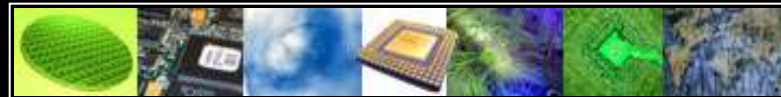




ScanCAD
INTERNATIONAL



Process Management Tools



Simplifying Complex Technology

Web Site: www.workinstructionsoftware.com
Email: candace.benson@scancad.com
Phone: 303-697-8888



ScanCAD
INTERNATIONAL

PM^{pro}works™

Process Management
Work Instruction Software

WIS

Ranking 

ProWorks™ is the #1 ranked
Manufacturing Work Instruction System
in the world for 2009 and 2010



Resources behind ProWorks...

- **Dover Corporation**
 - ProWorks IT Development Team
 - Global - 34 Reporting Companies
 - 50 Years Old
 - 29,000+ Employees
 - Public Company (DOV on NYSE)

ScanCAD International, Inc.

- ProWorks Distribution Team
- Global – 46 countries
- 20 Years Old
- Focused on Process Control Tools
- Partnered with Dover for WIS



DOVER CORPORATION

We are a diversified global manufacturer of value-added products and components that serve a variety of industrial and commercial markets including energy, product identification, material handling, communication components, electronic assembly equipment, mobile equipment, fluid solutions and engineered products. For over 50 years, Dover has been providing its customers with outstanding products and services that reflect the Company's commitment to operational excellence, innovation and market leadership. Today, Dover encompasses 34 reporting companies and over 29,000 employees around the world.

Connecting Our Strengths



ProWorks History



- ProWorks, Process Management Work Instruction Software, was developed in 1990s by one of Dover Corporations many reporting companies for internal use. The product was so successful within this organization that they rolled it out to many other Dover subsidiaries globally.
- November 2008, Dover made the product available to companies outside the Dover family.
- July of 2009, Dover and ScanCAD entered into a Strategic Partnership where ScanCAD distributes and supports the ProWorks family of products globally within the electronics industry.

ProWorks and ECT

Why did Everett Charles Technologies develop ProWorks?

- Needed to hire new employees to “ramp-up” production
- Production teams were created by pairing experts with new employees for training purposes
- Production needed to be shared across several locations



Results of ramp-up

- Productivity reduced
- Quality of products were diluted
- Breakdown of communication between Engineering and Production
- Defects in production were difficult to track without “evidential matter”, signed checklists were insufficient
- Product only as good as the person or team who built it – “People dependent processes”

ProWorks and Dover

Everett Charles Technologies – “There must be a better way” ...

We need a system...

- Central repository for all process related information
- Productivity measurement
- Closed-loop process control
- Historical knowledge database
- Must be paperless
- Train new hires and temps faster, the “right” way, without tying up the experts
- Communication tool for manufacturing floor
- Automate redundant or time consuming processes
- Better reaction to business cycles – “ramp”ability and “elastic capacity”



A ProWorks Customer Success Story

- In the mid 1990's , ECT was shipping six \$200,000 grid testers a week
- In the late 1990 to December 2000 they were down to shipping 3 testers a week
- From Jan 2001 to 2006 no orders were received. Over 300 manufacturing staff released and the dedicated plant closed
- In Mid 2006, a purchase order for two grid testers was received. Unfortunately, none of the current manufacturing staff had any idea how to build the testers nor had they even seen a previously built tester....!
- Fortunately, before the plant shut down all the technical data and build configurations were transferred into ProWorks.
- The current manufacturing staff stepped in, used ProWorks and built the two new testers to the same level of quality and in virtually the same time frame as the fully trained workers six years earlier...!

ProWorks demonstrated it's full benefit by teaching the staff how to build a complex product they've never seen before...Fast & High Quality.

A ProWorks Customer Success Story

- Multitest is in the process of moving some production from Europe to Asia (Malaysia & China)
- ProWorks has been used for years through out Multitest.
- All new hires at the new facility in Asia report to work “at a ProWorks view station”.
- All production for Multitest is performed with workers that are 100% trained on ProWorks.
- 100% of their production is managed and controlled through ProWorks. Employees log on to ProWorks when arrive and know exactly what they should be working on. Mgmt around the world can “see” as well.
- ProWorks permits Multitest to ramp production up and down... anywhere in the world... using any work force they wish... in any language they wish...!

The Multitest executive team returned from Asia two weeks ago after reviewing the production transfer process and were “stunned” at how smoothly the process is unfolding.

The benefit to their bottom line is extraordinary..!



ProWorks



It's Not Just Work Instructions!

It Disseminates and Collects Manufacturing Intelligence

A better documentation and data collection tool,
significant to building the foundation for *Lean*,
Six Sigma, *ISO*, *FDA* and other improvement,
regulatory or compliance programs

ProWorks 

Many applications outside the Shop Floor....

Anywhere a
procedure needs
to be followed

- » Shipping / Receiving
- » Purchasing
- » HR
- » Accounting

Dover companies use ProWorks in accounting for Sarbanes-Oxley (Sarbox or SOX) compliance. (Enacted July 30, 2002, also known as the Public Company Accounting Reform and Investor Protection Act of 2002)

PM WIS

Process Management
Work Instruction Software



ScanCAD
INTERNATIONAL

ProWorks Users

Today there are over 3,000 ProWorks Licenses Globally.

 ST. JUDE MEDICAL

 multitest

 Universal
Instruments

 Chiuson
Systems

 KM
WE

 Precision
Components



 Rasco

 ECT
EVERETT CHARLES
TECHNOLOGIES
A BINDER COMPANY



 LUTHER &
MAELZER

 HARBOR
ELECTRONICS, INC.

 DEK[®]

 atg[®]
test systems

 DowKey[®] Microwave
CORPORATION
A BINDER COMPANY



ProWorks Solutions

ET

SBS

LT

- Enterprise Solution (ET)
- Small Business Solution (SBS)
- Light (LT)

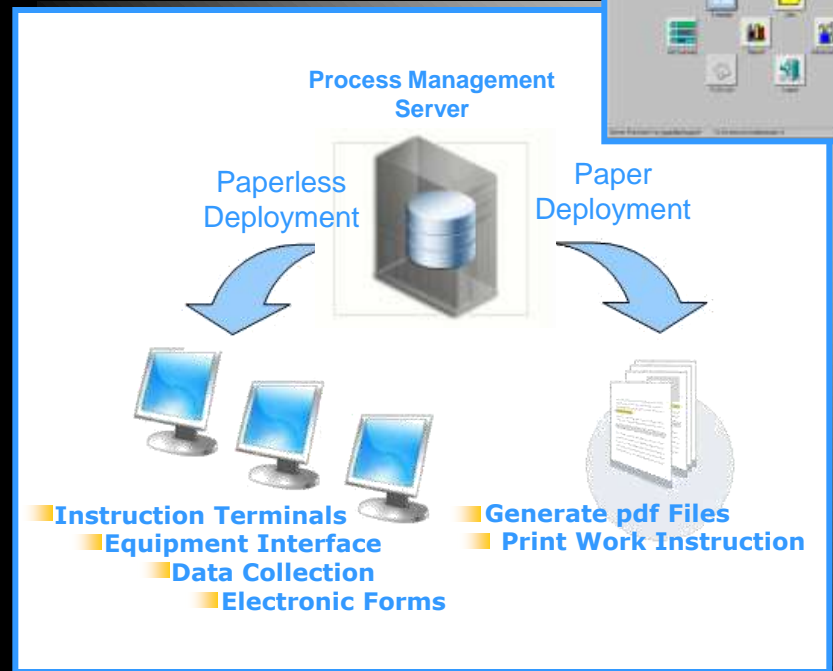
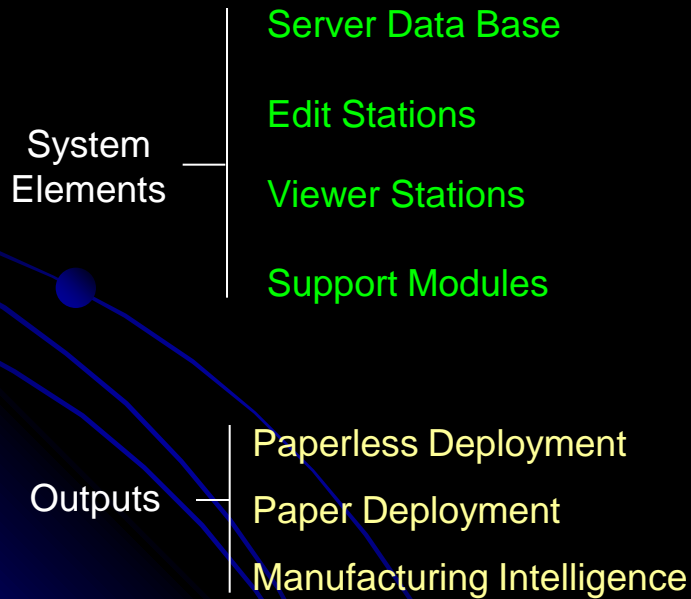
ScanCAD **WIS** products combine a dynamic blend of process management, work instruction and Manufacturing Execution Software (MES) that allows for the dissemination and collection of Manufacturing Intelligence (MI) on the shop floor.



ProWorks Enterprise Solution

Microsoft SQL Server Backend

Built on proven Microsoft technologies providing the highest levels of reliability for your business-critical applications while ensuring access to easy and cost-effective support and maintenance.



Simplify Work Instruction Generation

Centralize Data

Create highly detailed, standardized processes that are accessible from a central repository.

Simple and Efficient Editing

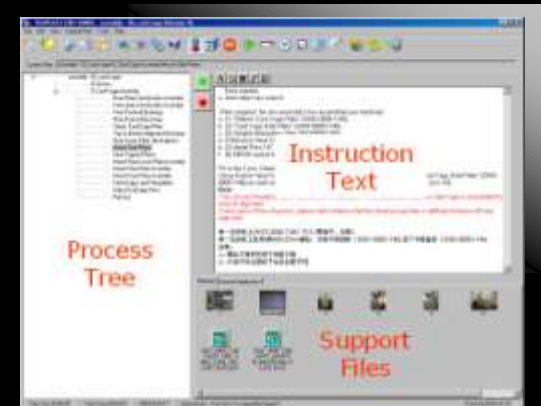
Drag & drop to add pictures, video, CAD files, etc. to describe the process.

Reuse Data

Link to existing documentation or existing databases when building processes.

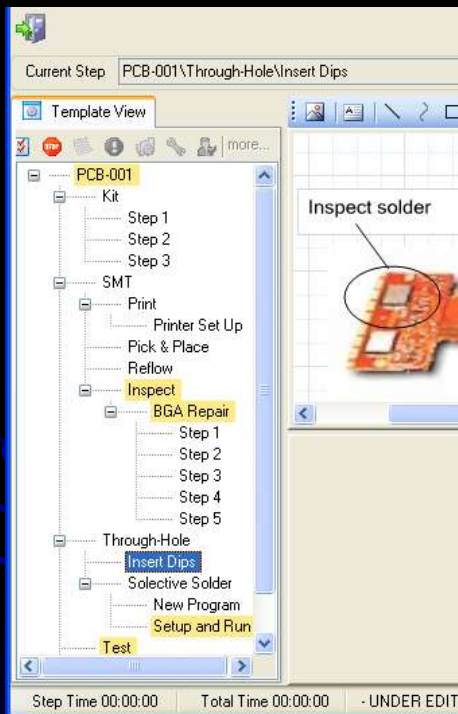
All Engineers use Common Data Base

Taking the “work” out of Work Instructions



Display: Pictures, Video, Drawings

Setup Product Templates (Trees)... quickly and efficiently



Template Toolbar



Click the "**New**" icon to create a new template.



Click the "**Open**" icon to open an existing template.



Use the "**Cut**", "**Copy**" and "**Paste**" icons to make edits to tasks and steps.



Use the "**Insert...**" buttons to quickly insert tasks/steps, pictures, support files and movies.



Use these icons to set the completion type for steps. The stop light icon indicates a PASS/FAIL step, and the checkmark icon indicates a COMPLETE step.



Use this icon to set a fixed sequence of tasks and steps.



Use the "**Edit...**" icons to define auto commands, user inputs, estimated time, options and trouble-shooting errors.



Use the "**Special Instructions**" icon to create special instructions for the user during job mode.



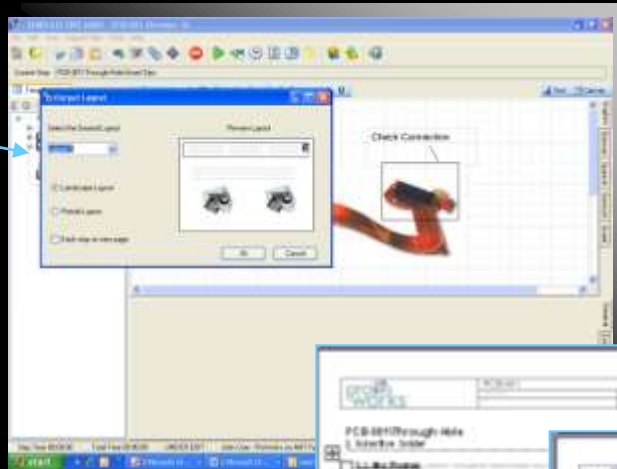
Use the "**View Edit History**" icon to view a list of edits made to the template.



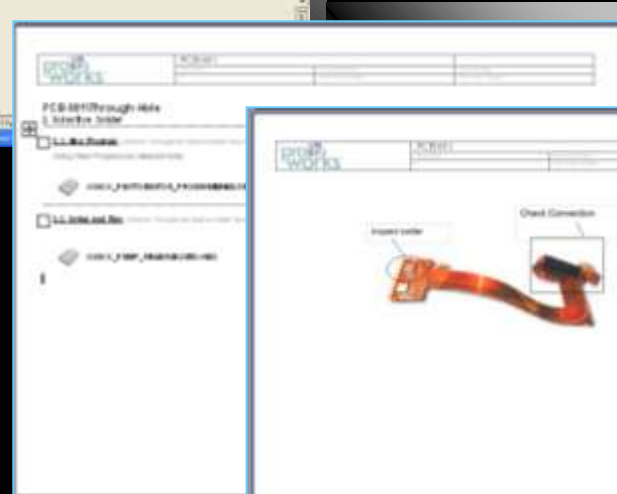
Use the "**Approve Changes**" icon to submit edits for manager approval (by a power user); manager may use the icon to approve and release the changes they have made to a template.

Auto Formatted pdf Outputs

Select Format



Auto Formatted pdf Outputs
Print Multiple Languages



Collaborative Information Portals

Information Portals

Collaborative interaction with engineers. Access to BOM, BOT drawings, videos, Work Orders.

Customize Screens

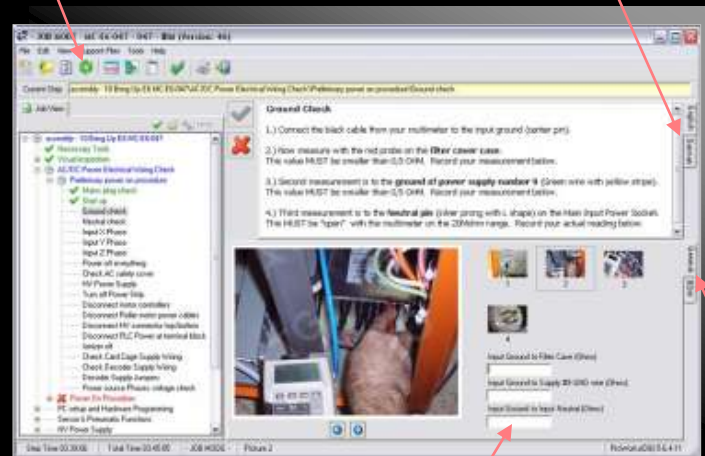
Add customized fields for data collection, set limits, connect to electronic forms and data bases

Customized Data Collection Windows

Link to Electronic Forms and Data Bases

Interaction with Engineers

Multiple language Tabs

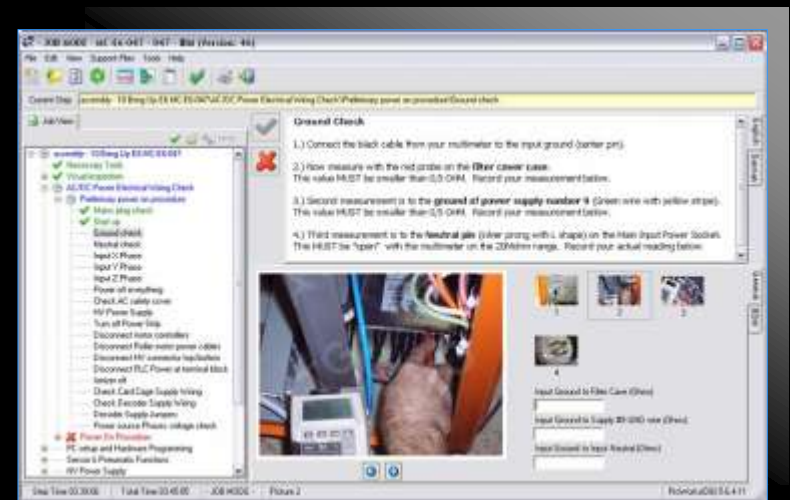


Customized Fields

BOM / BOT Tabs

Collaborative Information Portals

Two Portal Formats



Real Time Information (RTI) To and From Manufacturing

Revision Control

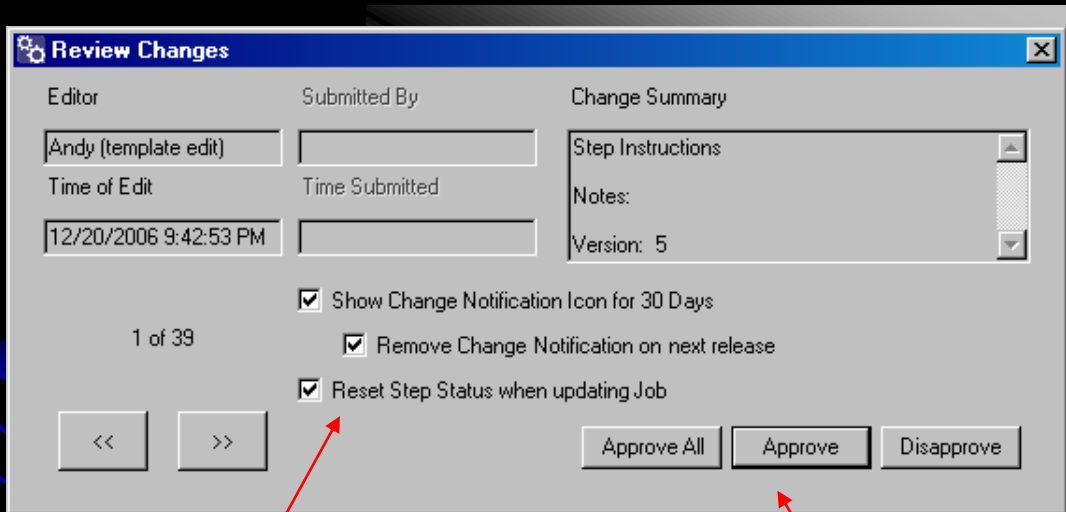
Revision Control

Built-in revision control; track how processes change and how the changes are published to end users

Traceability

Keeps track of all revisions

Electronic Sign Off



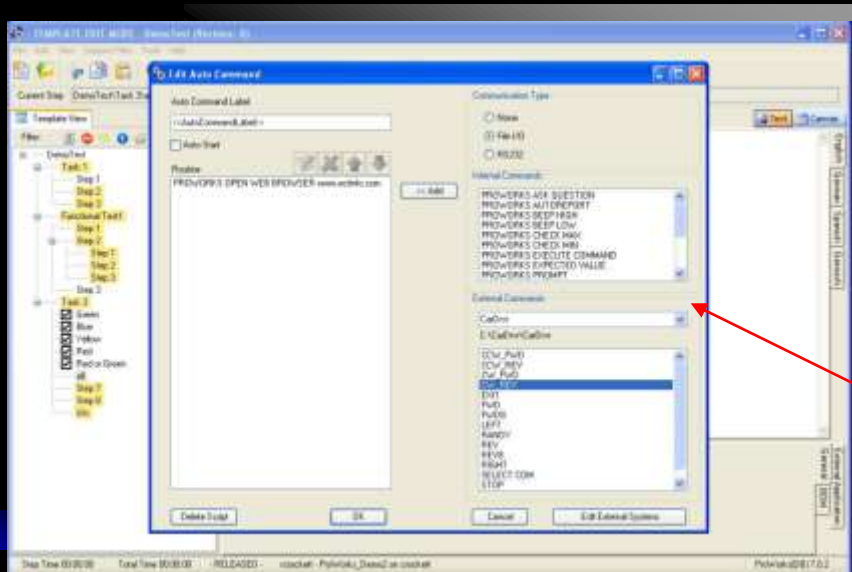
Control how you handle the release

Approve all changes or one at a time

- Drill down into the process to see what changed
- Option for handling work in process

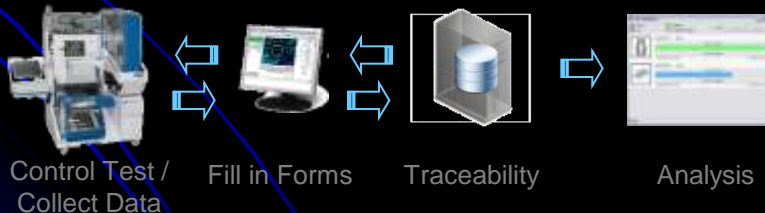
Dramatically Reduces the Time it Takes to Manage Work Instructions

Interact with External Applications and / or Machinery



Auto Commands
Interface allows ProWorks to be customized to interact with external applications and / or machinery.

- Communication Type
- None - File I/O - RS232
- Internal Commands
- External Commands



Auto Commands make it Easy to set up Data Collection Windows

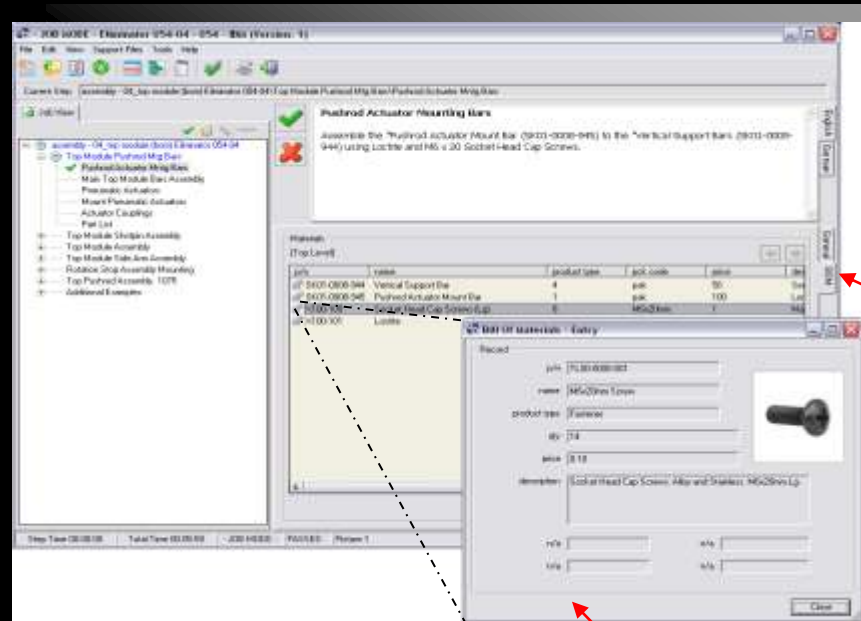
Bill of Material (BOM)

Automatically Import
 existing data from ERP, MRP
 and PLM systems to avoid data
 duplication, ensuring data
 accuracy and reducing cost of
 maintenance

Manually Input

**Add pictures and Part
 Profiles**

Add Bill of Tools (BOT)



BOM and
 BOT Tabs

Drill down into the BOM / BOT

*Up-to-date Information Available,
 with Drill Down Capability, to Manufacturing Personal*

Troubleshooting Database CAR / PAR Support

Troubleshooting Database

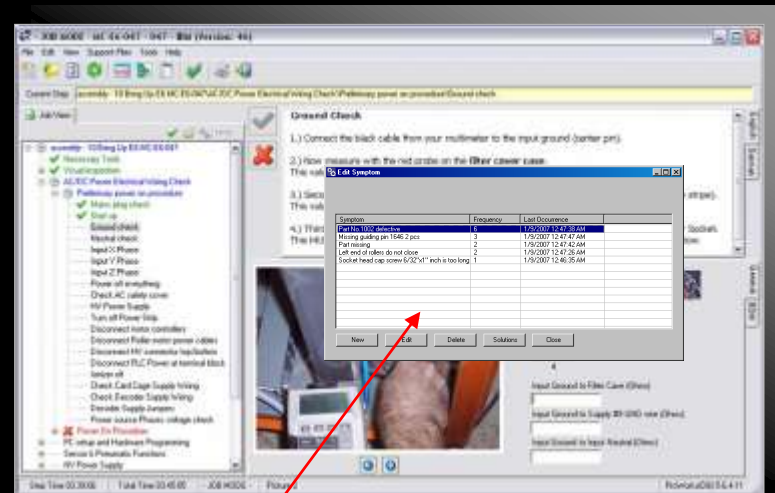
Build a troubleshooting knowledge base to provide "step-specific" problem solving tips based on previous failures.

CAR / PAR Support

Identify and address systemic issues with Corrective Action ticketing system for ISO compliance.

Symptoms and Corrective Actions

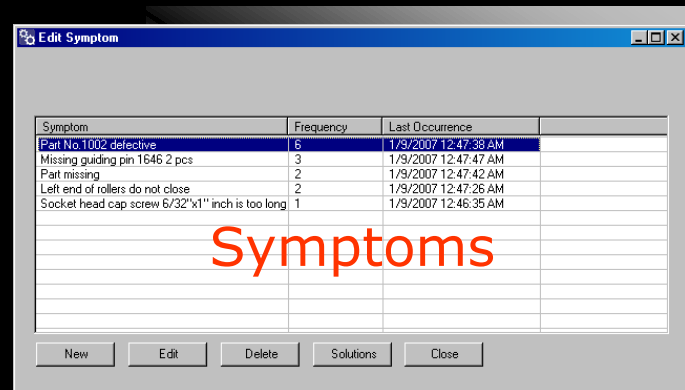
are collected and made available.



ProWorks' Symptom Window opens up if measurement is out of tolerance

Troubleshooting Database CAR / PAR Support

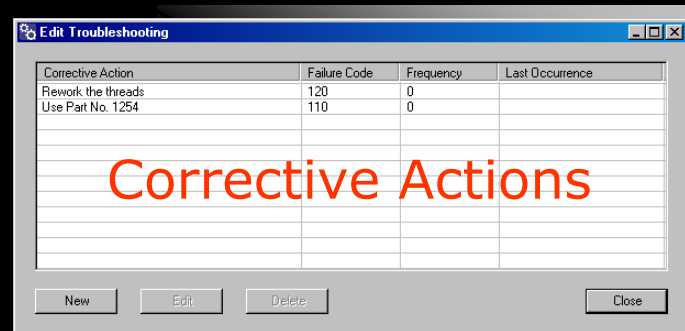
Symptoms -
 conditions of failure and
 frequency are collected for all
 steps that are not passed



Symptom	Frequency	Last Occurrence
Part No.1002 defective	6	1/9/2007 12:47:38 AM
Missing guiding pin 1646 2 pcs	3	1/9/2007 12:47:47 AM
Part missing	2	1/9/2007 12:47:42 AM
Left end of rollers do not close	2	1/9/2007 12:47:26 AM
Socket head cap screw 5/32"x1" inch is too long	1	1/9/2007 12:46:35 AM

Symptoms

Corrective -
 steps necessary to “fit”
 escape conditions are also
 saved and offered to the
 next person executing the
 same process



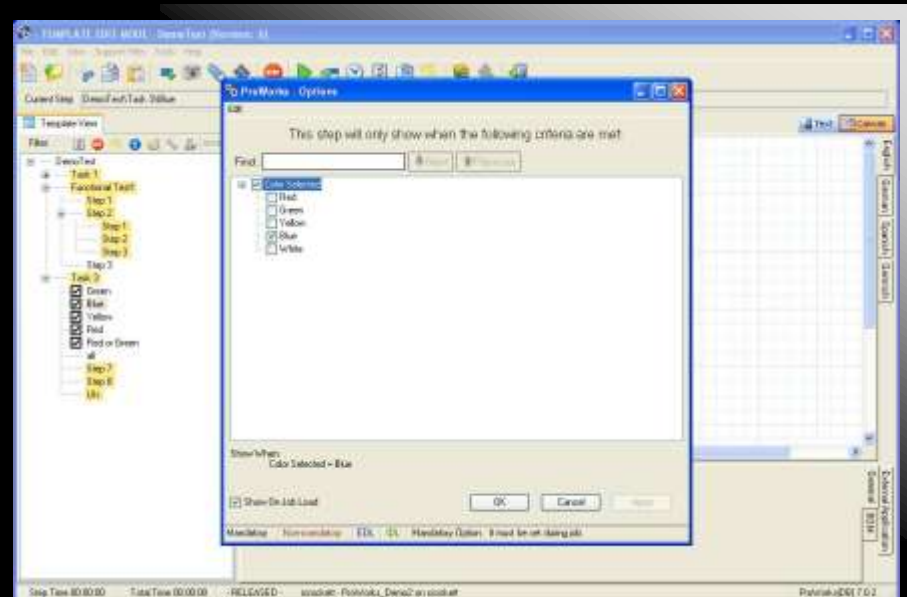
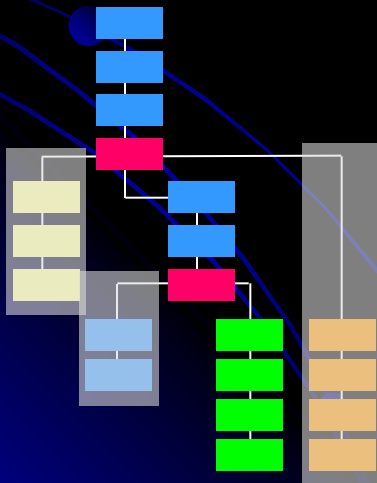
Corrective Action	Failure Code	Frequency	Last Occurrence
Rework the threads	120	0	
Use Part No. 1254	110	0	

Corrective Actions

*Data can be Mined for Continuous Improvement Initiatives.
 Turn Tribal Knowledge into Intellectual Capital!*

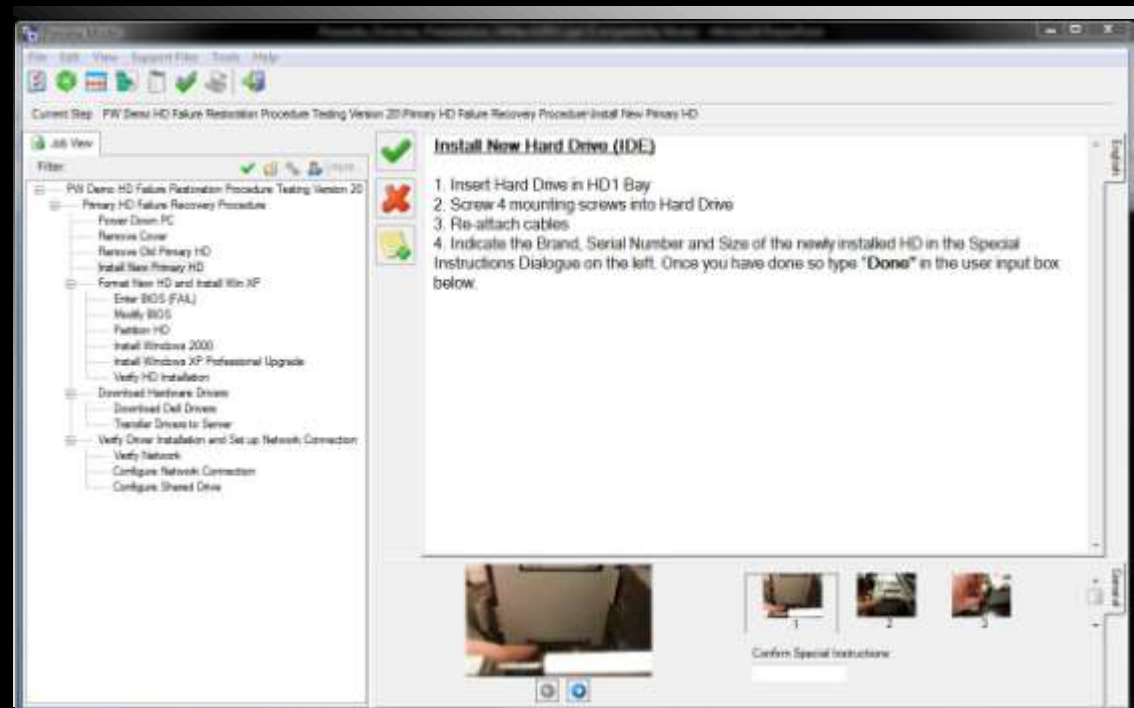
Configurations Options

Options - have the ability to display or hide groups of steps based on the configurations. This gives users the ability to only maintain one work instruction set for multiple configurations.



Special Instructions

Template authors may use the **Special Instructions** icon to prompt job processors to define instructions in one step that will be available in another step later in the process. Special Instructions are useful for job-specific information that cannot be determined prior to the process. This feature also allows EDL (External Data Link) and IDL (Internal Data Link) options; links are created in one step and made available to steps further on in the process, or on another template.





Records Work Being Done

Record Work Being Done

Pass and Fail condition recorded for each step, providing an audit trail for accountability

Traceability

ProWorks keeps track of all events on each step within a work order (operator, time stamp, start, complete, pass, fail, etc)

Punch List -

provides a snapshot of process variables and events. Monitor completion of key steps in a task

Drill into Processes



Step #	Level 1	Level 2	User	Status	Time Stamp	System	Exception
Output and verify file	CAFMT	Launch CAFMT	chryse	Passed	1/3/2007 11:35:30 PM		
Output and verify file	CAFMT	Input Smart Files	chryse	Failed	1/3/2007 11:35:40 AM		
Output and verify file	CAFMT	Some process work	chryse	Passed	1/3/2007 11:39:41 PM		
Output and verify file	CAFMT	Verify yield board outline	chryse	Passed	1/3/2007 11:39:44 PM		
Output and verify file	CAFMT	Check and Verify Smart File	chryse	Passed	1/3/2007 11:39:46 PM		
Returning Completed file							
Returning Completed file	Open SmartFile -SLS		chryse	Passed	1/3/2007 11:39:47 PM		
Returning Completed file	Fill out SmartFile-ES		chryse	Passed	1/3/2007 11:39:49 PM		
Returning Completed file	Add BOM processing results		chryse	Passed	1/3/2007 11:39:50 PM		
Returning Completed file	Get list of Staged Services		chryse	Passed	1/3/2007 11:39:51 PM		
Returning Completed file	Adding Staged devices to spreadsheet		chryse	Passed	1/3/2007 11:39:53 PM		
Returning Completed file	SmartFile Integrity Report -SLS spreadsheet		chryse	Passed	1/3/2007 11:39:55 PM		
Returning Completed file	Text Export, Fixing		chryse	Passed	1/3/2007 11:39:57 PM		
Returning Completed file	SMARTVCS		chryse	Passed	1/3/2007 11:39:59 PM		
Returning Completed file	BOM Search-EXE		chryse	Passed	1/3/2007 11:40:01 PM		
Returning Completed file	BOM Search-EXE	Select File	chryse	Passed	1/3/2007 11:40:01 PM		
Returning Completed file	BOM Search-EXE	Last File	chryse	Passed	1/3/2007 11:40:01 PM		
Returning Completed file	BOM Search-EXE	Create Report	chryse	Passed	1/3/2007 11:40:04 PM		
Returning Completed file	CAO2P-EXE						
Returning Completed file	CAO2P-EXE	Select Directory	chryse	Passed	1/3/2007 11:40:06 PM		
Returning Completed file	CAO2P-EXE	BAD Board Outline	chryse	Passed	1/3/2007 11:40:08 PM		
Returning Completed file	CAO2P-EXE	BAD Smart file	chryse	Passed	1/3/2007 11:40:10 PM		
Returning Completed file	CAO2P-EXE	Archive Options	chryse	Passed	1/3/2007 11:40:11 PM		
Returning Completed file	CAO2P-EXE	Archive File Name	chryse	Passed	1/3/2007 11:40:13 PM		

ProWorks Automatically Collects Data in the Background.

Event Notification

Event Notification

Email notification on critical events within the Process.

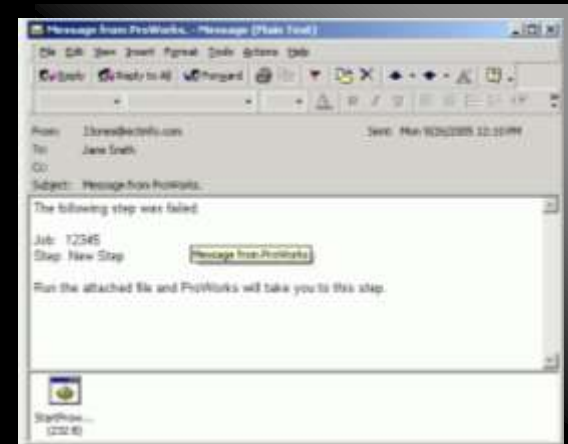
Notification of Step Status

There may be individuals that should be notified of the status of certain steps within a Template. For example, it may be important that a manager be notified if a certain step is failed. Other individuals may need to know if and when a certain step is passed or waived. The Template author has the ability to define rules for any step.

Receive Notification of Assigned Step

There may be steps in a Template that have been assigned to a specific user. During assignment, the Template author has the opportunity to specify that the assigned user be notified when the assigned step is about to be processed.

A Communication Tool for the Manufacturing Floor



Training

Standardized Training Tools

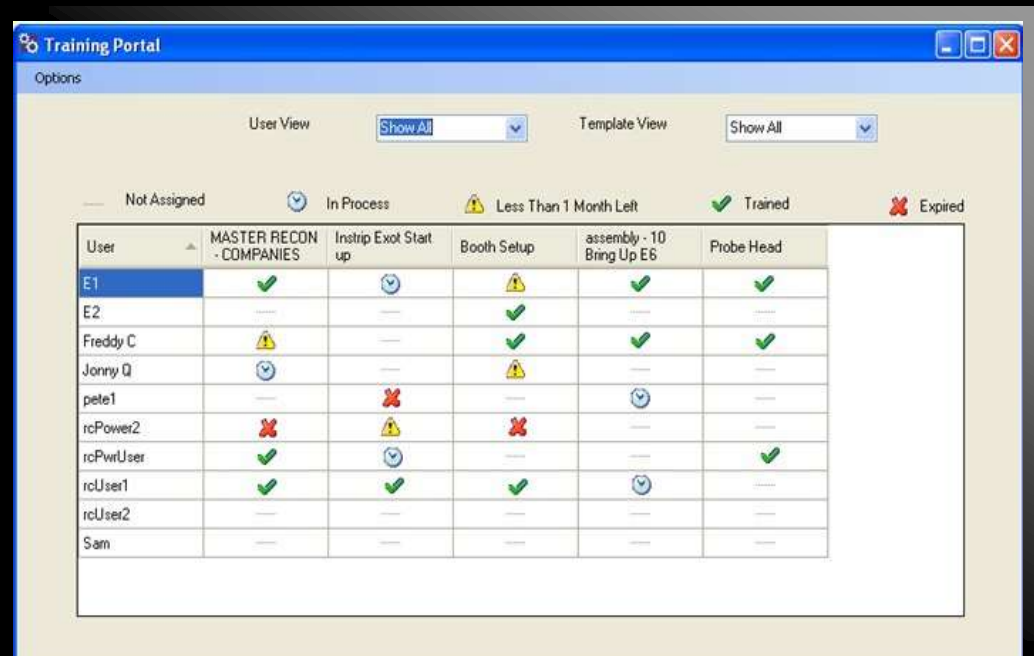
Standardized training tools for new hires, temps, and cross-training of "best practices".

Training Portal –

that Managers and Trainers can use to keep track of individual employee's training schedules and certifications. Training your workforce on actual production jobs takes the guesswork out of whether the individual was paying attention during the training process.

Equipment Calibration & Preventative Maintenance

This module can also be used to automatically initiate work orders and manage equipment oriented mile stones.



The screenshot shows the 'Training Portal' window with a table of user training status. The table has columns for User, MASTER RECON - COMPANIES, Instrp Exot Start up, Booth Setup, assembly - 10 Bring Up E6, and Probe Head. The rows list users: E1, E2, Freddy C, Jonny Q, pete1, rcPower2, rcPwrUser, rcUser1, rcUser2, and Sam. Each cell contains a status icon: green checkmark for 'Trained', blue clock for 'In Process', yellow warning triangle for 'Less Than 1 Month Left', and red X for 'Expired'.

User	MASTER RECON - COMPANIES	Instrip Exot Start up	Booth Setup	assembly - 10 Bring Up E6	Probe Head
E1	✓	🕒	⚠️	✓	✓
E2	—	—	✓	—	—
Freddy C	⚠️	—	✓	✓	✓
Jonny Q	🕒	—	⚠️	—	—
pete1	—	❌	—	🕒	—
rcPower2	❌	⚠️	❌	—	—
rcPwrUser	✓	🕒	—	—	✓
rcUser1	✓	✓	✓	🕒	—
rcUser2	—	—	—	—	—
Sam	—	—	—	—	—

Just like any other production job, the trainee must complete all the steps in the process and the trainer must acknowledge the product was completed properly by digitally signing off on the selected key authorization steps. This relieves managers from having to maintain a separate spreadsheet to track these schedules, and ensures that your employees get trained properly: the right way every time.

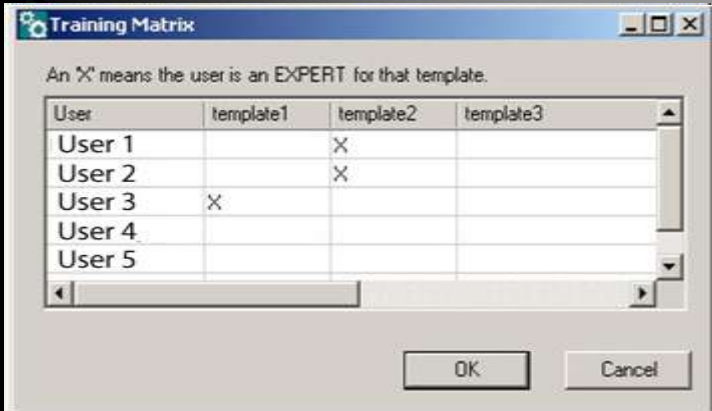
Expert / Novice Mode

Expert Mode Basics

As users become increasingly proficient at executing processes they may find that they no longer need the detailed step by step instructions that Template Editors (Process Engineers) provide. In fact, the detailed descriptions intended for people who are less familiar with the process, will work to slow the process down.

ProWorks accommodates the differences

between more experienced users and less experienced users with a feature called Expert Mode. Expert Mode allows Template Editors to flag steps that more experienced users may skip. These steps are referred to as "Novice Only" or "Information Only" steps and are denoted with the blue information symbol. Users can then be designated as "Experts" on the different templates. **When Users designated for a particular template reach a step that is marked as "Novice Only," ProWorks automatically waives the step.**



User	template1	template2	template3
User 1		X	
User 2		X	
User 3	X		
User 4			
User 5			

*Lower Skilled Workers Perform Higher Level Tasks
Because the Knowledge is in the Software.*



Work Orders

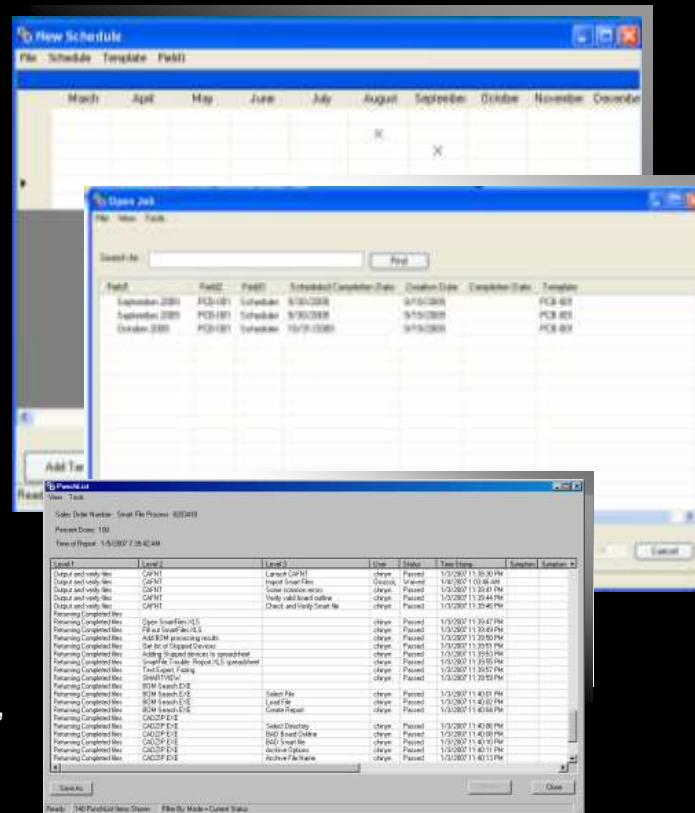
Generate and Schedule Work Orders in ProWorks and attach work instructions to the Work Order.

RMAs

Track and collect data on RMAs from receiving through return.

Traceability

ProWorks keeps track of all events on each step within a work order. (operator, time stamp, start, complete, pass, fail, etc)



Capture and Store Data into Work Orders.

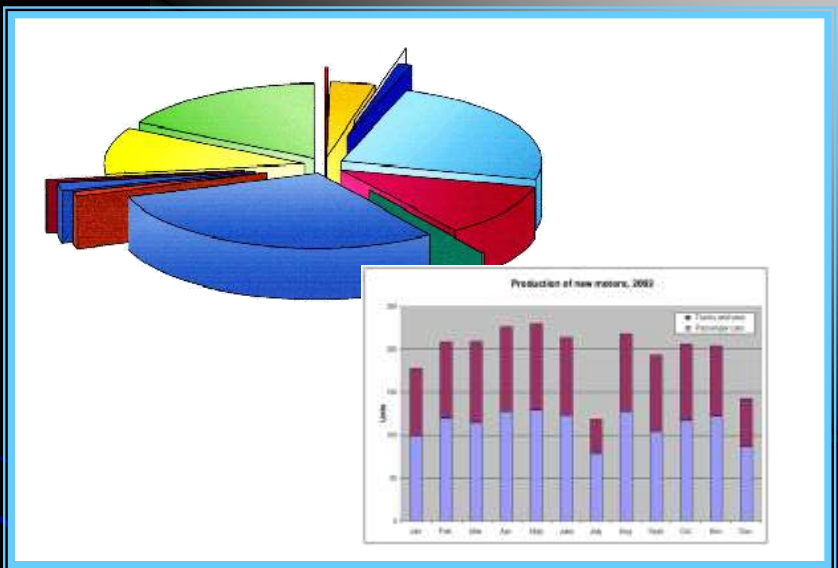
PM WIS

Process Management
Work Instruction Software



ScanCAD
INTERNATIONAL

Integrated Crystal Report Generation



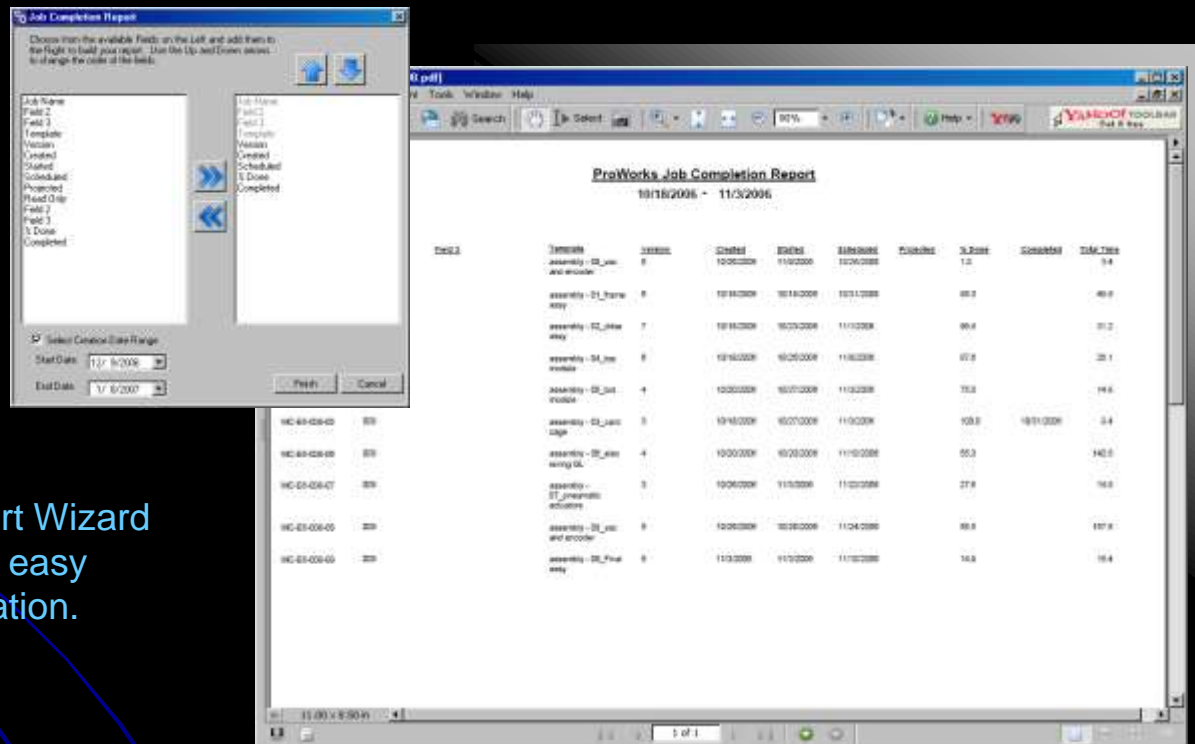
Integrated Crystal Report Generation

Crystal Report Wizard
for quick and easy
report generation.

Access with 'Other' Reporting Tools

SQL Server backend
allows easy access to
data for mining and 3rd
party reporting tools.

Report Generation



Job Completion Report

Choose from the available fields on the left and add them to the right to build your report. Use the Up and Down arrows to change the order of the fields.

Available fields (Left): Job Name, Field 1, Field 2, Field 3, Template, Version, Created, Started, Scheduled, Collected, Requested, Read Only, Field 1, Field 2, Field 3, Done, Completed.

Selected fields (Right): Job Name, Field 1, Field 2, Field 3, Done, Completed.

Start Date: 11/8/2006
End Date: 11/8/2006

ProWorks Job Completion Report
10/16/2006 - 11/3/2006

Job ID	Job Name	System	Created	Ended	Entered	Planned	Cost	Completed	Time
WC-60-06-02	assembly - 01_000	0	10/16/2006	11/02/2006	10/26/2006		1.0	Completed	14.4
WC-60-06-03	assembly - 01_000	0	10/16/2006	10/18/2006	10/11/2006		48.0		48.0
WC-60-06-04	assembly - 01_000	7	10/16/2006	10/29/2006	11/10/2006		86.4		86.4
WC-60-06-05	assembly - 01_000	8	10/16/2006	10/26/2006	11/02/2006		67.8		67.8
WC-60-06-06	assembly - 01_000	4	10/20/2006	10/27/2006	11/02/2006		75.0		75.0
WC-60-06-07	assembly - 01_000	3	10/16/2006	10/27/2006	11/02/2006		100.0	10/11/2006	100.0
WC-60-06-08	assembly - 01_000	4	10/20/2006	10/26/2006	11/10/2006		55.0		55.0
WC-60-06-09	assembly - 01_000	3	10/20/2006	11/02/2006	11/02/2006		27.8		27.8
WC-60-06-10	assembly - 01_000	8	10/20/2006	10/28/2006	11/04/2006		88.0		88.0
WC-60-06-11	assembly - 01_000	8	11/3/2006	11/3/2006	11/02/2006		14.0		14.0

Crystal Report Wizard
for quick and easy
report generation.

See What's Going On in the Process!

Analyze the Process



Track Processes in Real-Time

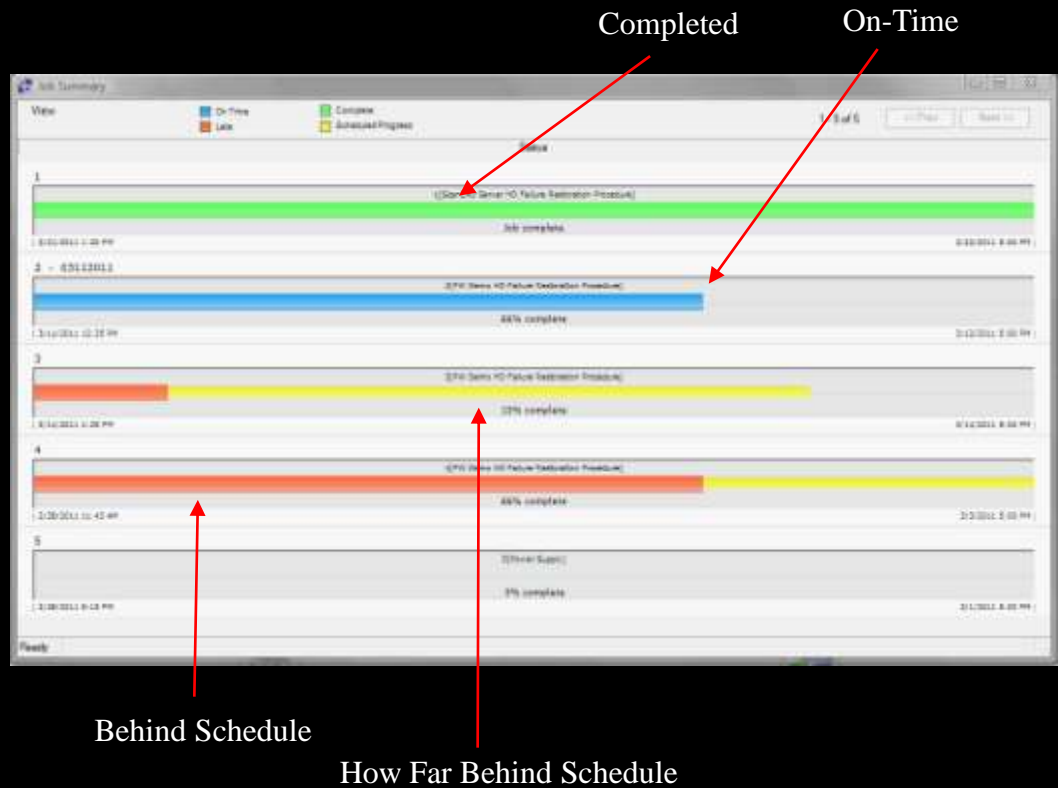
Schedule Processes and monitor them as they are being executed.

Takt Time

Elapsed time recorded at each step to identify bottlenecks.

Track Processes Visually

Job Summary provides real time job status in graphical format. Colors indicate whether job is complete (green bar), on-time (blue bar), or late (red bar), and how far behind schedule (yellow bar).

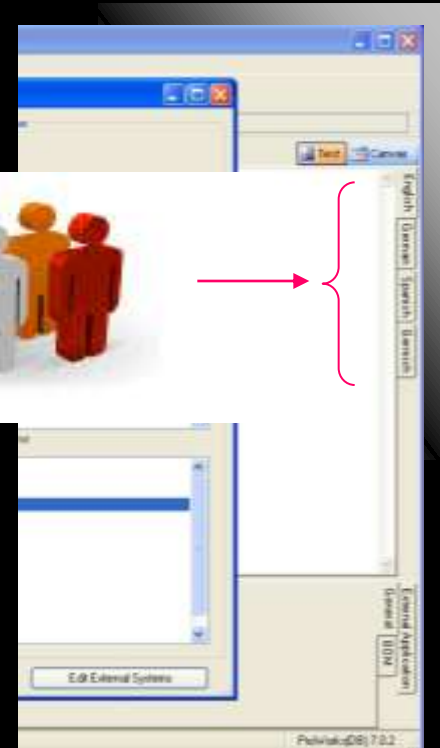


Data Visualization

Multiple Language Support

Multiple Language Support

Store work instructions in multiple languages and/or change the user interface to display different languages.



All Instructions, as well as all the buttons and text within ProWorks, are capable of displaying multiple languages. All language formats are supported; it's up to the individual companies to supply their own translations.

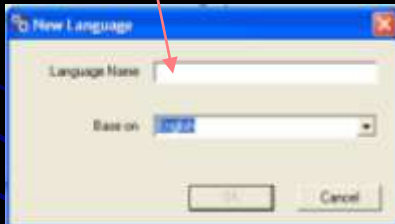
Chinese | Czech | German | Hungarian | Japanese | Korean | Vietnamese | Spanish (etc.)

Multiple Language Support

Adding a New Language

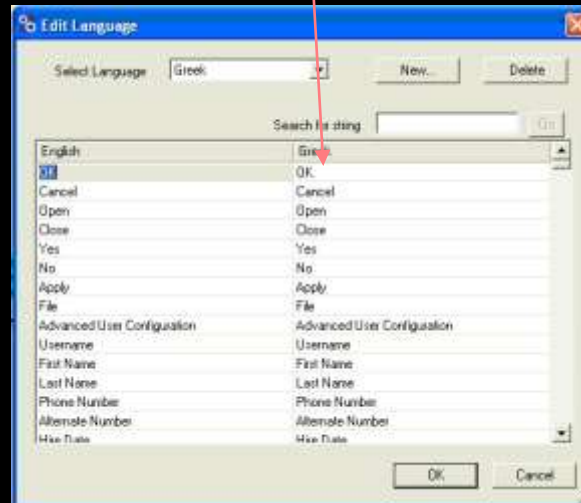
Step 1

Enter name of new language



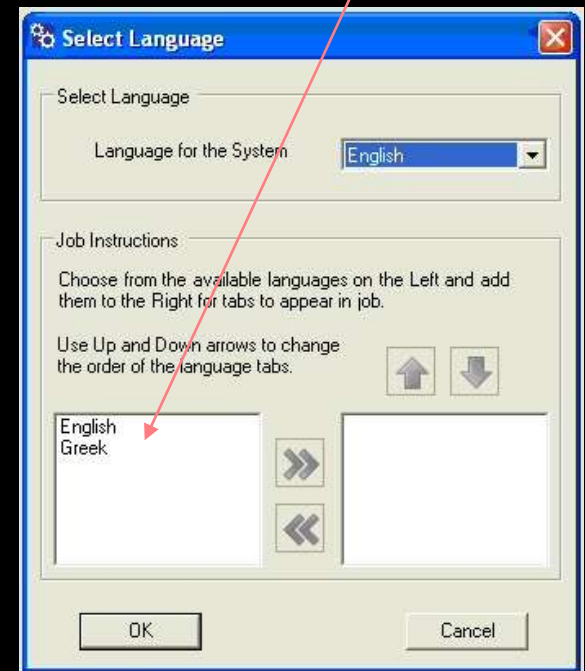
Step 2

Enter new language words for Icons



Step 3

Select languages to be display on side bar of viewer.



Deployment

Replicate Processes Across Regions

Share best practices or span production across jobsites, divisions and locations. Utilize low cost regions for manufacturing while maintaining tight controls over the production building process.

Send Processes to other Facilities

Import/Export for process portability, for standalone use or to send process to other facilities or suppliers.

Push-Button Rollout

Push-button deployment ensures end users receive and use the most current information.

Protect Data

Keep proprietary knowledge secure with water marking and encryption.

Fully Scalable

ProWorks Enterprise can grow with your business, allowing an unlimited number of users based on your needs.



ProWorks Benefits

Higher Quality -

- The process is performed the same way every time.
- The process is not people dependent.
- All QA checks performed to the same standard.

Improved Efficiency -


- Fewer mistakes are made.
- New users trained by software, not another user.
- Lower skilled workers perform higher level tasks because the knowledge is in the software.

Increased Productivity -

- Issues solved quickly.
- Repetitive functions can be automated.
- Users are guided through entire process.


Process Portability -

- Entire process with support documentation can easily be exported to other facilities.

 document

 deploy

 execute

 analyze



ProWorks - Results 

60-75%+

Reduction in Labor Costs is common due to shorter development / format times, faster processing of change orders

30%+

Reduction in Work Instruction Maintenance with integration to ERP/MRP/PLM systems, leveraging existing master product / process data

20-40%+

Operational Improvements from Documented Standard Work Processes and Manufacturing Errors (Reduced Rework/Scrap)

70%+

Reduction in Training Time for new Operational Employees

PM WIS
Process Management
Work Instruction Software

pro  works™

Integrating People, Equipment and Technology



This Revolutionary Technology Integration
will transform manufacturing everywhere.

Users find it easy, cost effective, and
light years ahead of their current solutions.



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