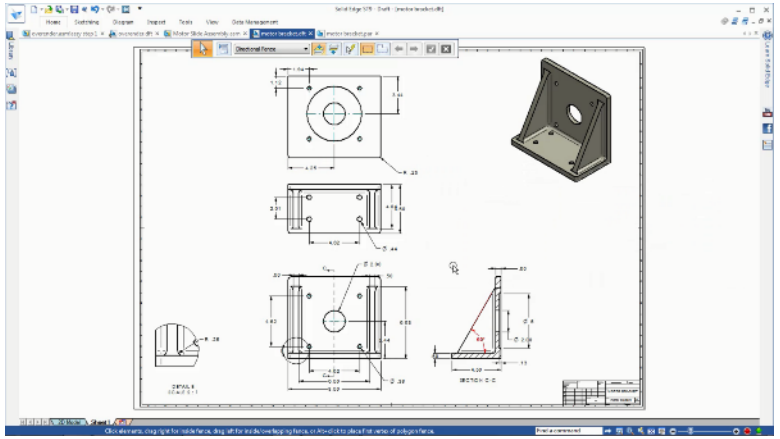
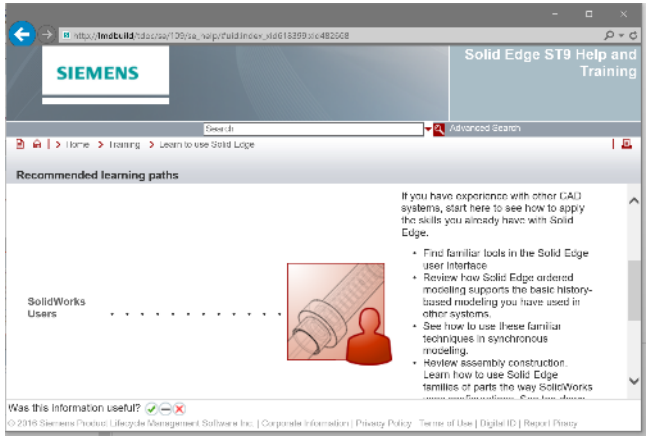
SOLIDWORKS Drawing Migration

Move to Solid Edge!





SOLIDWORKS Drawing Migration

- ✓ Hours of re-work saved with associative drawing migration
- ✓ Intelligent 3D migration including custom properties, materials, Configurations, Mates, assembly features, hole features…
- ✓ Edit SOLIDWORKS data quicker than in SOLIDWORKS!
- ✓ User migration support such as familiar interface theme, dedicated tutorials, and Command Finder
- ✓ Migration tools also available for: Pro/ENGINEER / Creo, Inventor

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Move to Solid Edge!

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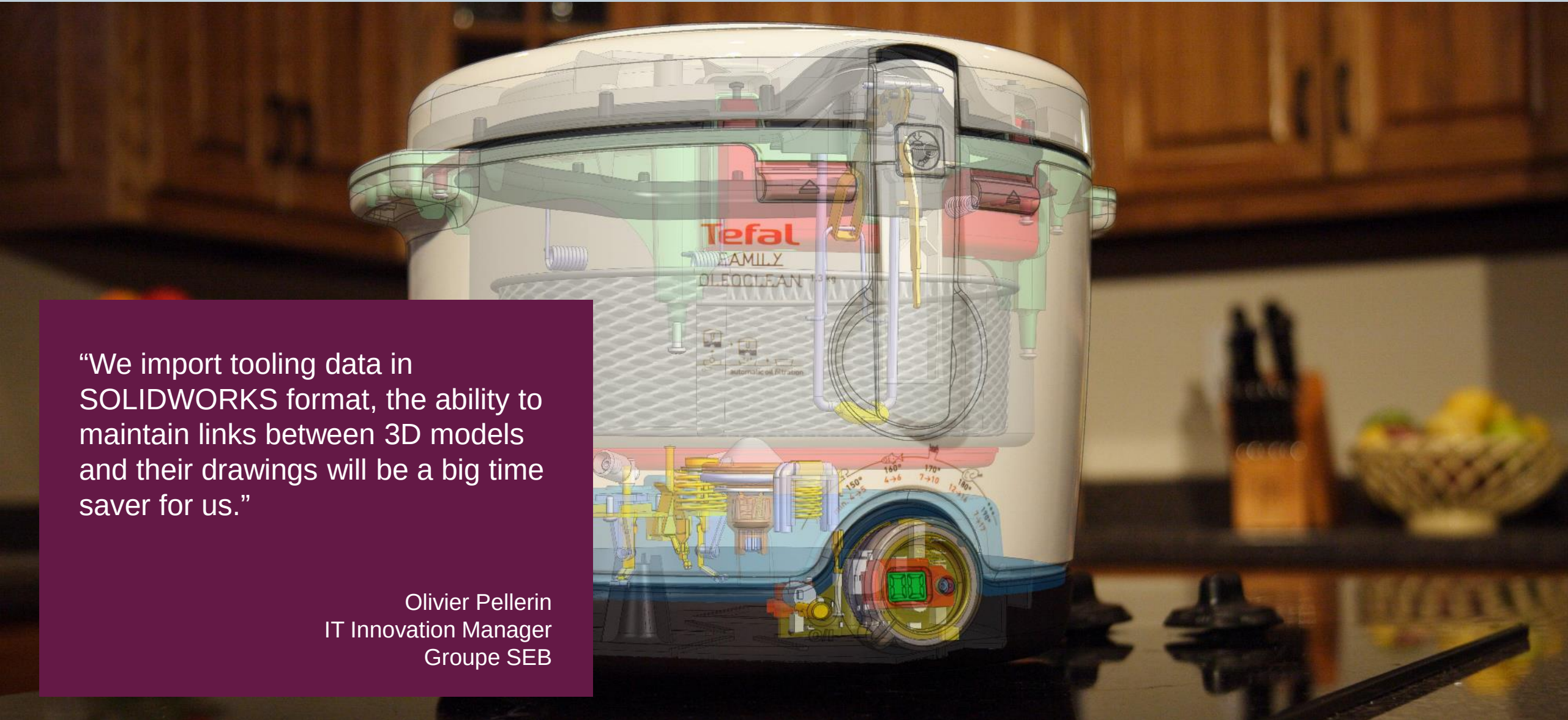

"We import tooling data in SOLIDWORKS format, the ability to maintain links between 3D models and their drawings will be a big time saver for us."

Olivier Pellerin
IT Innovation Manager
Groupe SEB

Move to Solid Edge!

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Best mobile device CAD experience

- ✓ Fully functional Solid Edge on Windows enabled mobile devices
- ✓ Comprehensive implementation of multi-touch finger gestures
- ✓ Recognizes both stylus and finger gestures
- ✓ Free Solid Edge Mobile Viewer apps for iOS, Android, and Windows

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Move to Solid Edge!

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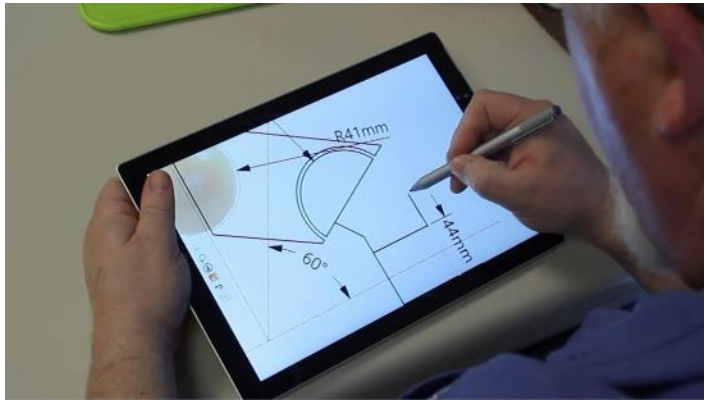

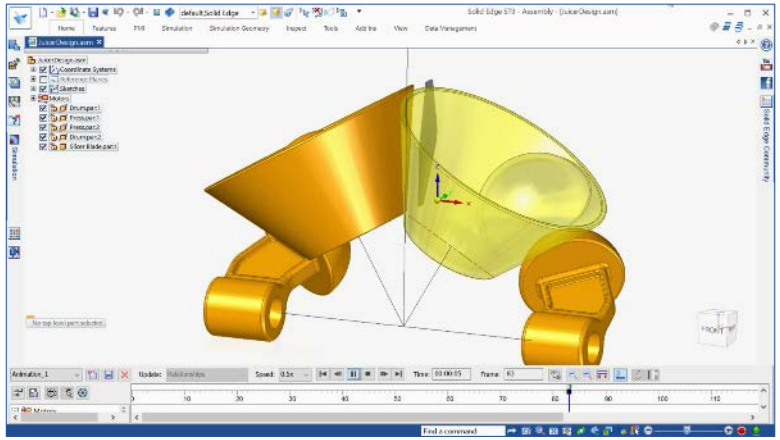

Catchbook & Solid Edge

- ✓ Reuse sketch geometry in Solid Edge
- ✓ Develop 2D sketches into 3D
- ✓ 3D visualization, simulation, manufacture

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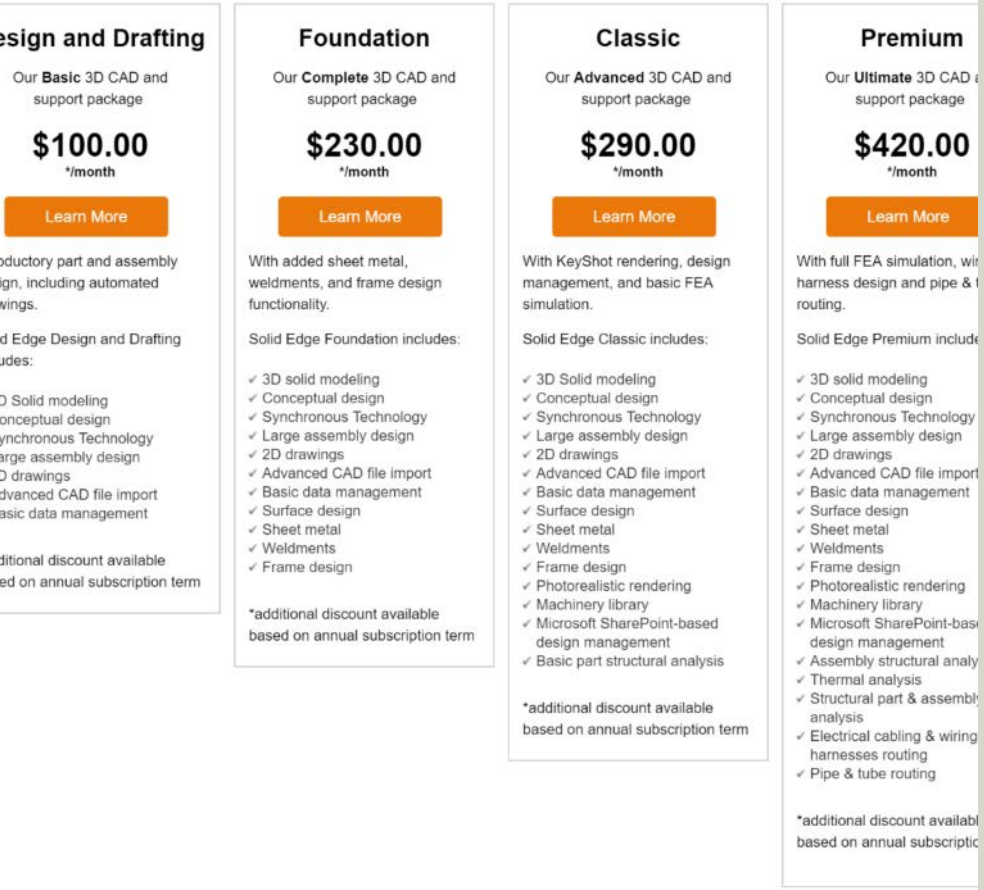
Move to Solid Edge!



esign and Drafting

Our **Basic** 3D CAD and support package

$100.00
*/month

Learn More

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ign, including automated
wings.

d Edge Design and Drafting
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D Solid modeling
onceptual design
ynchronous Technology
arge assembly design
D drawings
dvanced CAD file import
asic data management

ditional discount available
ed on annual subscription term

Foundation

Our **Complete** 3D CAD and support package

$230.00
*/month

Learn More

With added sheet metal, weldments, and frame design functionality.

Solid Edge Foundation includes:

- ✓ 3D solid modeling
- ✓ Conceptual design
- ✓ Synchronous Technology
- ✓ Large assembly design
- ✓ 2D drawings
- ✓ Advanced CAD file import
- ✓ Basic data management
- ✓ Surface design
- ✓ Sheet metal
- ✓ Weldments
- ✓ Frame design

*additional discount available based on annual subscription term

Classic

Our **Advanced** 3D CAD and support package

$290.00
*/month

Learn More

With KeyShot rendering, design management, and basic FEA simulation.

Solid Edge Classic includes:

- ✓ 3D Solid modeling
- ✓ Conceptual design
- ✓ Synchronous Technology
- ✓ Large assembly design
- ✓ 2D drawings
- ✓ Advanced CAD file import
- ✓ Basic data management
- ✓ Surface design
- ✓ Sheet metal
- ✓ Weldments
- ✓ Frame design
- ✓ Photorealistic rendering
- ✓ Machinery library
- ✓ Microsoft SharePoint-based design management
- ✓ Basic part structural analysis

*additional discount available based on annual subscription term

Premium

Our **Ultimate** 3D CAD
support package

$420.00
*/month

Learn More

With full FEA simulation, wi
harness design and pipe &
routing.

Solid Edge Premium includ

- ✓ 3D solid modeling
- ✓ Conceptual design
- ✓ Synchronous Technology
- ✓ Large assembly design
- ✓ 2D drawings
- ✓ Advanced CAD file import
- ✓ Basic data management
- ✓ Surface design
- ✓ Sheet metal
- ✓ Weldments
- ✓ Frame design
- ✓ Photorealistic rendering
- ✓ Machinery library
- ✓ Microsoft SharePoint-bas
  design management
- ✓ Assembly structural analy
- ✓ Thermal analysis
- ✓ Structural part & assembl
  analysis
- ✓ Electrical cabling & wiring
  harnesses routing
- ✓ Pipe & tube routing

*additional discount availabl
based on annual subscriptio

Flexible licensing

- ✓ Traditional perpetual licensing for full time use
- ✓ Monthly or annual subscription-based licenses for lower cost of entry and to meet peaks in demand for design work
- ✓ Ultimate freedom to choose how to purchase and deploy

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Move to Solid Edge!

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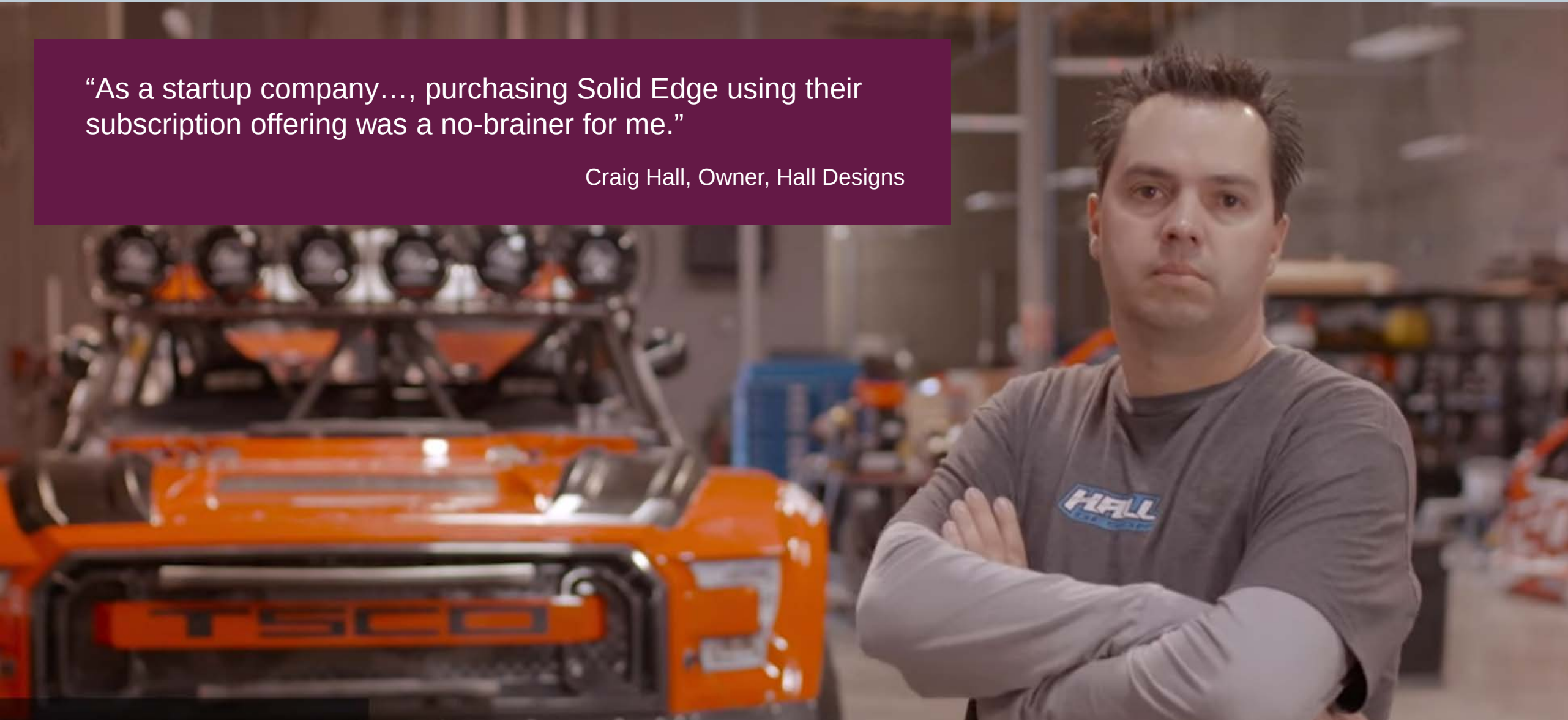

"As a startup company…, purchasing Solid Edge using their subscription offering was a no-brainer for me."

Craig Hall, Owner, Hall Designs

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Cloud enabled design – on your terms.

Cloud capabilities when you need them. Flexible and easy access to the full capabilities of Solid Edge with cloud-based licensing, user preferences, software updates, and collaboration.

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Cloud enabled design – on your terms.

Cloud capabilities when you need them. Flexible and easy access to the full capabilities of Solid Edge with cloud-based licensing, user preferences, software updates, and collaboration.

Fast and flexible 3D modeling.

Get industry-leading part and assembly modeling tools, and remove the constraints of traditional CAD with synchronous technology. Designing the world's best products has never been faster or more intuitive.

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Scalable data management.

Enjoy built-in data management for instantaneous searches, easy revision and release management, and optional cloud based vaulting. Get up and running in as little as an hour, and have the flexibility to grow to full PLM capabilities with Teamcenter.

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Move to Solid Edge!

With the industry's best data migration tools and most flexible licensing options, it's never been easier to design in Solid Edge. So whether you're an established business, a startup, a maker, or a student, now's the time to move to Solid Edge.

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Solid Edge ST9: Expand your horizons

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