IoT is PLM

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June 8, 2016

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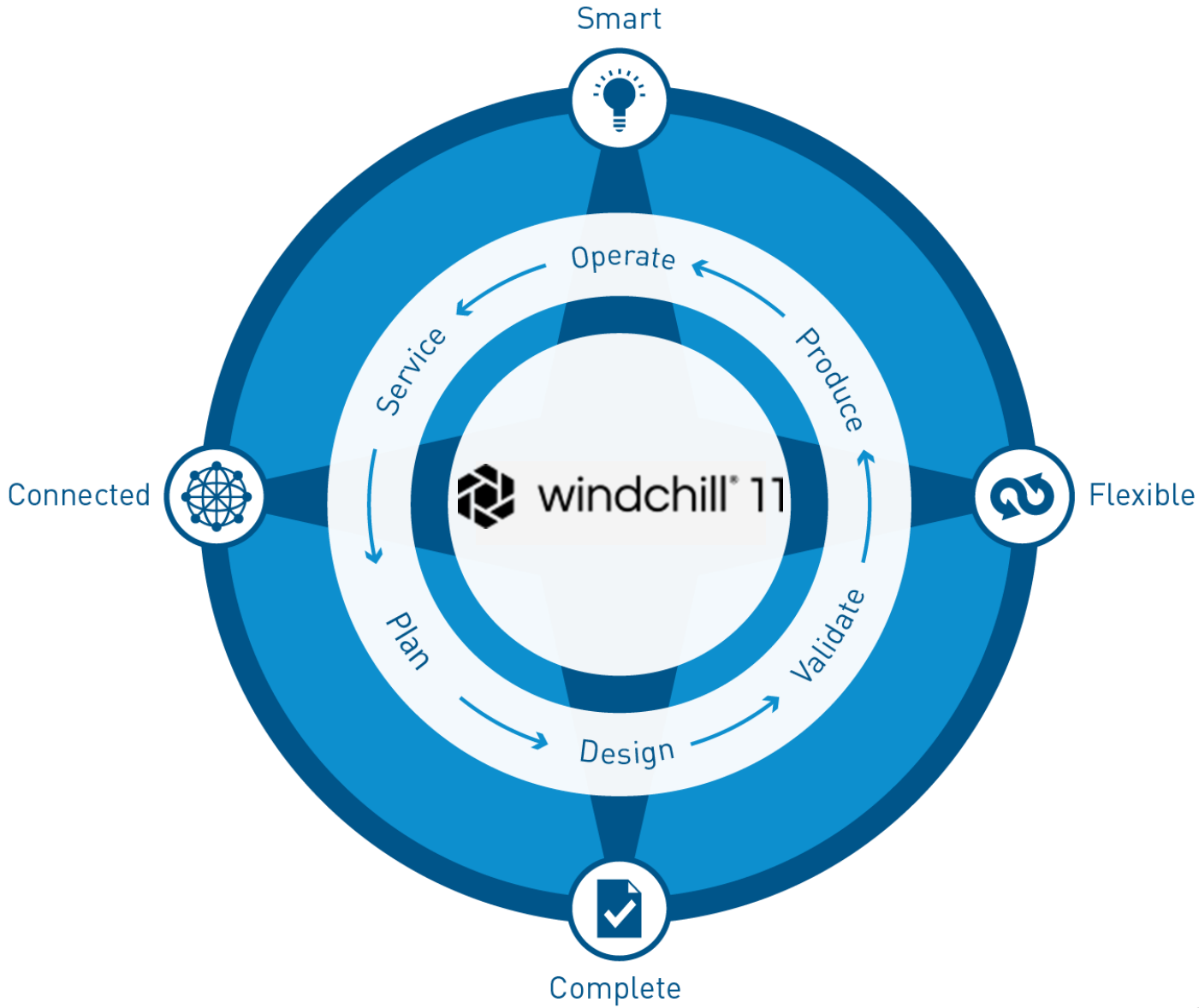
AGENDA

- ❑ Introduction – The evolution of PLM
- ❑ PLM Extensions for ThingWorx
- ❑ Leveraging ThingWorx mash-up in Windchill 11
- ❑ Use Case examples
- ❑ Conclusion & Q&A

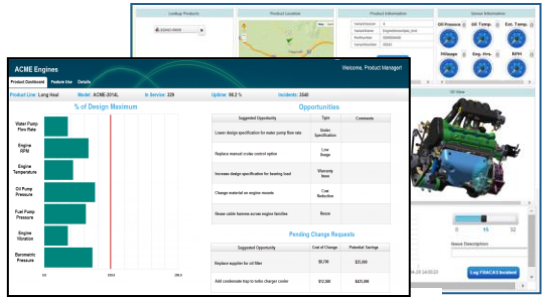
THE EVOLUTION OF PLM

PTC® Windchill® 11

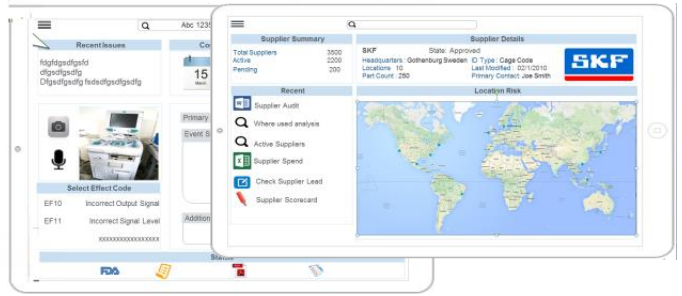
Smart Connected PLM



PTC CONNECTED ENTERPRISE APPLICATIONS



Connected

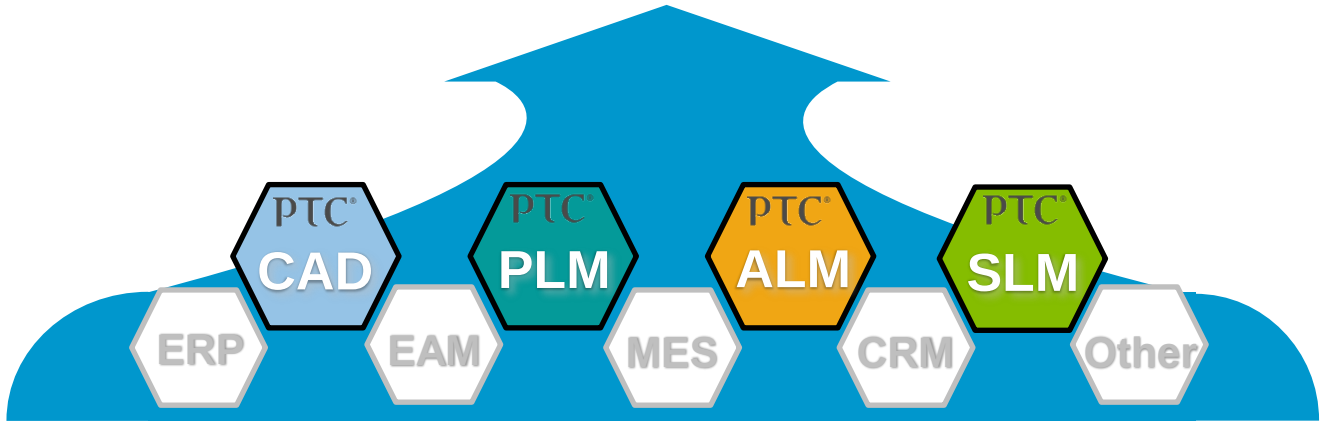


Rapid Development

Augmented Reality

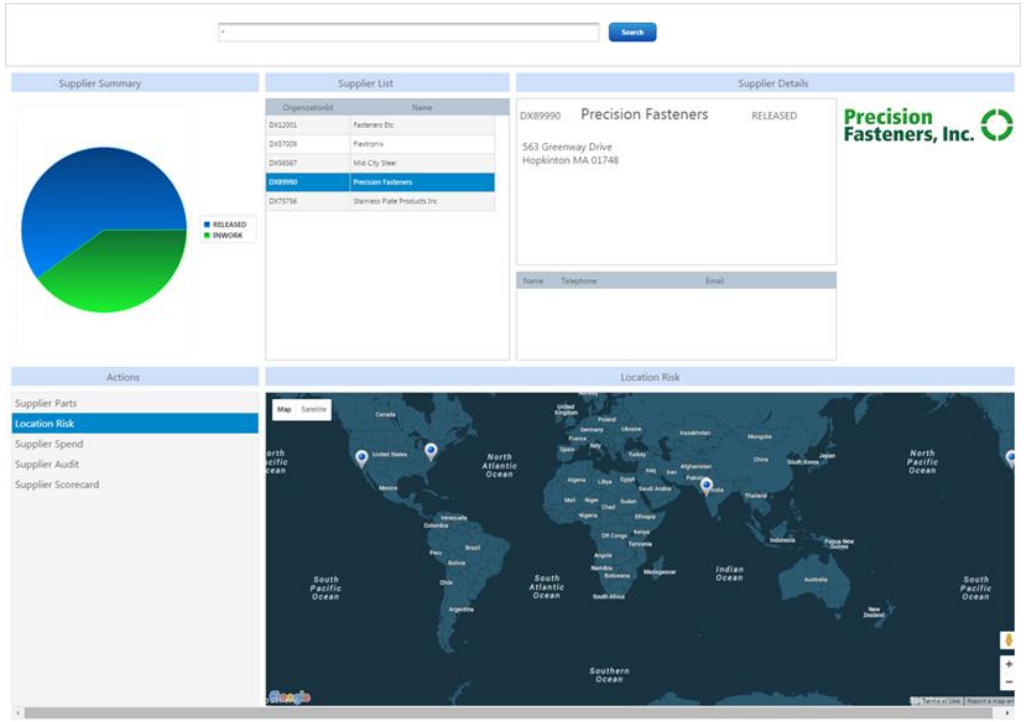
PTC Solution Extensions

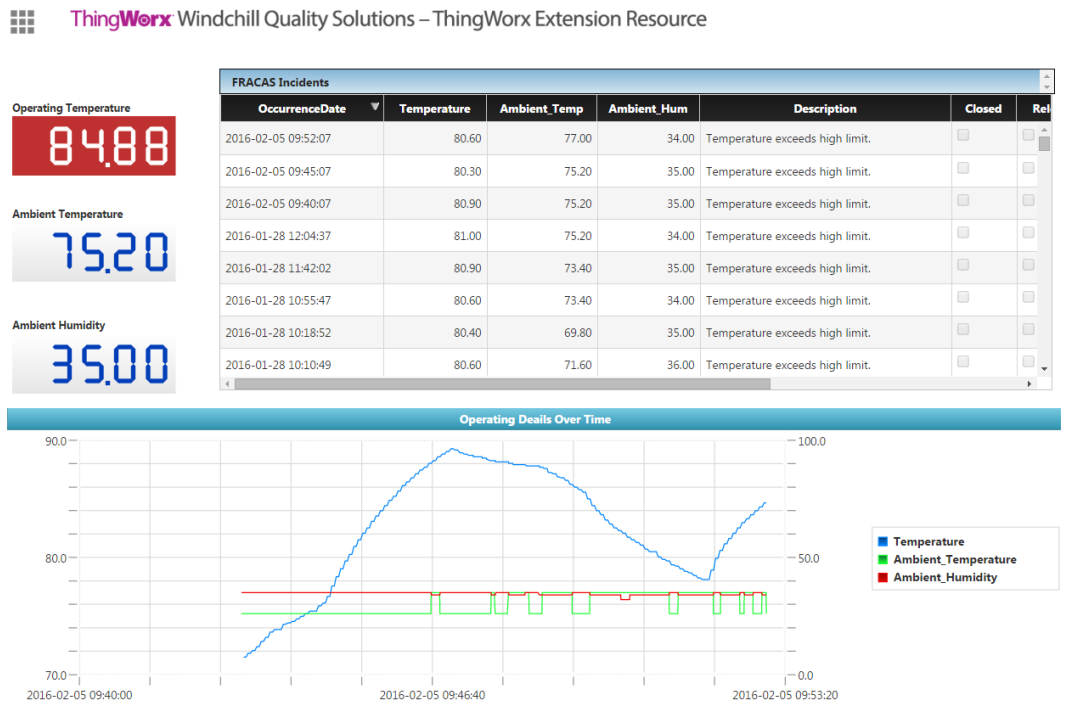
Introduction to PTC Navigate
Wednesday June 8, 8AM room 209



PTC® Windchill® 11
Smart Connected PLM

PLM EXTENSIONS FOR THINGWORX





Windchill Extension for ThingWorx

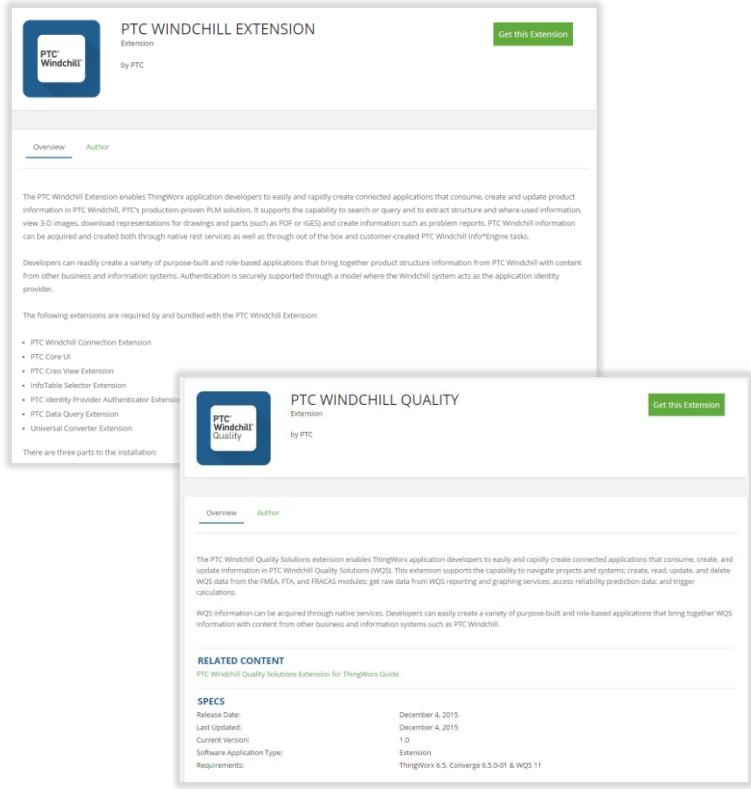
Quickly and easily leverage product information managed in Windchill

Windchill Quality Solution Extension for ThingWorx

Learn from the product's operational behavior

PLM EXTENSIONS FOR THINGWORX

- Platform Support *
  - Windchill 10.2 M020 or later, and 11
  - Windchill Quality Solution 11
  - ThingWorx 7.1
- Available from [ThingWorx Marketplace]
- Pricing/Licensing
  - No cost for Windchill Extensions
  - Customer must have requisite Windchill and ThingWorx licenses or PTC Navigate “App Dev Kit” to support capabilities exposed.

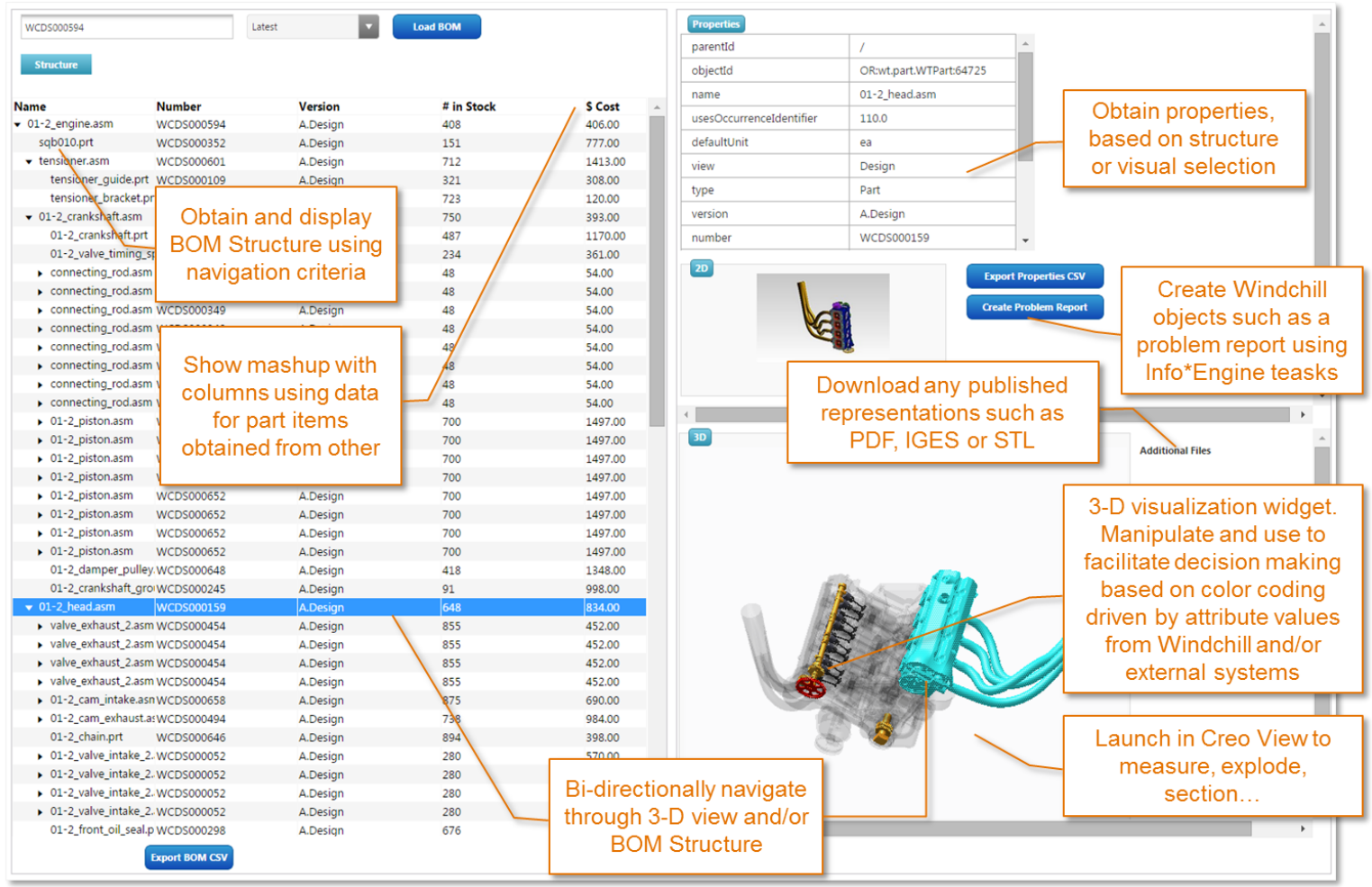


- Leverage Windchill Extension to extend PTC Navigate with “App Dev Kit” Navigate Add-on License
  - Full use of ThingWorx composer for application & widget development
  - Exclude “Connected Devices”

* *Check compatibility Matrix on PTC.COM*

TECHNICAL CAPABILITIES
WINDCHILL EXTENSION FOR THINGWORX

- Access Windchill BOM information
- Access Windchill properties
- Get published formats
- Specialized “widgets”
  - Structure tree table
  - Creo View visualization
- Info*Engine task service wrappers
  - Execute out of the box Info*Engine Tasks
  - Execute custom Info*Engine Tasks



TECHNICAL CAPABILITIES
WINDCHILL QUALITY SOLUTION EXTENSION FOR THINGWORX

- Create, Read, Update and Delete for all “web based” WQS data
  - FMEA, FTA, FRACAS
- Access to Reports and Graphs
  - Raw data from WQS reporting and graphing available through API
- Visibility of Reliability Prediction Data

PUTTING IT TOGETHER …
WINDCHILL EXTENSIONS FOR THINGWORX

LIVE WORX 16

Bi-directional connection to:

Connected - Tailored - Actionable

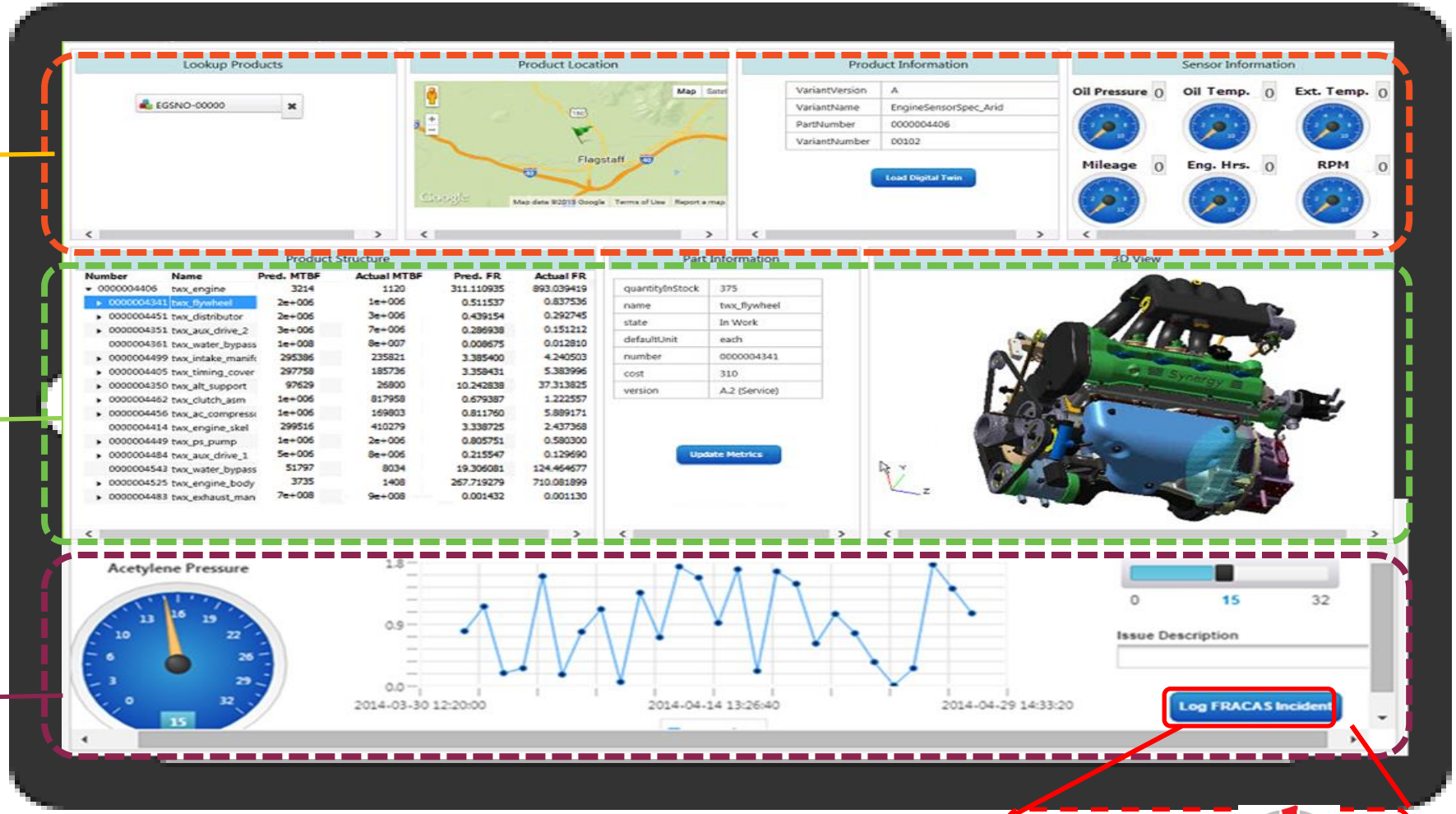
Connected Devices

Model 205 SN 001 — Model 205 SN 002 — Model 205 SN 003

Windchill

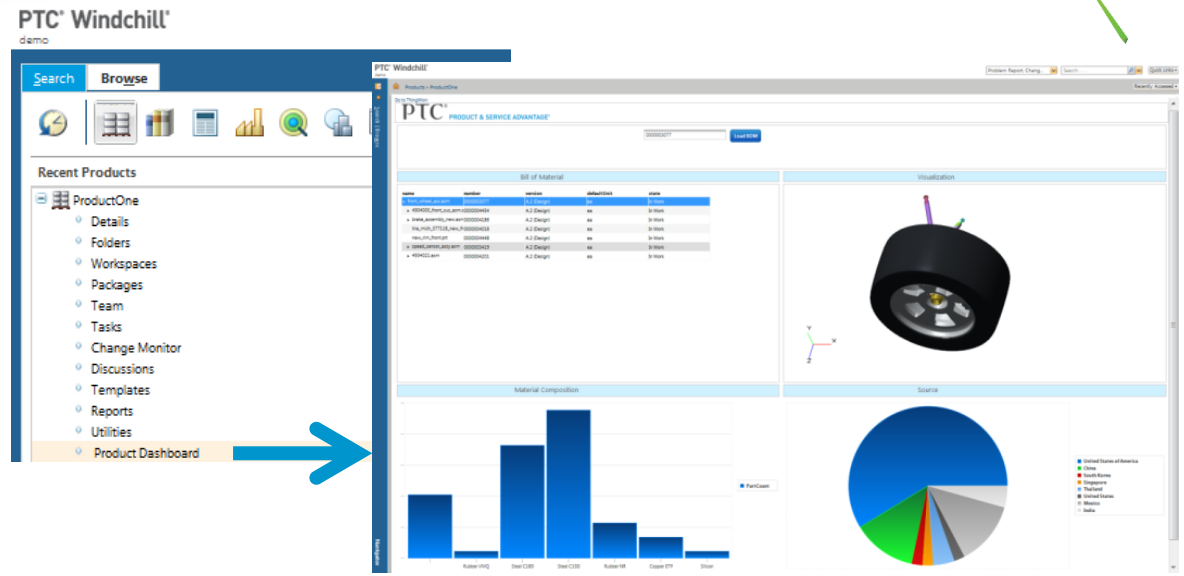
Windchill Quality Solution

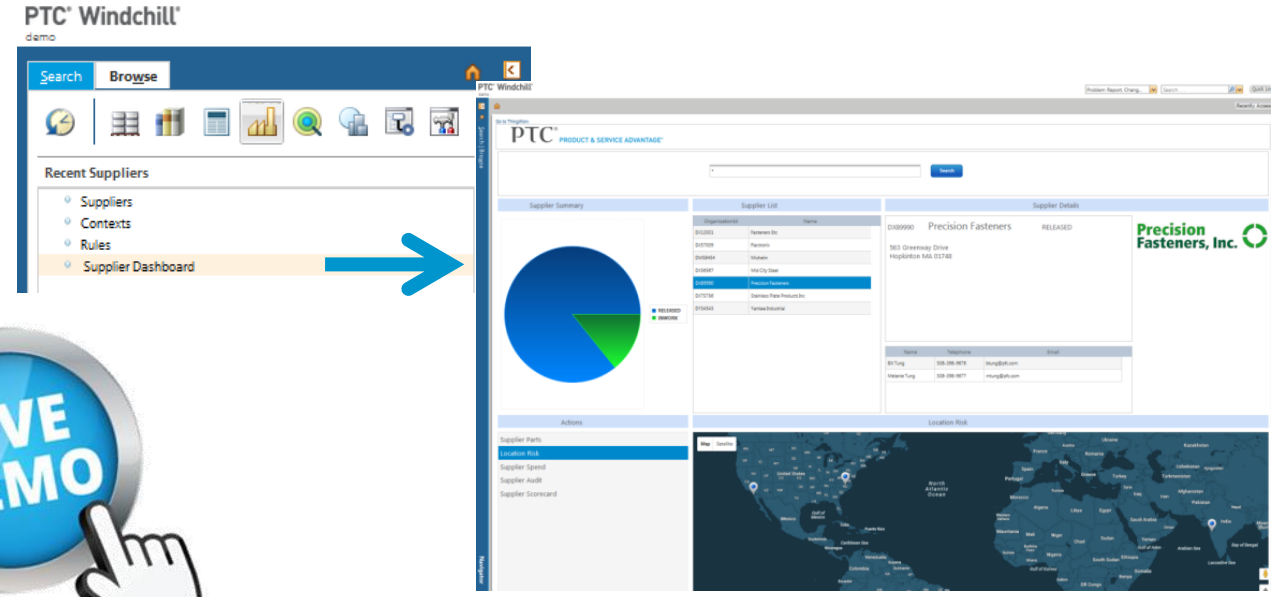
Alerts, Trends, MTBF, Charts, Reports, Projects



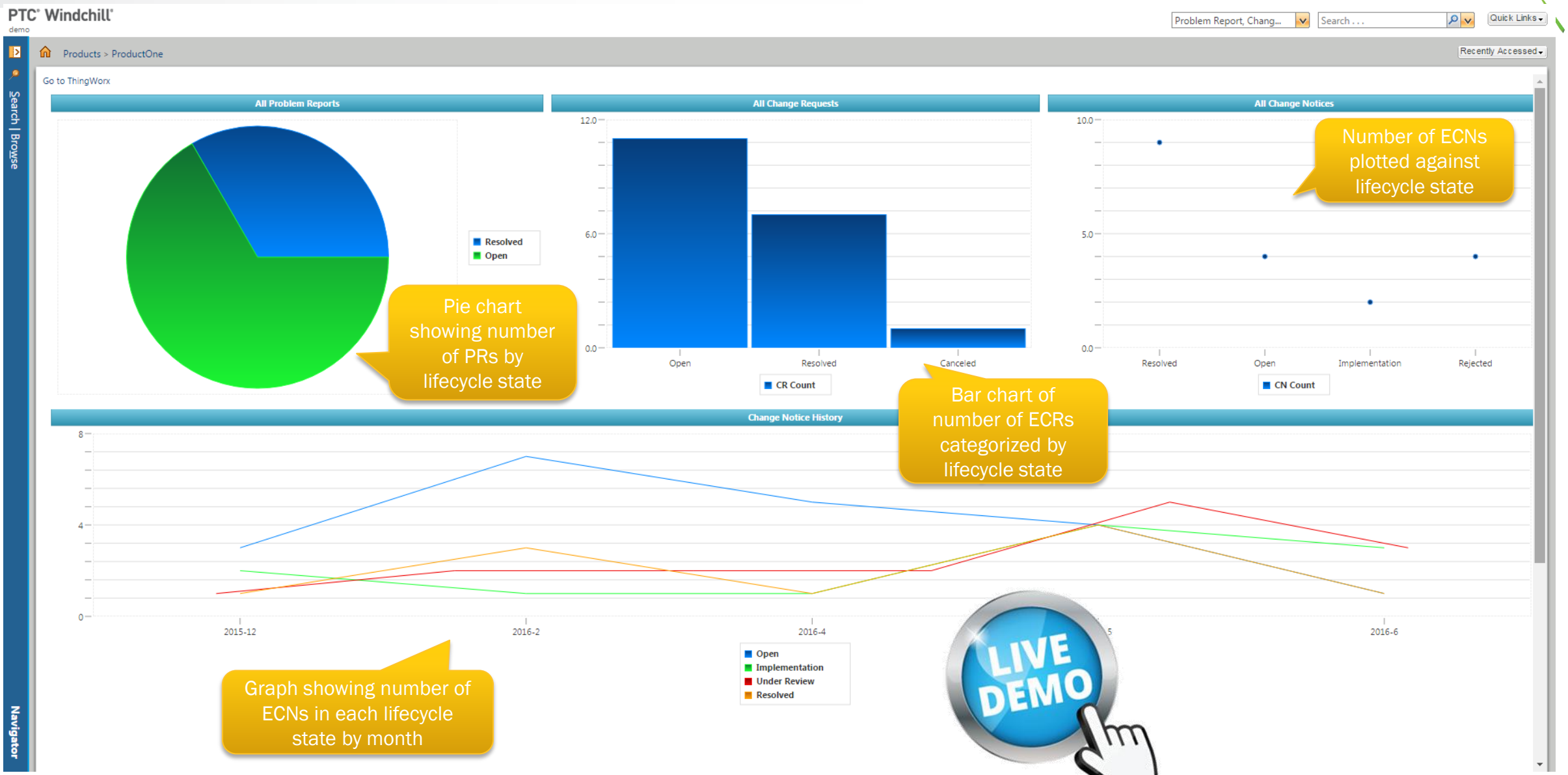
LEVERAGING THINGWORX MASH-UP IN WINDCHILL 11

- Windchill 11 UI allows embedded ThingWorx mashups
- Add actions calling ThingWorx mashup to :
  - Container navigation
  - Info page tabs
  - Home page tabs
- Supported via enhancements to Action and Action Model framework

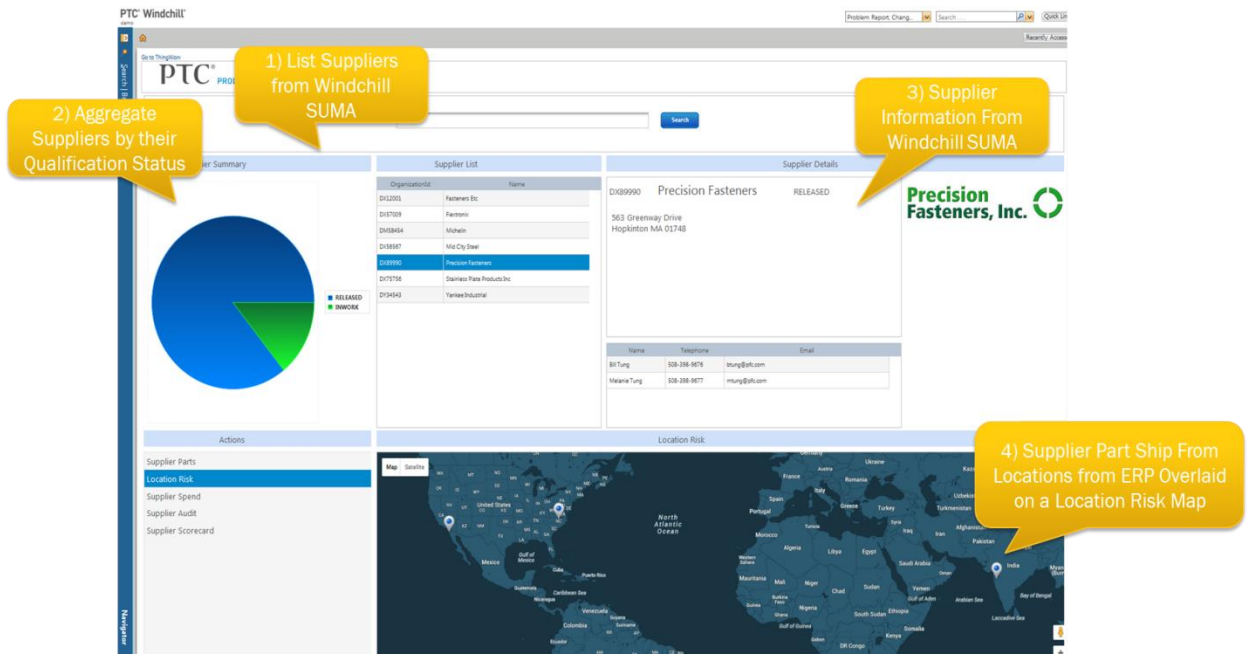




PLM DASHBOARD USE CASE – CHANGE PROCESS



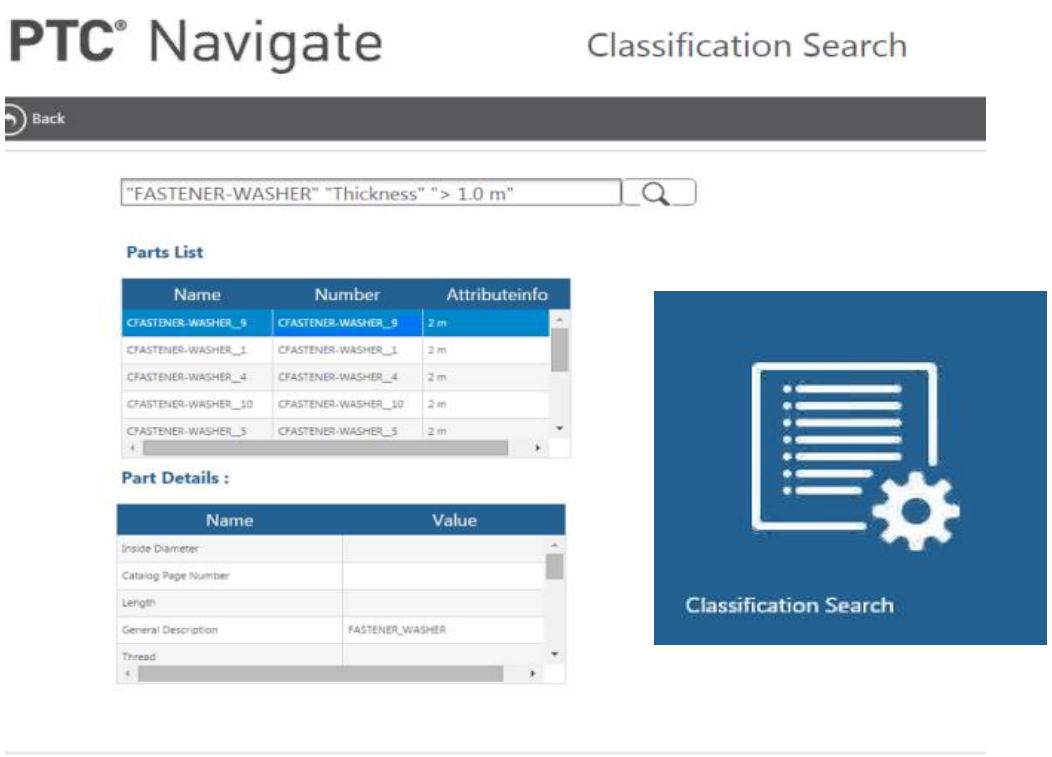
PLM DASHBOARD USE CASES

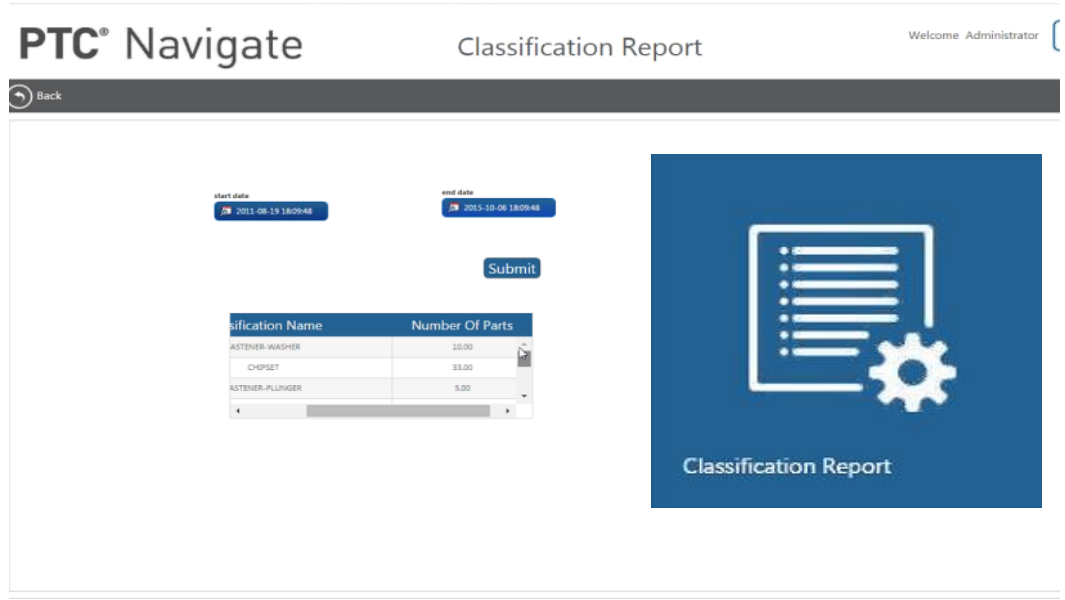


Product Dashboard

Supplier Dashboard

PLM DASHBOARD USE CASES

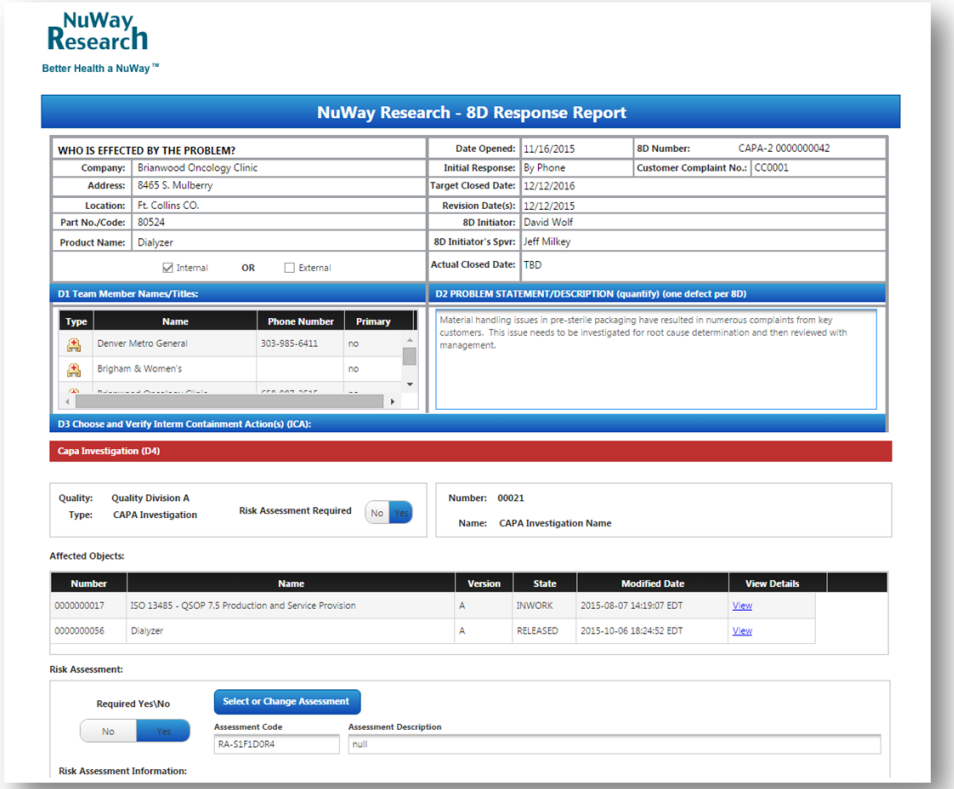


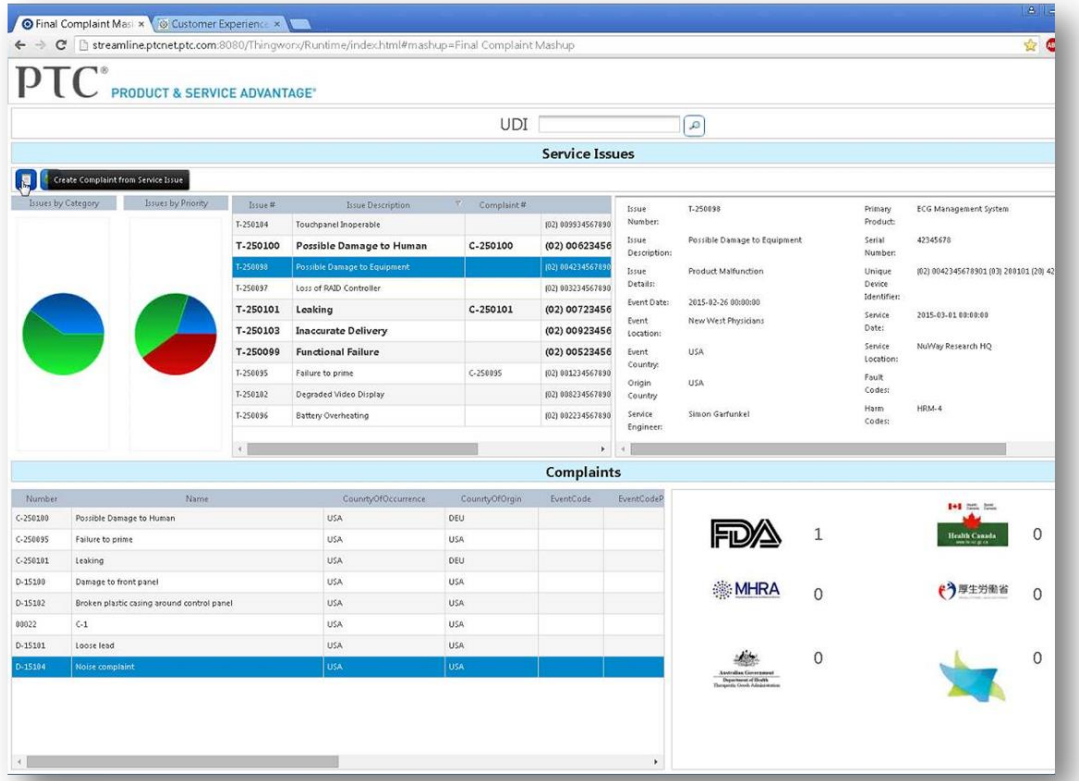


Classification Search

Classification Part Report

PLM DASHBOARD USE CASES





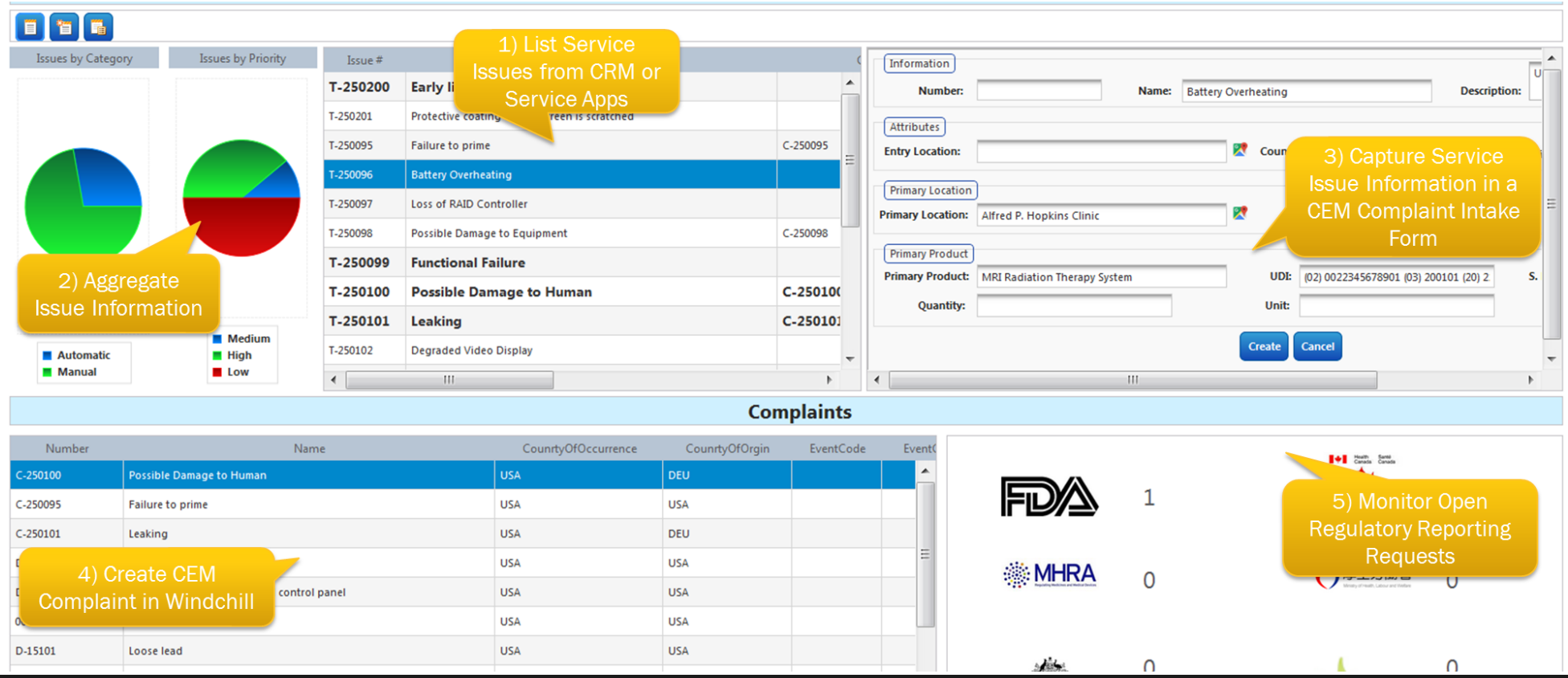
8D CAPA and SCAR Role Based App

Light Touch Infrequent Users
Access CAPA or SCAR

Connected Service and Complaint App

Aggregate info from ServiceMax, Salesforce CRM
Connected device and Windchill CEM

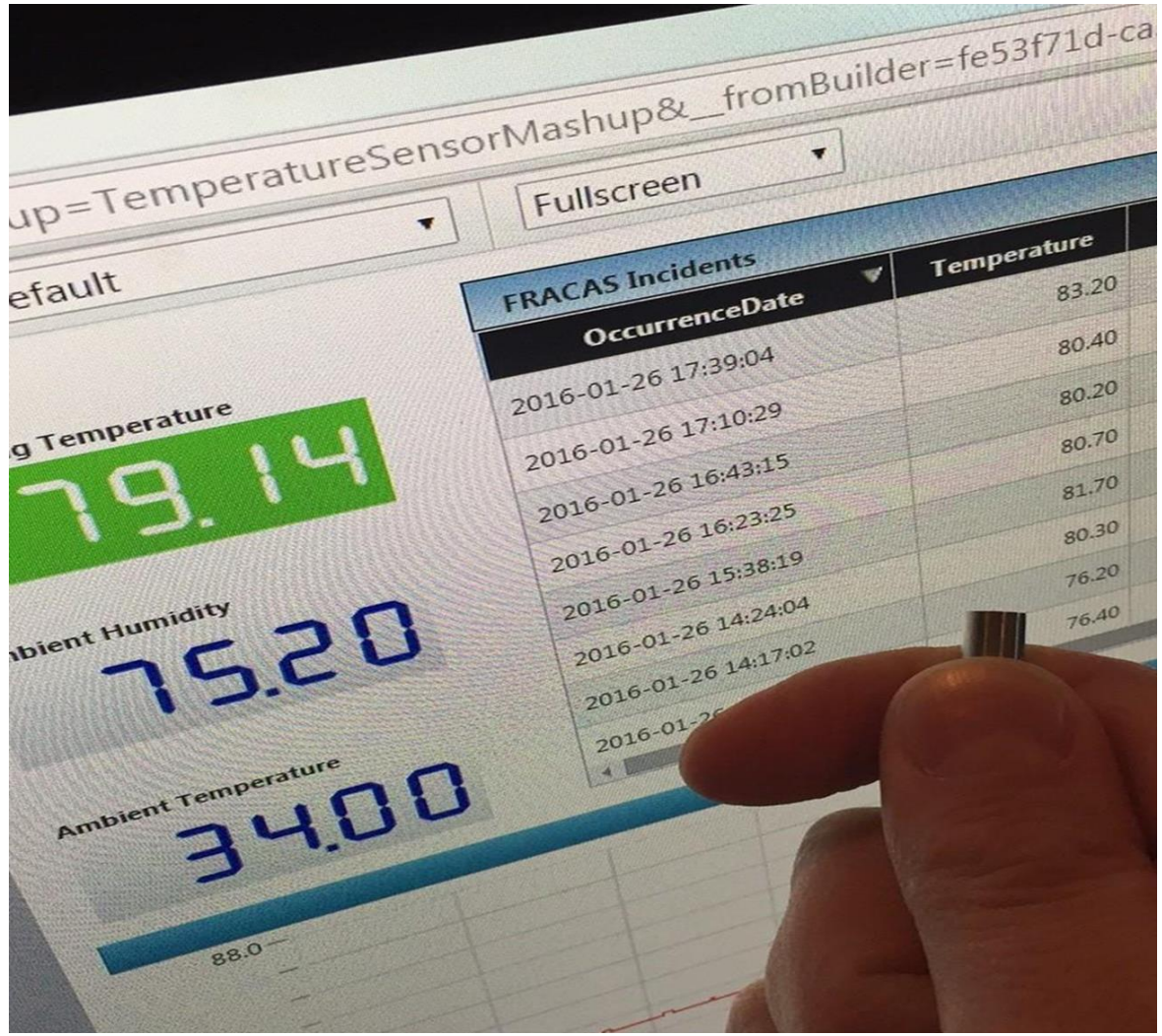
PLM DASHBOARD USE CASES



Connected Service and Complaint App

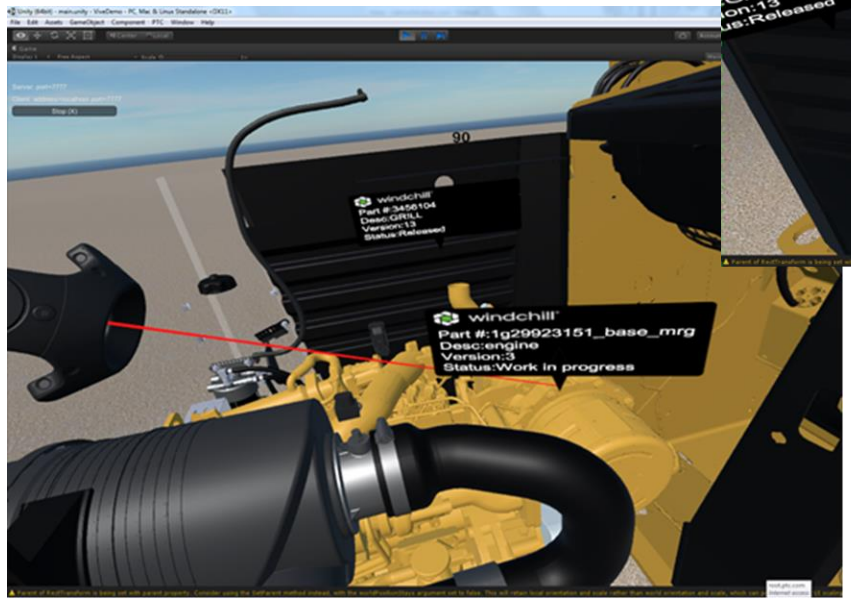
CONNECTED FRACAS USE CASE

- Collection of Failure from a Connected Device
  - FRACAS Incident automatically generated in Windchill Quality Solution
  - Automatic capture of sensor data for evidence
- Integration with Enterprise systems
  - Initiate Corrective action in PLM
- Mash-up with history of operating conditions
  - Mobile Device browser
  - Augmented Reality data display



AUGMENTED REALITY USE CASE

VIRTUAL REALITY USE CASE



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