



# LIVEWORX 23

A NEW ERA IN PRODUCT LIFECYCLE INNOVATION

TRACK SPOTLIGHT

# CAD

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# WHERE CREO AND CREO+ MEET: A ROADMAP



[LIVEWORX.COM](http://LIVEWORX.COM) | [#LIVEWORX](https://twitter.com/LIVEWORX)

6 9 8 3

7 8 4 6

6 7 3 3

1 4 6 4

6 9 8 3

7 8 4 6

8 0 1 2

3 8 3 4

6 9 8 3

7 8 4 6

8 0 1 2

3 8 3 4

PASSTHROUGH :A13

C23xU321x

0001CBB: 05 B5 sta SB5,x  
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## TOPICS

- CAD Market Dynamics
- Creo Investment Strategy
- Creo 10
- Creo+

# COMMON ENGINEERING CHALLENGES

Time To Market



Cost Of Poor Quality



Product Innovation



**Over 80%** of executives list innovation as a top three priority; **10%** are satisfied.”

McKinsey  
& Company

# MARKET TRENDS CREATE OPPORTUNITIES & CHALLENGES

Evolving  
Workforce



Automation



Sustainability  
Initiatives



SaaS



The USA will be short by **1.1 million** engineers by 2030, Germany by **185 thousand**.

BCG



# NEW TECHNOLOGIES CAN HELP

AI



Data Agility



Computing  
Advances



Digital/Physical  
Convergence



Manufacturers are investing  
**\$524 billion** in digital  
transformation initiatives



# NEW TECHNOLOGIES CAN HELP

## AI



AI Materials

Generative Design

AI Security

AI Software Engineering

AI Analytics

## Data Agility



Data Sharing

Influencer Engineering

Metaverse

Blockchain

## Computing Advances



Simulation

Quantum Computing

IT Automation

Cloud

Self Integrating Apps

## Digital/Physical Convergence



Additive Manufacturing

Tech Stack Goes Physical

Design for Manufacturing

# NEW TECHNOLOGIES CAN HELP – IN ENGINEERING

## AI



AI Materials

**Generative Design**

AI Security

AI Software Engineering

**AI Analytics**

## Data Agility



**Data Sharing**

**Influencer Engineering**

Metaverse

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**Simulation**

Quantum Computing

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**Cloud**

Self Integrating Apps

## Digital/Physical Convergence



**Additive Manufacturing**

**Tech Stack Goes Physical**

**Design for Manufacturing**

# NEW TECHNOLOGIES ARE CHANGING DESIGN AND MANUFACTURING

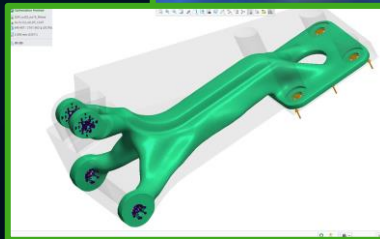
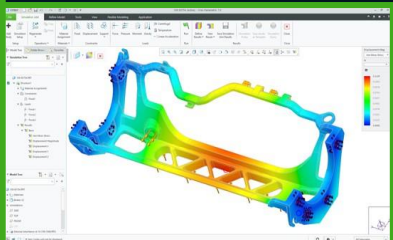
Technologies deeply integrating into the design environment . . .

. . . with design, manufacturing & simulation capabilities that supports the entire digital and physical product lifecycle.

Augmented Reality  
Collaboration



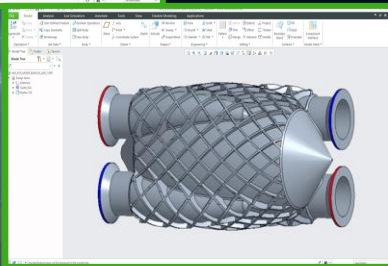
Real-Time  
Simulation



AI-Driven  
Generative Design



IoT-Driven  
Design



Design for Additive  
Manufacturing





# CREO STRATEGY IS DRIVING MARKET-LEADING GROWTH



Creo has had the largest active base percentage increase in twelve of the past sixteen quarters, including all of 2022.”

**Jay Vleeschhouwer, Griffin Securities**  
CAD Industry Update, April 13, 2023





# INTRODUCING creo® 10

Productivity & Usability  
Design for Composites  
Design for Electrification  
Design for Ergonomics

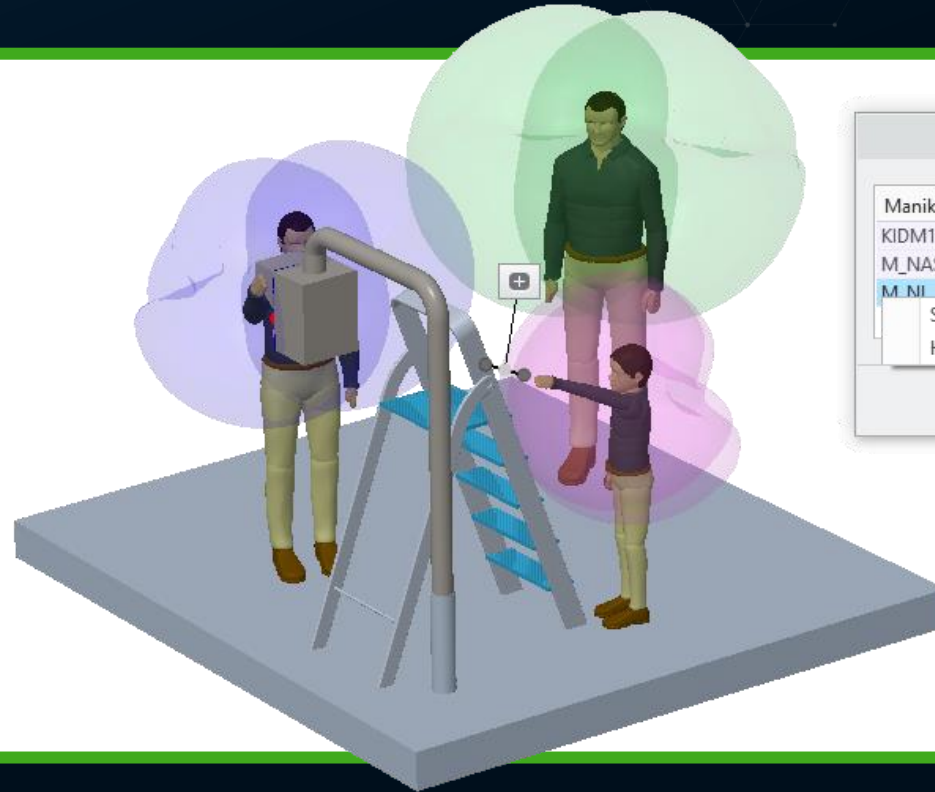
Model-Based Definition  
Simulation &  
Generative Design  
Manufacturing

# PRODUCTIVITY & USABILITY

- Model Tree
- Sketcher
- Holes
- Pattern
- Multibody
- Style, Freestyle & Warp

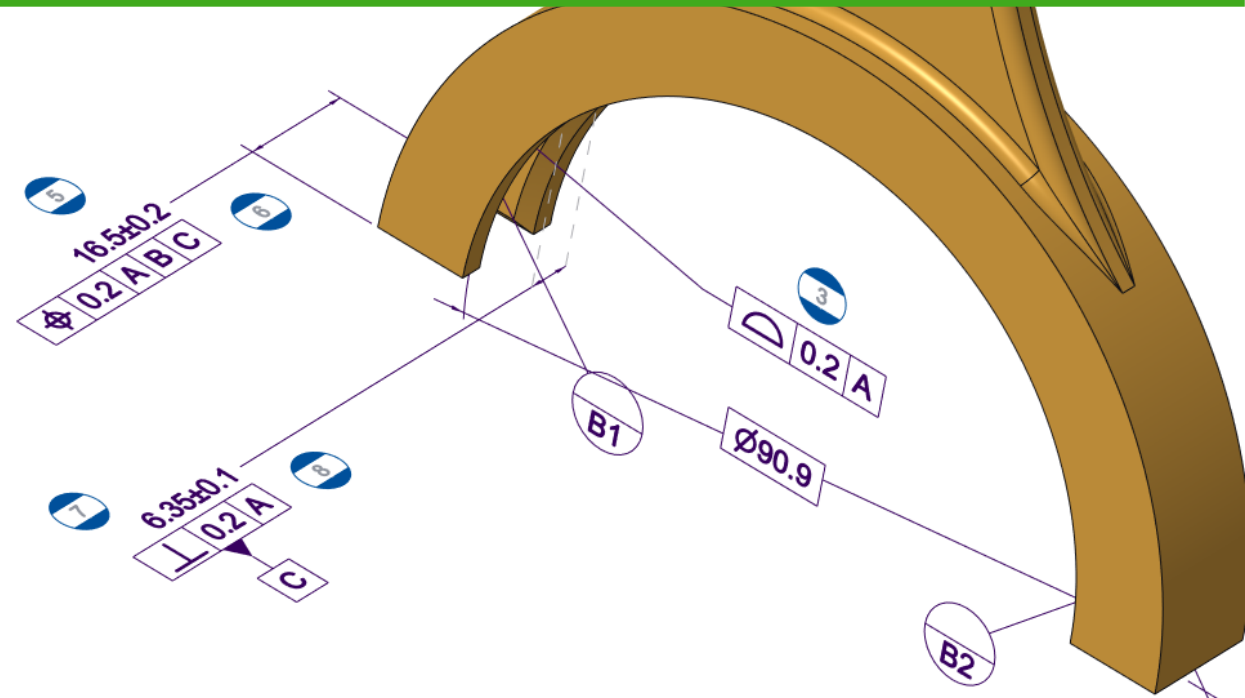
# DESIGN FOR ERGONOMICS

- Usability
- Reach
- Updated Library
- Visual Field



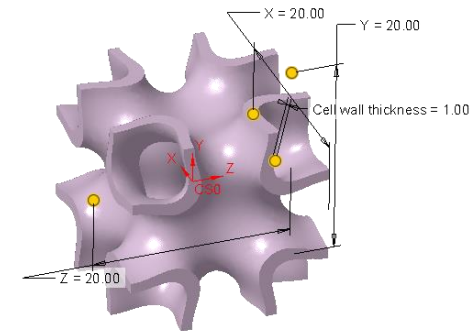
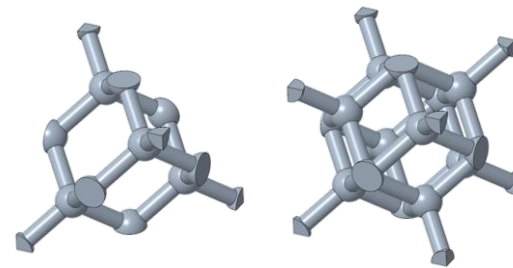
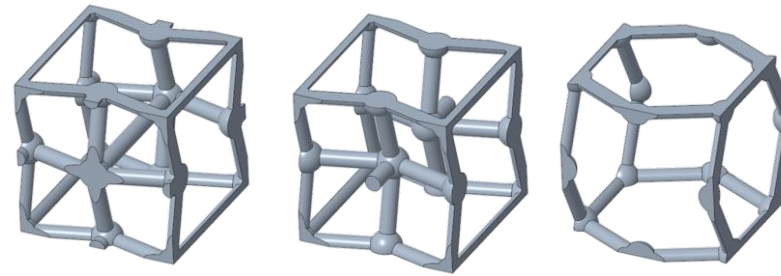
# MBD & DIGITAL THREAD

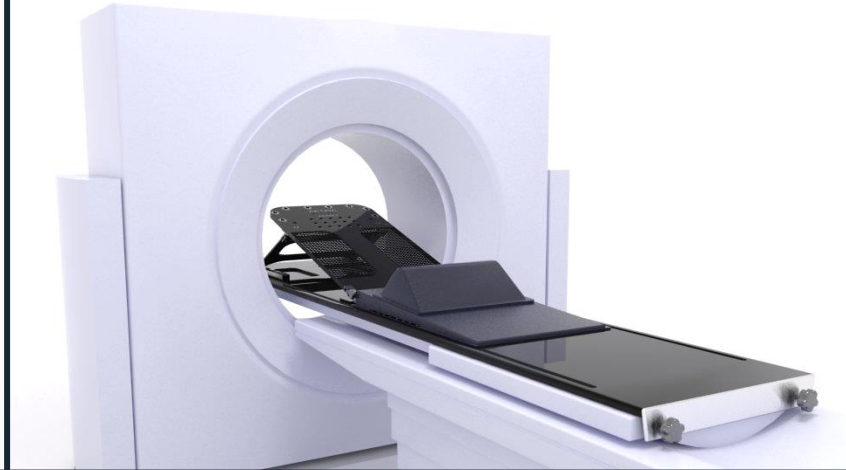
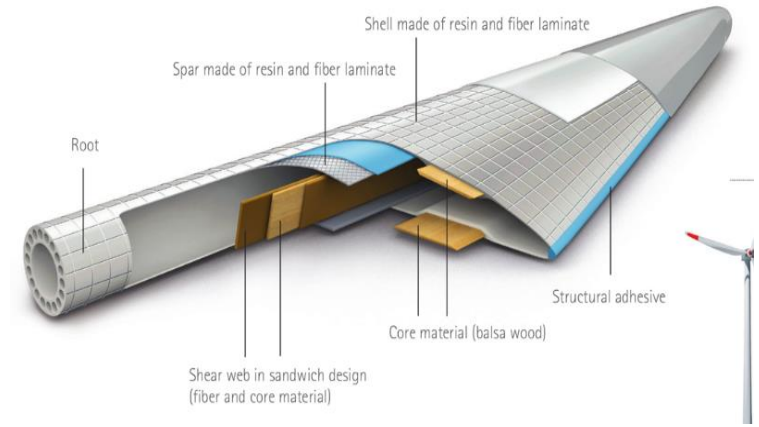
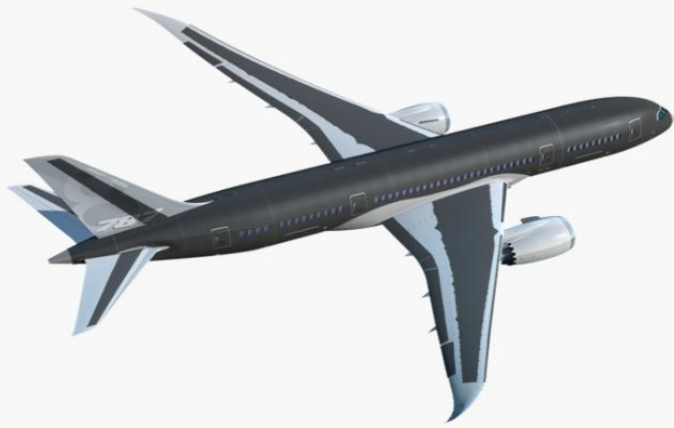
- Relate symbols
- General Profile Tolerance (GPT)
- Detailing standards



# MANUFACTURING

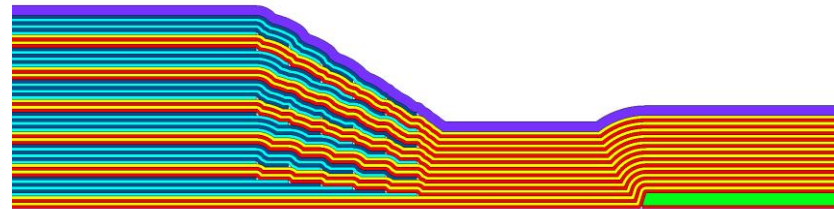
- Additive Lattices
- High Speed Machining



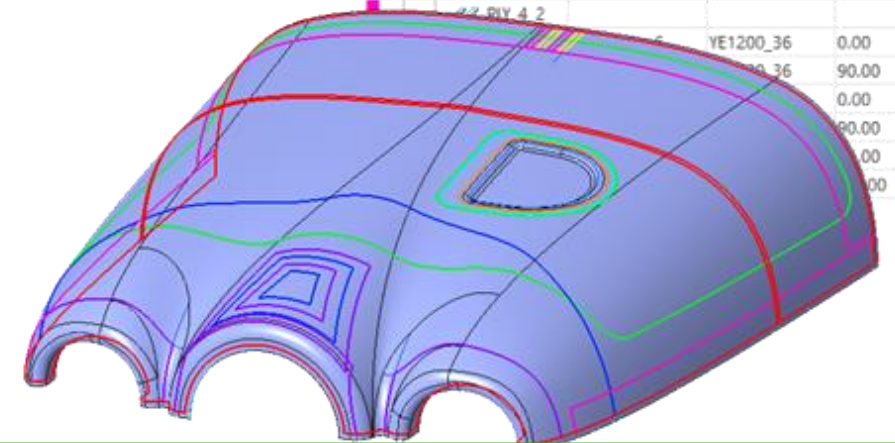


# DESIGN FOR COMPOSITES

- Design
- Simulate
- Manufacture



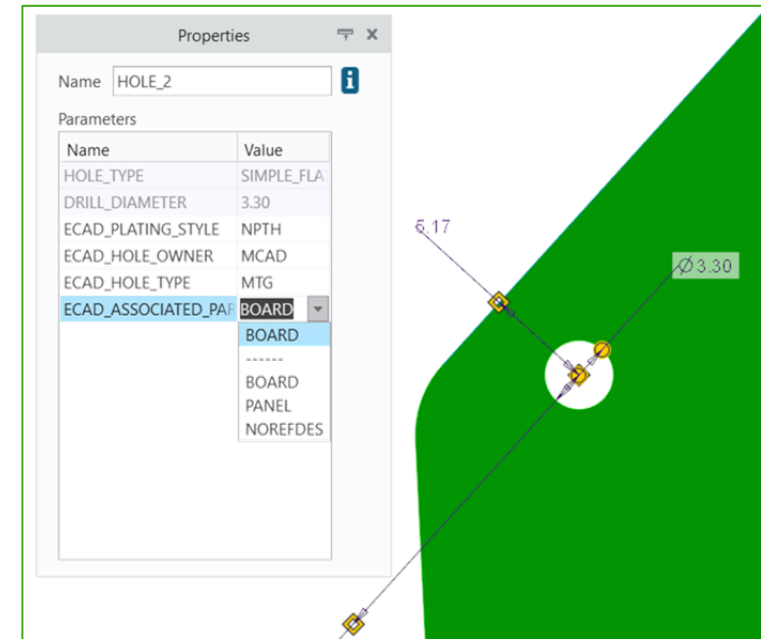
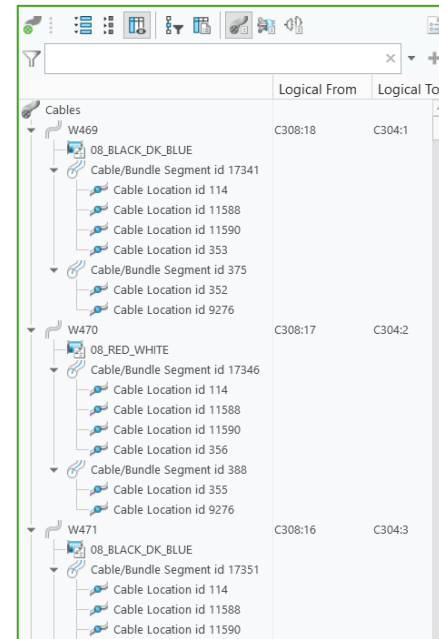
Laminate				
PLY_1	Sequence.1	LTE800_36	0.00	
CORE_1	Sequence.2	CORE_10MM	0.00	
PLY_2	Sequence.3	XE400_36	0.00	
PLY_3	Sequence.4	YE1200_36	0.00	
PLY_3.1				
PLY_3.2				
PLY_4	Sequence.5	YE1200_36	90.00	
PLY_4.1				
PLY_4.2				
		YE1200_36	0.00	
		YE1200_36	90.00	
			0.00	
			90.00	
			0.00	
			0.00	





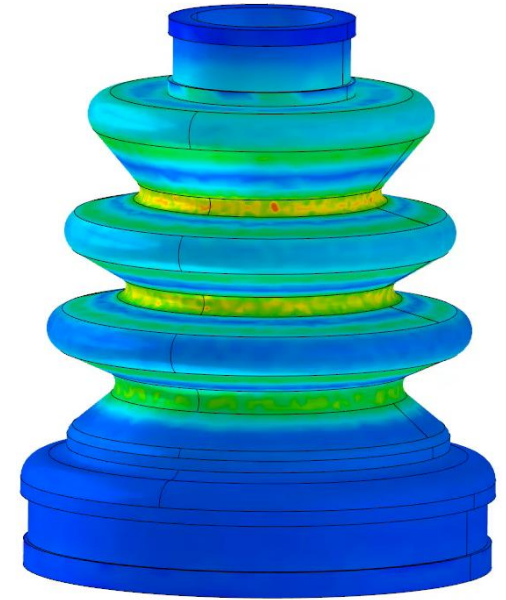
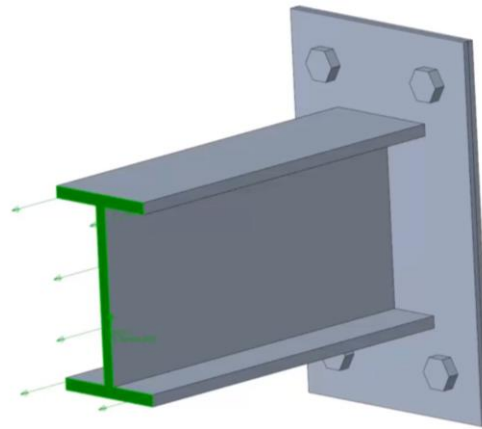
# DESIGN FOR ELECTRIFICATION

- Collaborate
- Reuse
- ECAD



# SIMULATION DRIVEN DESIGN

- Non linear contact
- Non linear materials
- Multi-physics





- easy to use
- easy to configure
- easy to deploy
- always up to date

## Streamlined Deployment

- Simple user access and entitlement control

## Enhanced Collaboration

- Multi-user, real time concurrent design

## Scalable PDM/PLM

- Integrated with Windchill+ for PLM



# EXCLUSIVE SaaS ROADMAP



Creo+ Product Launch



Configuration Management



Windchill+ Integration



Pre-paid Consumption

2023

2024

2025+

Creo+ Streaming



Enhanced Telemetry



Expanded Innovation



Customization Management



Government Certification



Future features will be continuously improved based on current usage/customer feedback



# LIVEWORX 23

A NEW ERA IN PRODUCT LIFECYCLE INNOVATION

# THANK YOU

[LIVEWORX.COM](https://www.liveworx.com) | [#LIVEWORX](https://twitter.com/liveworx)