PLM: The Best Way to Manage Your Entire Product Lifecycle

Presenter name

Presenter title

AUTODESK.

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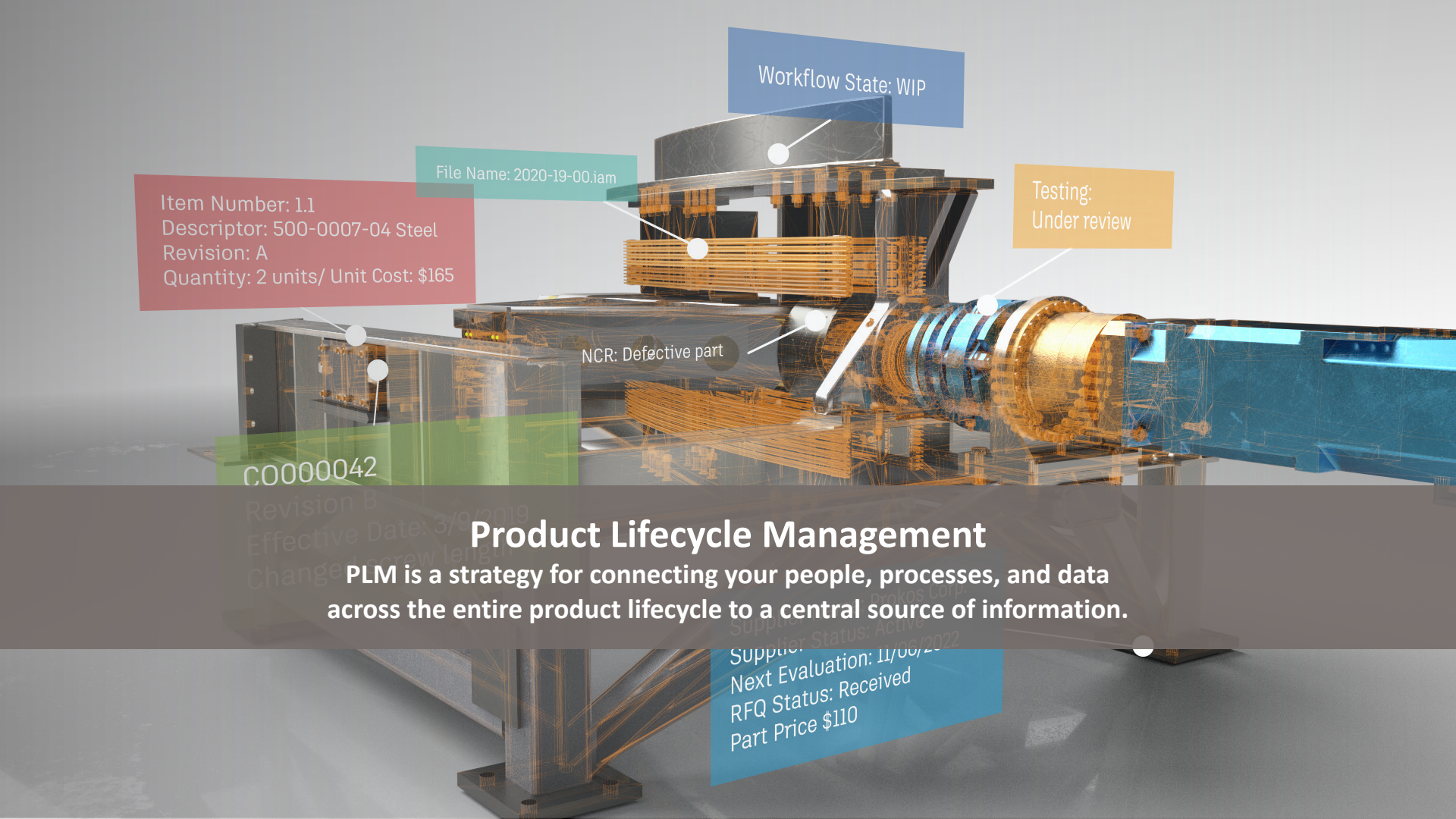
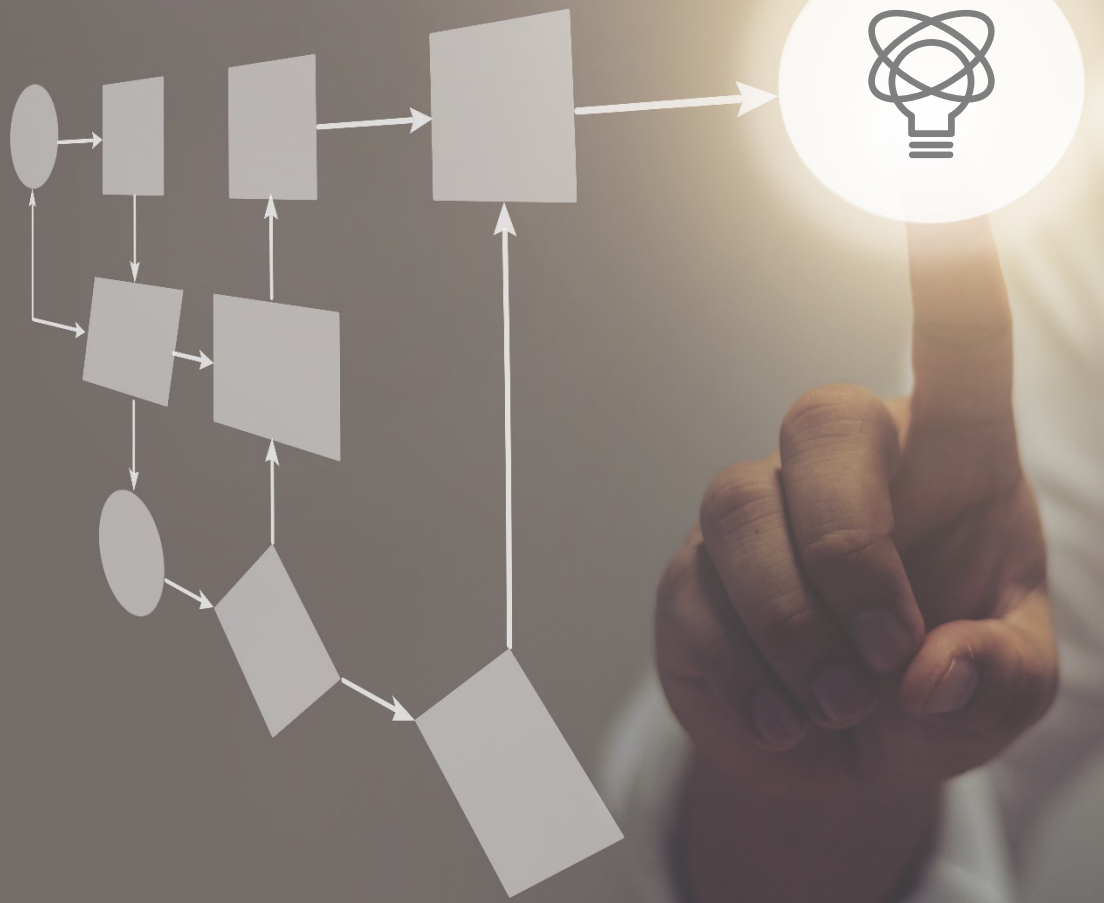
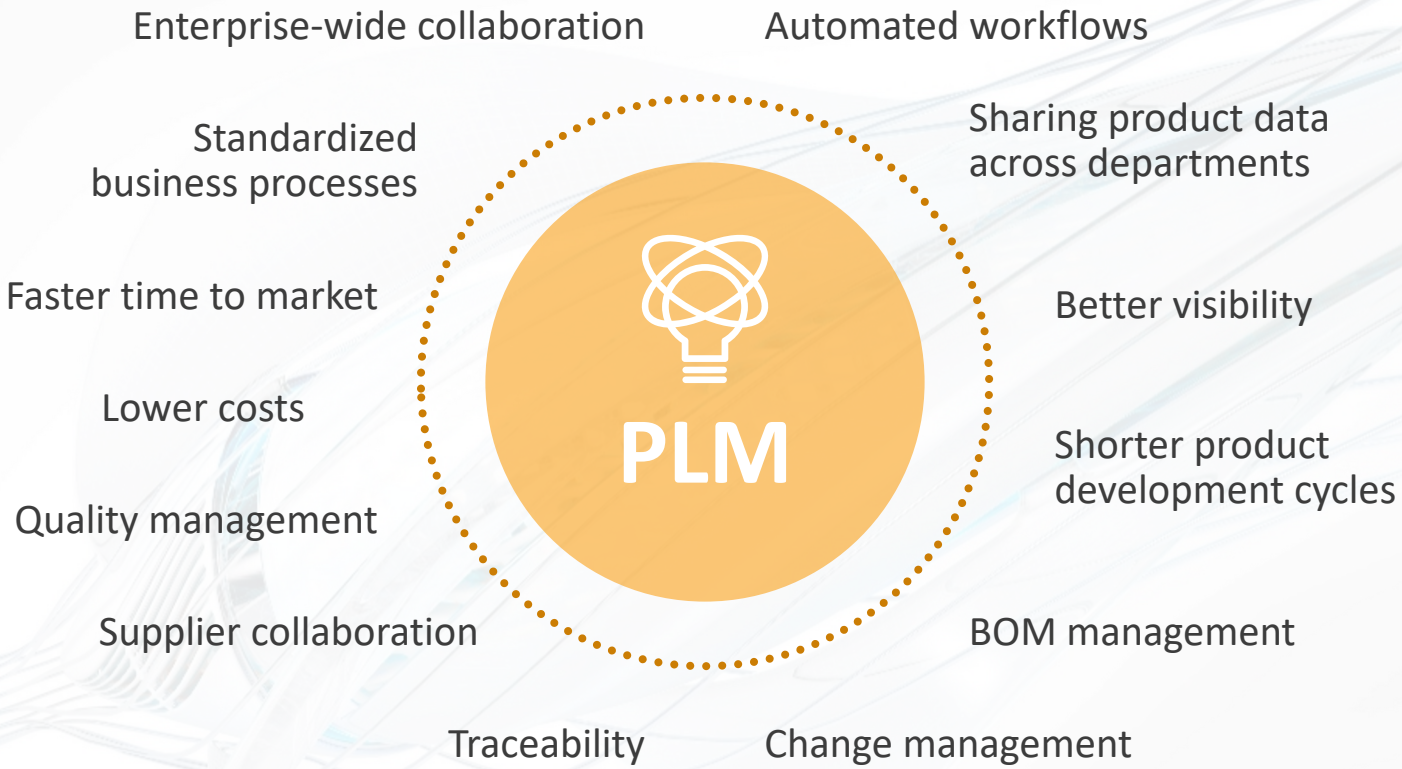


Product Lifecycle Management

PLM is a strategy for connecting your people, processes, and data across the entire product lifecycle to a central source of information.

The benefits of PLM have always been promising.




Enterprise-wide collaboration
Automated workflows
Standardized business processes
Sharing product data across departments
Faster time to market
Better visibility
Lower costs
Shorter product development cycles
Quality management
Supplier collaboration
BOM management
Traceability
Change management
PLM

But where do you start?

Traditional PLM

- Expensive IT overhead and hardware
- Requires extensive consulting
- Training is lengthy
- Difficult to adopt
- Time-consuming and costly upgrades

Demystifying PLM

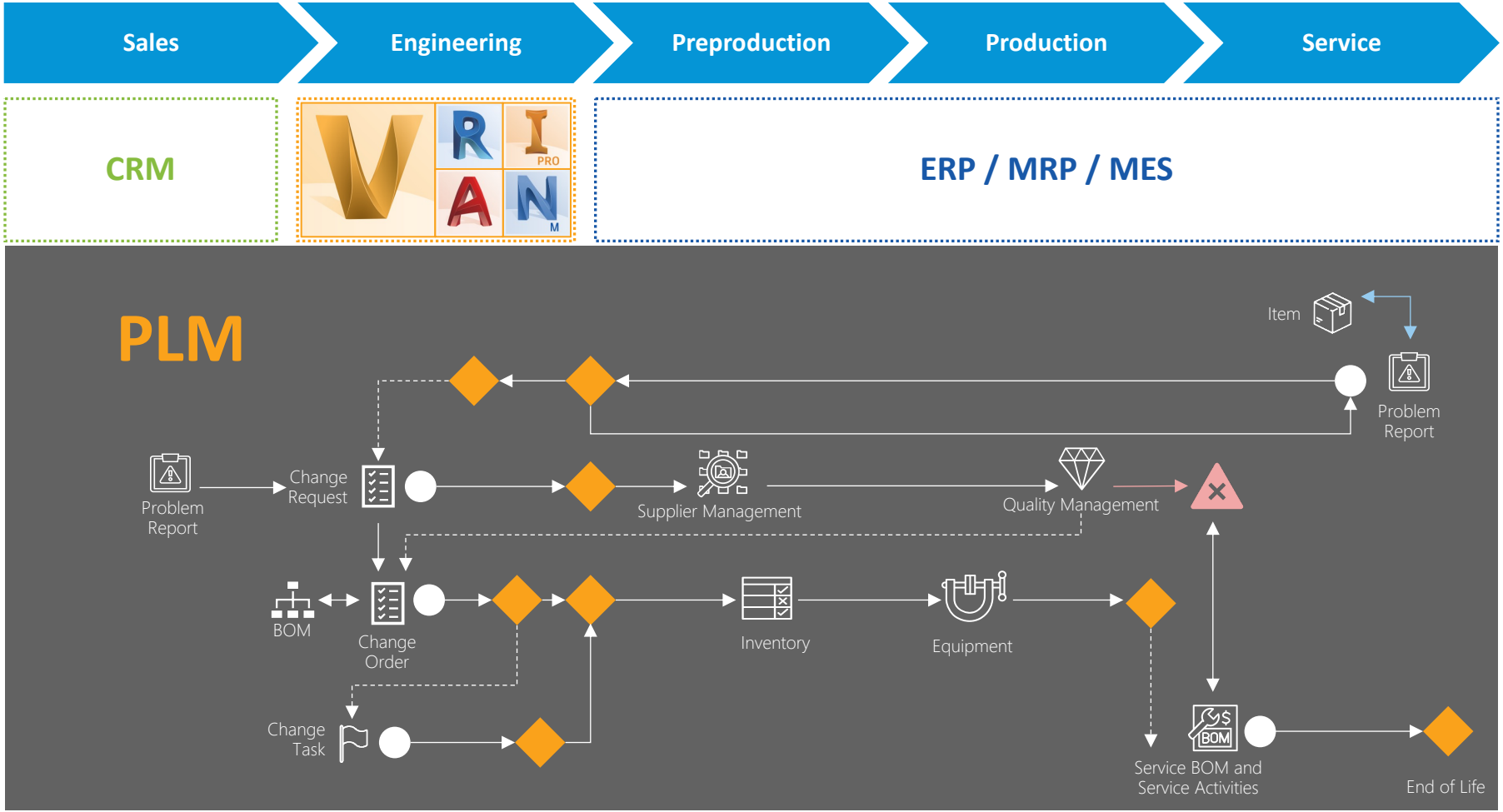
Sales | Engineering | Preproduction | Production | Service

CRM

ERP / MRP / MES

PROCESS MANAGEMENT + ENTERPRISE INTEGRATIONS

PLM


Sales
Engineering
Preproduction
Production
Service
CRM
ERP / MRP / MES
PLM
Item
Problem Report
Problem Report
Change Request
Supplier Management
Quality Management
BOM
Change Order
Inventory
Equipment
Change Task
BOM
Service BOM and Service Activities
End of Life

Everything you need
in a PLM platform

Sales | Engineering | Preproduction | Production | Service

CRM

ERP / MRP / MES

New Product Introduction

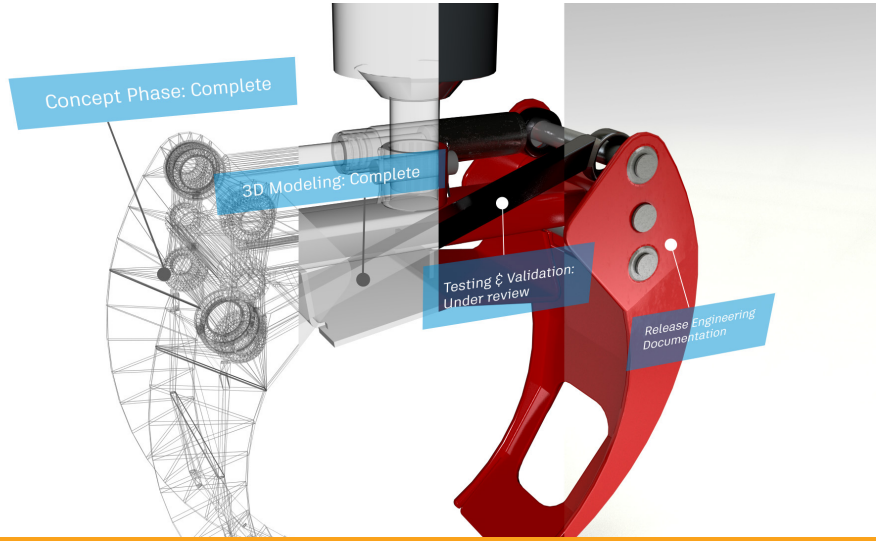
Enterprise BOM Management

Supplier Collaboration

Change Management

Quality Management

New Product Introduction (NPI)



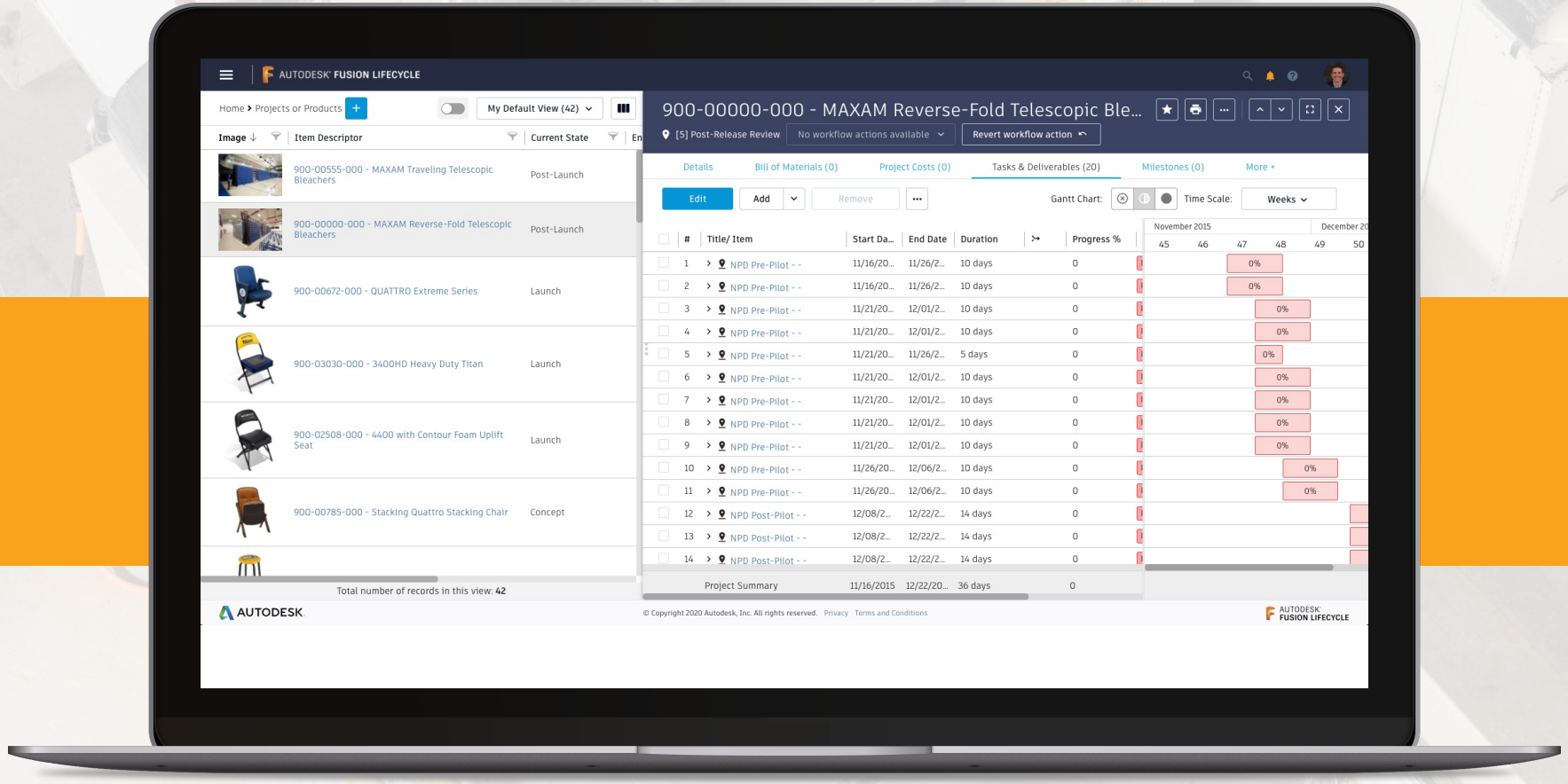
Controlling the whole product development process

Remove inefficiencies that stand in the way of bringing new products to market on time and on budget.

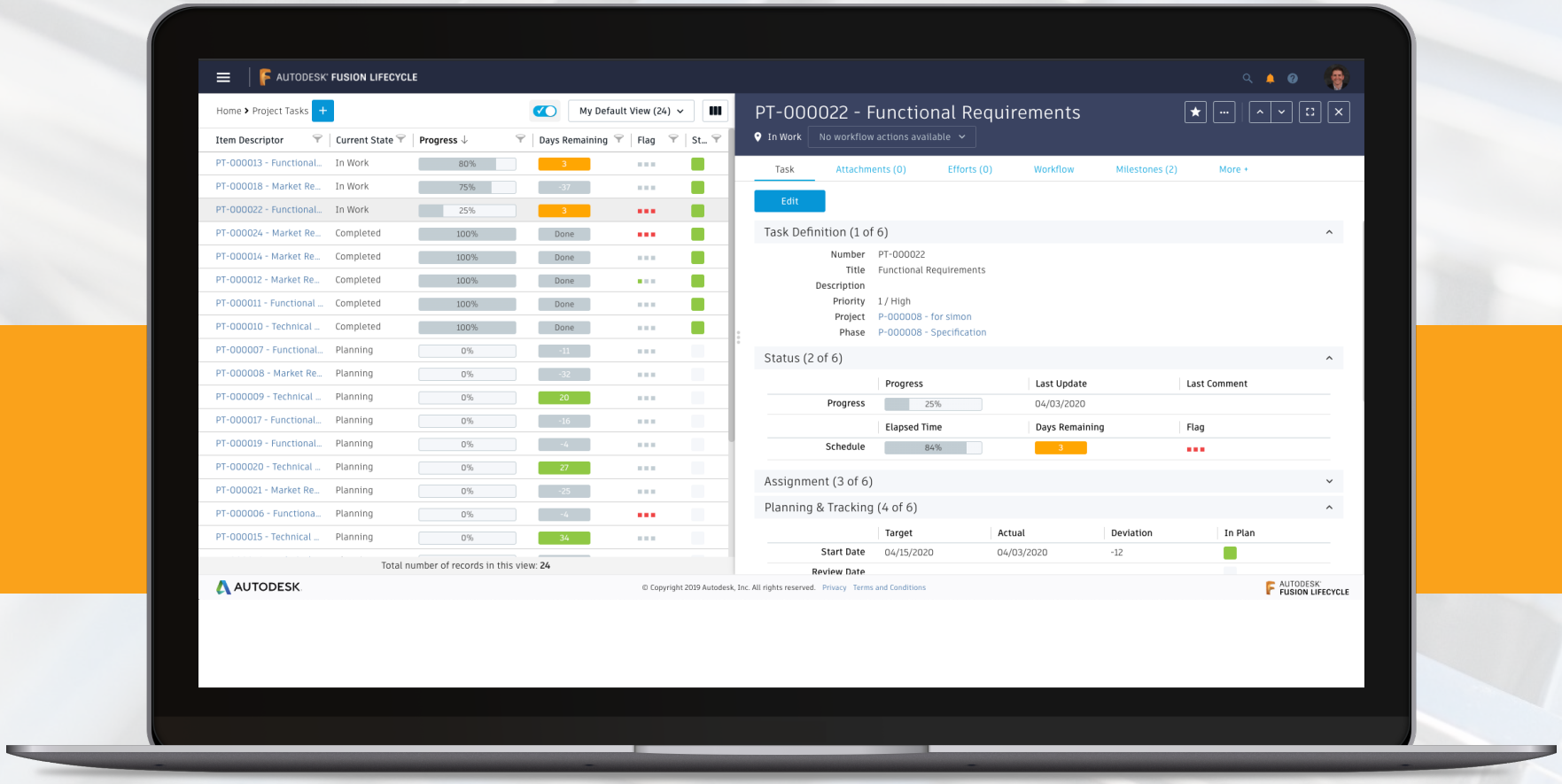
Everyone is aligned.
Configurable project templates standardize milestones, deliverables, and tasks.

We know what needs to happen next.
Progress and performance can be monitored any time.
Task-level views keep everyone accountable. Real-time to-do lists and instant notifications help individuals stay on track.

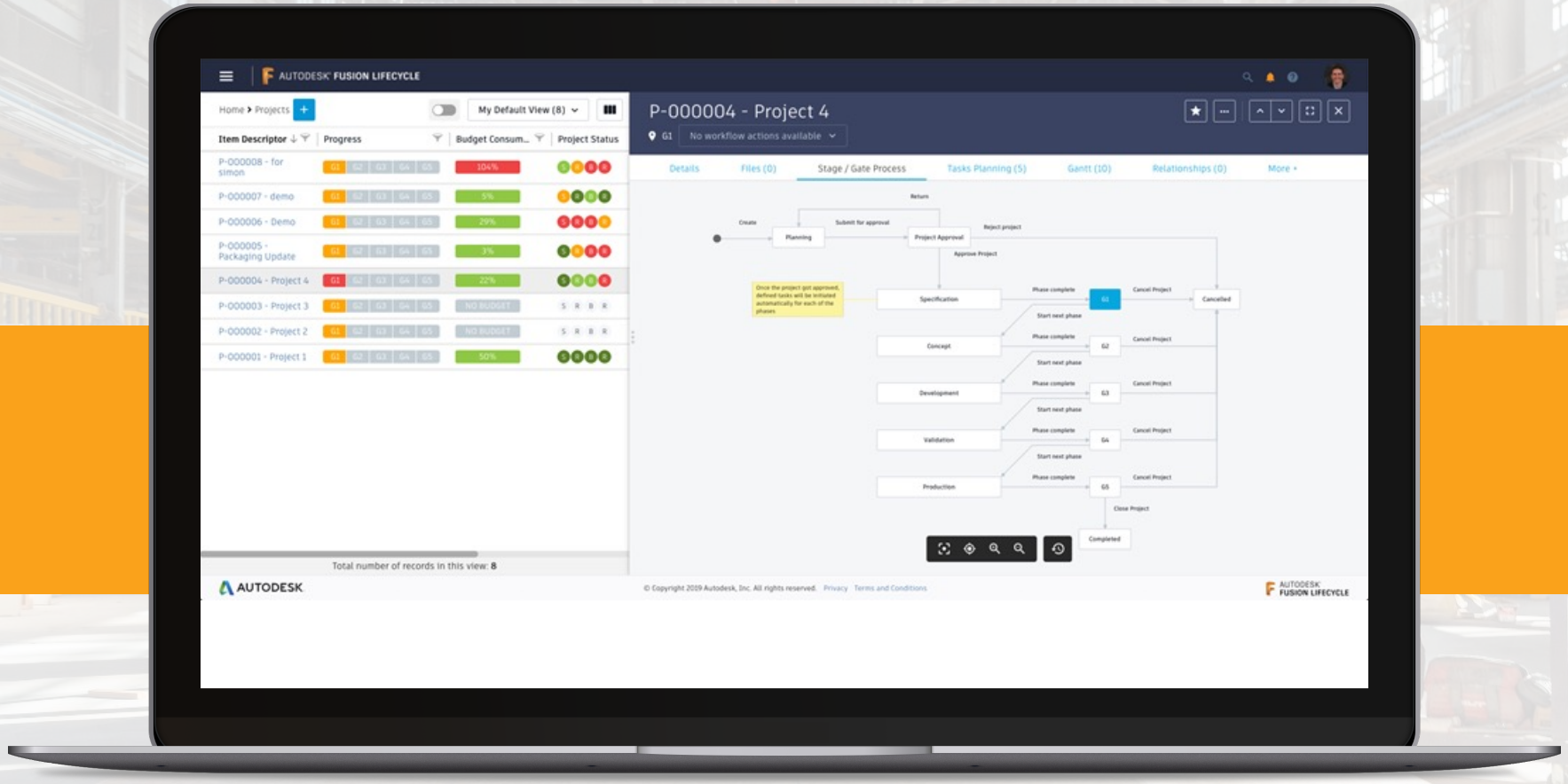
Product Portfolio Management



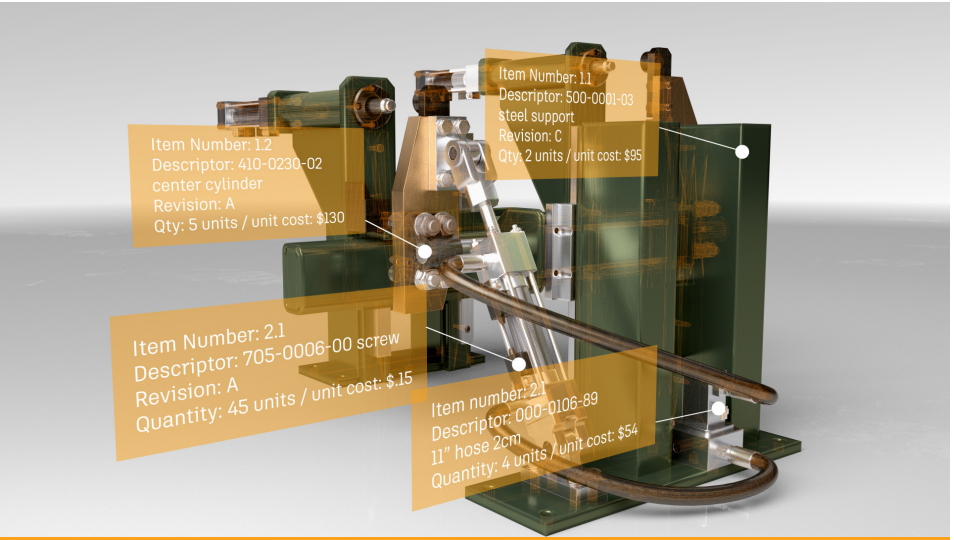
Product Requirements



Configurable Workflow



Enterprise BOM Management



Extending data from PDM to PLM and beyond

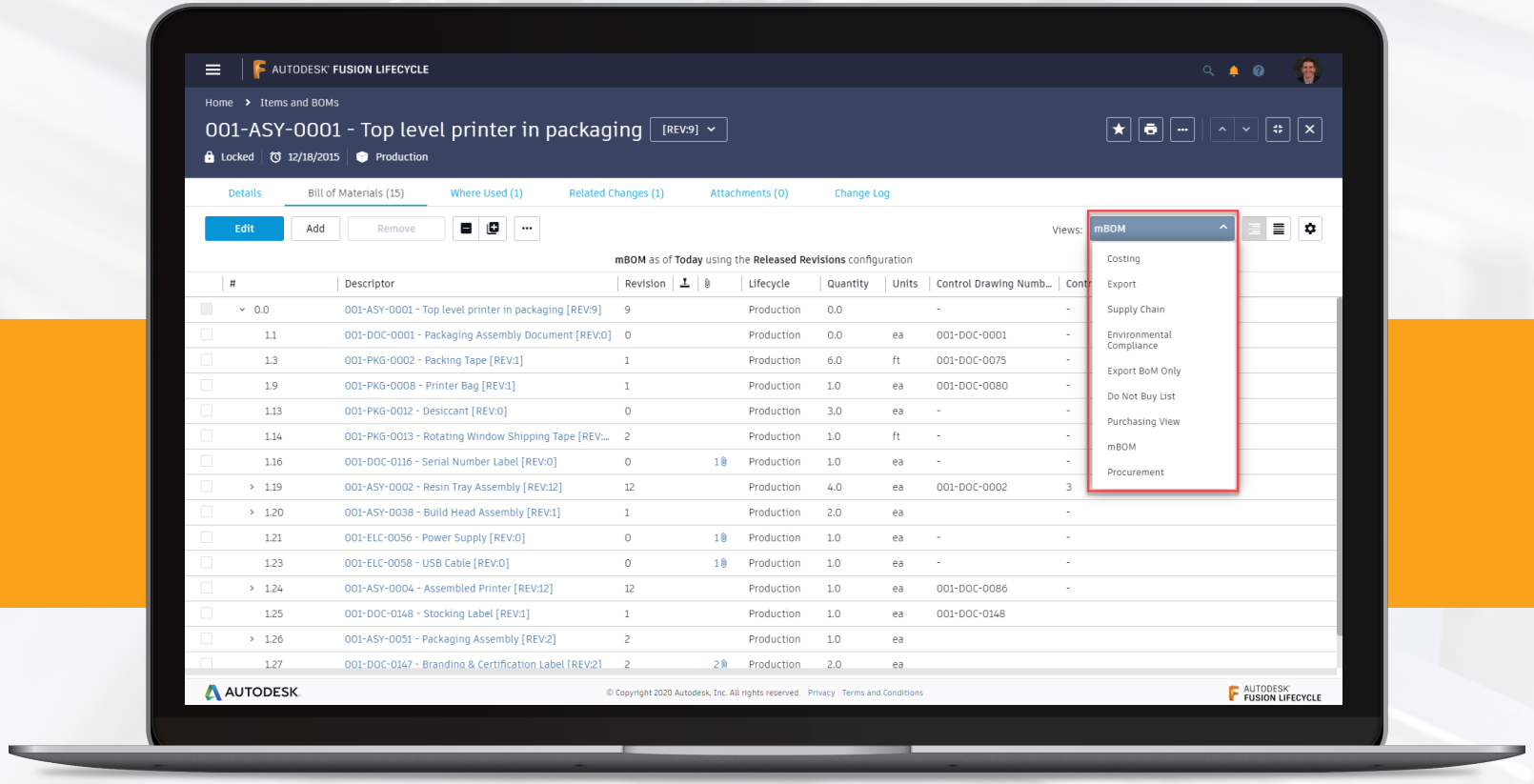
Centrally manage and share structured product BOMs throughout the enterprise ensuring the most up-to-date and accurate information.

We're always on the same page.
Quickly find items in one centralized system. Revision control ensures everyone uses the correct version.

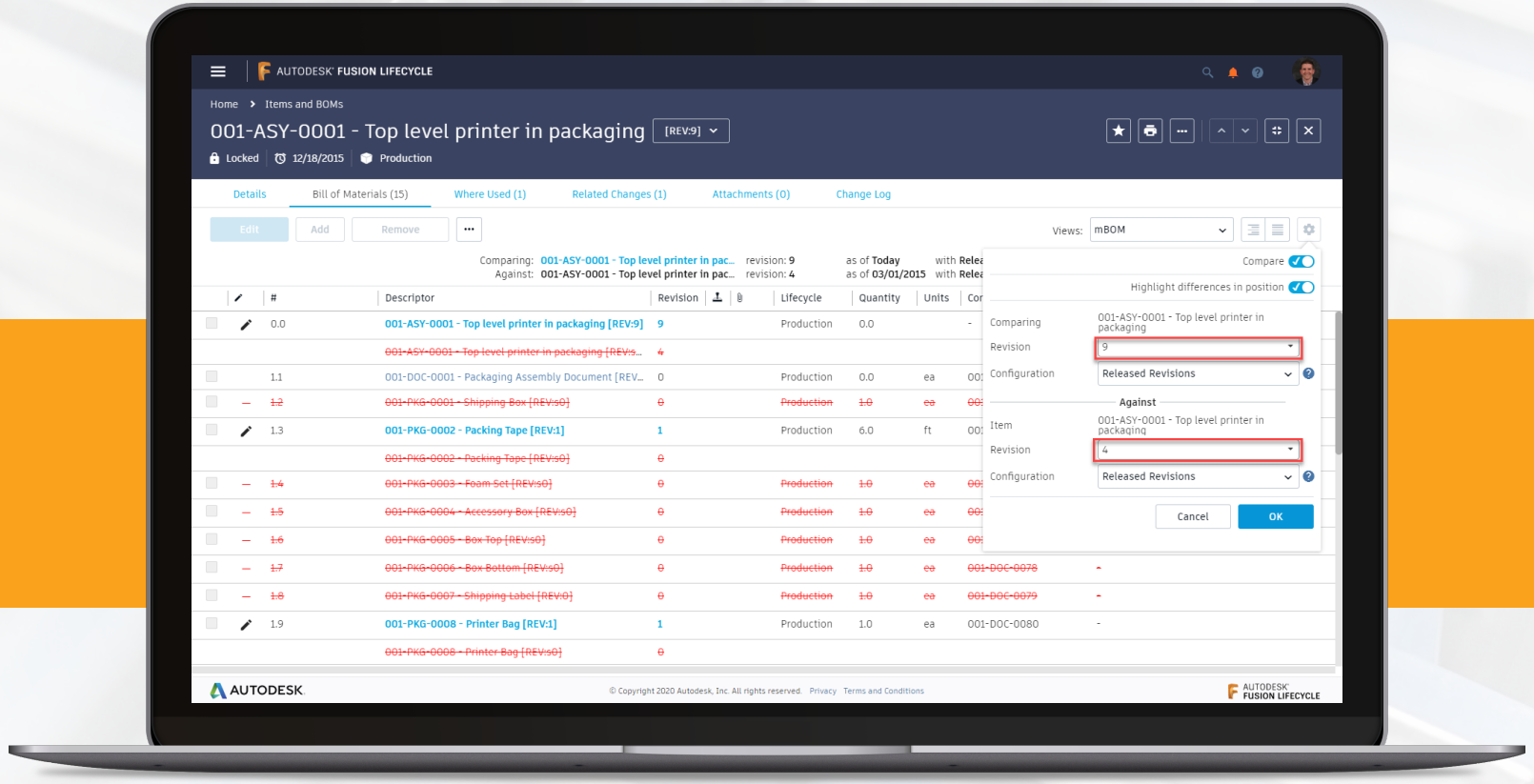
Our calendar is under control.
Trace exactly what a BOM looked like on a particular day. Track when items were manufactured or delivered.

We know exactly what changed.
See changes between new or different versions of BOMs. Meet compliance requirements by analyzing product history.

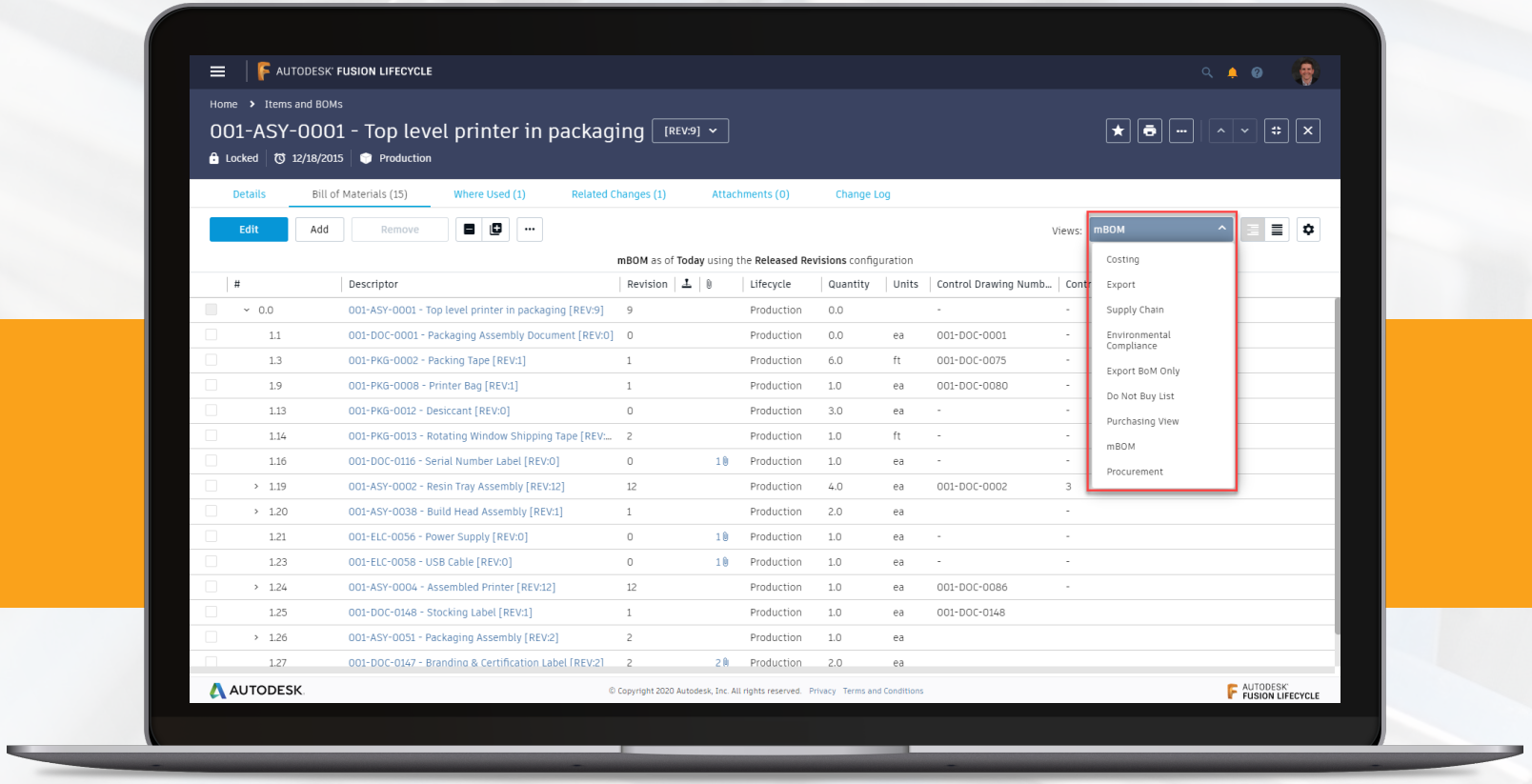
Bill of Materials Views – Departmental, Secure



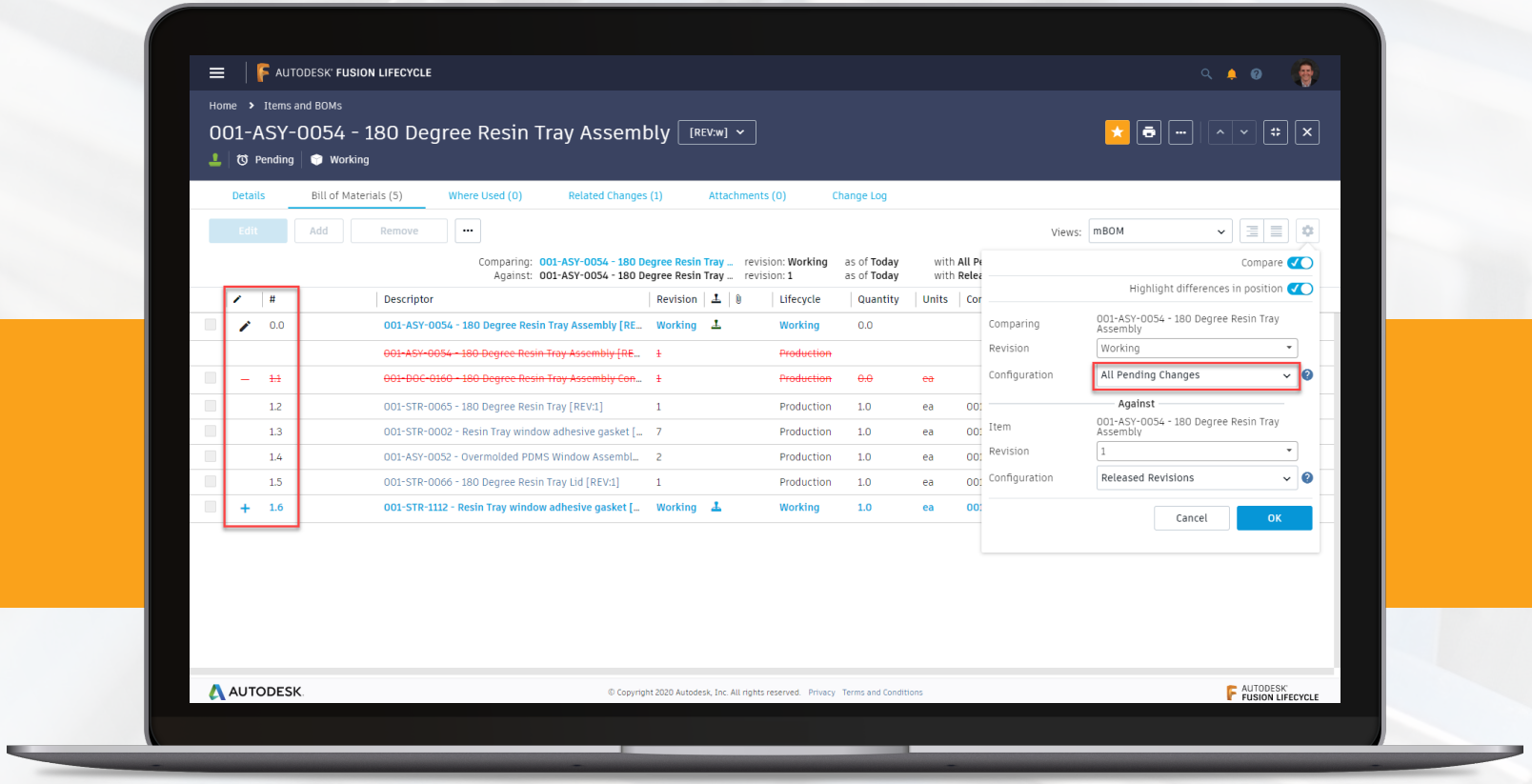
Bill of Materials Compare - Past



Bill of Materials Compare - Present



Bill of Materials Compare - Future



Supplier Collaboration

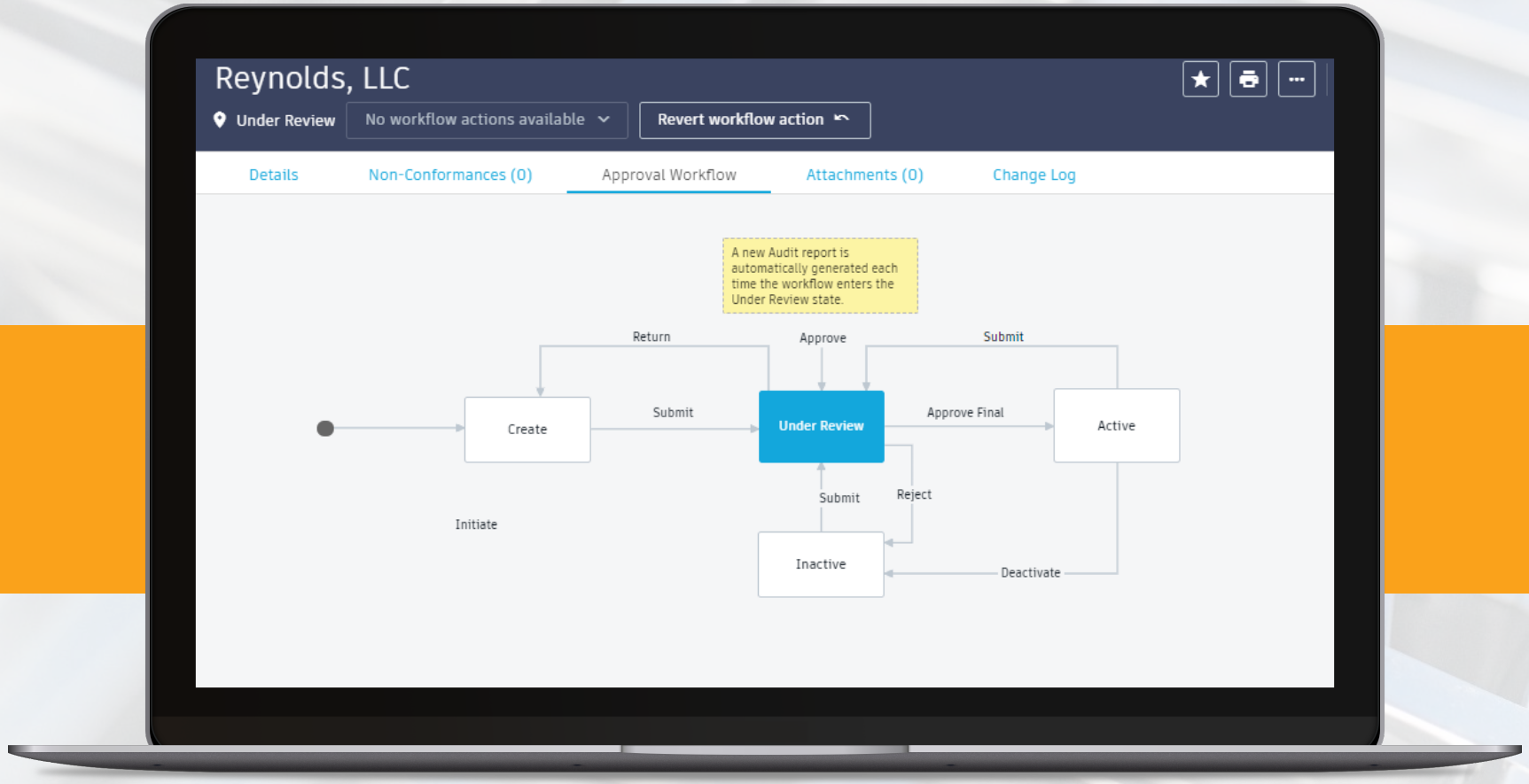
Connecting you to your global supply chain 24/7

Anytime, anywhere access to the information your extended organization needs for quoting, procurement, and supplier management.

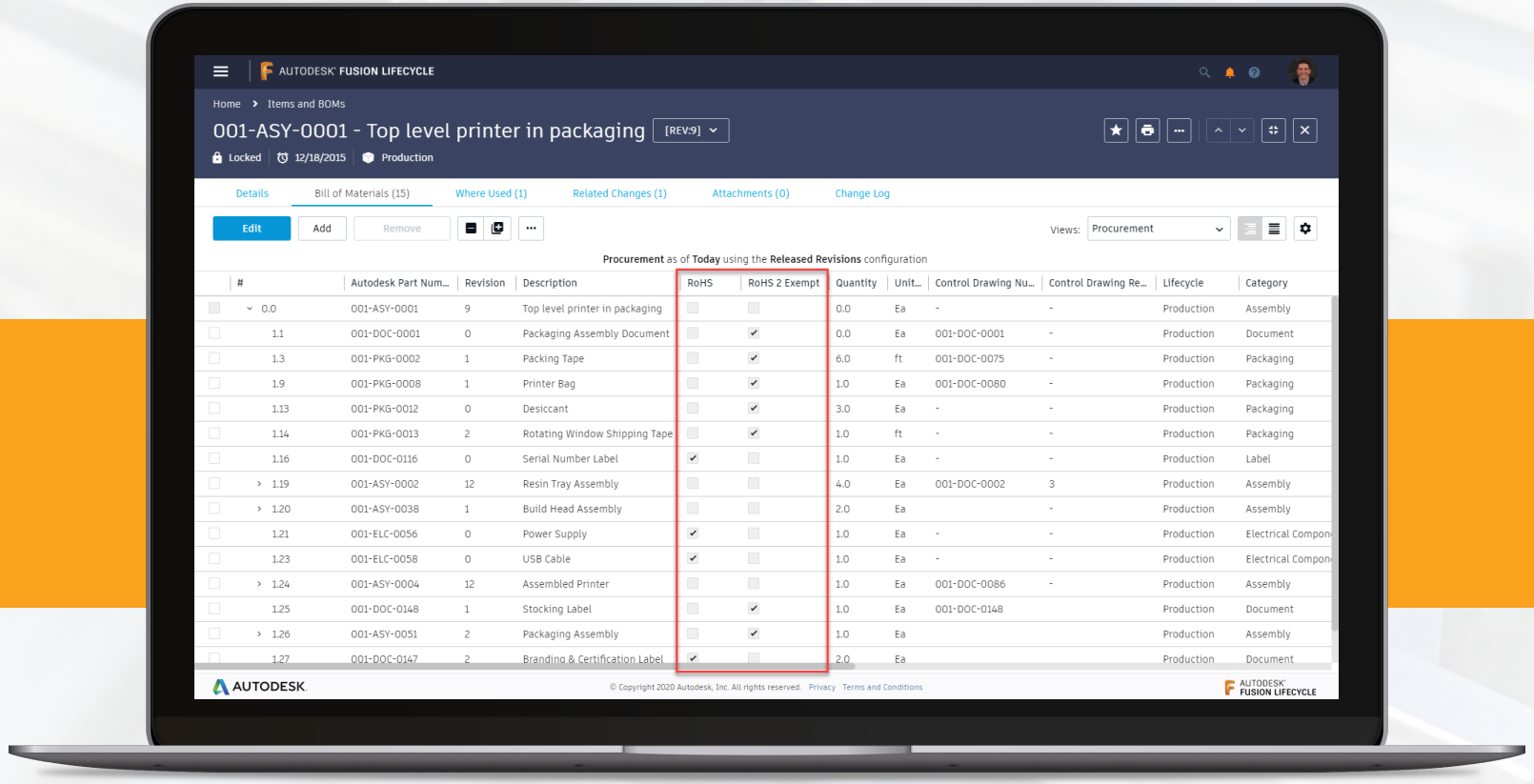
We know which suppliers to use.
Rather than relying on tribal knowledge or digging through emails for preferred suppliers, find up-to-date information in a centralized system when you need it.

We can manage compliance more easily.
Link suppliers to your bill of materials to ensure compliance standards are followed.

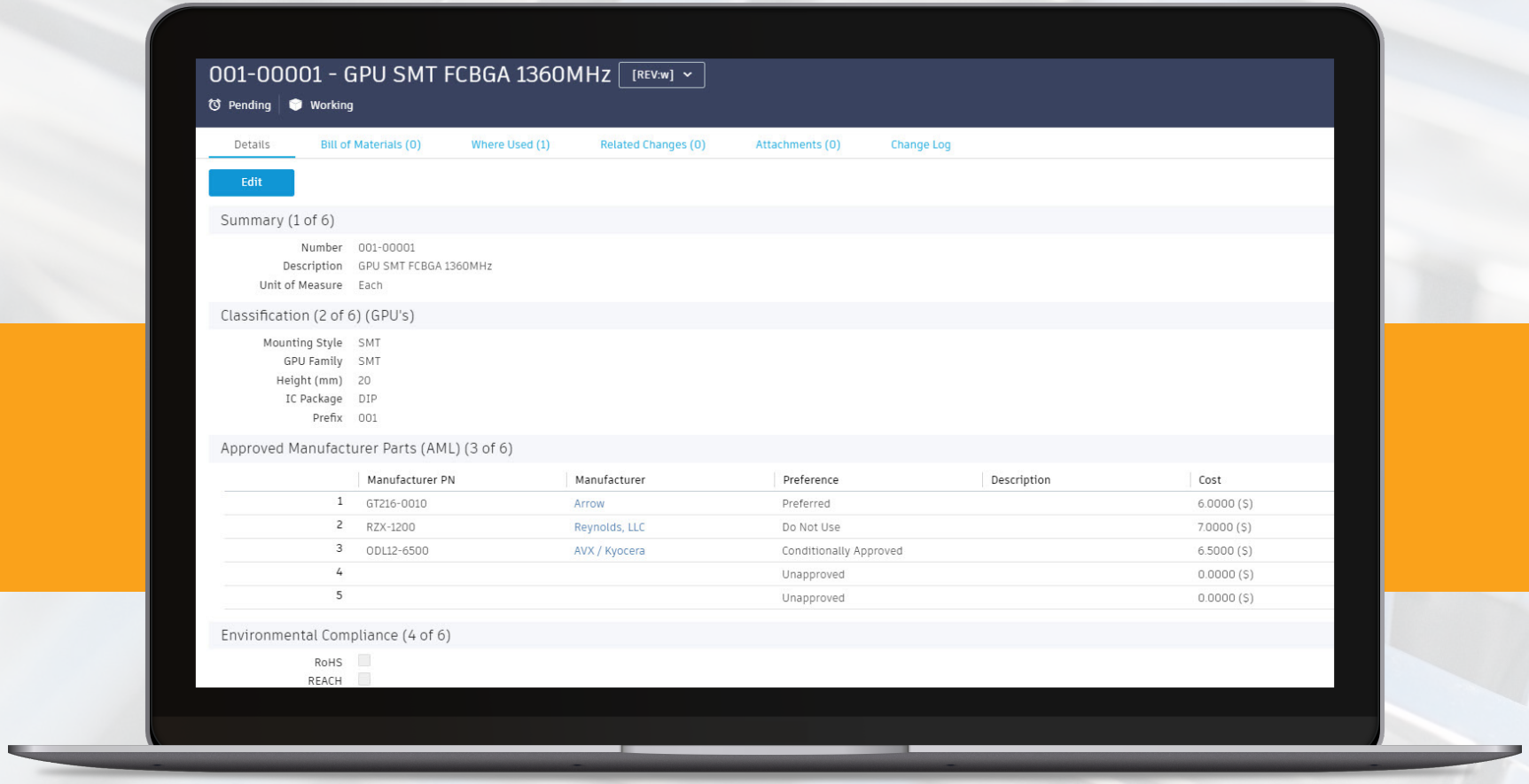
Supplier Status



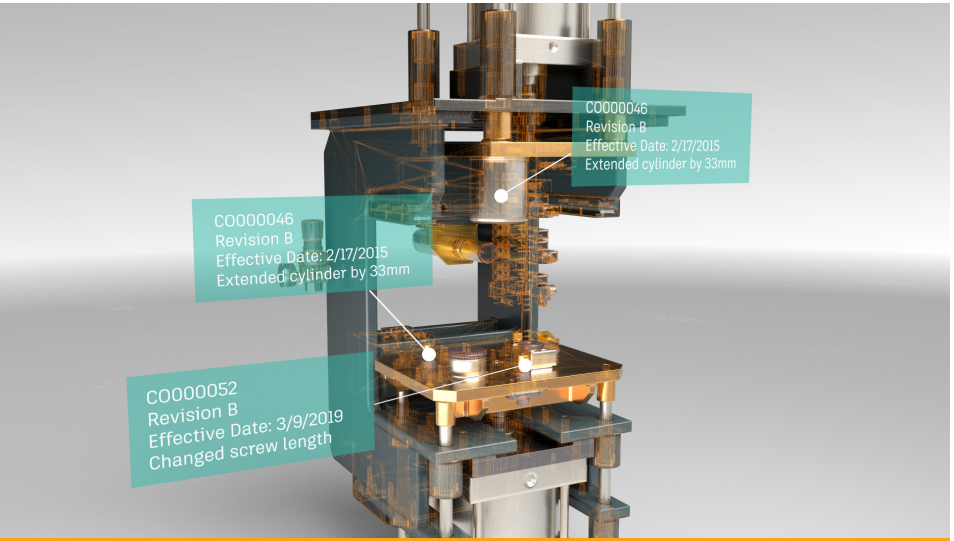
Include Suppliers and Customers in Workflows



Approved Manufacture/Vendor Lists



Change Management



Managing and tracking enterprise-wide changes

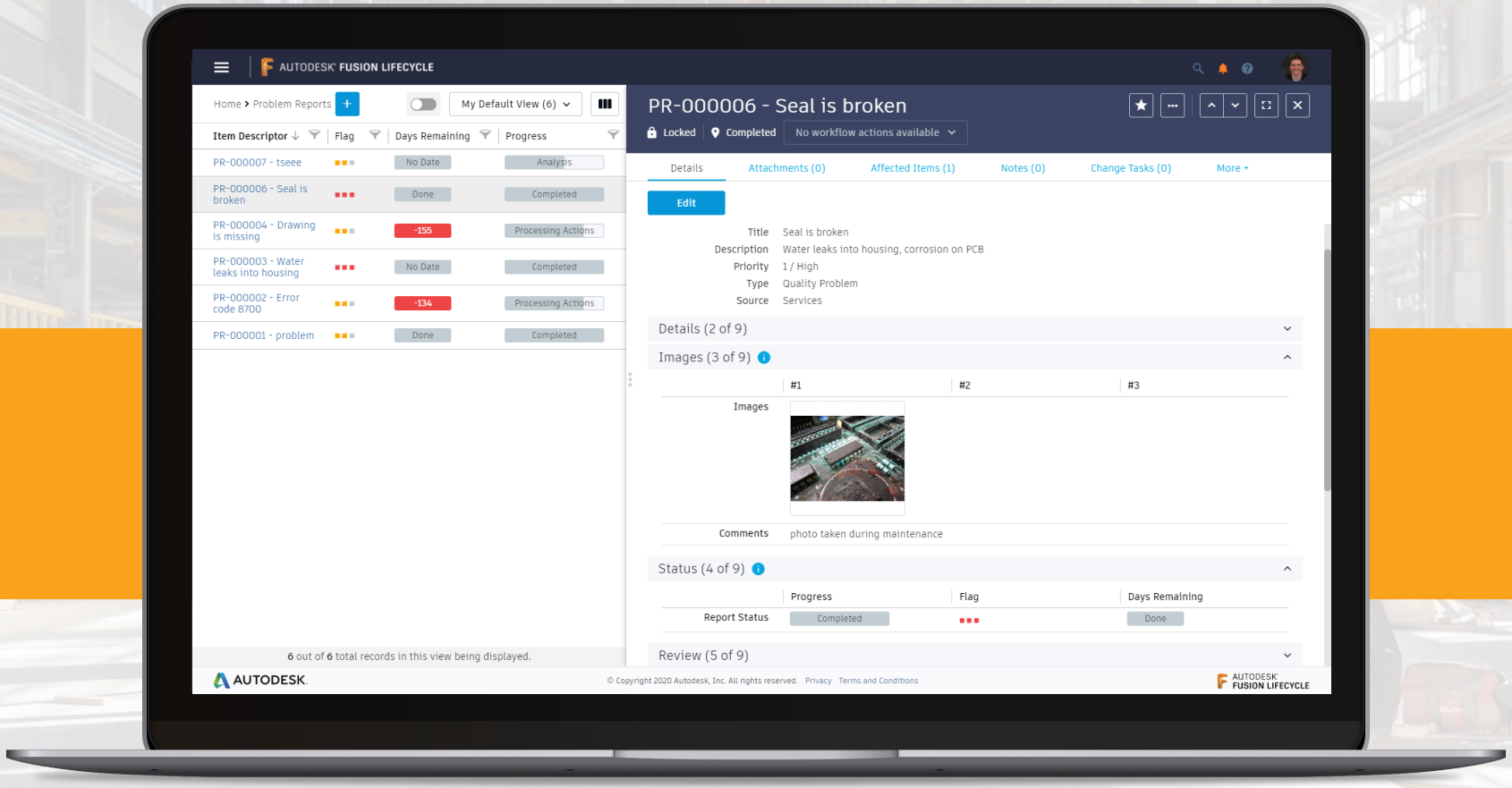
Product changes are fully defined, reviewed, approved, and implemented in one collaborative environment.

We avoid bottlenecks.
When you configure workflows, everyone can monitor change requests or change orders in real-time.

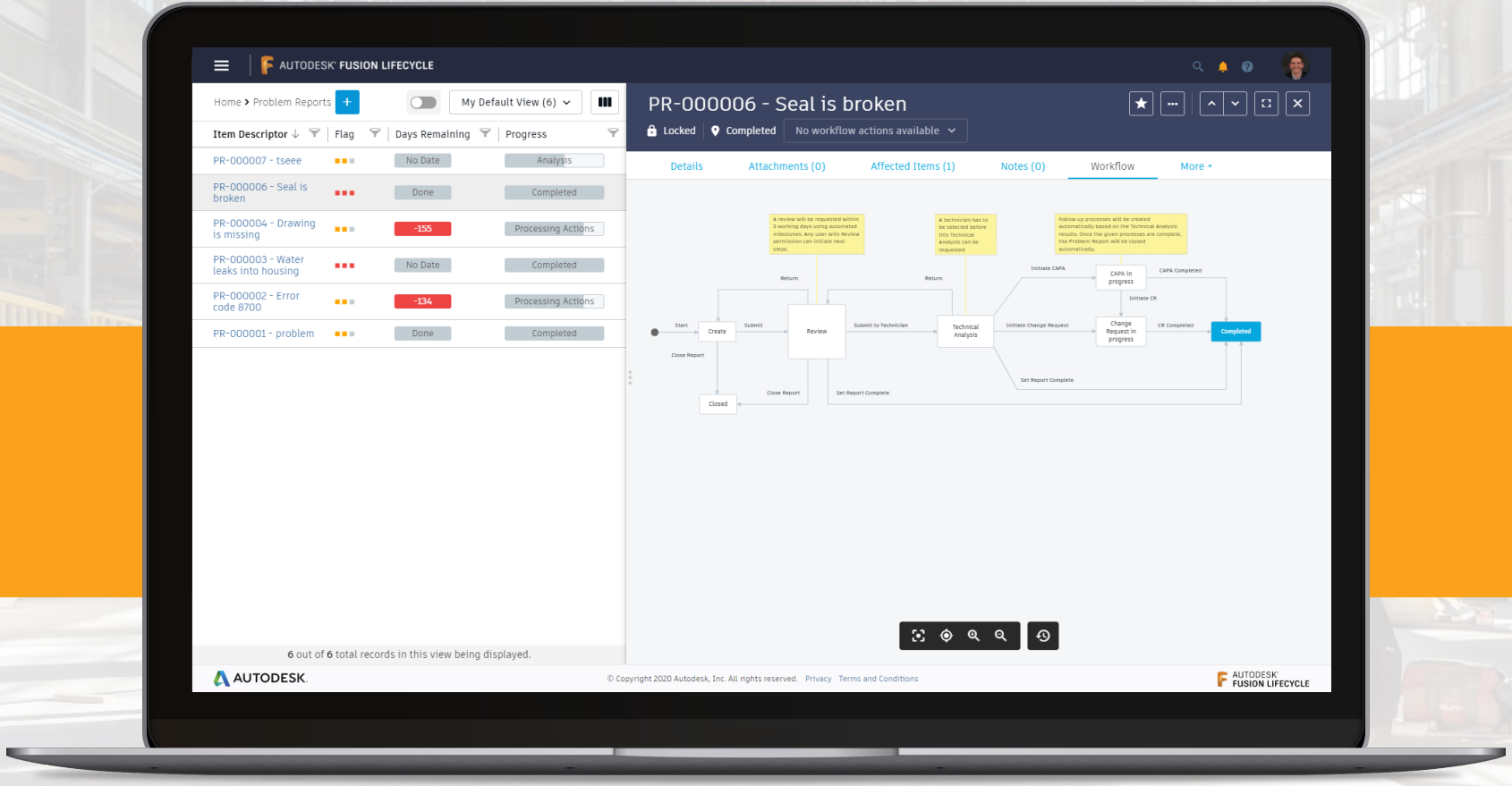
Information is at my fingertips.
Full details of components or sub-assemblies to a change are just a click away. Understand the impact of a change and see what changed in the past.

This makes so much sense.
View only the information relevant to you with easy-to-use filters. Everyone sees up-to-date data.

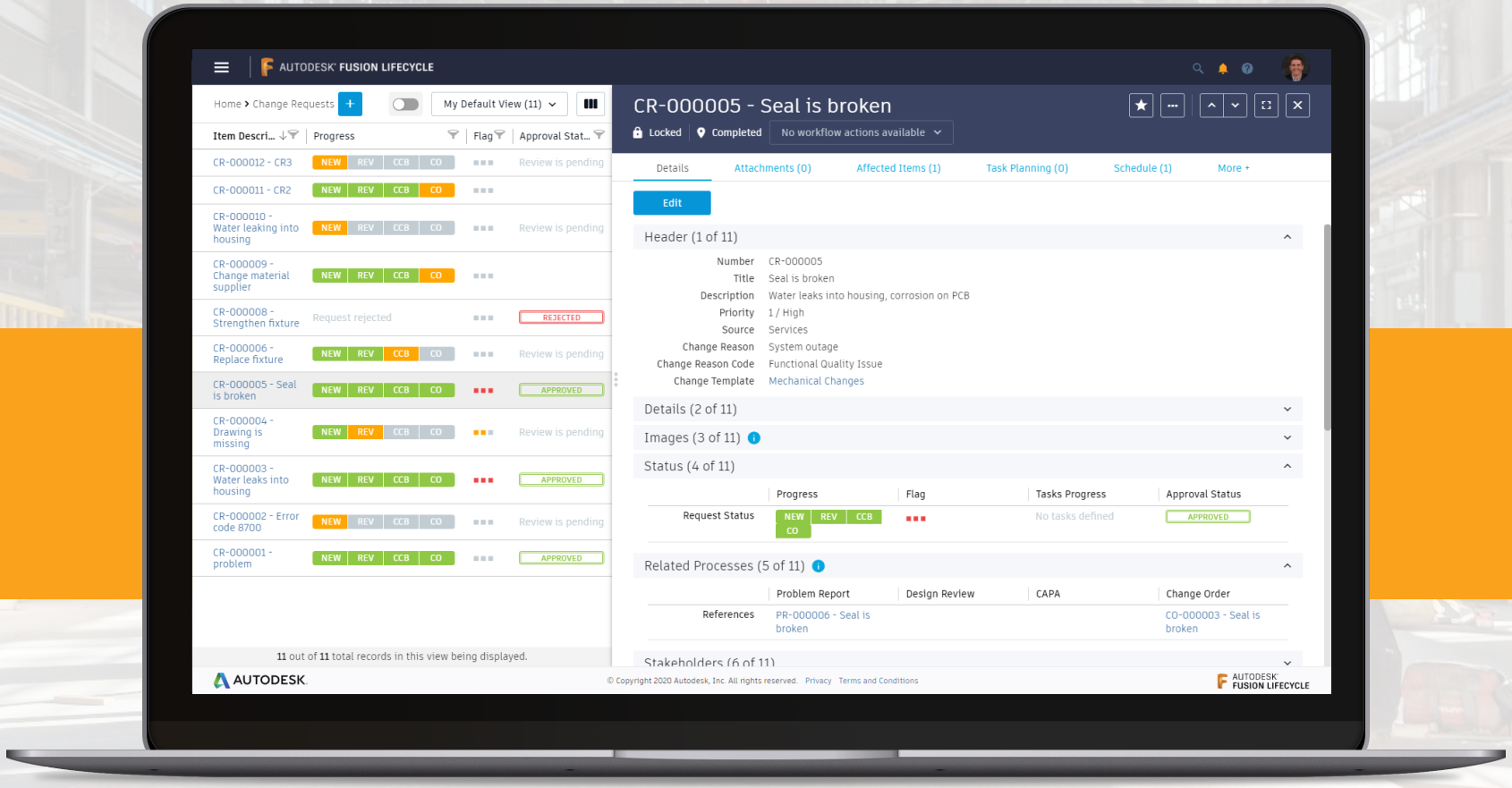
Day-In-The-Life Change Workflow



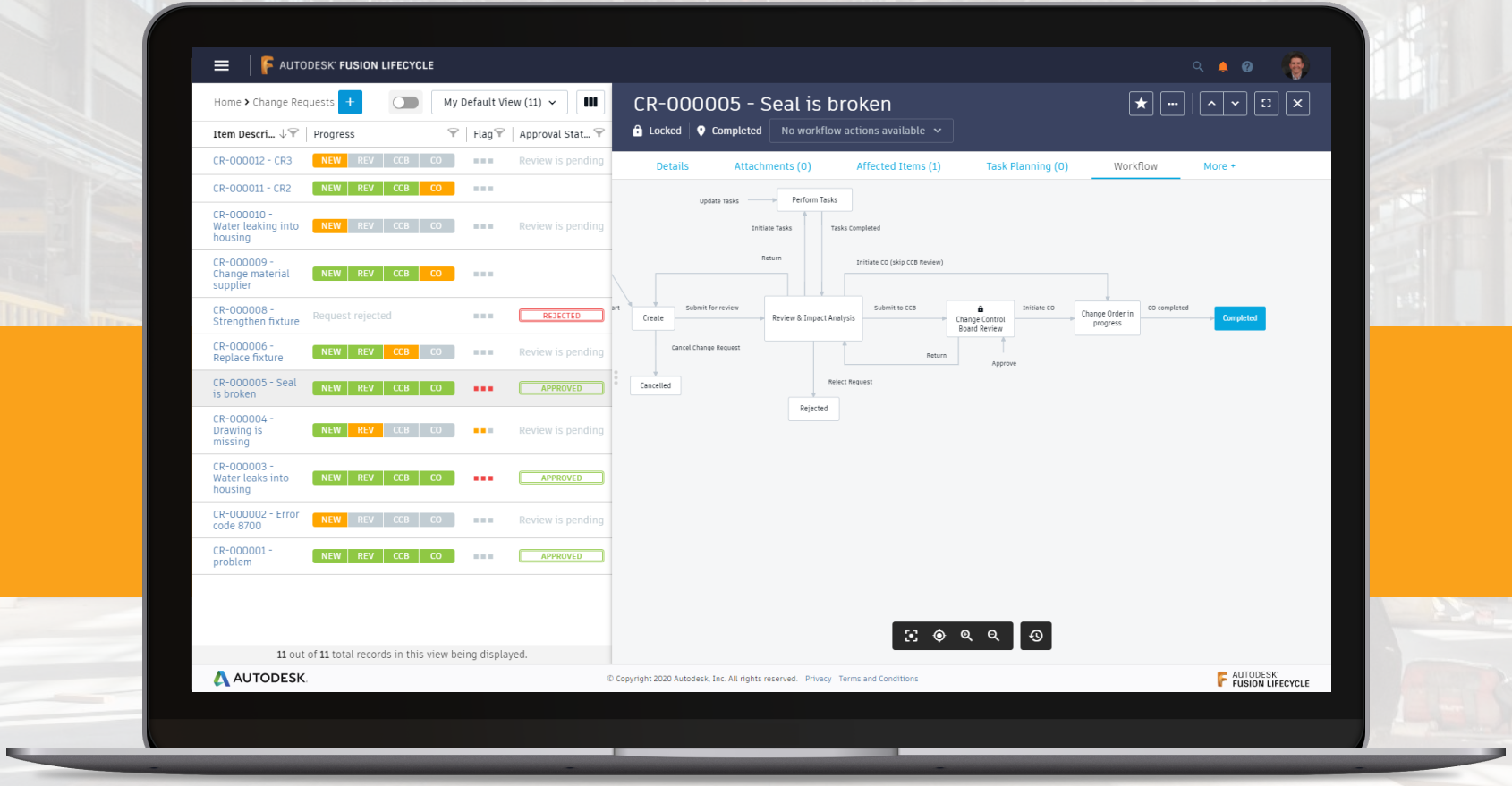
Day-In-The-Life Change Workflow



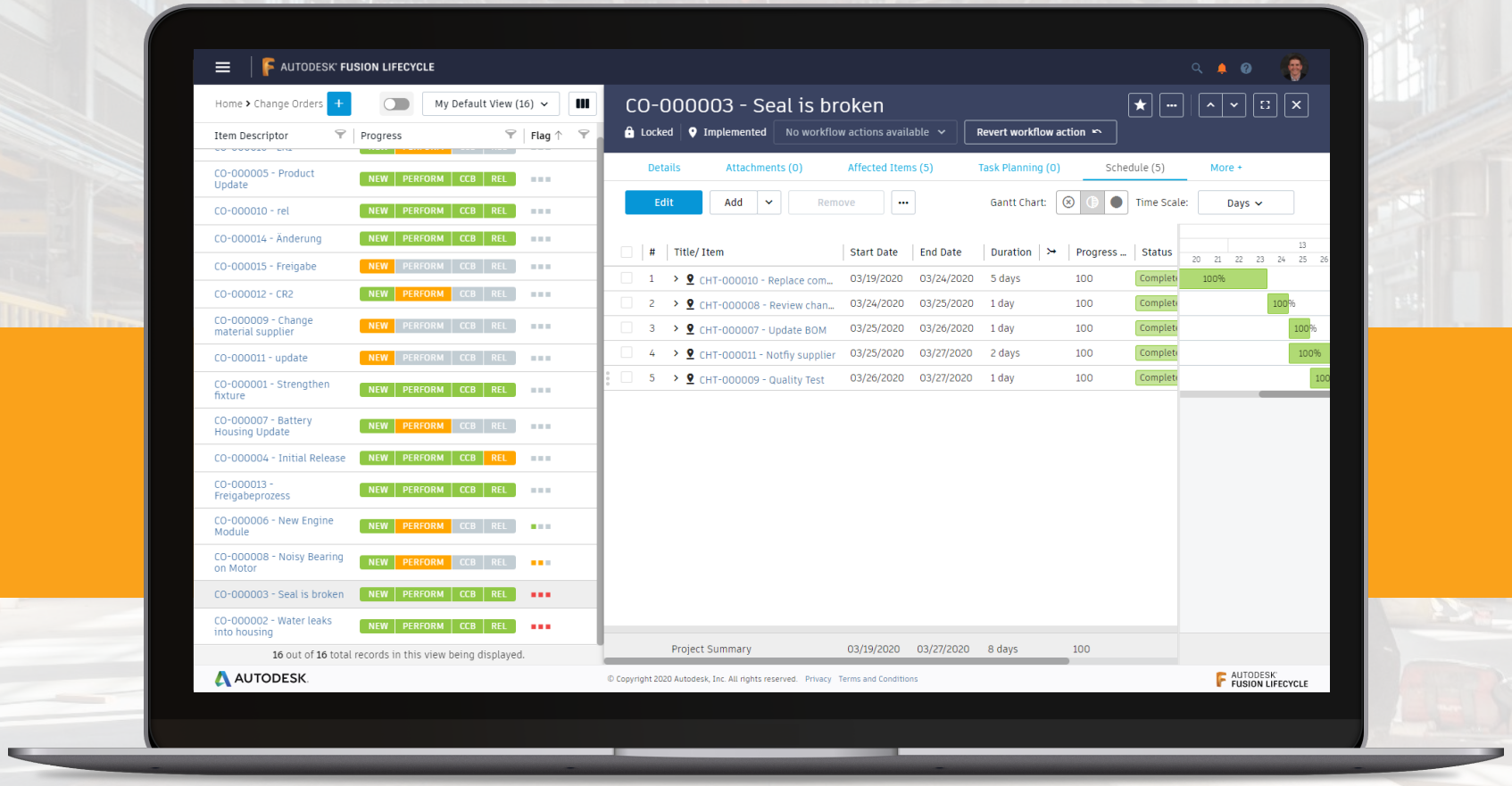
Day-In-The-Life Change Workflow



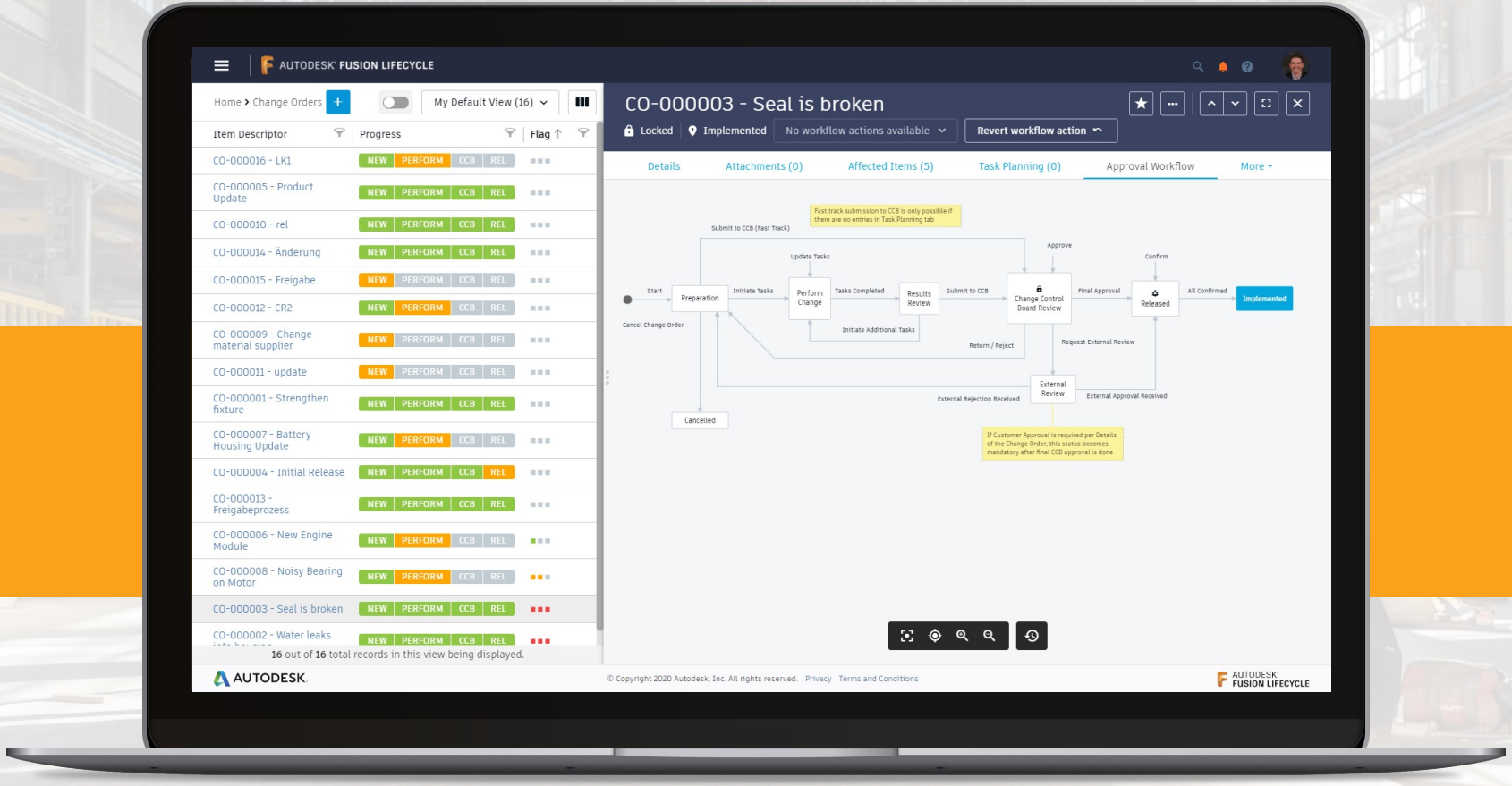
Day-In-The-Life Change Workflow



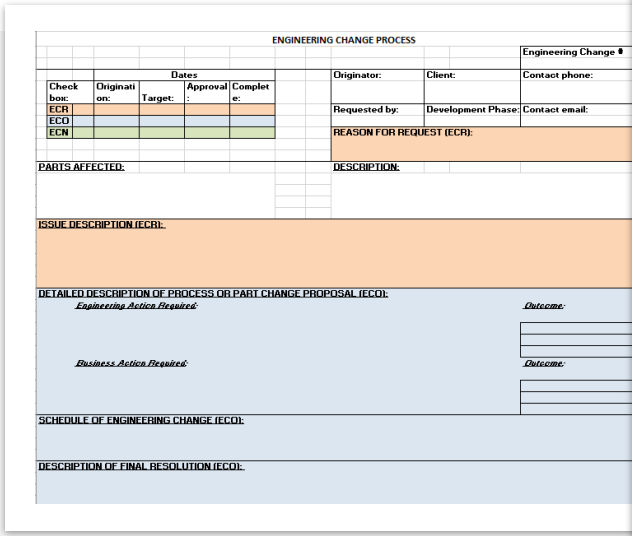
Day-In-The-Life Change Workflow



Day-In-The-Life Change Workflow



Which is easier to manage? This…



ENGINEERING CHANGE PROCESS

Check box:	Dates: Originati on:	Target:	Approval :	Complet e:
ECR				
ECO				
ECN				

Engineering Change #

Originator: | Client: | Contact phone:

Requested by: | Development Phase: | Contact email:

REASON FOR REQUEST (ECR):

PARTS AFFECTED:

DESCRIPTION:

ISSUE DESCRIPTION (ECR):

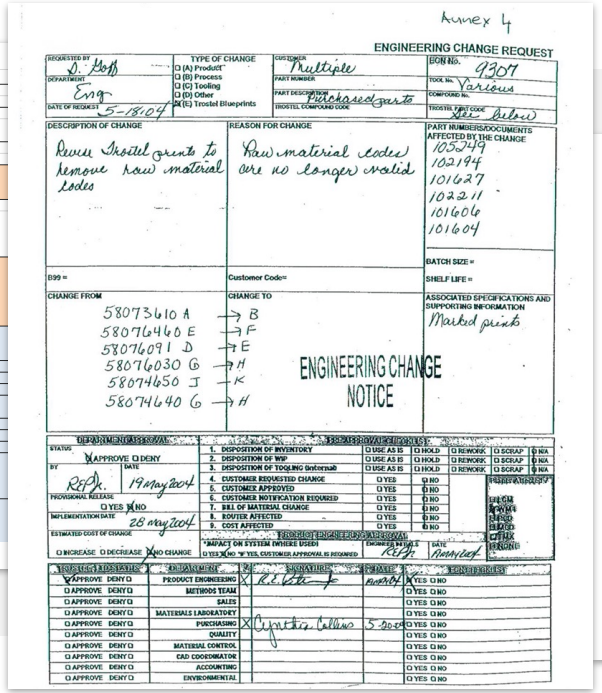
DETAILED DESCRIPTION OF PROCESS OR PART CHANGE PROPOSAL (ECO):

Engineering Action Required: *Outcome:*

Business Action Required: *Outcome:*

SCHEDULE OF ENGINEERING CHANGE (ECO):

DESCRIPTION OF FINAL RESOLUTION (ECO):



Annex 4

ENGINEERING CHANGE REQUEST

REQUESTED BY: J. Goff
DEPARTMENT: Engg
DATE OF REQUEST: 5-18-04
TYPE OF CHANGE: (A) Product* (B) Process (C) Tooling (D) Other (E) Trostel Blueprints
CUSTOMER: Multiple
PART NUMBER:
PART DESCRIPTION: Purchased parts
TROSTEL COMPOUND CODE:
ECN No.: 9307
TOOL No.: various
COMPOUND No.:
TROSTEL PART CODE: See below

DESCRIPTION OF CHANGE: Revise Trostel prints to remove raw material codes

REASON FOR CHANGE: Raw material codes are no longer valid

PART NUMBERS/DOCUMENTS AFFECTED BY THE CHANGE: 105249, 102194, 101627, 102211, 101606, 101604

BATCH SIZE =
SHELF LIFE =
D99 =
Customer Code=

CHANGE FROM: 58073610 A, 58076460 E, 58076091 D, 58076030 G, 58074650 J, 58074640 G

CHANGE TO: B, F, E, H, K, H

ENGINEERING CHANGE NOTICE

ASSOCIATED SPECIFICATIONS AND SUPPORTING INFORMATION: Marked prints

DEPARTMENT APPROVAL — STATUS: X APPROVE ☐ DENY — BY: RGR — DATE: 19 may 2004

PROVISIONAL RELEASE: ☐ YES X NO

IMPLEMENTATION DATE: 28 may 2004

ESTIMATED COST OF CHANGE: ☐ INCREASE ☐ DECREASE X NO CHANGE

SPECIFICATION APPROVAL REQUIRED

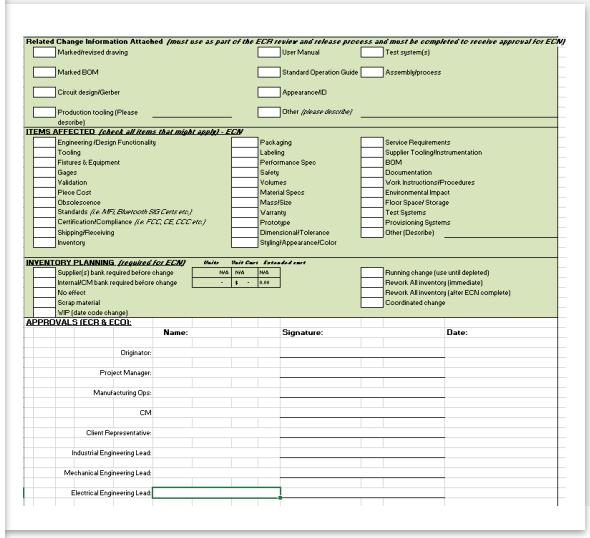
1. DISPOSITION OF INVENTORY	☐ USE AS IS	☐ HOLD	☐ REWORK	☐ SCRAP ☐ N/A
2. DISPOSITION OF WIP	☐ USE AS IS	☐ HOLD	☐ REWORK	☐ SCRAP ☐ N/A
3. DISPOSITION OF TOOLING (internal)	☐ USE AS IS	☐ HOLD	☐ REWORK	☐ SCRAP ☐ N/A
4. CUSTOMER REQUESTED CHANGE	☐ YES	☐ NO		
5. CUSTOMER APPROVED	☐ YES	☐ NO		
6. CUSTOMER NOTIFICATION REQUIRED	☐ YES	☐ NO		
7. BILL OF MATERIAL CHANGE	☐ YES	☐ NO		
8. ROUTER AFFECTED	☐ YES	☐ NO		
9. COST AFFECTED	☐ YES	☐ NO		

PROJECT ENGINEER APPROVAL — Engineer: RGR — DATE: 19may04

*IMPACT ON SYSTEM WHERE USED: ☐ YES ☐ NO. IF YES, CUSTOMER APPROVAL IS REQUIRED

DISTRIBUTION

APPROVE/DENY	DEPARTMENT	SIGNATURE	DATE	ENTERPRISE
X APPROVE ☐ DENY	PRODUCT ENGINEERING	X R.E. Kite	5/20/04	☐ YES ☐ NO
☐ APPROVE ☐ DENY	METHODS TEAM			☐ YES ☐ NO
☐ APPROVE ☐ DENY	SALES			☐ YES ☐ NO
☐ APPROVE ☐ DENY	MATERIALS LABORATORY			☐ YES ☐ NO
☐ APPROVE ☐ DENY	PURCHASING	X Cynthia Collins	5-20-04	☐ YES ☐ NO
☐ APPROVE ☐ DENY	QUALITY			☐ YES ☐ NO
☐ APPROVE ☐ DENY	MATERIAL CONTROL			☐ YES ☐ NO
☐ APPROVE ☐ DENY	CAD COORDINATOR			☐ YES ☐ NO
☐ APPROVE ☐ DENY	ACCOUNTING			☐ YES ☐ NO
☐ APPROVE ☐ DENY	ENVIRONMENTAL			☐ YES ☐ NO



Related Change Information Attached *(must use as part of the ECR review and release process and must be completed to receive approval for ECN)*

☐ Marked/revised drawing
☐ Marked BOM
☐ Circuit design/Gerber
☐ Production tooling (Please describe)
☐ User Manual
☐ Standard Operation Guide
☐ Appearance/ID
☐ Other *(please describe)*
☐ Test system(s)
☐ Assembly/process

ITEMS AFFECTED *(check all items that might apply) - ECN*

☐ Engineering /Design Functionality
☐ Tooling
☐ Fixtures & Equipment
☐ Gages
☐ Validation
☐ Piece Cost
☐ Obsolescence
☐ Standards *(i.e. MPI, Blancpain SIS Certs etc.)*
☐ Certification/Compliance *(i.e. FCC, CE, CCC etc.)*
☐ Shipping/Receiving
☐ Inventory
☐ Packaging
☐ Labeling
☐ Performance Spec
☐ Safety
☐ Volumes
☐ Material Specs
☐ Mask/Size
☐ Warranty
☐ Prototype
☐ Dimensional/Tolerance
☐ Styling/Appearance/Color
☐ Service Requirements
☐ Supplier Tooling/Instrumentation
☐ BOM
☐ Documentation
☐ Work Instructions/Procedures
☐ Environmental Impact
☐ Floor Space/Storage
☐ Test Systems
☐ Provisioning Systems
☐ Other (Describe)

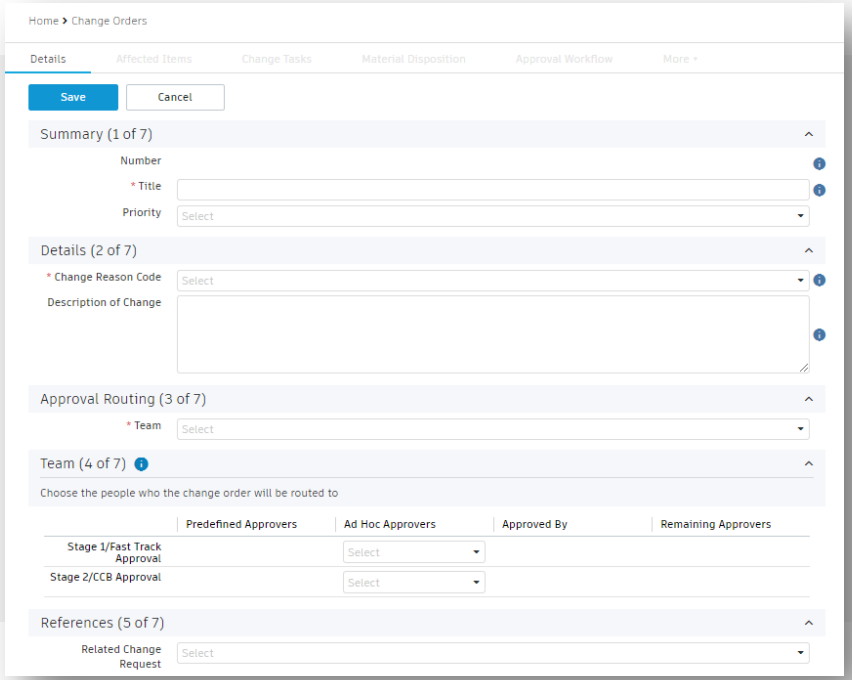
INVENTORY PLANNING *(required for ECN)*

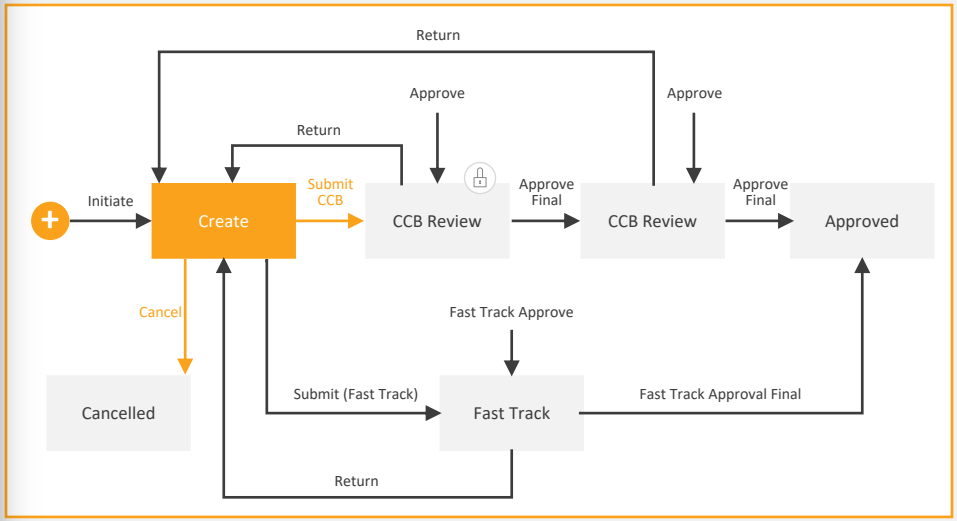
	Units	Unit Cost	Extended cost
☐ Supplier(s) bank required before change	N/A	N/A	N/A
☐ Internal/CM bank required before change	-	$ -	0.00
☐ No effect			
☐ Scrap material			
☐ WIP (date code change)			
☐ Running change (use until depleted)			
☐ Rework. All inventory (immediate)			
☐ Rework. All inventory (after ECN complete)			
☐ Coordinated change			

APPROVALS (ECR & ECO):

	Name:	Signature:	Date:
Originator:			
Project Manager:			
Manufacturing Ops:			
CM			
Client Representative:			
Industrial Engineering Lead:			
Mechanical Engineering Lead:			
Electrical Engineering Lead:			

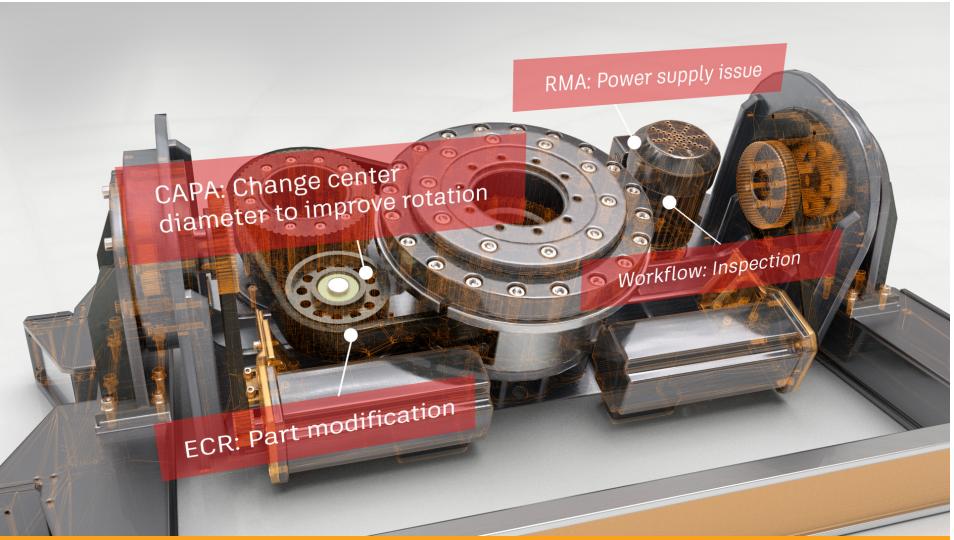
Or This…


Home › Change Orders
Details
Affected Items
Change Tasks
Material Disposition
Approval Workflow
More +
Save
Cancel
Summary (1 of 7)
Number
* Title
Priority
Select
Details (2 of 7)
* Change Reason Code
Description of Change
Approval Routing (3 of 7)
* Team
Team (4 of 7)
Choose the people who the change order will be routed to
Predefined Approvers
Ad Hoc Approvers
Approved By
Remaining Approvers
Stage 1/Fast Track Approval
Stage 2/CCB Approval
References (5 of 7)
Related Change Request


Return
Approve
Approve
Return
Initiate
Create
Submit CCB
CCB Review
Approve Final
CCB Review
Approve Final
Approved
Cancel
Fast Track Approve
Cancelled
Submit (Fast Track)
Fast Track
Fast Track Approval Final
Return

EU
PONQ
Fishbone
DFM
Range Charts
FAA
RoHS
FDA
QA
QMS
AQL
Hoshin
Control Limits
Compliance
TQI
FTA
Kaizen
BFCE
POM
APQC
ISO
Ishikawa
DFSS
MTBF
ASQ
BPR
ECR
FMEA
SBQ
TPM
QFD
UCL
Control
ECN
QOS
QWL
Change
Cost Of Quality
ASQC
CWQC
USL
CSP
LCL
SPC
Management
TQC
PERT
CQI
SQM
CQT
WIP
Pareto
TOC
MRP
CAPA
LTPD
Process Engineering
Deming
CPM
WCM
RPD
DOE
SQC
Deviation
Benchmarking
EFQM
REACH
SNAFU
DFA
NIST
EQA
APQP
FMEA
ISO
DC
Zero Defect
ANOVA
MAD
TQM
DFD
Taguchi
QMS
FMECA
Variation
DMAIC
CWQI
CAR
Plan-Do-Check-Act
RCA

Quality Management



Getting quality and change processes under control

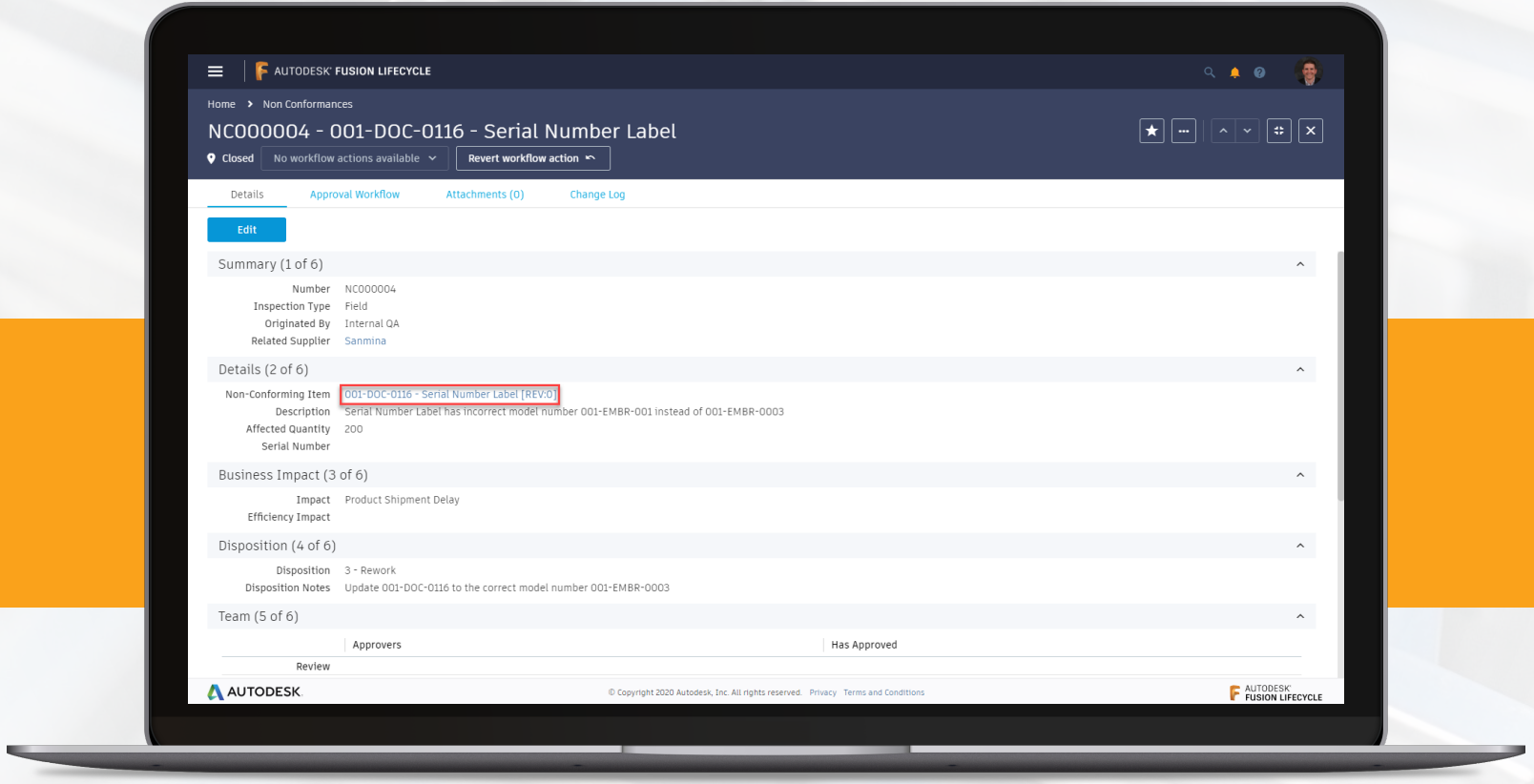
Automate workflows to control your quality chain from nonconformance identification and analysis to RMA, CAPA, and engineering change.

We have a closed loop process.
Configurable workflows coordinate and track cross-functional quality management processes.

We have an audit trail.
In-progress or completed processes, whether related to change, quality, or any other discipline, are fully traceable.

Our brand is stronger.
A 360 degree view of your quality data and critical processes helps you prevent and respond rapidly to quality issues.

Non Conformance Reports on BOM Items

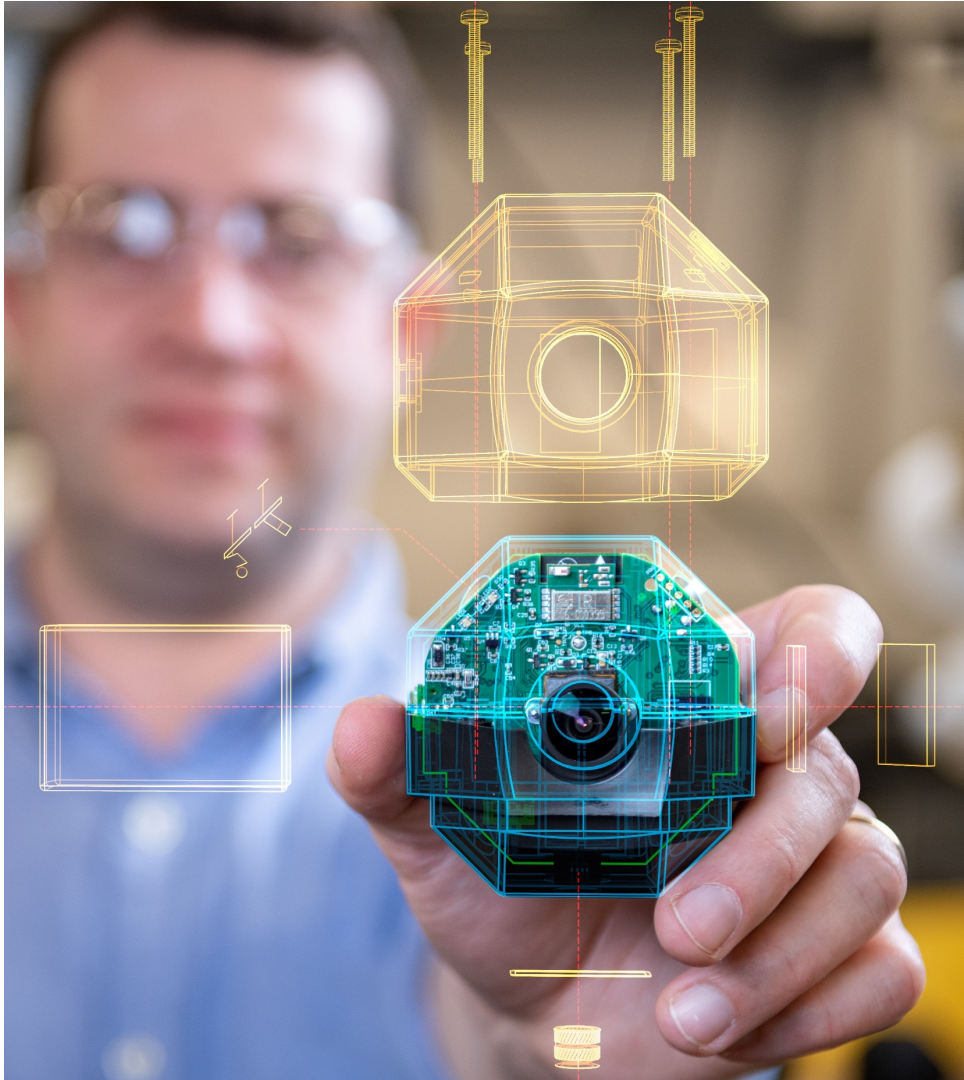


Why Autodesk PLM?

PLM that is attainable

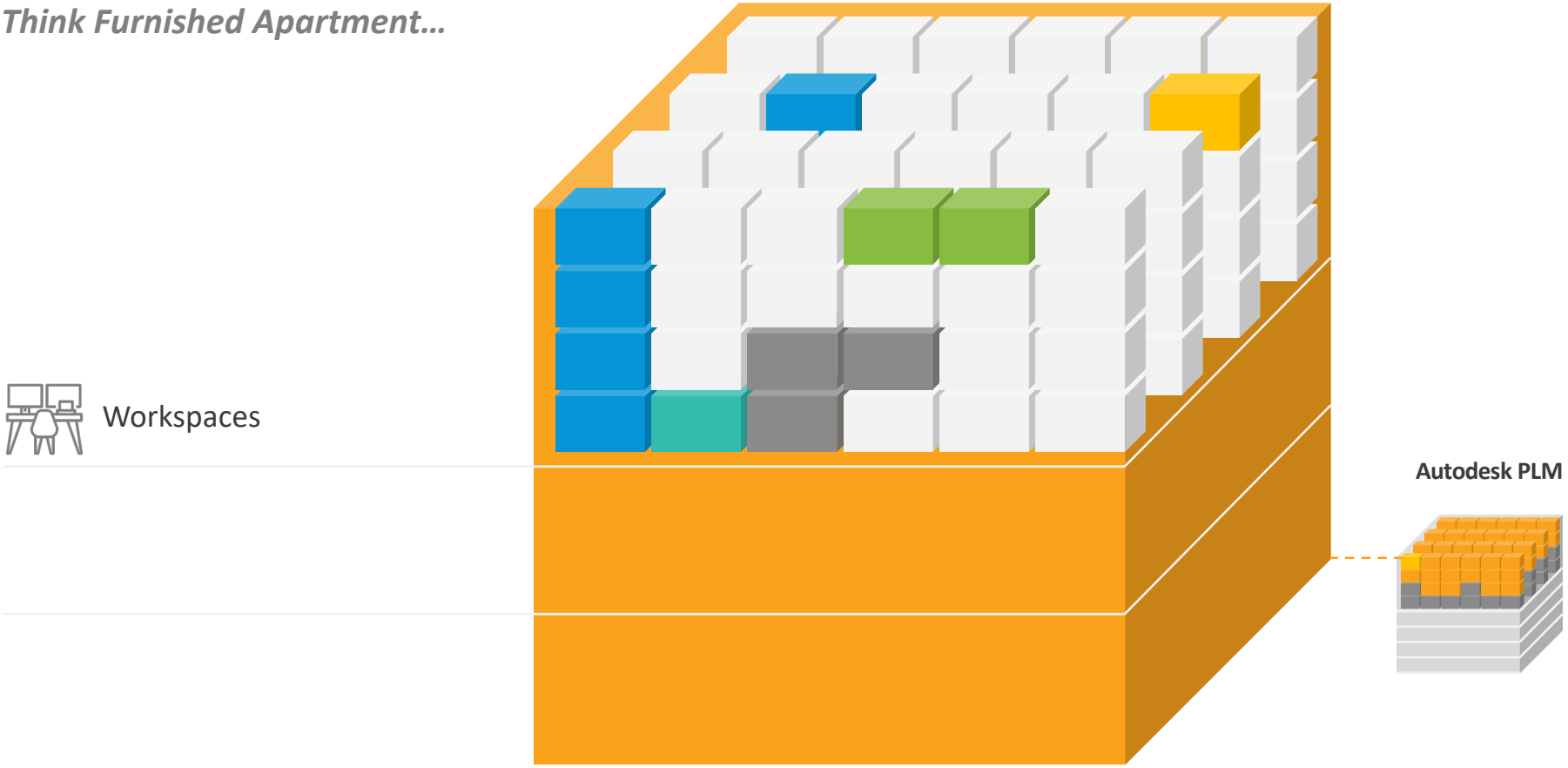
PLM should be easy to access, easy to configure, easy to adopt

- Instant-on
- Flexible and easy to tailor to your requirements
- Accessible from a browser or mobile device
- Quick for users to grasp
- Easy to expand without extra costs
- Easy to integrate with other business systems



What do you get with Autodesk PLM?

Think Furnished Apartment…



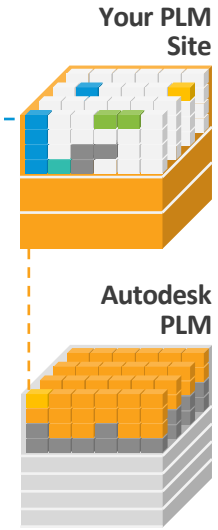
Workspaces Defined

Each Workspace has:

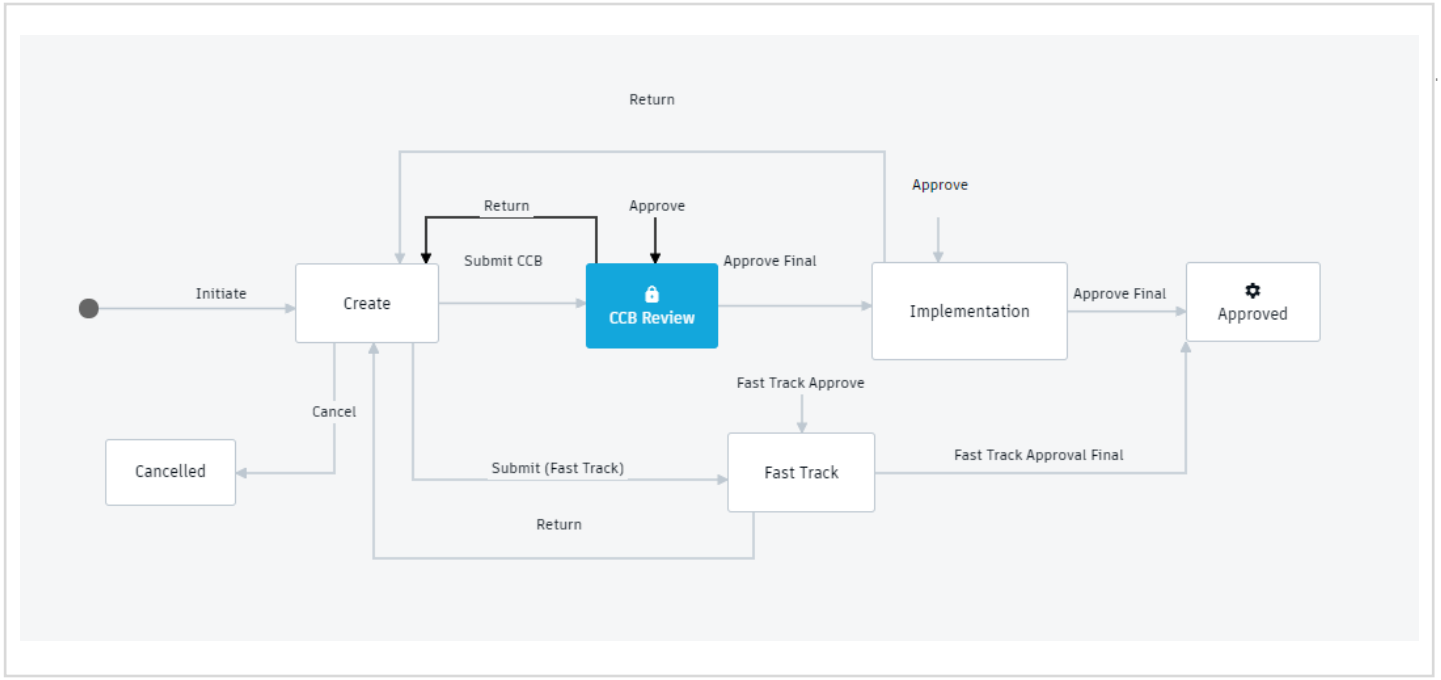
Configurable Process / Workflow

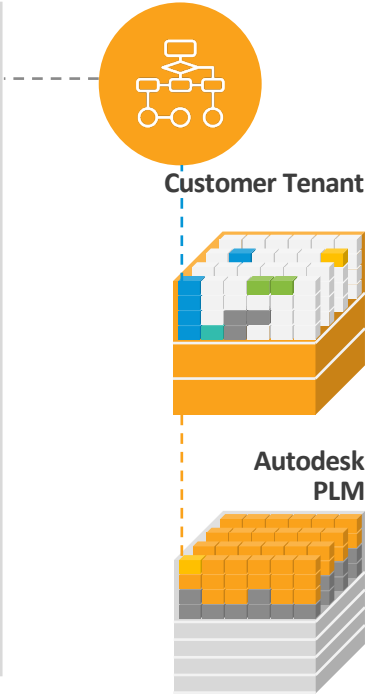
Unique Record numbering, Properties

Behavior / Goal

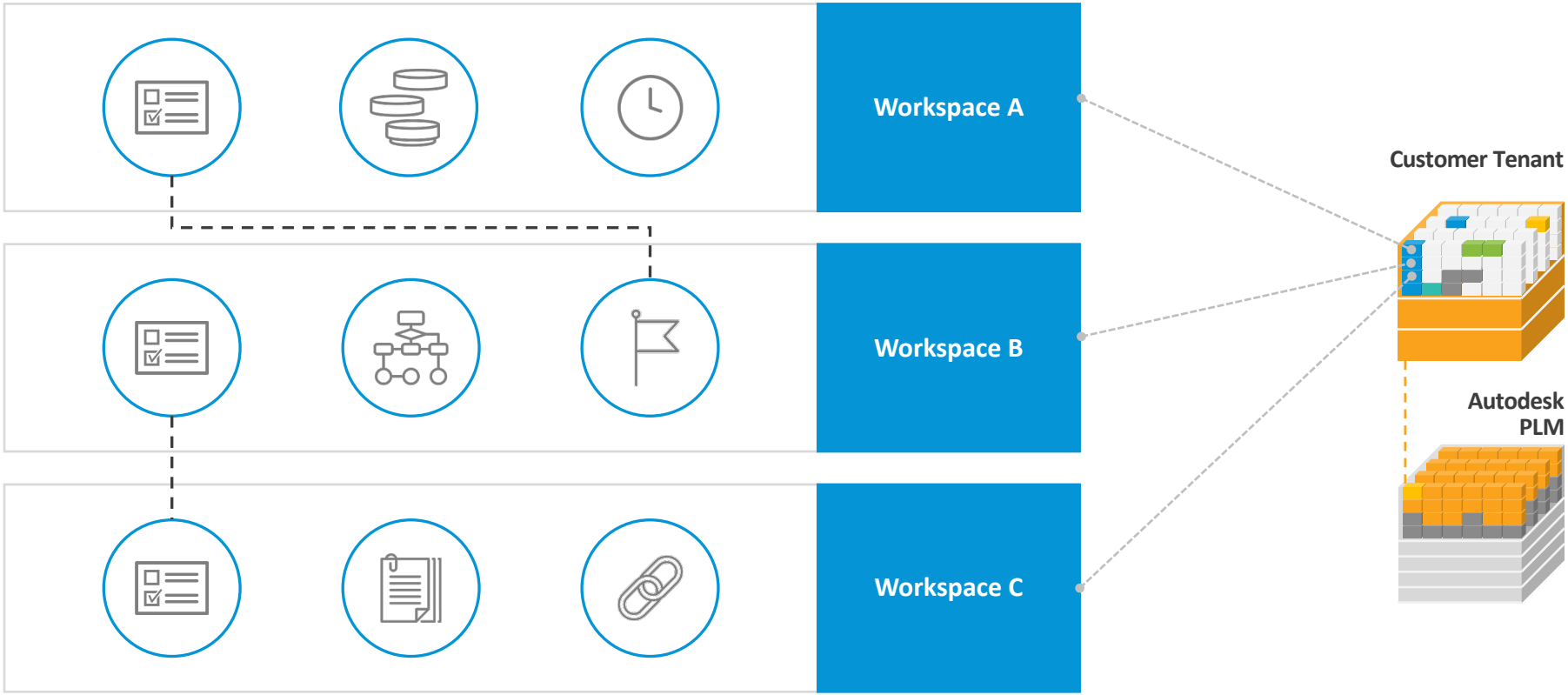


Workspace Workflow

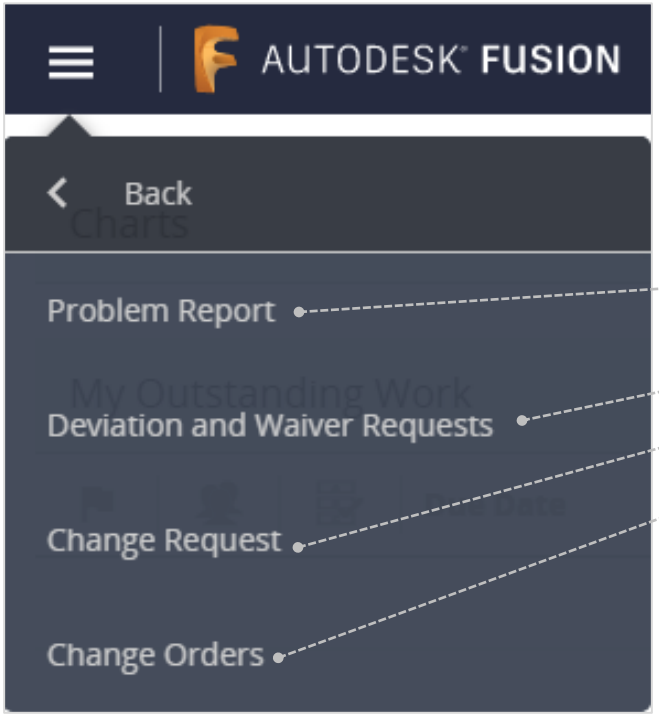


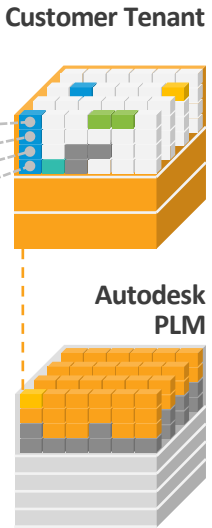


Connected Processes

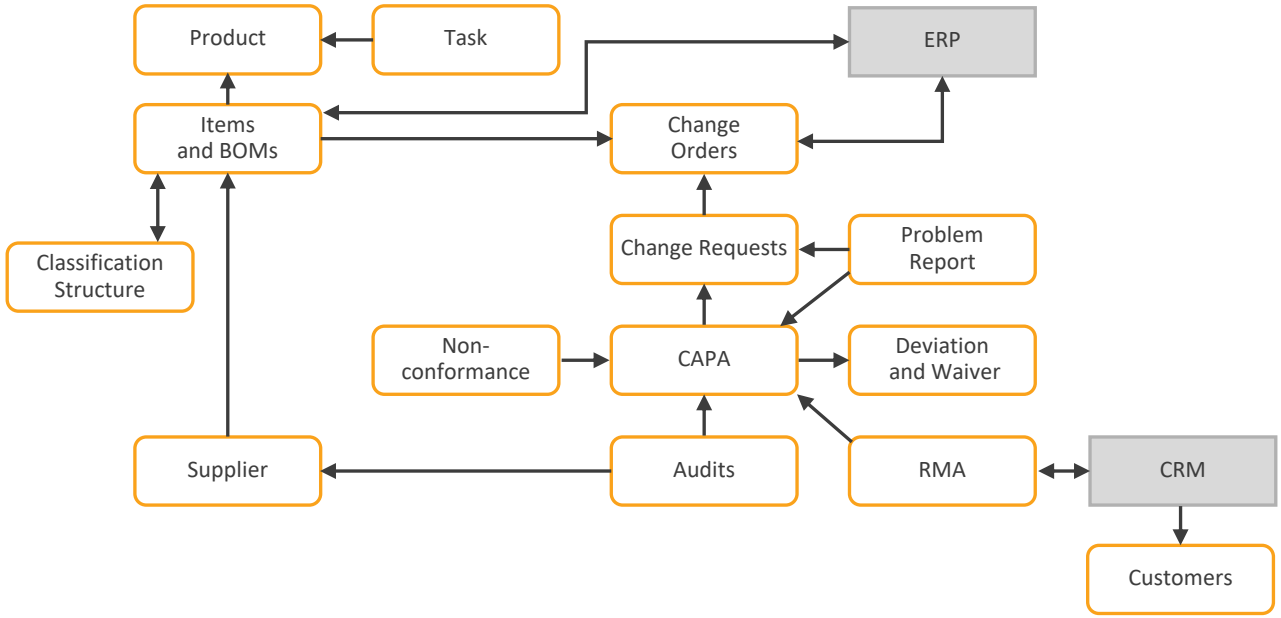


Workspaces and Apps in Autodesk PLM

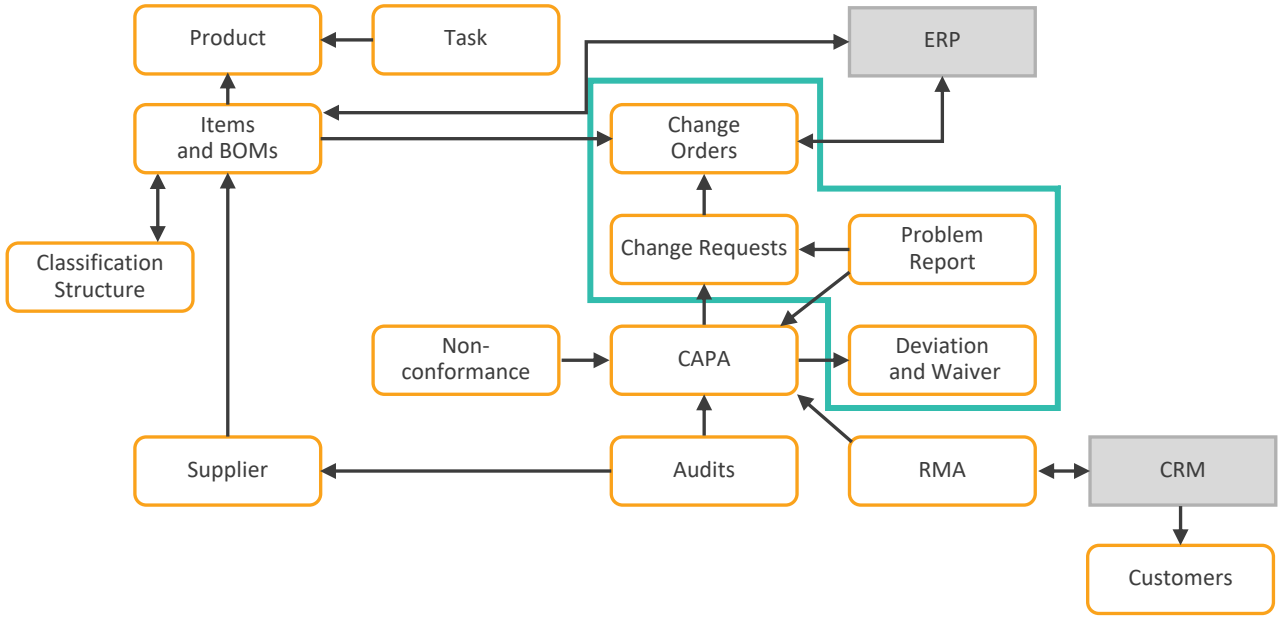




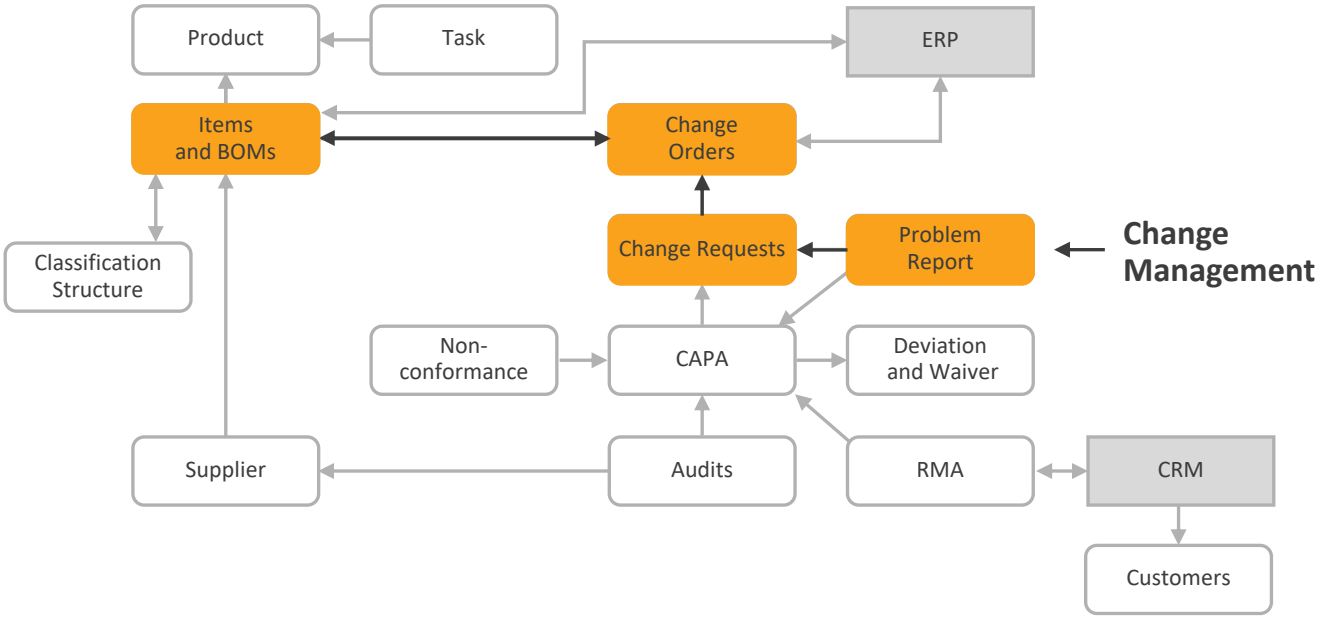
Preconfigured Autodesk PLM Site



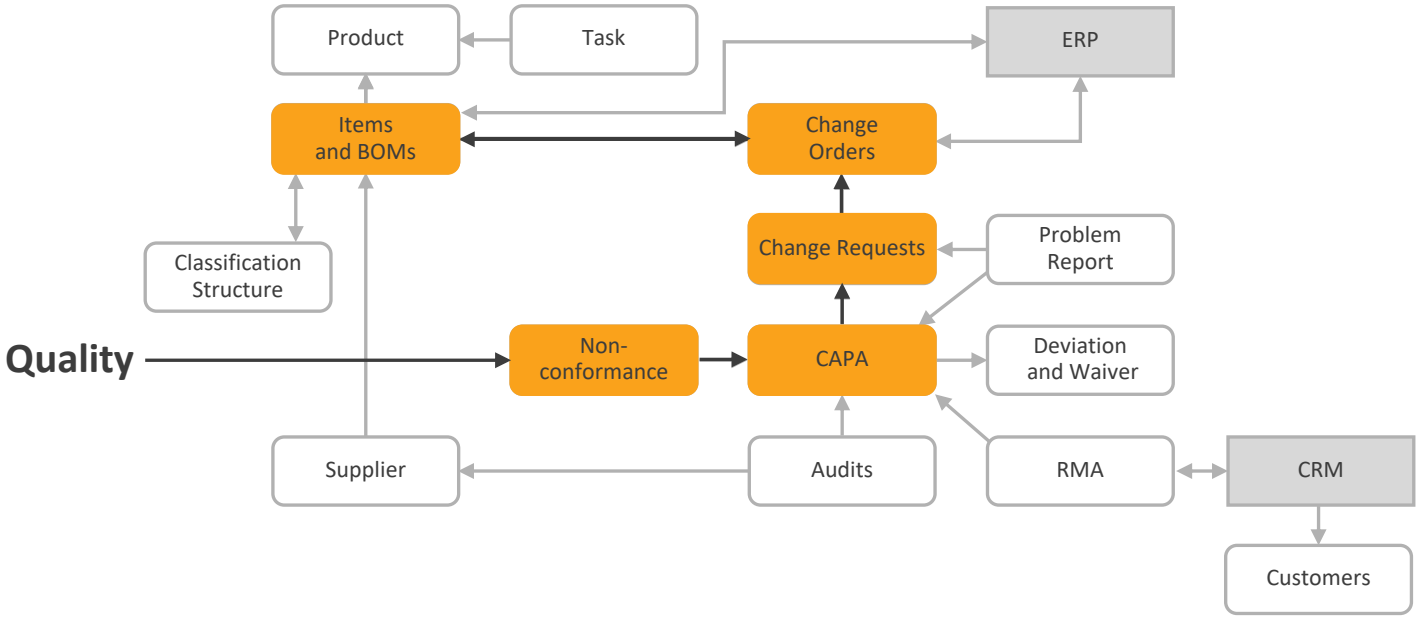
Change Management in Autodesk PLM



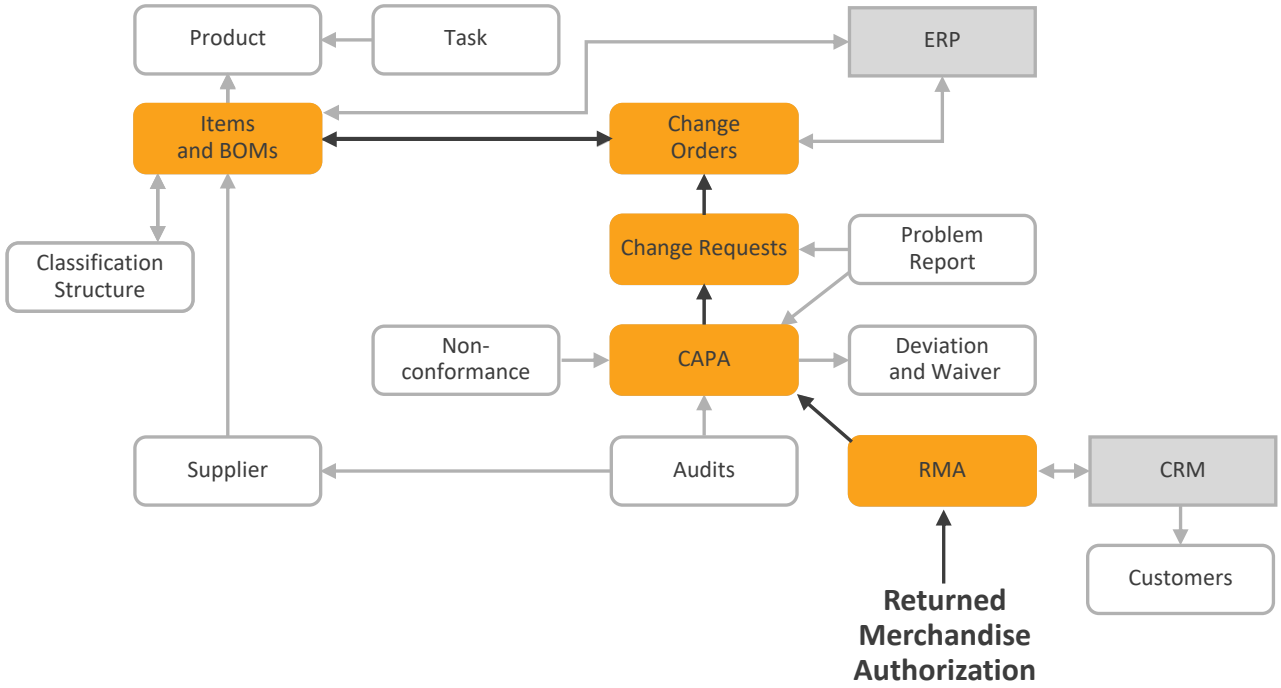
Change Management Workflows



Quality Management Workflows

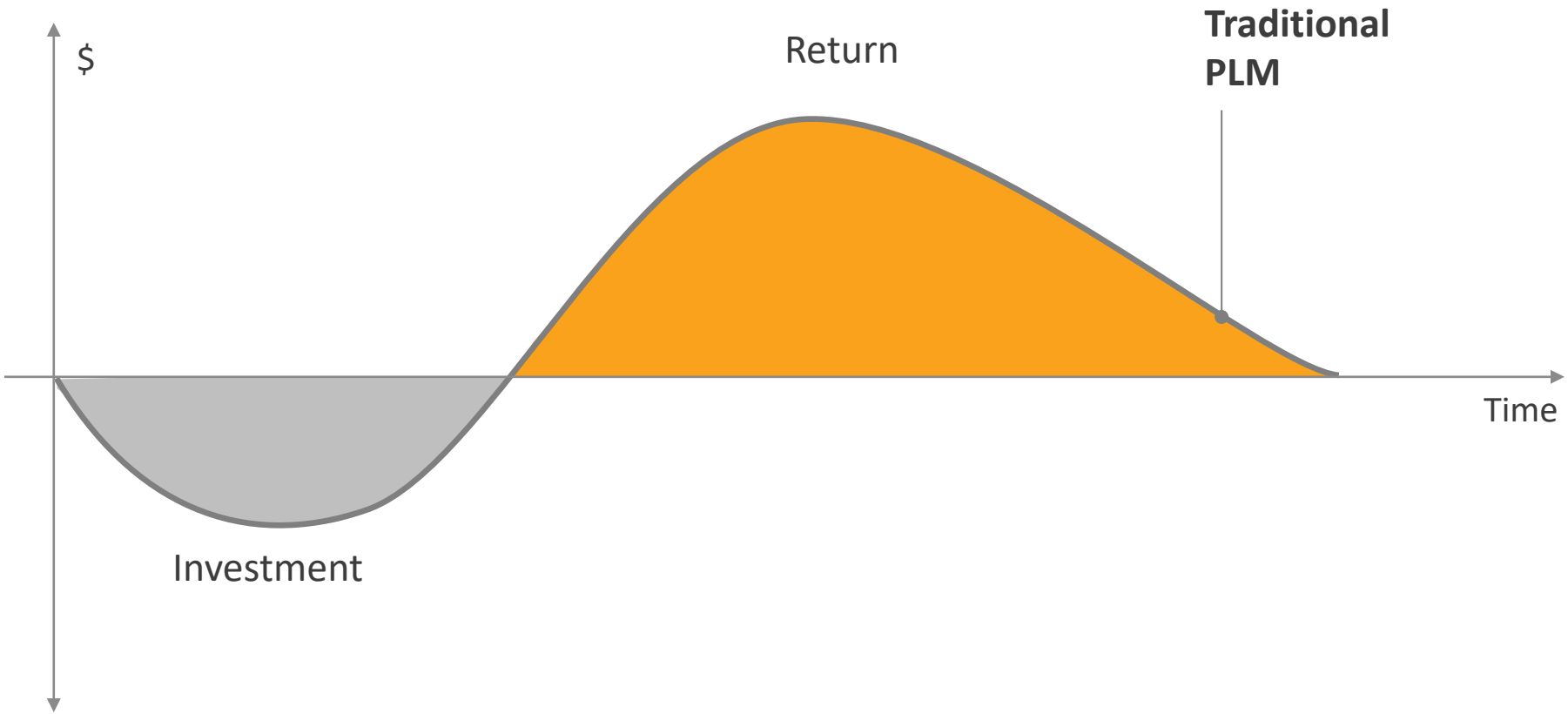


Return Merchandise Authorization Workflows



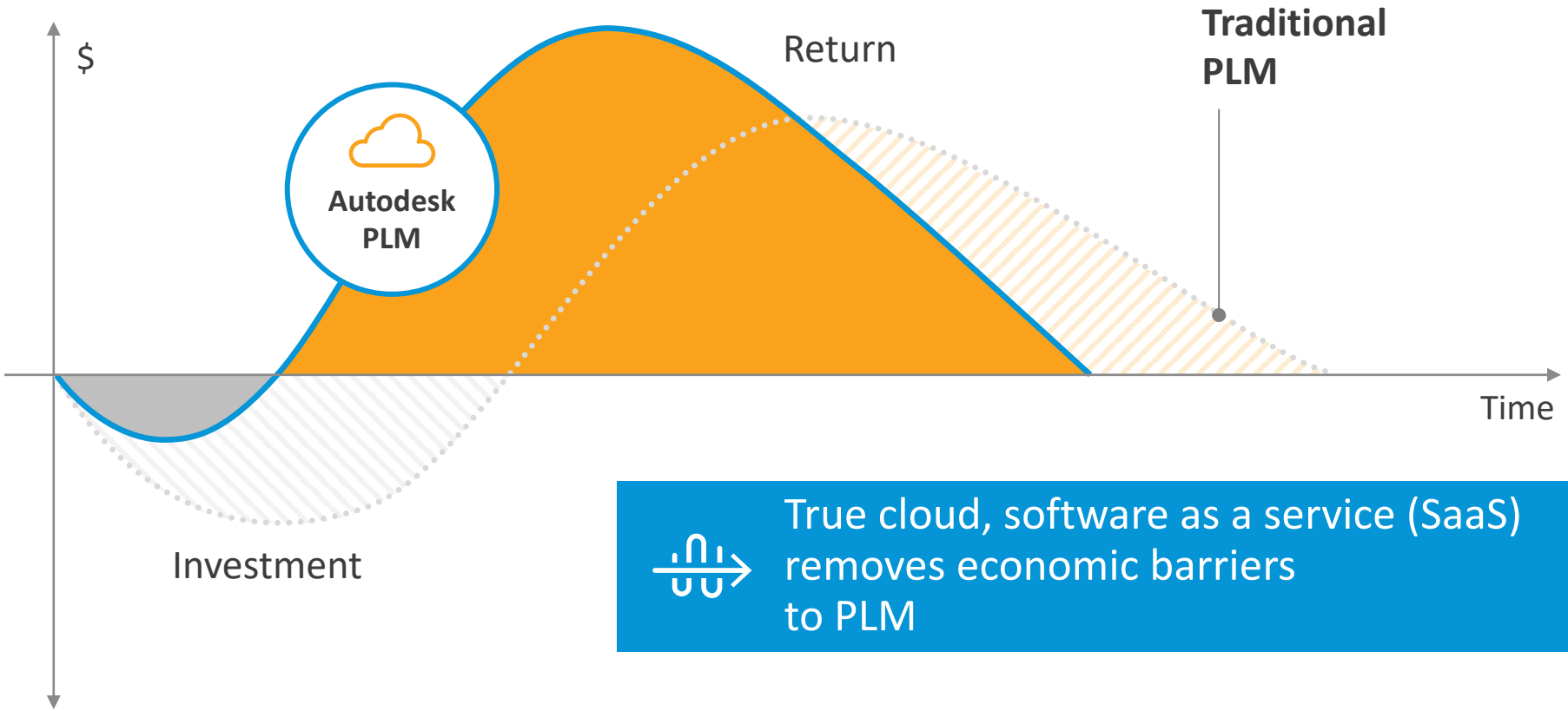
Autodesk PLM vs. Other PLM Solutions

Time-to-Value (TtV)



Cloud vs. On-Premise PLM

Time-to-Value (TtV)

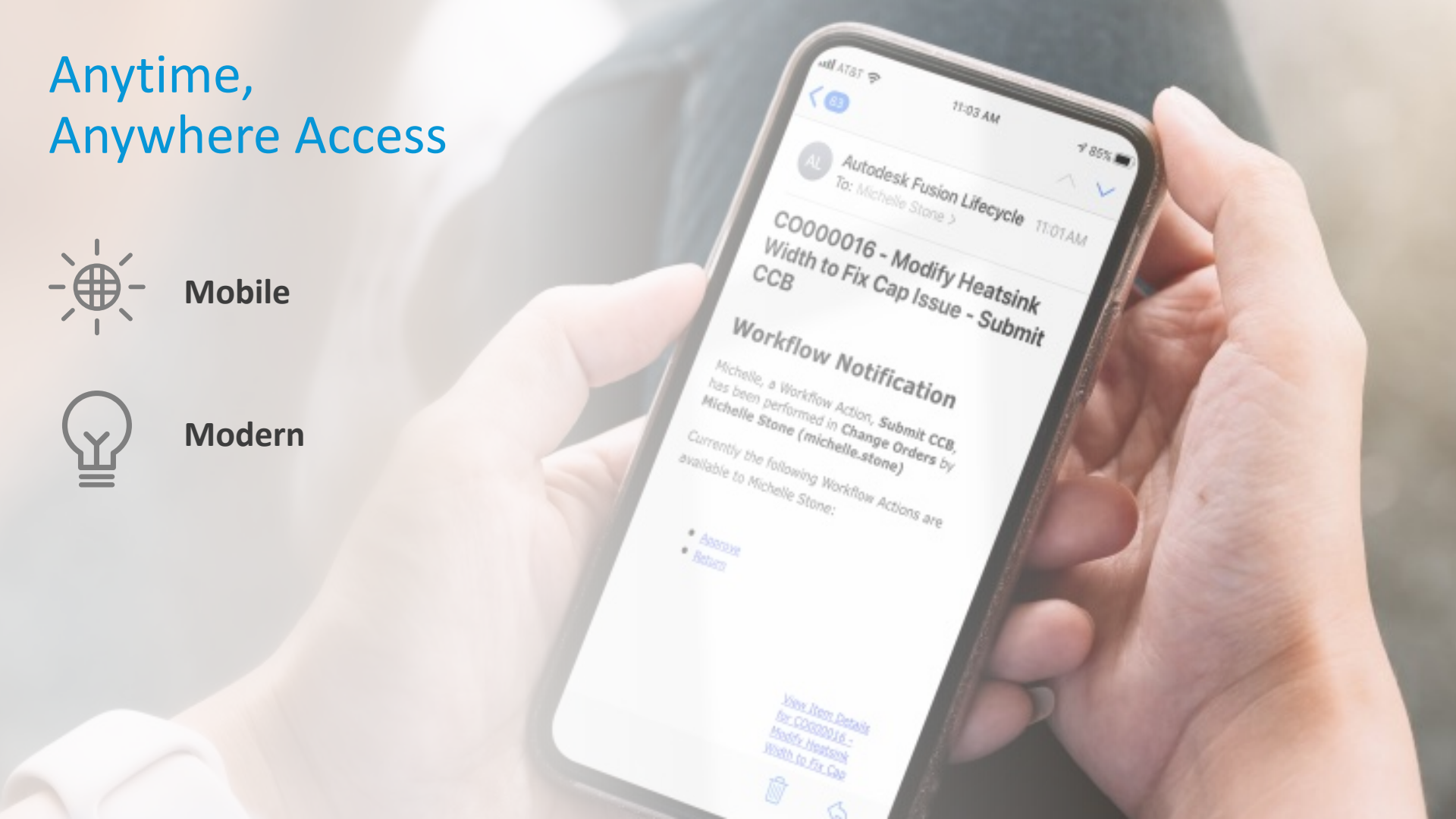


True cloud, software as a service (SaaS) removes economic barriers to PLM

Anytime, Anywhere Access

Mobile

Modern



Autodesk PLM App Store

Quality Management

Quality Management Powered by Autodesk Fusion Lifecycle delivers the tools manufacturers need to collect and analyze quality data, define inspection standards, track and communicate non-

More information

Lean 5S Auditing

The Lean 5S Audit app, helps you to check that all the 5S processes have been carried out correctly. This app helps you to audit the processes for Sort, Straighten, Shine, Standardization and Sustain.

More information

Manufacturing Asset Management

Get the tools you need to collect and analyze data related to assets so you can keep them available and in good shape.

More information

Equipment calibration

Equipment calibration is a necessary part of any production line, calibration can be painless with proper planning and tracking. With Equipment calibration app you can add all of your calibration

More information

FMEA Analysis

Use the Failure mode and effect analysis (FMEA) app to review as your components, assemblies, and subsystems and record the results for each type for Functional, Design or Process FMEA analysis.

More information

Accident Reports

Avoid penalties and keep a complete record of work-related injuries with the Accident Report App powered by Autodesk Fusion Lifecycle.

More information

Field Failure Request

The Field Failure Request App powered by Autodesk Fusion Lifecycle enables your field technicians to communicate quality issues onsite on any device, and at any time.

More information

Return Merchandise Authorization

The Return Merchandise Authorization App powered by Autodesk Fusion Lifecycle provides a standardized and repeatable means to manage the RMA process.

More information

Document Control

The Document Control App powered by Autodesk Fusion Lifecycle provides an effective and secure means to distribute, enforce standards, and manage change of your documents.

More information

Customer Management

The Customer Management App powered by Autodesk Fusion Lifecycle can connect your customer data to all of your processes currently or soon to be managed by Autodesk Fusion Lifecycle.

More information

Marketing Asset Management

Marketing Asset Management app can be used for the management, control, tracking, and distribution of brand assets, marketing materials, sales tools and creative materials.

More information

CE Marking

Use the CE Marking App to manage your approval stages needed for the affixing of the CE marking on your product. Track when the EC Declaration Of Conformity is completed and get a automatically

More information

Supplier Quarterly Business Review (SQBR)

Supplier Quarterly Business Review (SQBR)helps everyone in the organization to visualize the Supplier Performance.

More information

Supplier Corrective Action Request (SCAR)

A supplier quality action report (SCAR) was derived from the need to issue suppliers a corrective action to a problem that occurred due to their product or service. As a way to differentiate this from an internal

Octopart - Item & BOM

The Octopart - Item & BOM app allows you to create part items that link automatically to the Octopart search engine. Octopart develops search technology to help design engineers and part purchasers to find

Training

Install the Training Workspace to manage employee training with Autodesk Fusion Lifecycle.

More information

Autodesk PLM

ONLINE

Access data any time, from anywhere

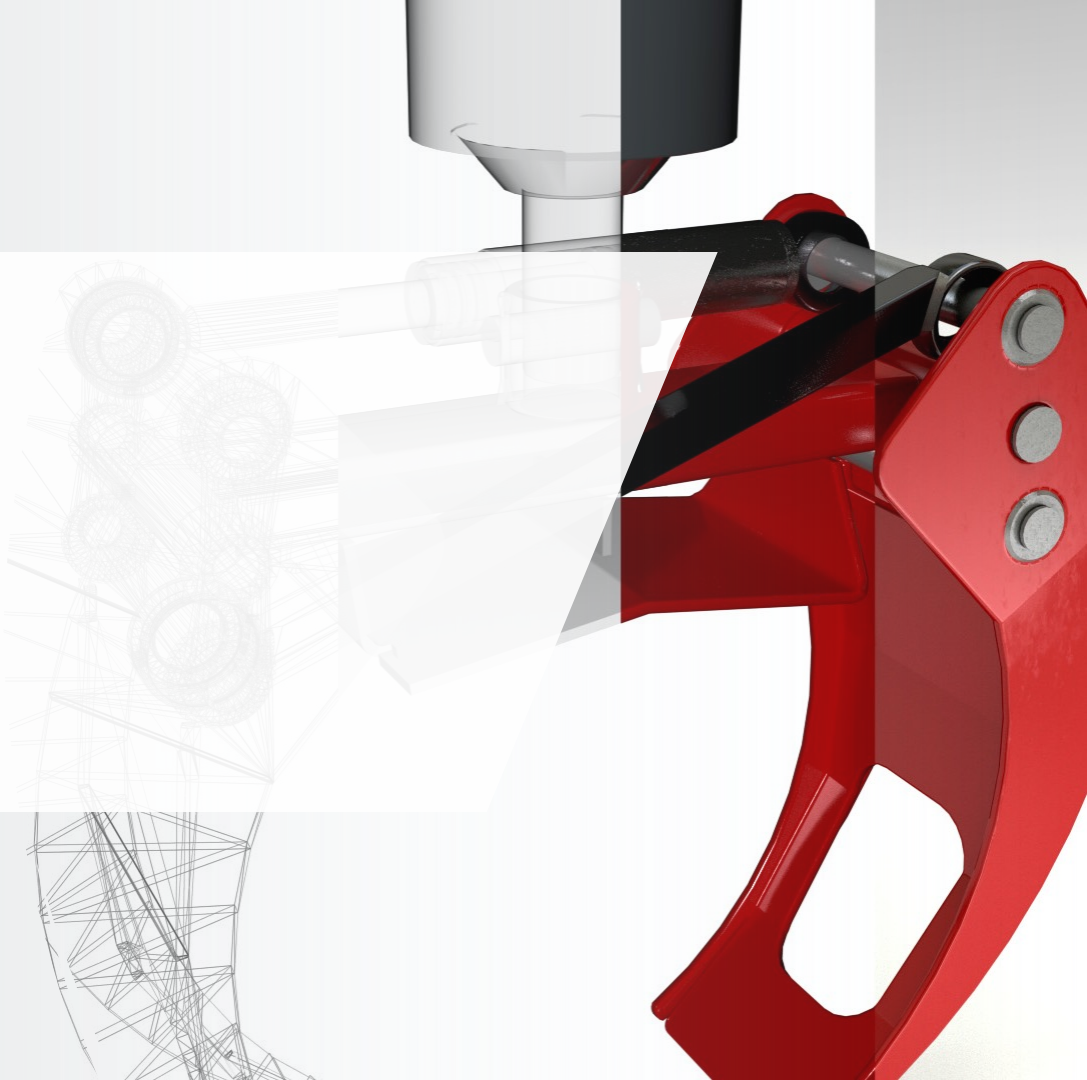
EASY

Simple UI minimizes training and maximizes acceptance

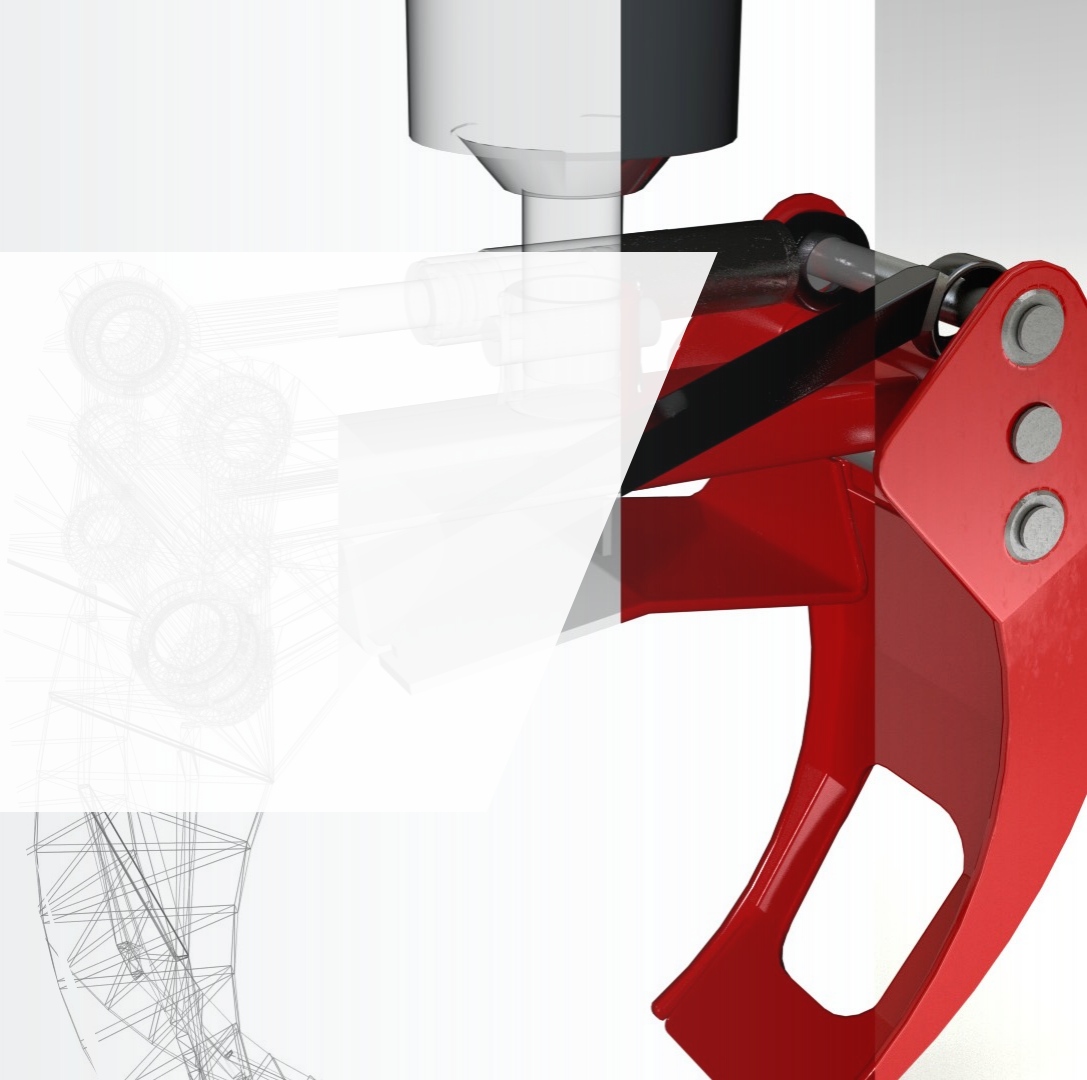
APP STORE

Extend your environment with templates and integration tools

Thank You.



Questions?



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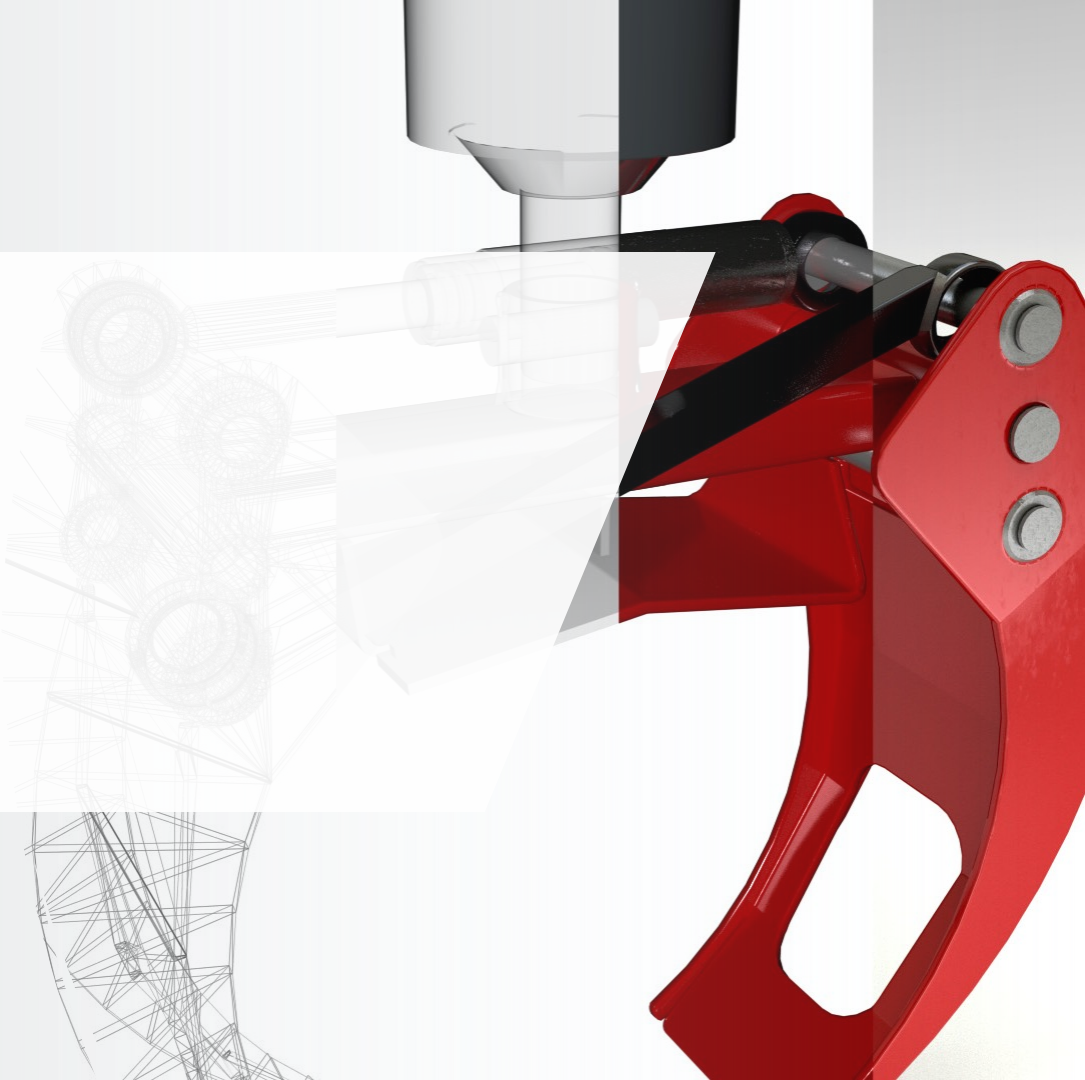
Poll