

#SEU16

Mech Works PDM Controlling Engineering Changes

About MechWorks



SIEMENS

MechWorks is a PDM innovative company with representation and customers worldwide and we are dedicated to maintaining our CAD's PARTNER status. We have been providing **MechWorks PDM** solutions since 1998!

Our goal is to accelerate your design cycle within a secure environment that promotes design integrity and accessibility which helps your organization save money and increase profits.

MechWorks PDM



SIEMENS

MechWorks Single Source of Truth. Your organization's personnel should never have to manually enter data more than once. Locations like **Title Blocks, Bill of Materials, File Properties,** and **Item Master** records should all reflect the same accurate data without ever having to be typed more than once.

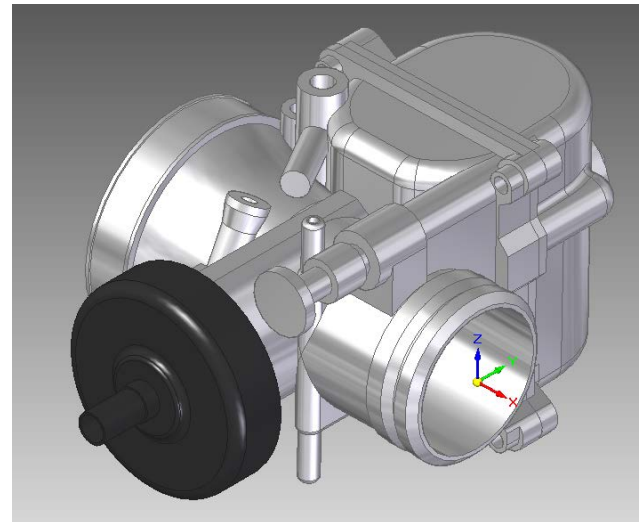
By focusing on streamlining document management processes and establishing a **Single Source of Truth**, our customers are able to satisfy regulated industry requirements like FDA, FAA, Packaging, and ISO. With superior processes and standards, our customers are able to effectively focus on business growth and profitability.



Engineering Change Process

MechWorks PDM is known for its configurability to meet any organization's criteria and processes. With that in mind, we allow for our Engineering Change Process to be configured to meet our customers needs.

Today we will look at an Engineering Process configured to incorporate IR's, ECR's and ECN's. Taking documents from their initial manufacturing release through consecutive changes, requests and revisions.





Engineering Change Process



Three steps for design and changes:

Initial Manufacturing Release

- ✓ Create new
- ✓ Add or remove
- ✓ Documents
- ✓ Export
- ✓ Workflow
- ✓ View EC History

Engineering Change Request

- ✓ Create new
- ✓ Add or remove
- ✓ Documents
- ✓ Export
- ✓ Workflow
- ✓ View EC History

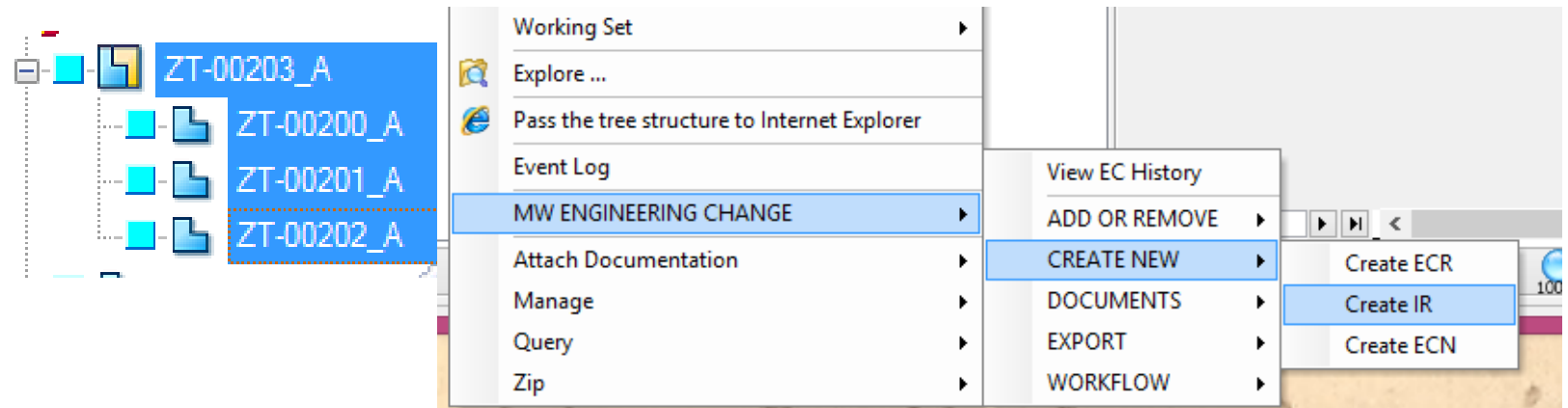
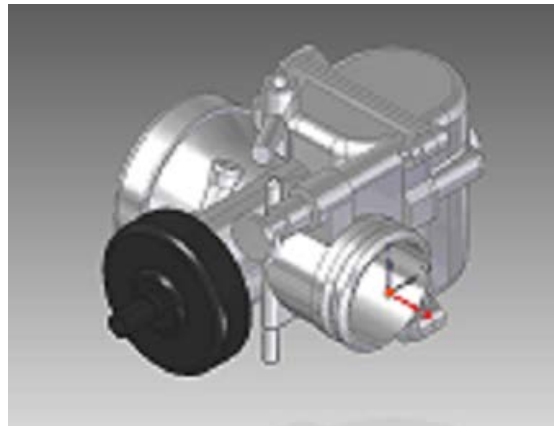
Engineering Change Notice

- ✓ Create new
- ✓ Add or remove
- ✓ Documents
- ✓ Export
- ✓ Workflow
- ✓ View EC History



Initial Manufacturing Release

MechWorks PDM's IR has been designed to allow for the approving of documents and designs to process and record it's first initial release to manufacturing.



The process is started with the creation of the IR.

Initial Manufacturing Release

On creation of the IR, users are presented with the configurable IR Data Form.

T	FILENAME	DESCRIPTION	REVISION	REVISIONS.DESCRPTION	UNIQUEID
P	ZT-00200_A.par	ZT-00200_A	A		294
P	ZT-00201_A.par	ZT-00201_A	A		293
P	ZT-00202_A.par	ZT-00202_A	A		292
A	ZT-00203_A.asm	ZT-00203_A	A		291

The Data form is automatically populated with its IR number, date, submitted by, all referenced/linked documents, and a running history of events.

The form also allows for organizations to add fields on topics and requirements they need or relevant to them.

Note: The green border designates new form.



Initial Manufacturing Release

With the IR data form created and saved, it can be edited if needed, be submitted to a user defined Work Flow, or terminated. Electronic notifications can be triggered by any or all of these events.

IR Data Form

ID: IR-0016

DESCRIPTION: Model XZ5 Manifold Ready for Production

REQUIRE_REVISION:

REASON_FOR_CHANGE: Cost Savings

USER_ASSIGNED: [dropdown]

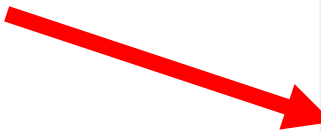
EC_STATE: NEW

PRIORITY_STATUS: 2

T	FILENAME	DESCRIPTION	REVISION	REVISIONS.DESCRPTION	UNIQUEID
P	ZT-00200_A.par	ZT-00200_A	A		294
P	ZT-00201_A.par	ZT-00201_A	A		293
P	ZT-00202_A.par	ZT-00202_A	A		292
A	ZT-00203_A.asm	ZT-00203_A	A		291

Submit To Workflow Terminate OK Cancel Apply

Submit to Work Flow



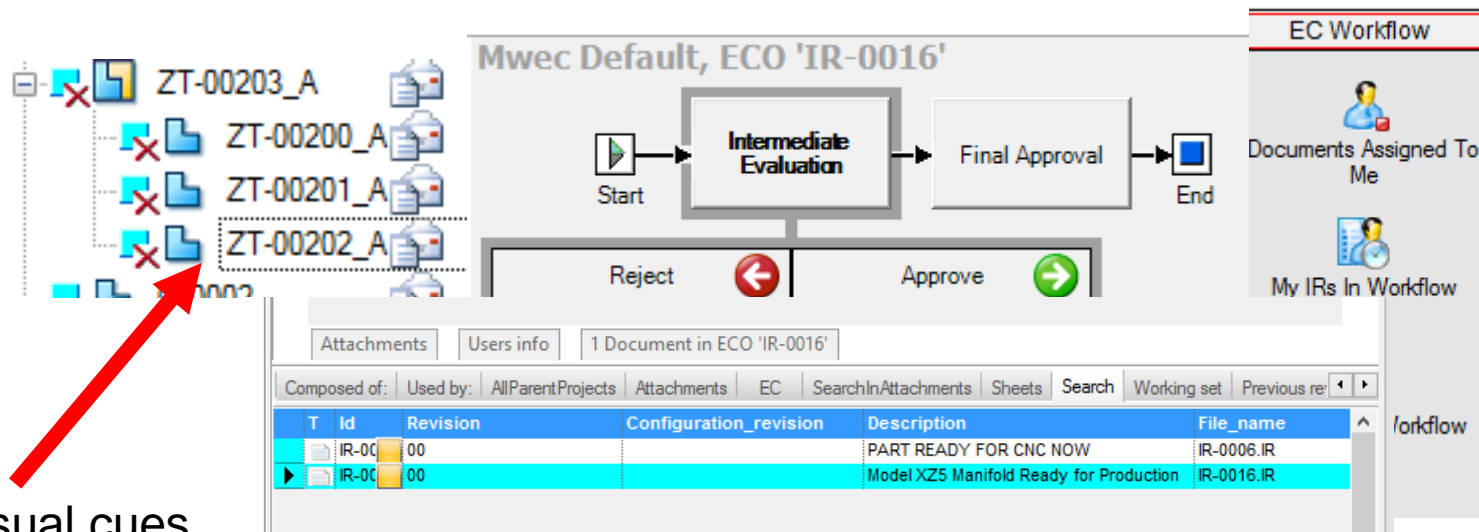
Terminate



Note: The yellow border designates saved but still in editable form.

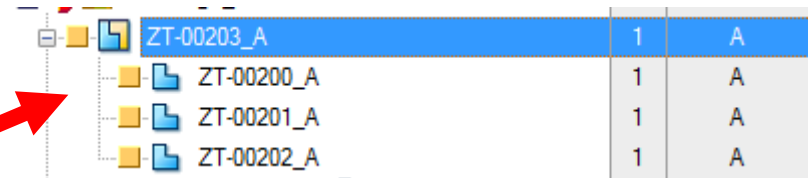
Initial Manufacturing Release

As always With MechWorks PDM, the user is presented information in easy to use graphical manner.



Note visual cues used to show IR exist

Once Work Flow is completed, documents are automatically released.

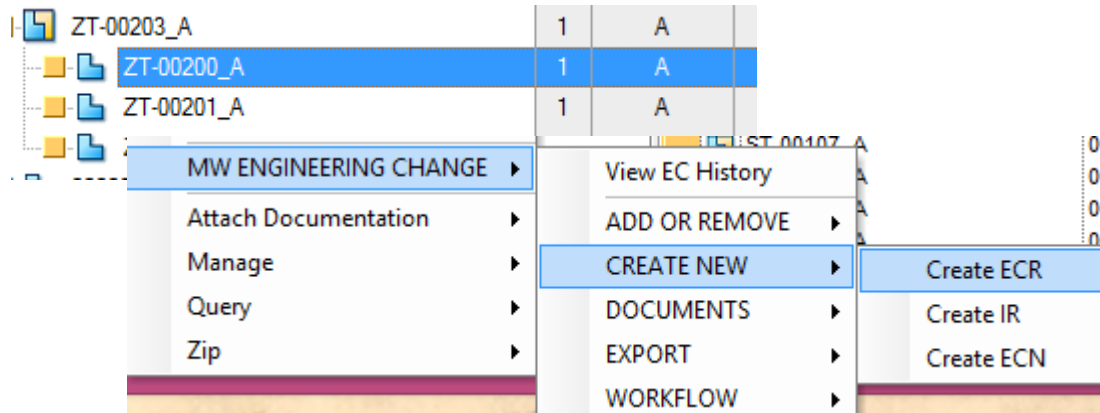


ZT-00203_A	1	A
ZT-00200_A	1	A
ZT-00201_A	1	A
ZT-00202_A	1	A



Engineering Change Request

The Engineering Change Request is a request to change something within the released manufacturing document. As well as engineering personnel, organizations can allow non Solid Edge users to “request a change”. The process is very easy. The document(s) are selected, right mouse click and select the create ECR menu item.



ECR Data Form

ID IMPLEMENTATION CREATION FILES SIGNATURES APPROVAL LIFETIME

ID ECR-0005

DESCRIPTION

INCORPORATING_ECN

REQUIRE_REVISION

REASON_FOR_CHANGE Cost Savings

USER_ASSIGNED

EC_STATE NEW

PRIORITY_STATUS 2

DOCUMENTS ATTACHMENTS

T	FILENAME	DESCRIPTION	REVISION	REVISIONS.DESCRPTION	UNIQUEID
P	ZT-00200_A.par	ZT-00200_A	A		294

Submit To Workflow Terminate OK Cancel Apply

The ECR form is also automatically populated with its ECR number, date, submitted by, all referenced/linked documents, and a continued history of events. The form also allows for organizations to add fields on topics and requirements they need or are relevant to them.

Engineering Change Request

With the ECR data form created and saved, it can be edited if needed, be submitted to a user-defined Work Flow, or terminated. Electronic notifications can be triggered by any or all of these events. Documents may have more than one ECR attached.

Submit to Work Flow

Terminate

Ec_type	Ec_state	In_workflow	Id	Description	Incc
ECR	NEW	<input type="checkbox"/>	ECR-0005	CAP WALL THICKNESS PROHIBITS FIT, NEEDS BIGGER DIAMETER OR THL...	
ECR	NEW	<input type="checkbox"/>	ECR-0006	CUSTOMER REQUESTS ALL CAPS TO BE THE COLOR RED	
IR	COMPLETED	<input type="checkbox"/>	IR-0016	Model XZ5 Manifold Ready for Production	

Note: The yellow border designates saved but still in an editable form.

Engineering Change Request

Once ECR the data form is submitted to the work flow, it will travel through the various states to be approved or rejected. If approved, it will stay attached until incorporated and the ECN has been completed.

T	Id	Revis...	Config...	Description	File_name	File_directory
	ECR-0002	00		make this bigger	ECR-0002.ECR	Y:\MechWorks_Pdm_Serv
	ECR-0006	00		CUSTOMER REQUESTS ALL CAPS TO B...	ECR-0006.ECR	Y:\MechWorks_Pdm_Serv
	ECR-0007	00		END NOZZLE INTERFERES WITH CASING	ECR-0007.ECR	Y:\MechWorks_Pdm_Serv

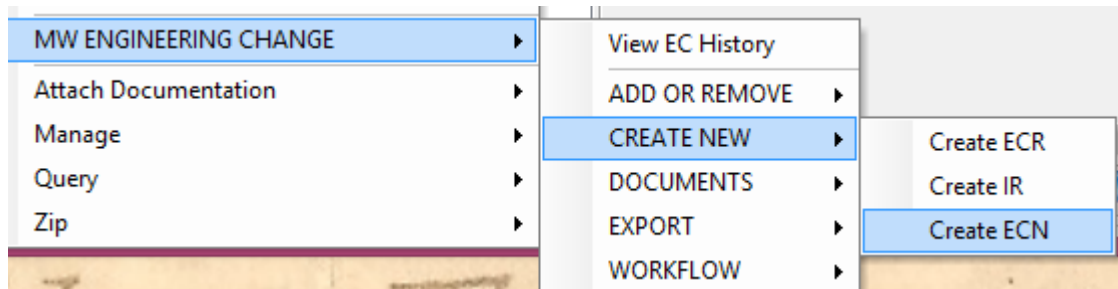
Visual cues used to show status

Ec_type	Ec_state	In_workflow	Id	Description
ECR	ACCEPTED	<input type="checkbox"/>	ECR-0...	CAP WALL THICKNESS PROHIBITS FIT, NEEDS B...
ECR	ACCEPTED	<input type="checkbox"/>	ECR-0...	CUSTOMER REQUESTS ALL CAPS TO BE THE C...
ECR	ACCEPTED	<input type="checkbox"/>	ECR-0...	END NOZZLE INTERFERES WITH CASING
IR	COMPLETED	<input type="checkbox"/>	IR-0016	Model XZ5 Manifold Ready for Production

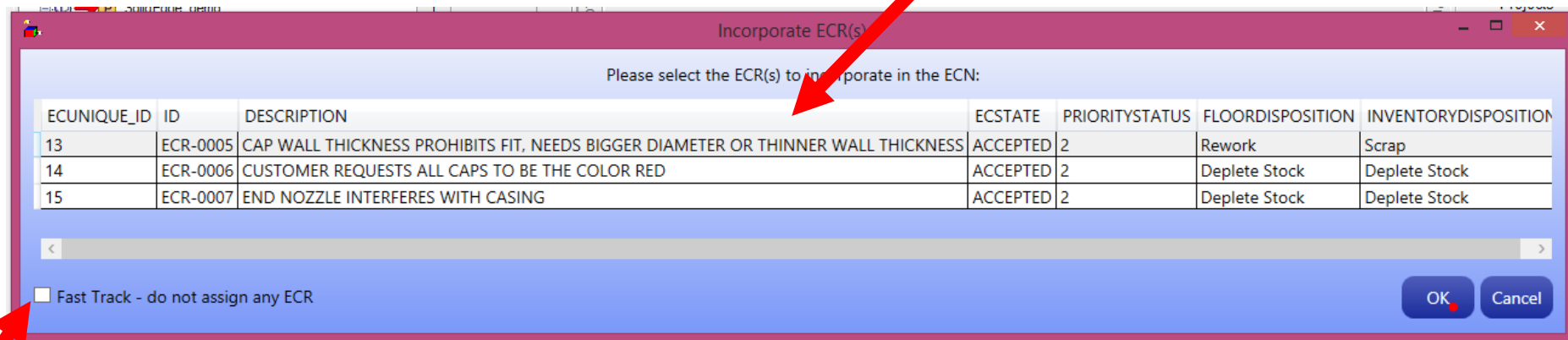
*

Engineering Change Notice

The Engineering Change Notice provides a structure to check that all needed changes have been done correctly and received the necessary approvals. Confirming all approved ECR's have been incorporated correctly.



Select which ECR's are to be incorporated.



Fast Track allows changes to bypass ECR's.

Engineering Change Notice

With the creation and saving of the ECN Data Form, it can be edited if needed, be submitted to the user defined Work Flow, or even terminated. Electronic notifications can be triggered by any or all of these events.

ECN Data Form

ID IMPLEMENTATION CREATION FILES SIGNATURES APPROVAL NOTES LIFETIME

ID: ECN-0009

EC_TYPE: ECN

DESCRIPTION: CAP WALL THICKNESS PROHIBITS FIT, NEEDS BIGGER DIAMETER OR THINNER WALL THICKNESS; CUSTOMER REQUESTS ALL CAPS TO BE THE COLOR RED; END NOZZLE INTERFERES WITH CASING

USER_ASSIGNED: []

REASON_FOR_CHANGE: Cost Savings

PRIORITY_STATUS: 2

EC_STATE: NEW

ID	DESCRIPTION	ECSTATE	PRIORITYSTATUS	FLOORDISPOSITION	INVENTORYDISPOSITION
ECR-0005	CAP WALL THICKNESS PROHIBITS FIT, NEEDS BIGGER DIAMETER OR THINNER WALL THICKNESS	PENDING	2	Rework	Scrap
ECR-0006	ALL CAPS TO BE THE COLOR RED	PENDING	2	Deplete Stock	Deplete Stock
ECR-0007	END NOZZLE INTERFERES WITH CASING	PENDING	2	Deplete Stock	Deplete Stock

Buttons: Submit To Workflow, Terminate, OK, Cancel, Apply

ECR's can be added, removed and viewed from the ECN data form.

ENGINEERING CHANGE NOTICE FORM				ECN #:	ECN-009
REASON FOR CHANGE		PRIORITY	INVENTORY DISPOSITION	FLOOR DISPOSITION	Implementation Date: 10/20/2016
<input checked="" type="checkbox"/> Redesign <input checked="" type="checkbox"/> Client Request <input type="checkbox"/> Cost Savings <input type="checkbox"/> Improving Quality	<input checked="" type="checkbox"/> 1 - High <input type="checkbox"/> 2 - Medium High <input type="checkbox"/> 3 - Medium Low <input type="checkbox"/> 4 - Low	<input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Deplete Stock <input checked="" type="checkbox"/> Rework	<input checked="" type="checkbox"/> Scrap <input type="checkbox"/> Deplete Stock <input type="checkbox"/> Rework	<input type="checkbox"/> Fast Track	
ID	ITEM MASTER DESCRIPTION	REV	REVISION DESCRIPTION	APPROVED BY	APPROVAL DATE
ECN DESCRIPTION			ECN APPROVAL HISTORY		
INCORPORATING ECR-0005, ECR-0006, ECR-0007			APPROVED BY	APPROVAL DATE	
			Engineering Department Manufacturing Department Quality Control Shop Floor		

On creation of the ECN Data Form, as with the other forms, a physical file i.e. Excel/Word document can be automatically generated.

Engineering Change Notice

Once the ECN has been approved through the Work Flow process, the document(s) are released at the new revision level.

T	Id	R...	Config...	Description	File_name	File_directory
	ECN-0009	00		CAP WALL THICKNESS PROHIBITS FIT, N...	ECN-0009.XLSX	Z:\VAULT\2016\ECN\

Id	Revision	State
ZT-00203_A	1	A
ZT-00200_A	1	B
ZT-00201_A	1	A
ZT-00202_A	1	A

Before Workflow Approval

Id	Revision	State
ZT-00203_A	1	A
ZT-00200_A	1	B
ZT-00201_A	1	A
ZT-00202_A	1	A

Completed Workflow, ECR's Incorporated and document released.

Ec_type	Ec_state	In_workflow	Id	Description	Incorporating_ecn
ECN	COMPLETED	<input type="checkbox"/>	ECN-0009	CAP WALL THICKNESS PROHIBITS FIT, NEEDS B...	
ECR	COMPLETED	<input type="checkbox"/>	ECR-0005	CAP WALL THICKNESS PROHIBITS FIT, NEEDS B...	ECN-0009
ECR	COMPLETED	<input type="checkbox"/>	ECR-0006	CUSTOMER REQUESTS ALL CAPS TO BE THE C...	ECN-0009
ECR	COMPLETED	<input type="checkbox"/>	ECR-0007	END NOZZLE INTERFERES WITH CASING	ECN-0009
ECR	TERMINATED	<input type="checkbox"/>	ECR-0008	ADD CAMOURFLAGED PAINT	
IR	COMPLETED	<input type="checkbox"/>	IR-0016	Model XZ5 Manifold Ready for Production	

MechWorks PDM keeps a history of all the Engineering Change data.

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Technical Support



PDM is what we do (**focus, focus, focus**)! Our technical staff has years of experience with PDM, attending training on all aspects of their required skills. Our training is accomplished at various centers or through training courses we purchase. These include, but are not excluded to, training on **MechWorks PDM**, Microsoft SQL®, .NET®, Microsoft Operating Systems, Solid Edge®, Inventor®, SolidWorks®, AutoCAD®, and the Microsoft Office products.

MechWorks PDM has technical support offices across the United States covering several different time zones. We are ready to provide help if needed.





Partnership



Our first goal is to fully understand and satisfy your organization's needs while sharing with you our 16 plus years of PDM knowledge. Our success is based on understanding the challenges and meeting them.

We look at all of our customers from the smallest to the largest as our PDM partners.

From top to bottom, our staff has years of experience across the full spectrum of industries.

It is our clear goal to accelerate your design cycle with a secure environment that promotes design integrity and to help you become successful with your Document Management needs.





Thank you for your time!

If you have any questions, please let us know. We would welcome providing a full product demonstration specific to your organizations specific needs.

Call us at 1-800-573-6183

<http://www.mechworks.com>

<http://www.na-ips.com>

<http://www.dbworks.us>