ptc

LIVEWORX

A NEW ERA IN PRODUCT LIFECYCLE INNOVATION

SESSION ID: CA1487B

MODEL-BASED PRODUCT DEVELOPMENT: EFFICIENCY AND COLLABORATION W/ LIXIL

SPEAKER(s): **Brian Thompson**
Divisional VP and General Manager, Creo CAD Business, PTC

Anthony Esposito
Leader, Americas Fixtures R&D, LIXIL International

Matt Kuhns
Leader, Fixtures Product Engineering, LIXIL International

AGENDA

Introducing Model Based Product Development

- Context with MBD and MBE
- Creo capabilities for Model-Based initiatives
- Model Based Product Development

LIXIL's Model Based Journey

- Reflection on Traditional Process
- Model-Based Today
- Benefits
- Future Opportunities

MODEL BASED TERMINOLOGY

Model Based Definition

Model Based Definition is an annotated model and its associated data elements that define the product in a manner that can be use effectively without a drawing graphic sheet.

(ASME Y14.47-2019 3.1)

Model Based Product Development?

Model Based Enterprise

Model Based Enterprise is an organization that uses model-based definitions for the purpose of commission, operation, service and decommission of a product.

(ASME Y14.47-2019 3.11)

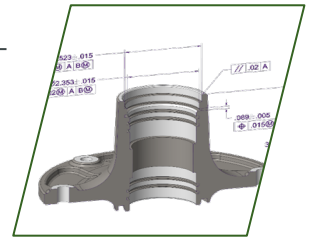
100% DIGITAL

PAPERLESS

MODEL BASED BUSINESS VALUE

3D Annotated Model

Fully semantic,
correctly applied GD&T

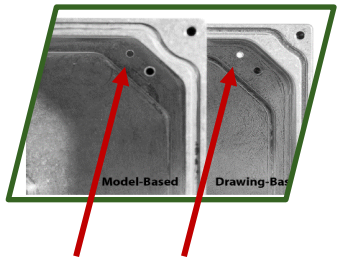


Faster Product Development

Simplify complexity

Faster Manufacturing and Inspection

Save time, especially downstream



Reduced Errors and Non-conformances

Simplify complexity

Model-Based (as intended)

Drawing-Based (with errant thru hole)

Feedback Provided by PTC Customers*

40% faster documentation creation

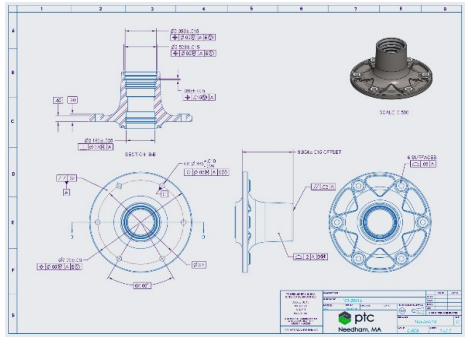
60% reduction in First article inspection time

90% less product non-conformances

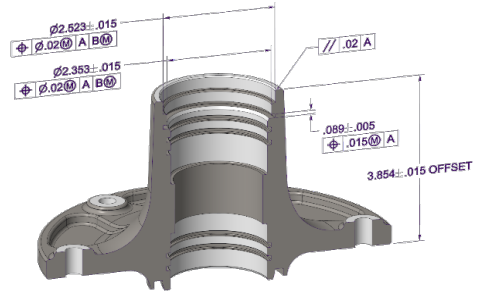
*Selected feedback from pilots and real-world use by PTC customers

CREO MODEL-BASED DEFINITION CAPABILITIES ARE READY

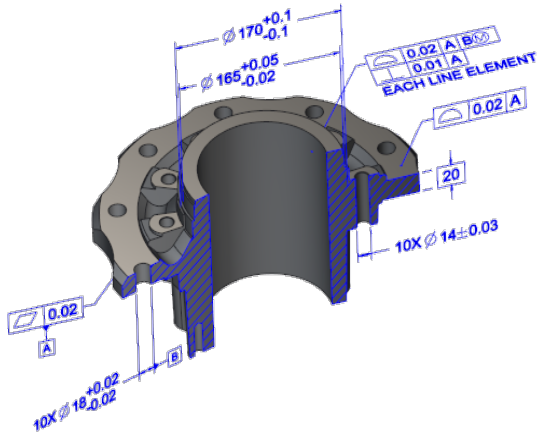
- Author
  - Intelligent, guided GD&T application
  - ASME & ISO standards
- Validate
  - Semantic Search
  - Standards compliance assurance
  - Completion validation
  - Integrated variation analysis
- Share
  - Key control characteristics
  - Semantic content available downstream

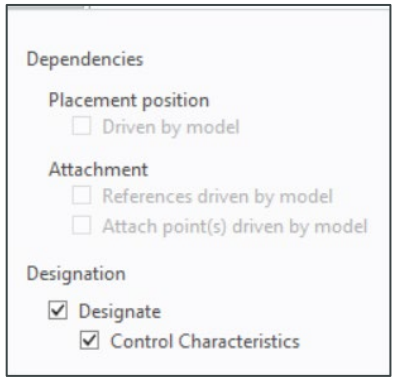


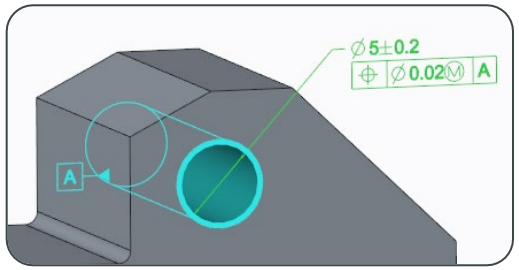
Fully detailed drawing



Optimally annotated model







Semantic PMI

BENEFITS*

40% Faster Documentation Creation with Less Missing or Misinterpreted Information

60% Reduction in First Article Inspection

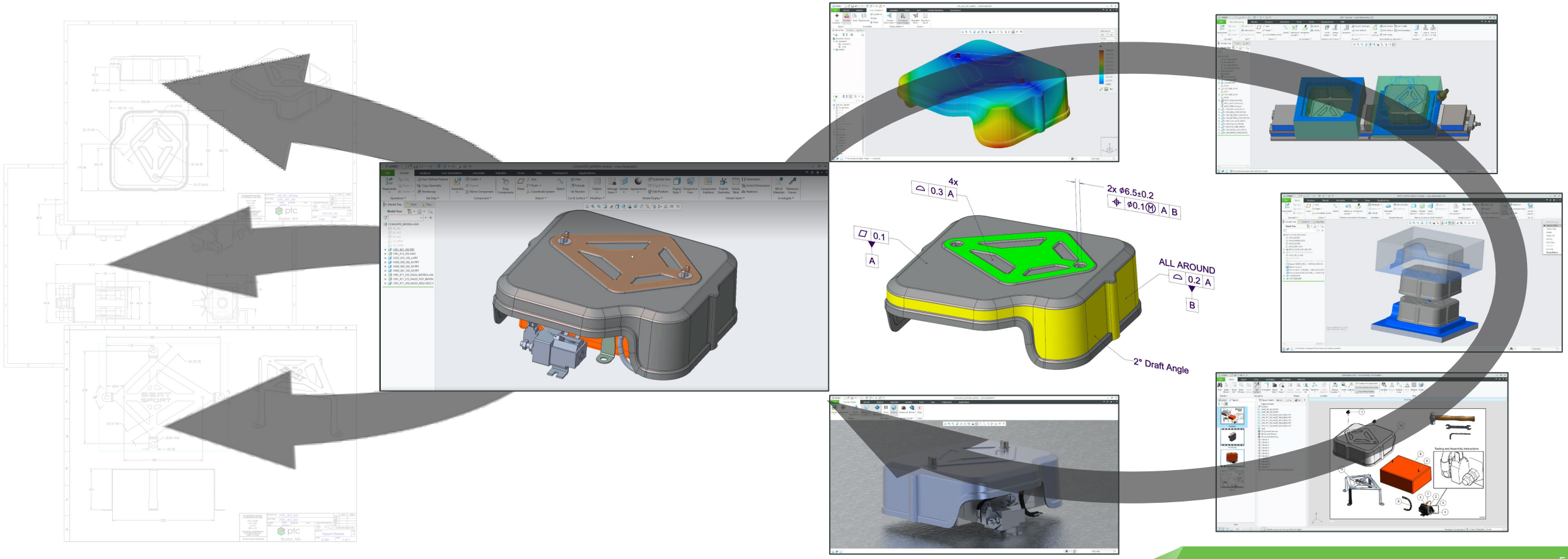
90% Fewer Product Non-Conformances

*Selected feedback from pilots and real-world use by PTC customers

WHAT IS MODEL BASED PRODUCT DEVELOPMENT?

Concept Design → Detailed Design → Manufacturing Process Development → Manufacturing → Operation & Service

Model Based Product Development — **MBE**



LIXIL - TOUCHING OVER ONE BILLION LIVES EVERY DAY

An international presence with some of the most trusted brands in the Kitchen and Bath Industry, including American Standard, GROHE, DXV & INAX

TOUCHING THE LIVES OF **OVER 1 BILLION PEOPLE**

150+ COUNTRIES **GLOBAL PRESENCE**

APPROX. **55,000** **EMPLOYEES**

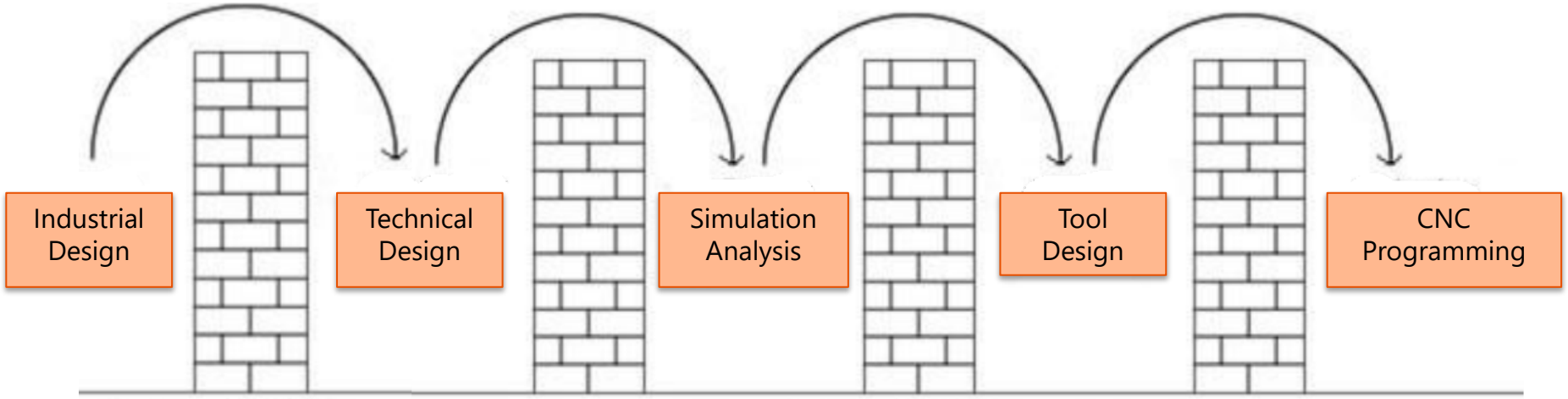
15 **PRODUCT BRANDS**

100+ YEARS **BRAND LEGACY**

PROCESS REFLECTION

What costs you the most downtime in your design process?

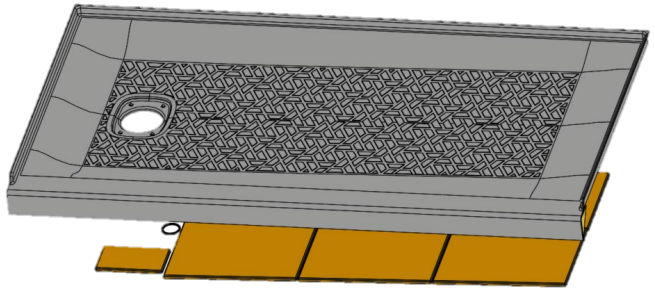
TRADITIONAL PROCESS -> HANDOFF

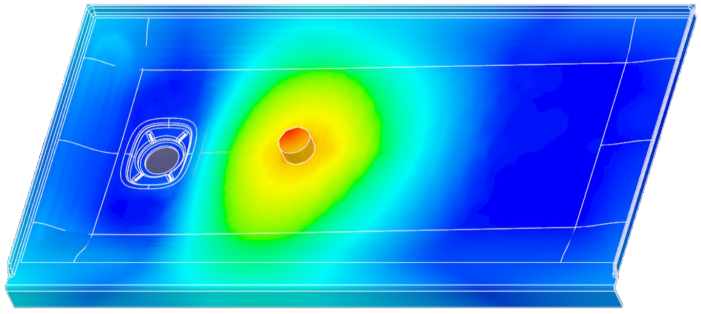


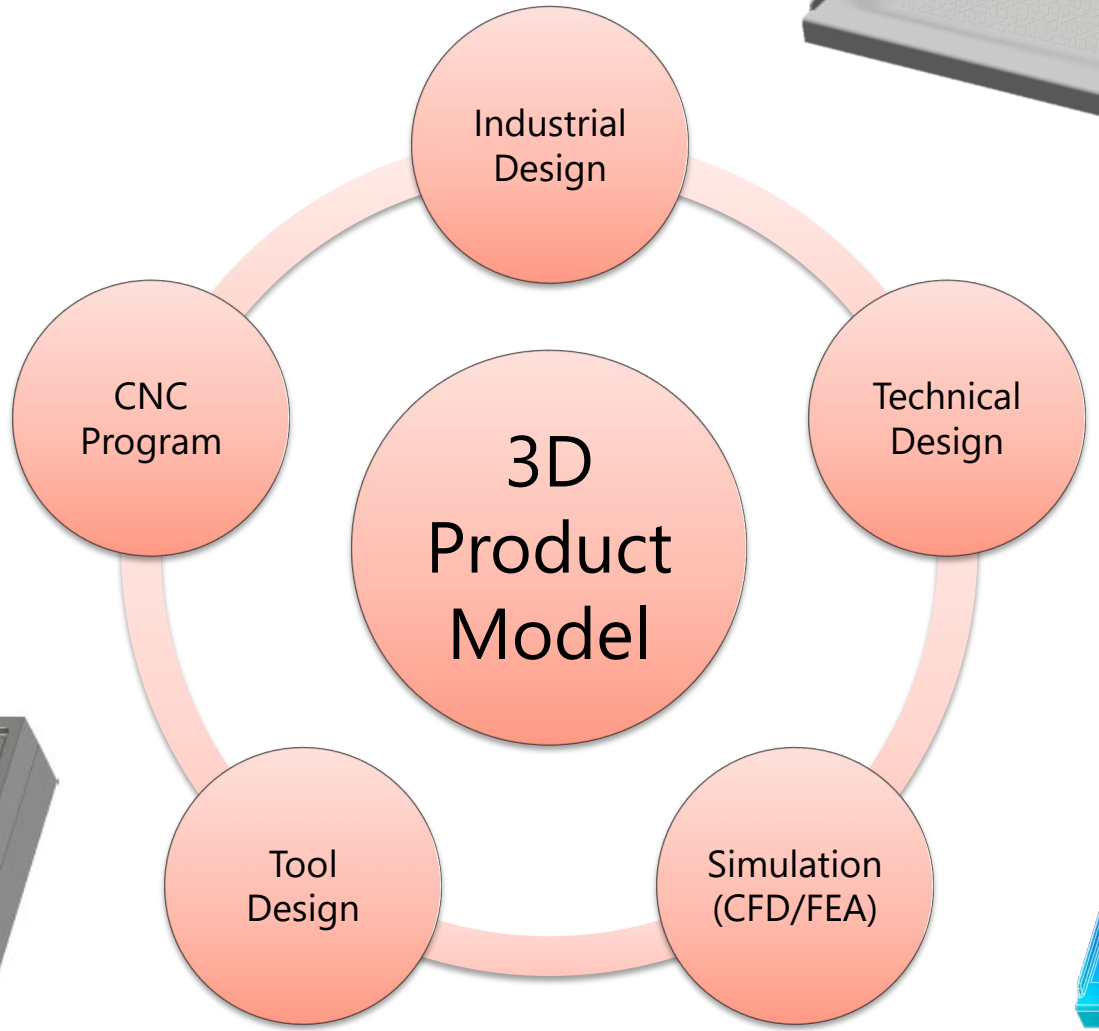
Problems Identified

- ✓ Ownership conflicts
- ✓ Data software transfers
- ✓ Loss of data control
- ✓ Manual change management
- ✓ No manufacturing adjustment
- ✓ Specialized expertise

LIXIL'S MODEL BASED PROCESS TODAY

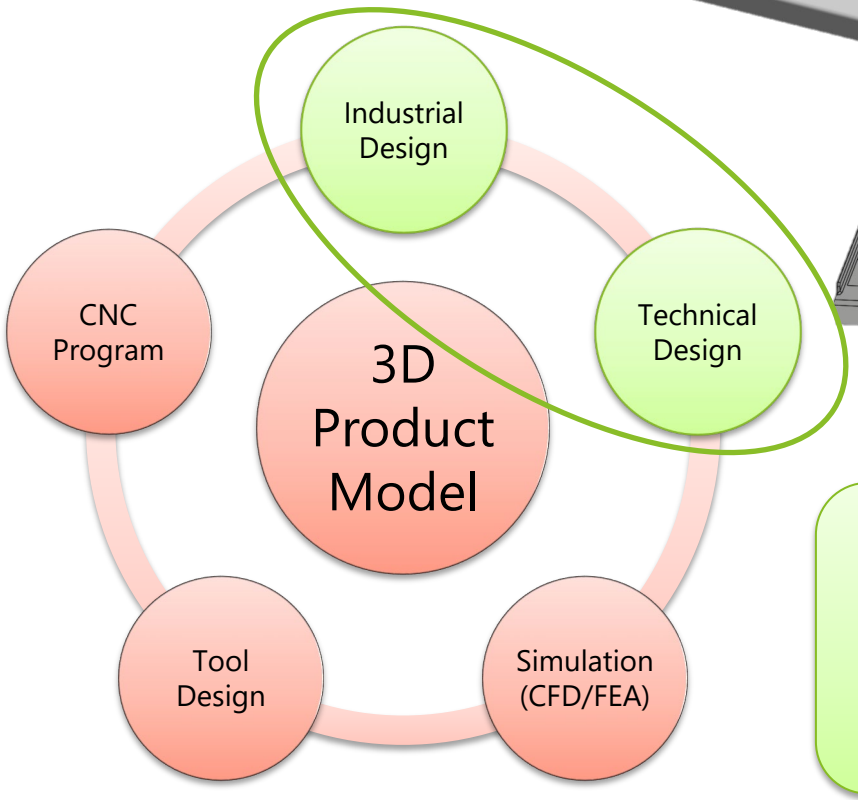


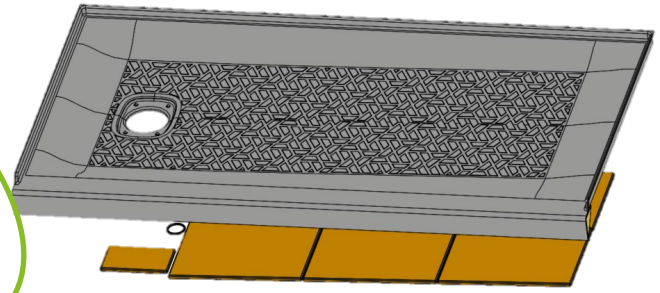




WHY IS THIS VALUABLE TO LIXIL?

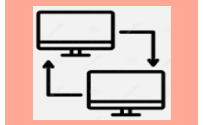
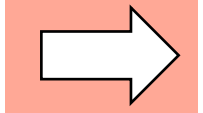
Time





Over 2 months saved!

WHY IS THIS VALUABLE TO LIXIL?

	Save months worth of time
	Reduced software transfers
	Eliminates duplication of data
	Data stays controlled through different stages
	Real time product analysis for reduced design iterations
	Changes immediately push through data stream

FUTURE OPPORTUNITIES

Implement in Other Regions of the Business

- Implement MBPD in global regions.

CAD/CAM in Production

- Start Utilizing CAD/CAM Features on Production Floor

Product Assembly Instructions

- Improve Digital Assembly Instructions on Production Floor

Customer Service Center

- Leverage CAD model through viewer with service reps.

Please fill out the session survey.

Take your post-session survey(s) either in the event mobile app or via email post-event.

Your feedback provides us with valuable information on how to shape future content strategy for the event!

PROVIDE SESSION FEEDBACK

ptc

LIVEWORX

A NEW ERA IN PRODUCT LIFECYCLE INNOVATION

THANK YOU

LIVEWORX.COM | **#LIVEWORX**

ptc.com