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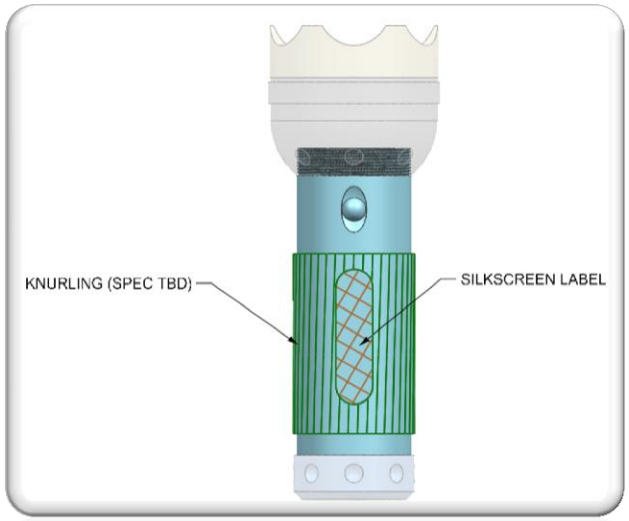
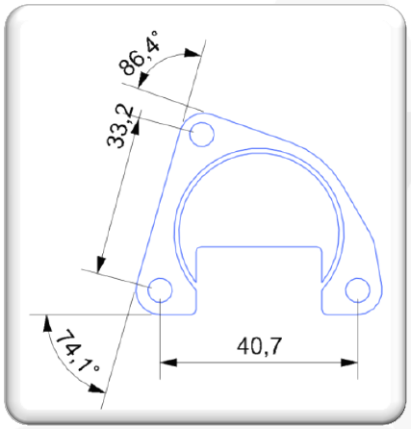
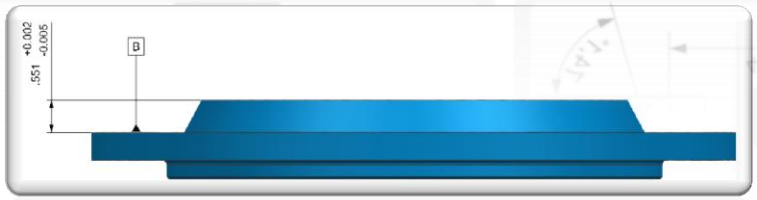



# Webinar: **Principles and Workflows for PMI Using NX**

Curtis Rands, ATA Engineering

7 June 2016

13290 Evening Creek Drive, Suite 250, San Diego CA 92128
(858) 480-2000
www.ata-e.com
ata-engineering
@ATAEngineering

# What We Do

ATA Engineering's **high-value engineering services** help solve the most challenging product design challenges

Aerospace

Robotics & Controls

Theme Park Rides

Defense

Industrial & Mining Equipment

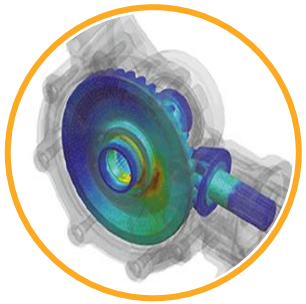
Consumer Products

# Our Services

We provide our customers with **complete, integrated solutions**

## Design

From initial concept development to detailed structural design



## Analysis

Comprehensive structural, fluid, acoustic, and thermal analysis services

## Test

Industry-leading structural test services for extreme loading environments

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# Our Software Services

ATA is a value-added reseller for **Siemens PLM Software**

- Femap
- NX Nastran
- NX CAD, CAM, & CAE
- Teamcenter
- Solid Edge
- Developer of the official NX Nastran training materials
- Preferred North American provider of NX Nastran training

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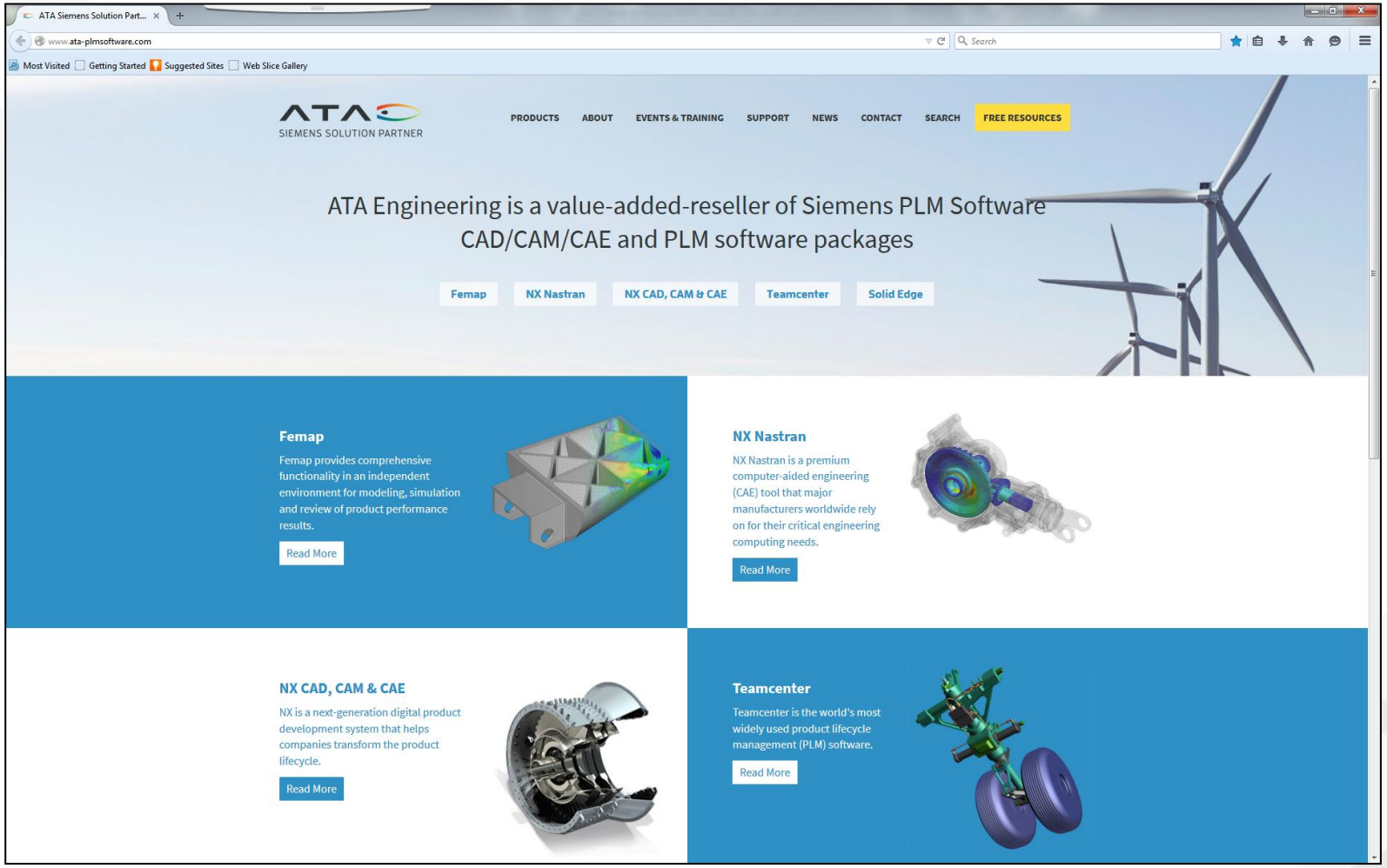
Solution Partner PLM SIEMENS

# Our Online Resources

www.ata-plmsoftware.com

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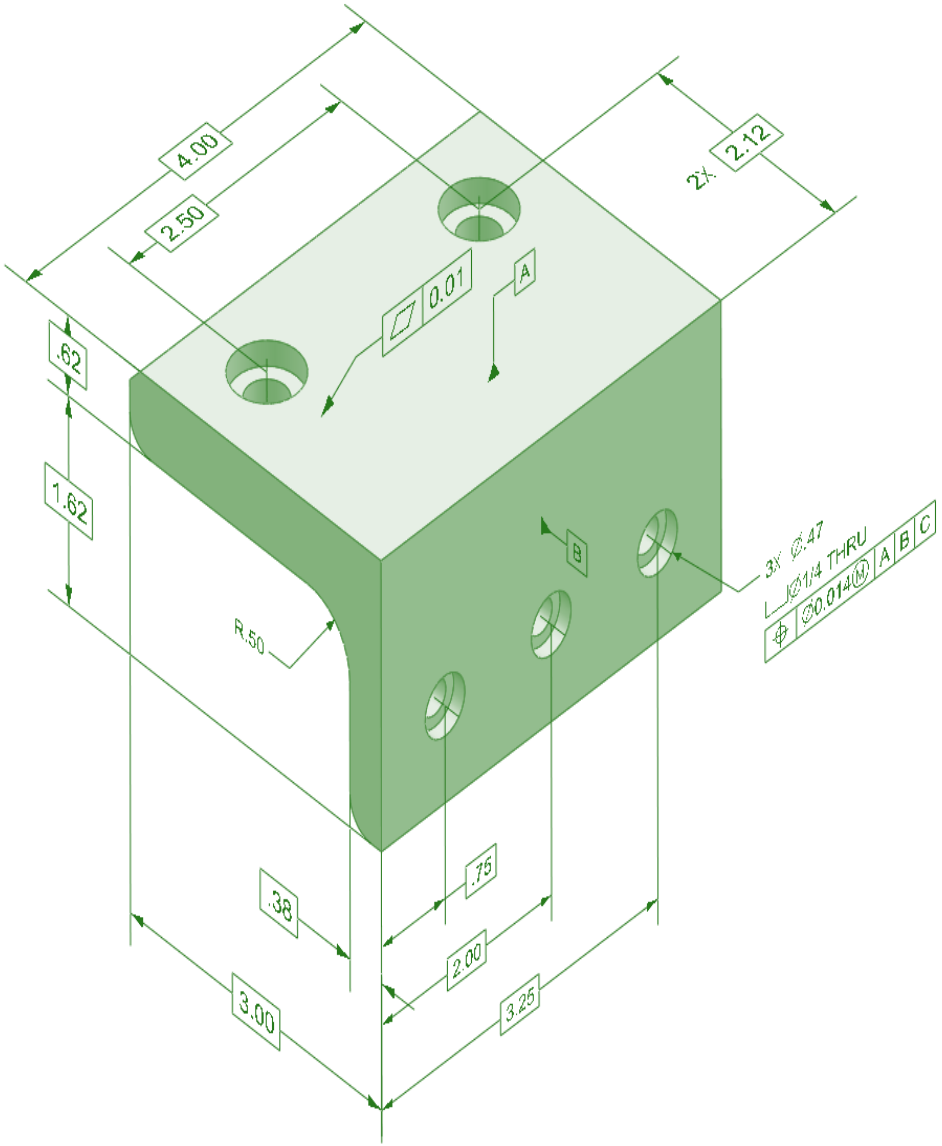
# Product *and* Manufacturing Information

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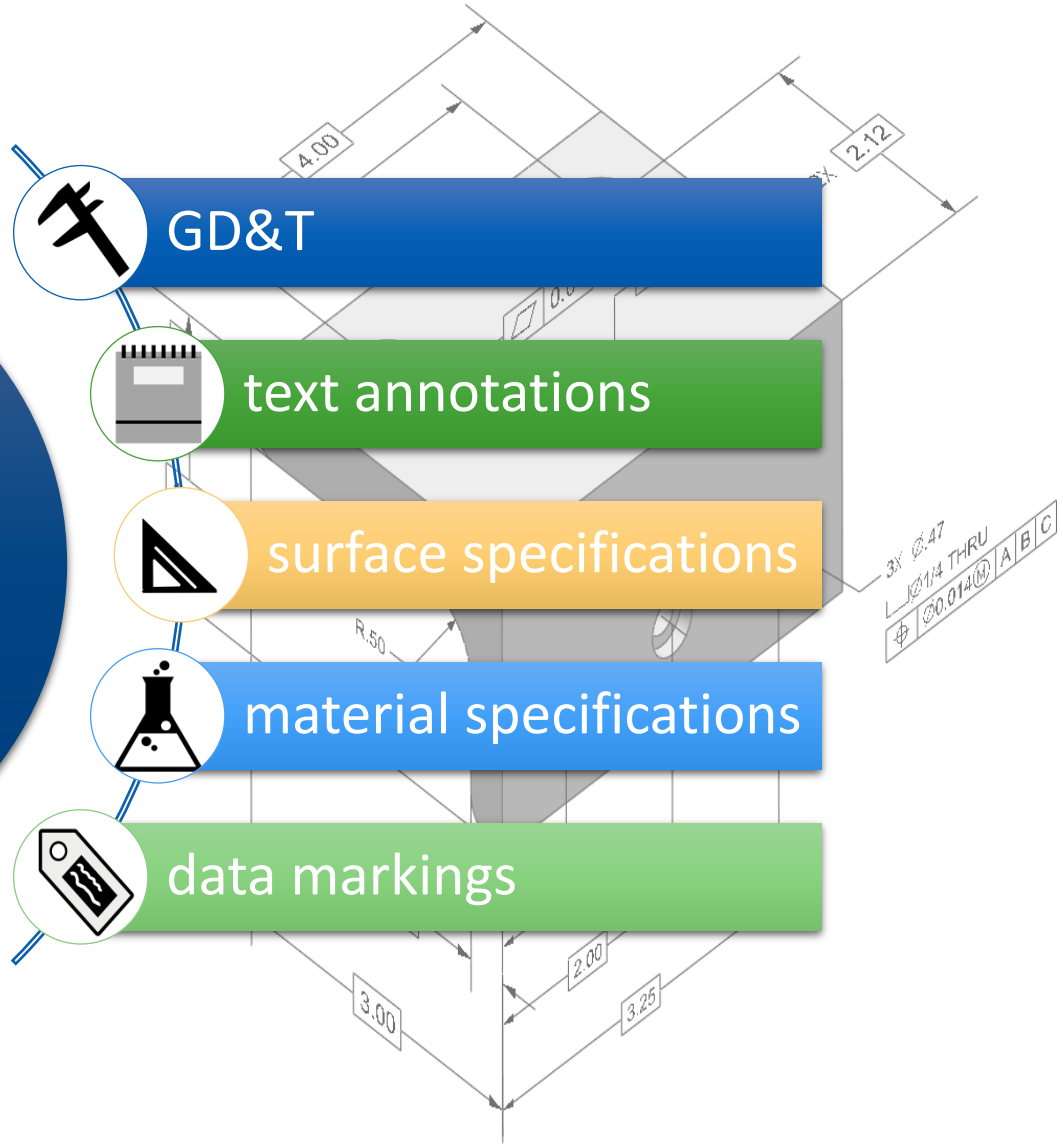
# PMI

- GD&T
- text annotations
- surface specifications
- material specifications
- data markings

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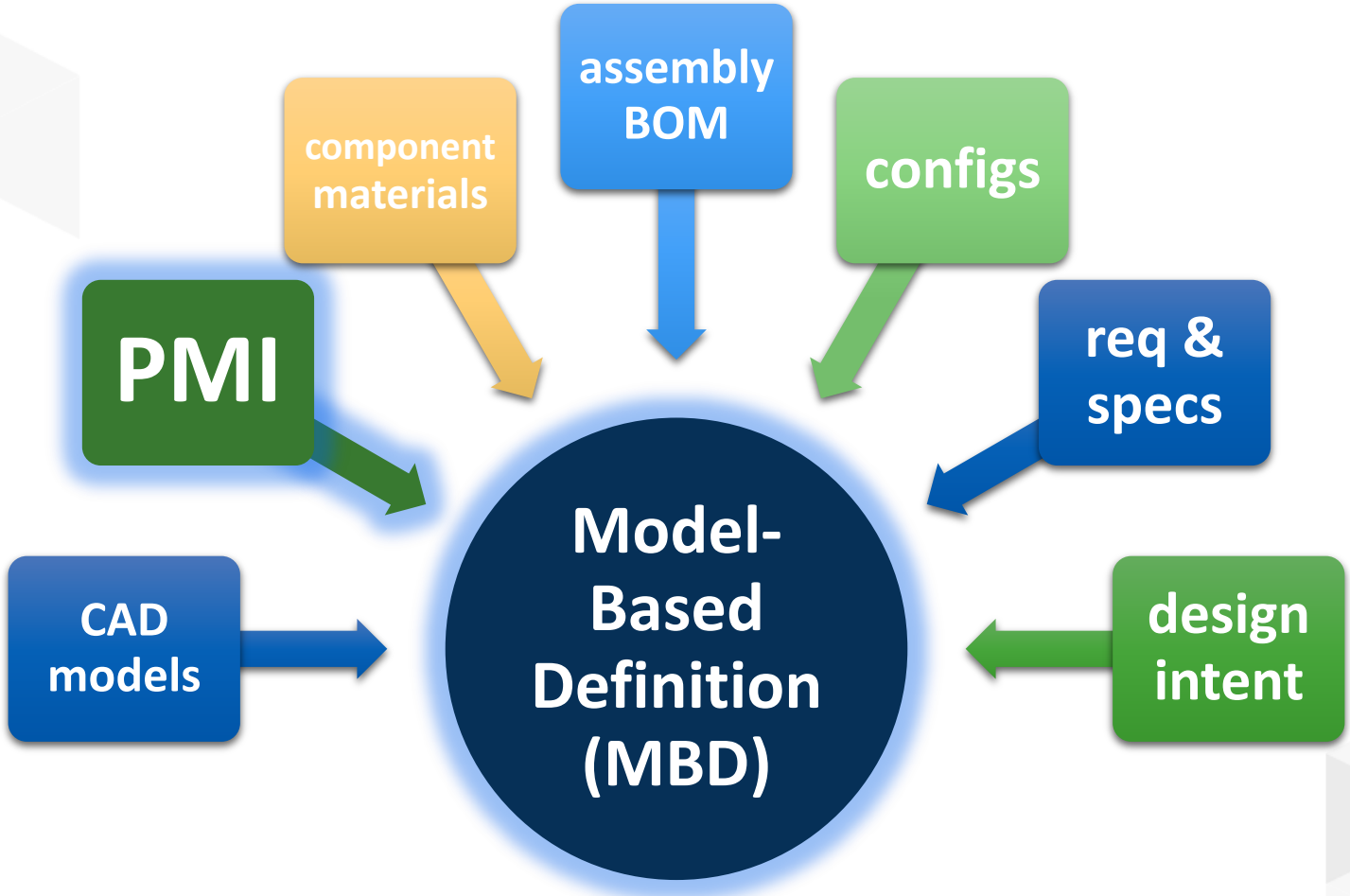


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**Rooted in ASME Y14.41-2003 "Digital Product Definition Data Practices"**

**Aims to improve productivity and reduce time to market**

**Expected to replace 2-D engineering drawings used for**

- **manufacturing**
- **inspection**
- **documenting/archiving design data**

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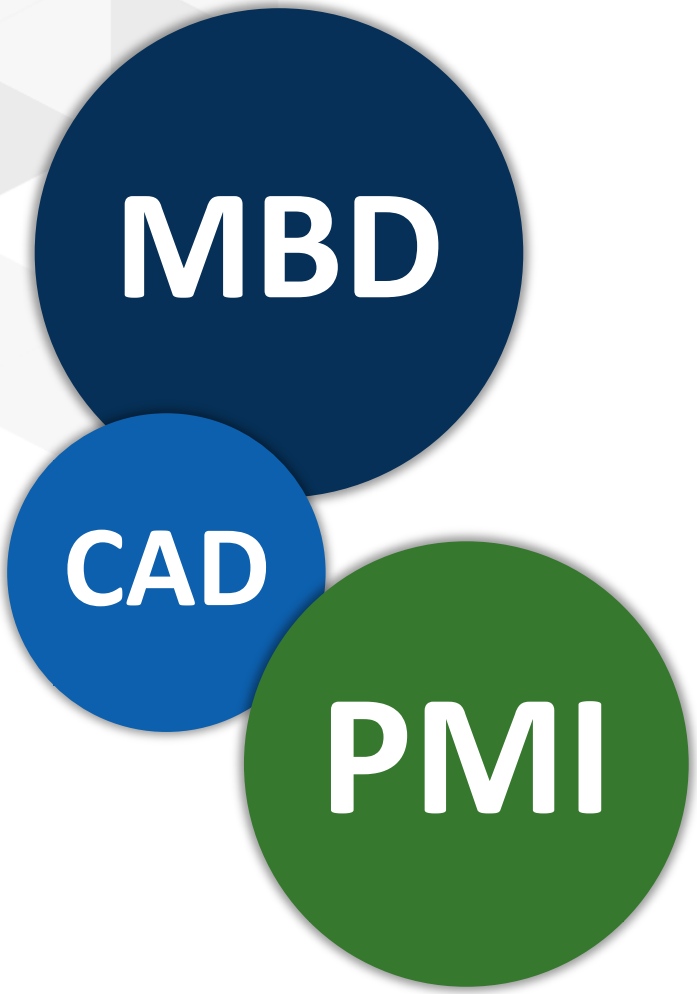
Source: "Digital Tolerance," by Jean Thilmany, *Mechanical Engineering*, July 2010.




- **manufacturing**
  - CNC machining
  - additive processes
- **inspection and quality control**
- **tolerance analysis**

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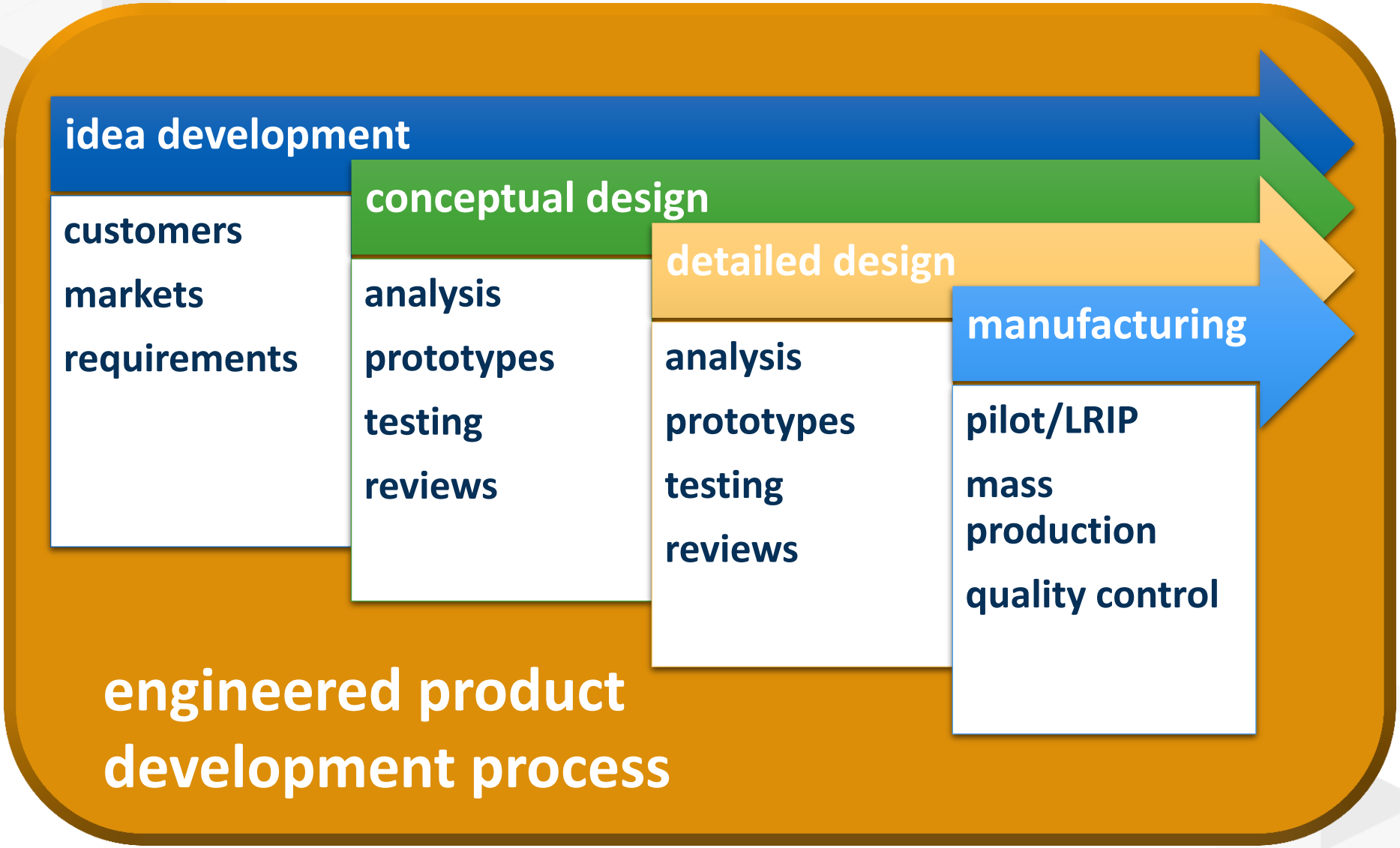


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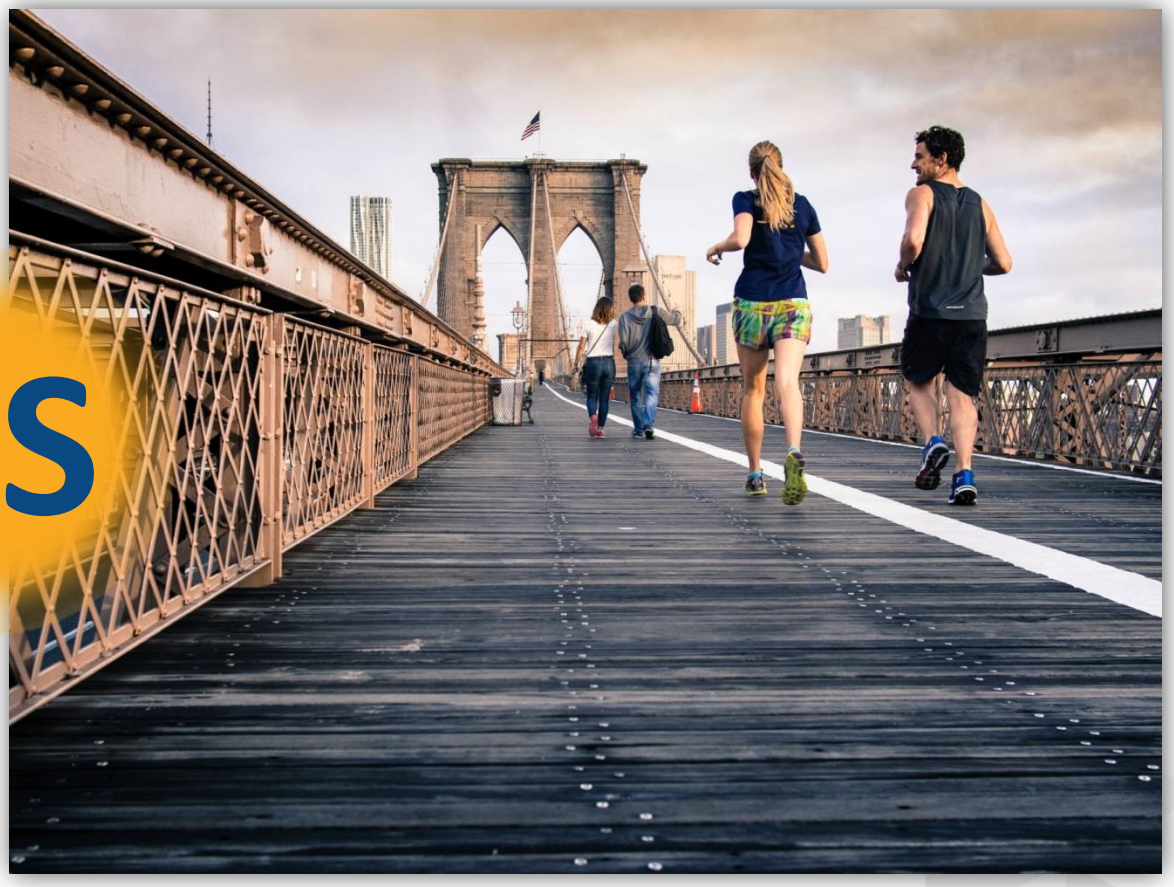
VS



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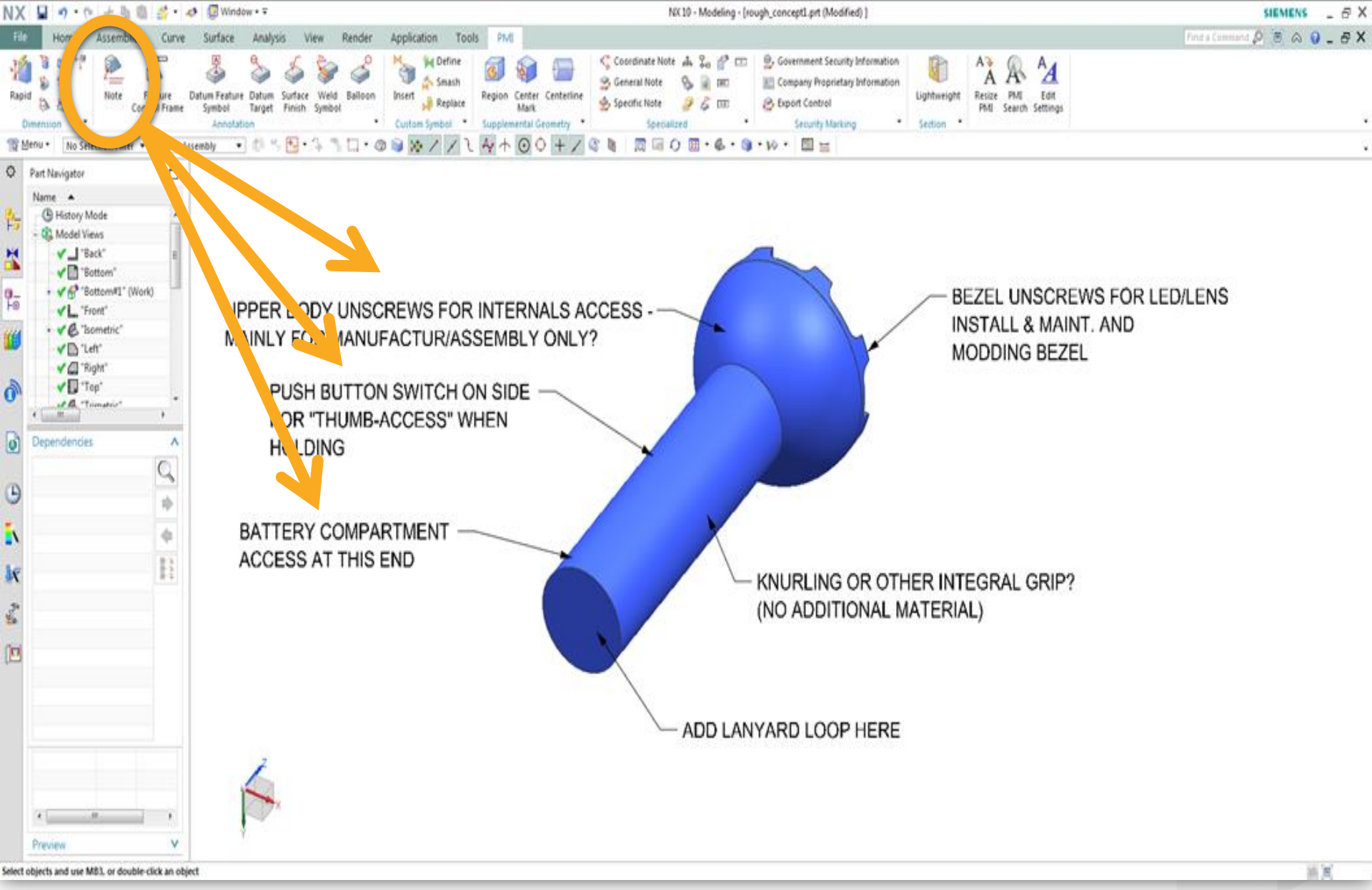
# Typical Scenarios and Use Cases

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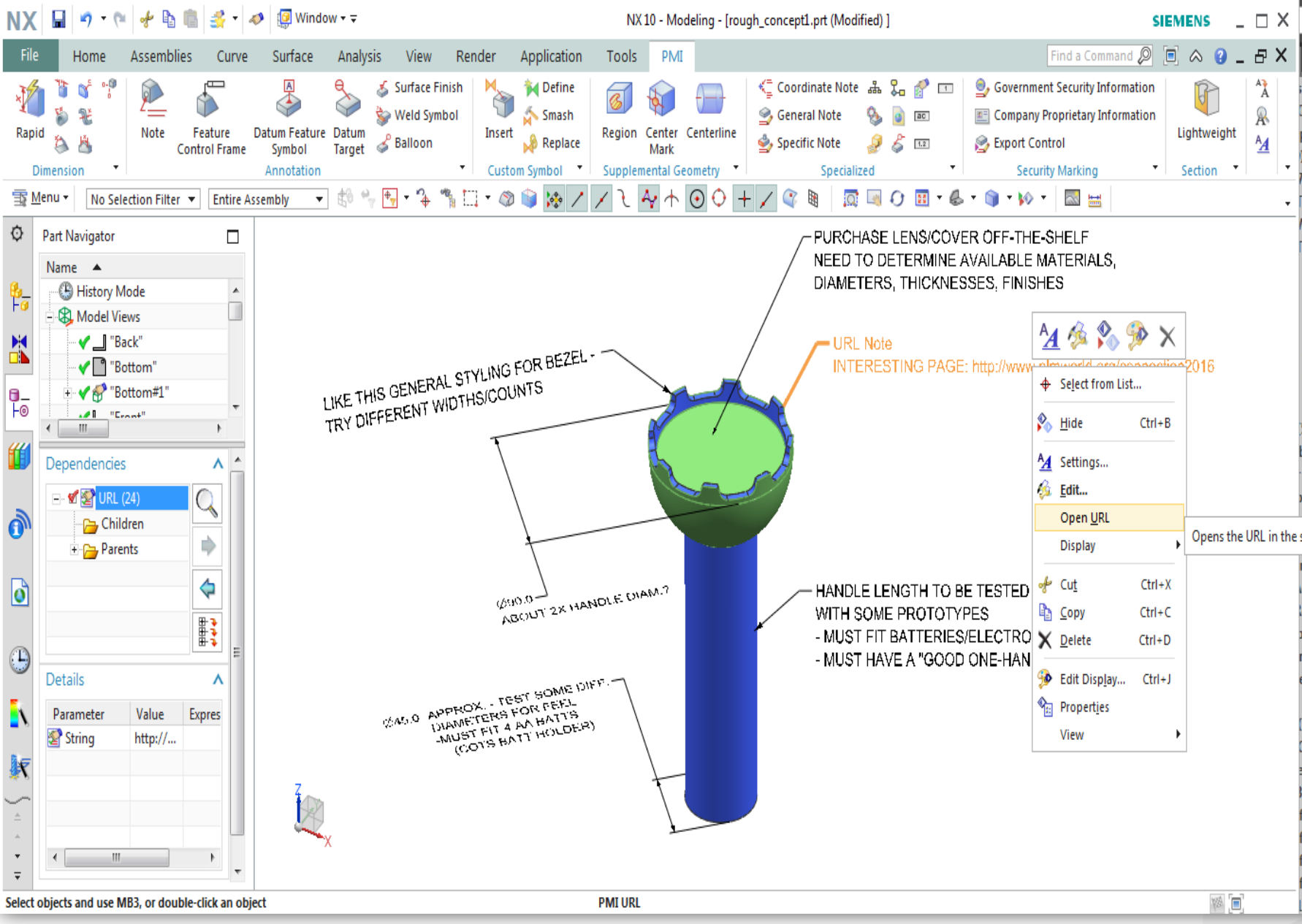
Scenario: conceptual design with notes capturing design intent and requirements

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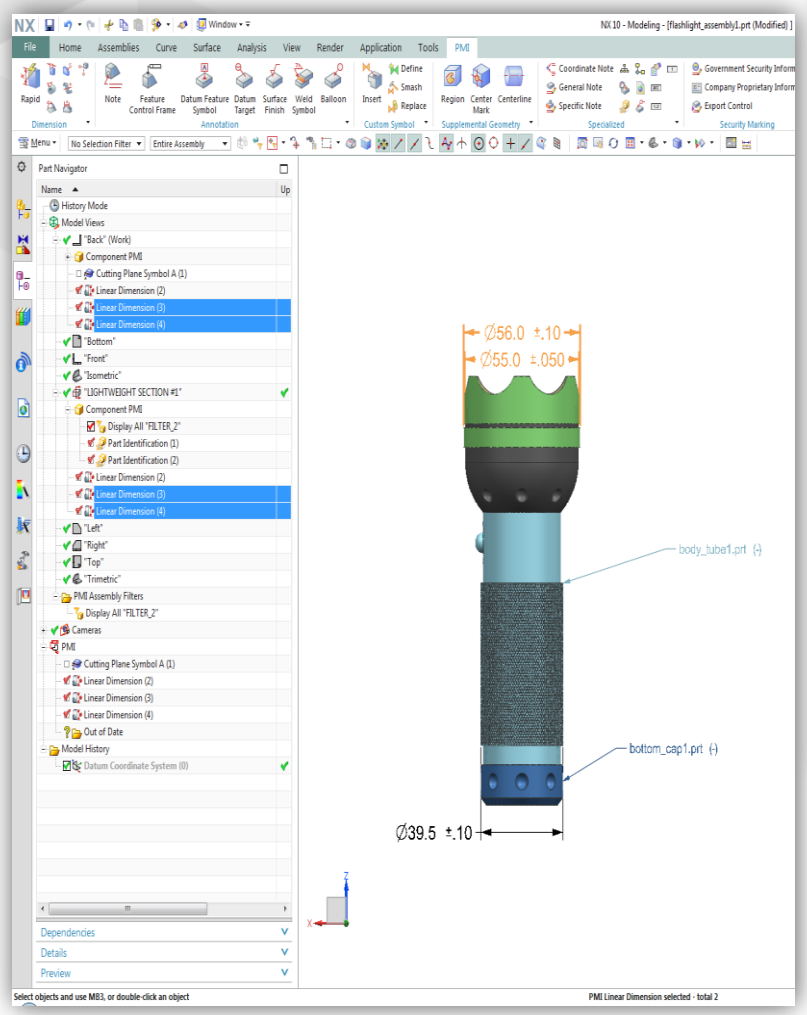
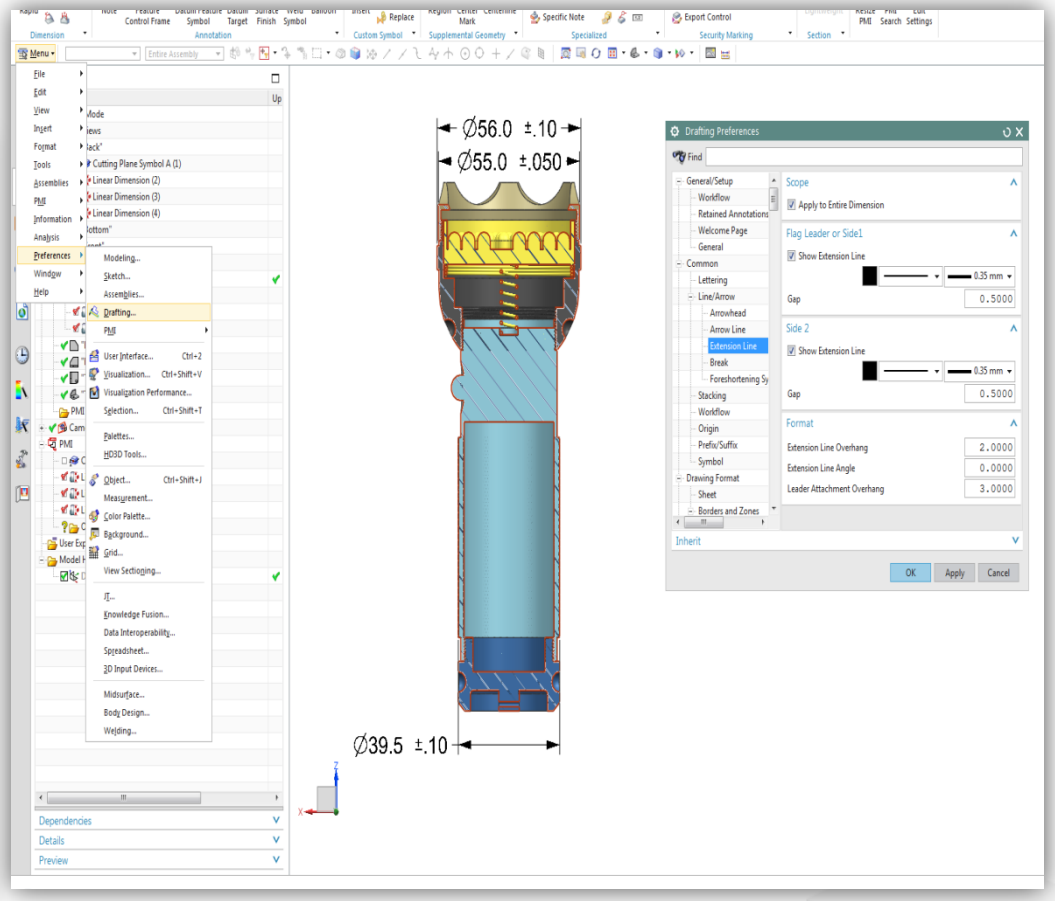
Scenario: conceptual design; live dimensions, notes, URL notes, associated objects




Scenario: detailed product design; live dims, lightweight section views, part/material labels, assembly filters, associated objects, display preferences

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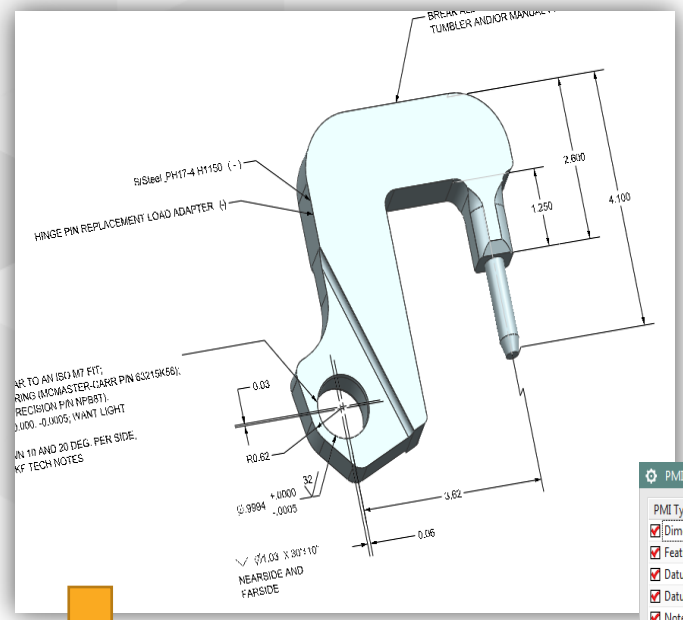


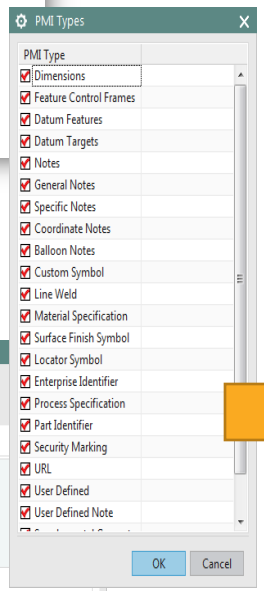


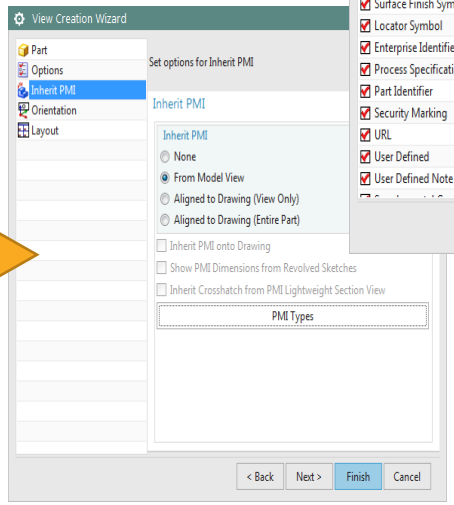


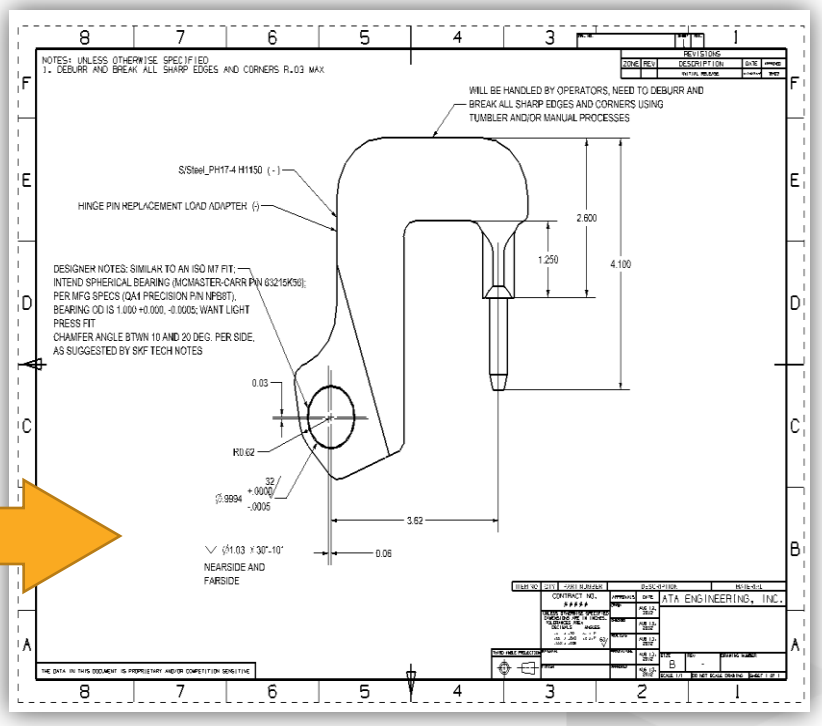


Scenario: drawing views with important product notes and manufacturing information created by the designer

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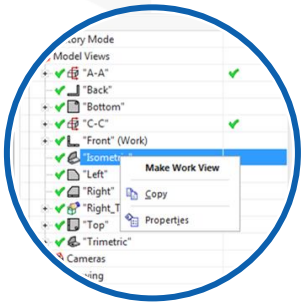
# Select Workflows in NX

Live Demonstration

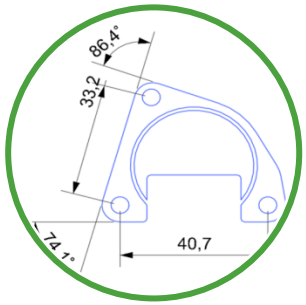



## Getting Started

Model Views and PMI

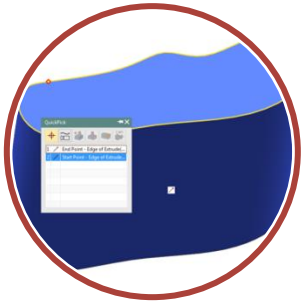
## Section Views

Creating and Annotating Lightweight Section Views




## Sketch Dimensions

Converting sketch dimensions to PMI



## Other User Tips

Dimensioning splines, working in assemblies

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By Martineric from Lille, France - Marathon de New York : Verrazano Bridge, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=4316439

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# Thank You for Participating!

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