

# Leading transformation

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# Challenges for industry

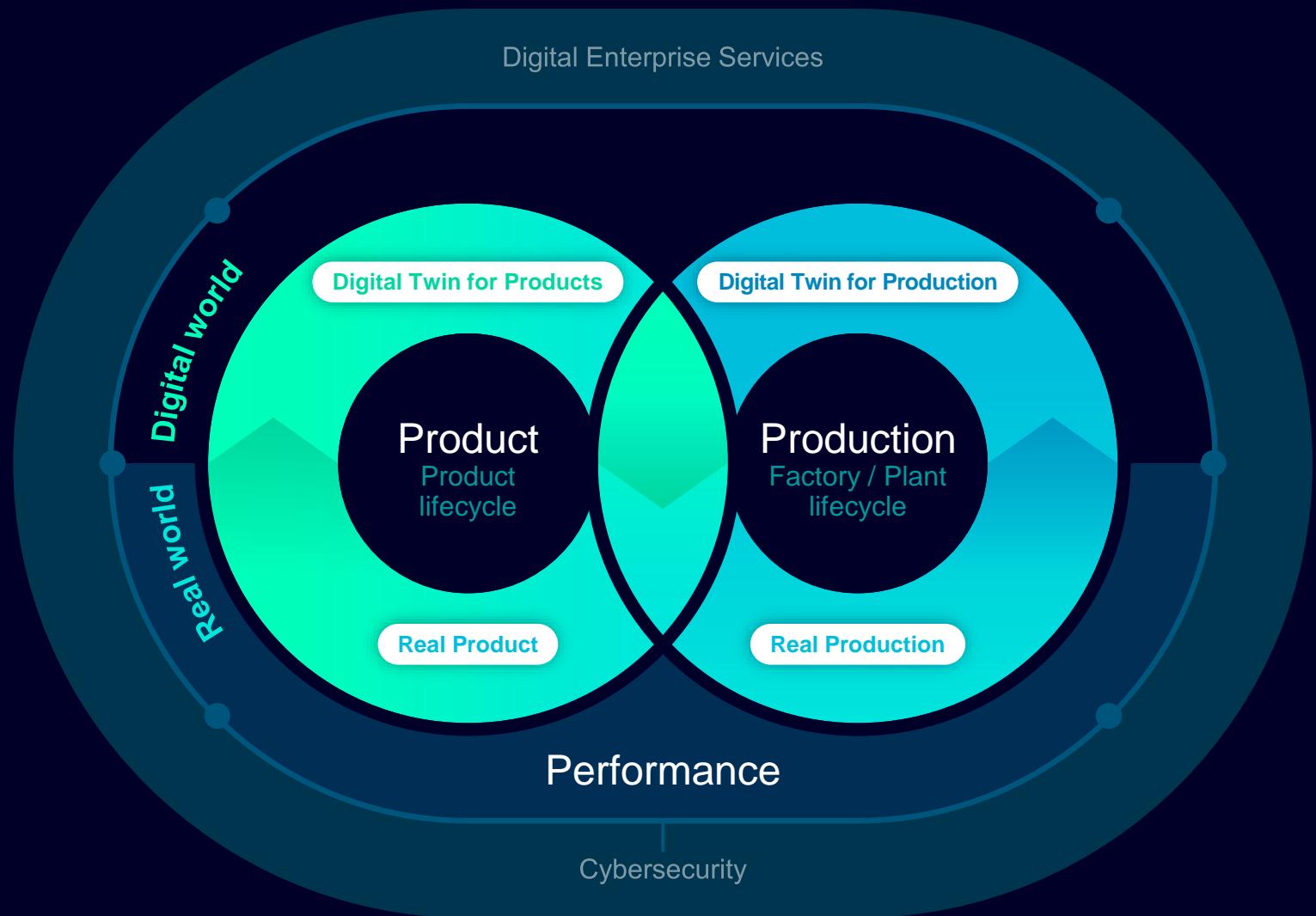
## Tasks

- sustainability Overdue 
- transformation Due 
- technology Due 
- supply chain Due 
- compliance Due 
- talent shortage Due 
- skills gap Due 
- cybersecurity Due 
- infrastructure Due 
- integrated

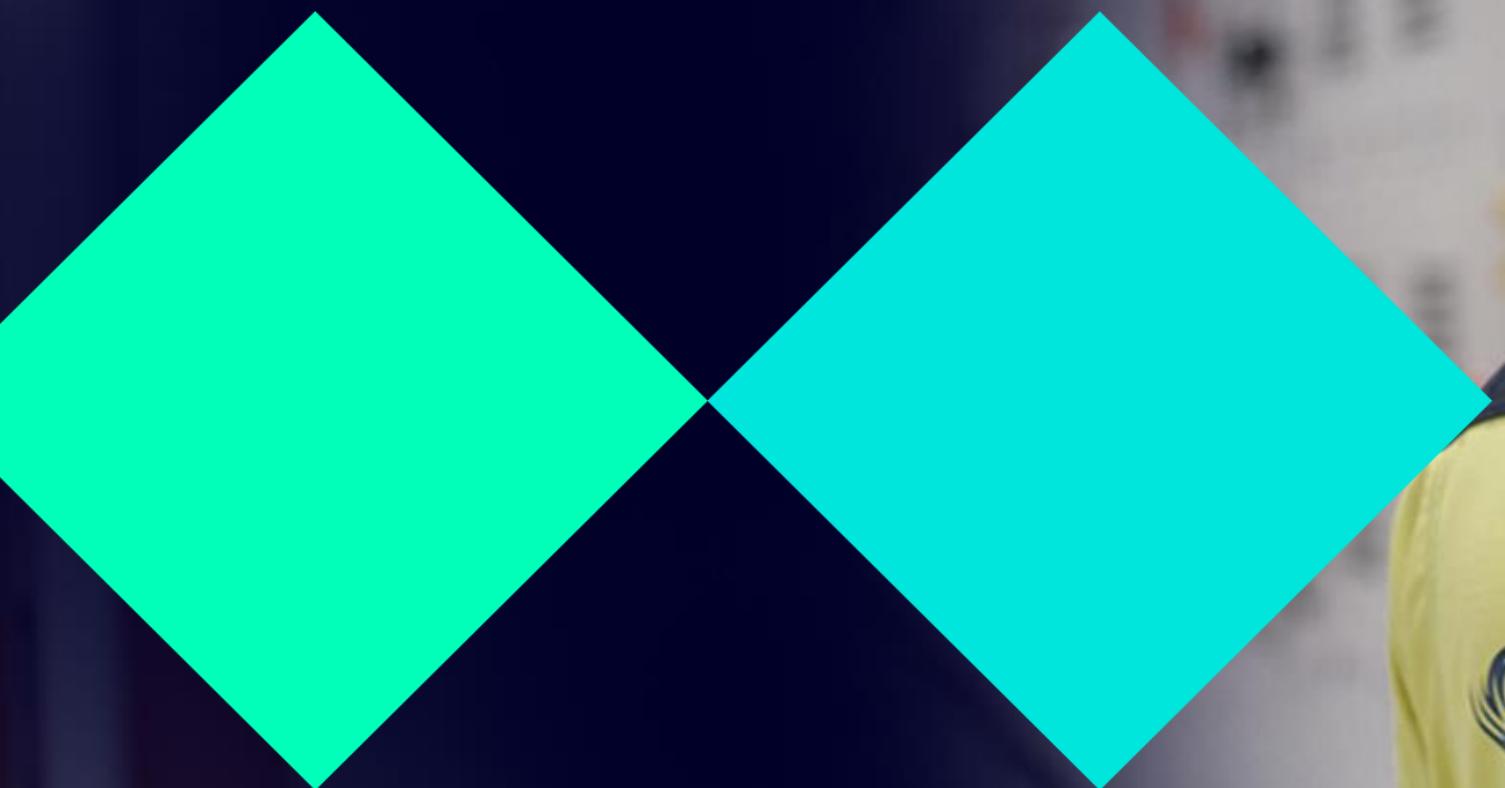
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# COMPREHENSIVE DIGITAL TWIN

## Combining the real and digital worlds



# Industrial metaverse



FREYR wants to scale their annual battery cell capacity. They want to do it extremely fast, and they want to do it sustainably.

We make it real.

Connecting design and manufacturing to scale up production in no time.



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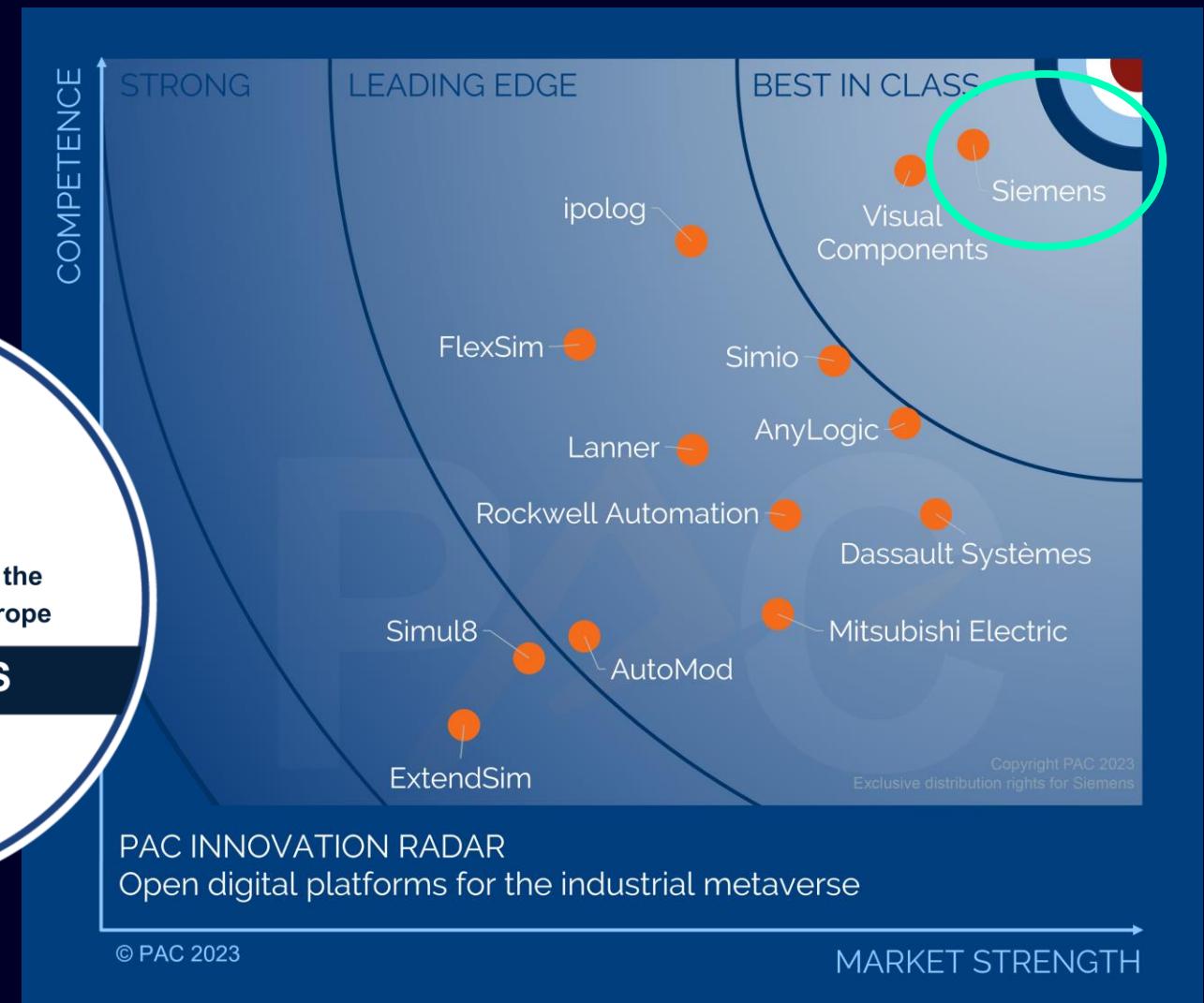


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Teknowlogy Group's PAC RADAR report ranked Siemens

#1 in Industrial Metaverse



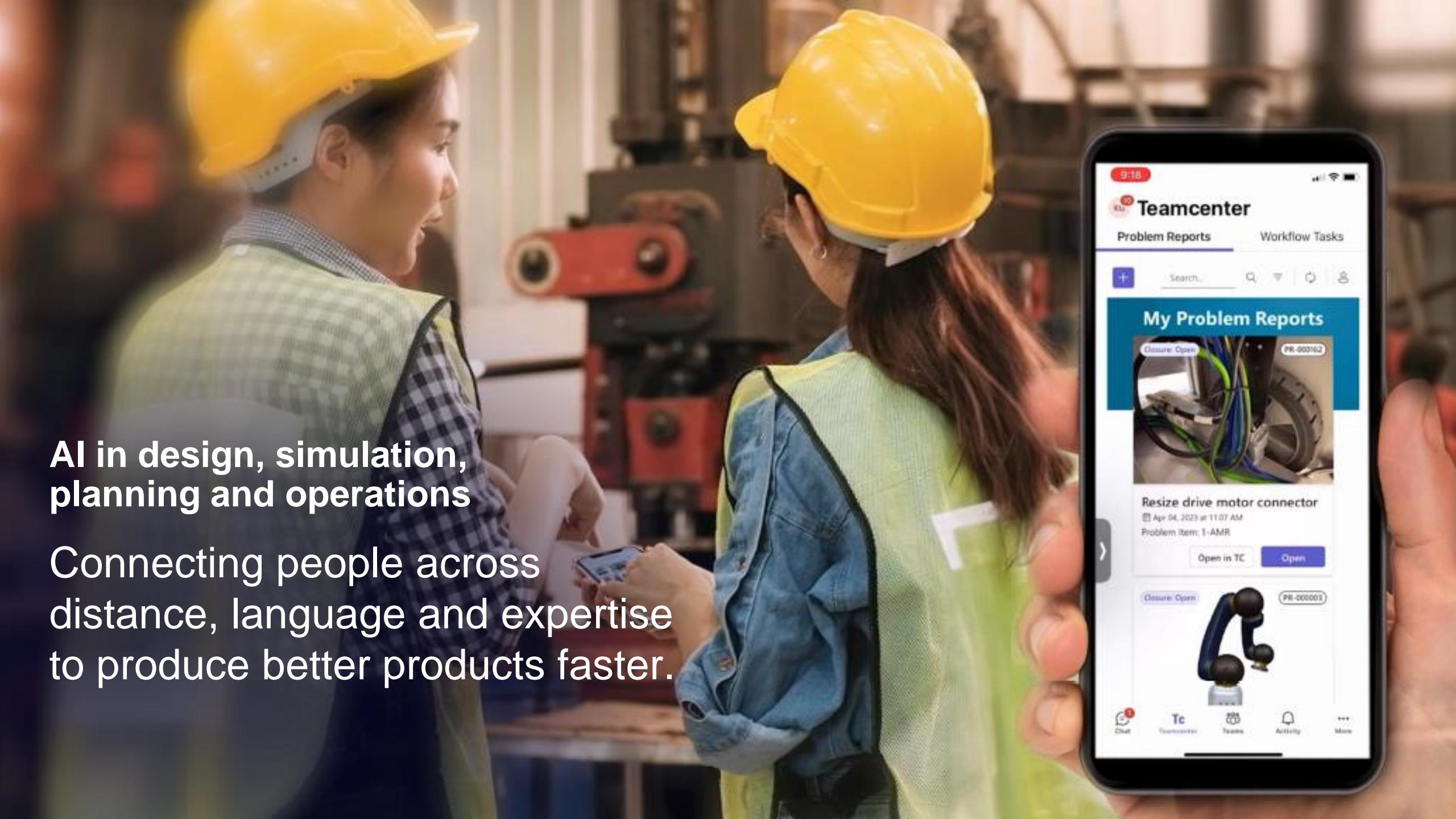
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# Industrial Artificial Intelligence

AI

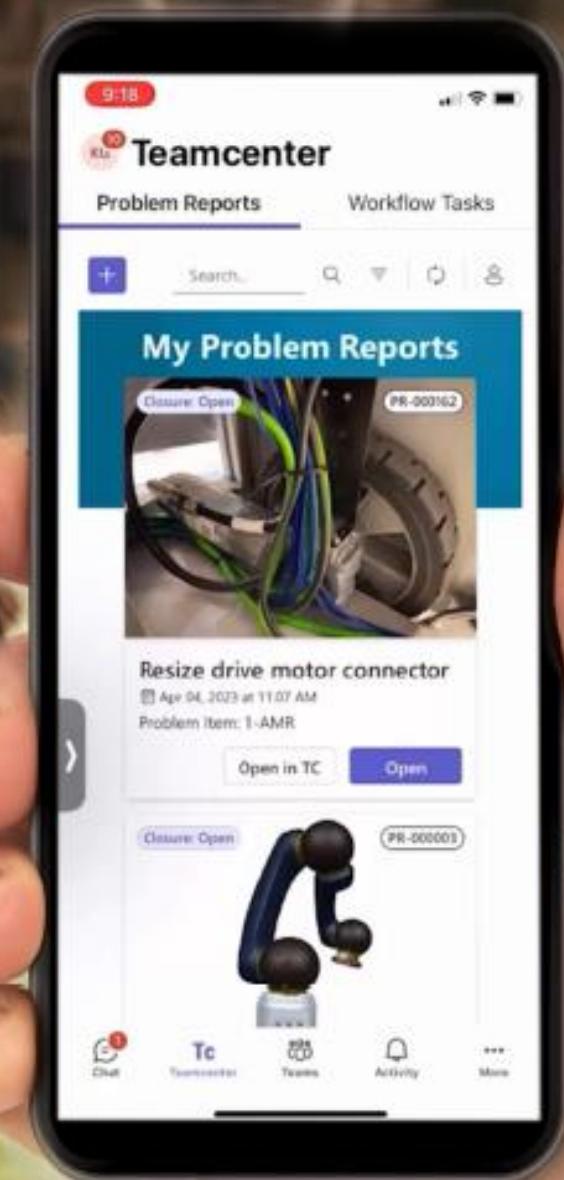


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AI in design, simulation,  
planning and operations

Connecting people across  
distance, language and expertise  
to produce better products faster.

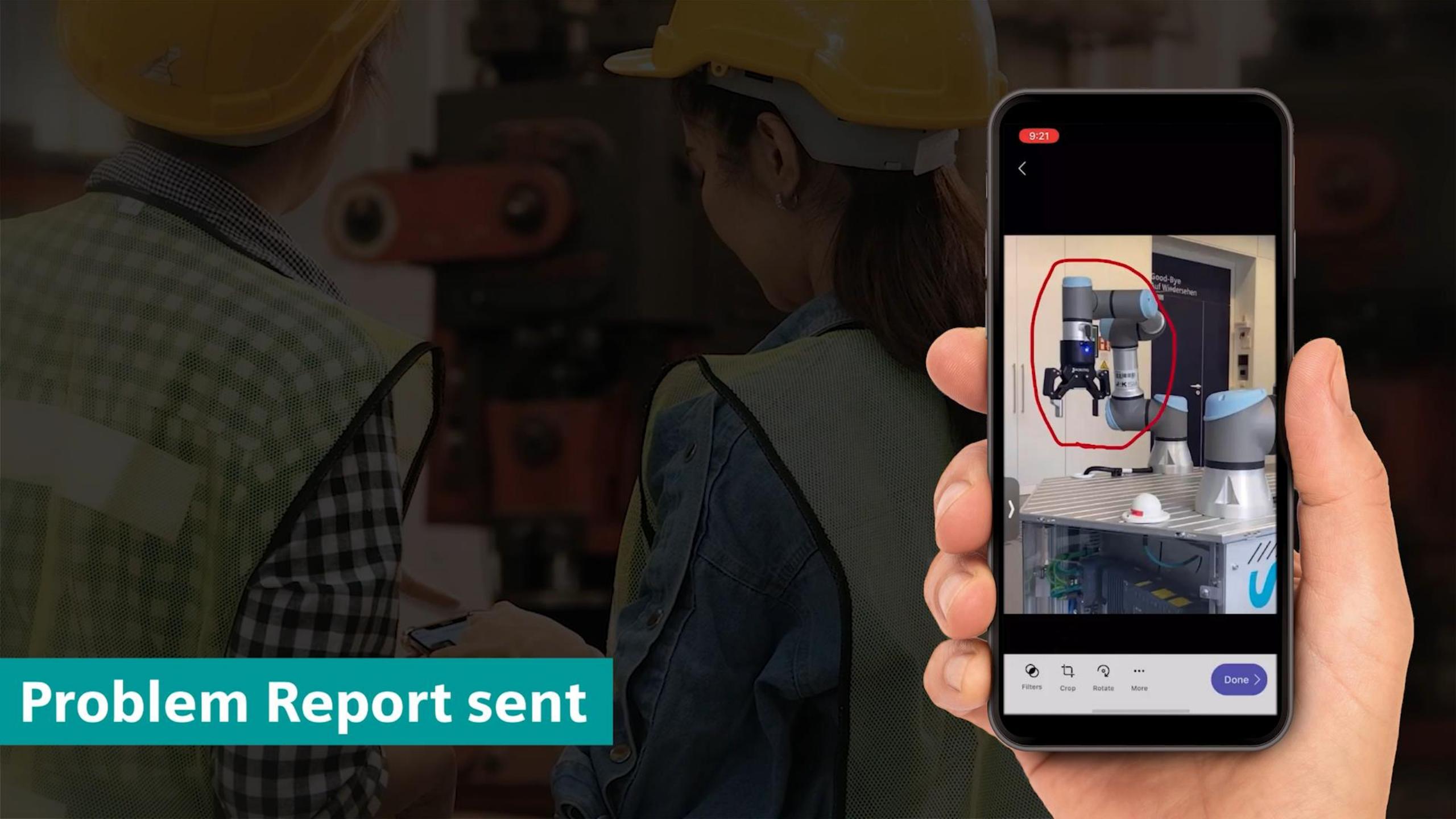


**Teamcenter**



**Microsoft Teams**





Problem Report sent



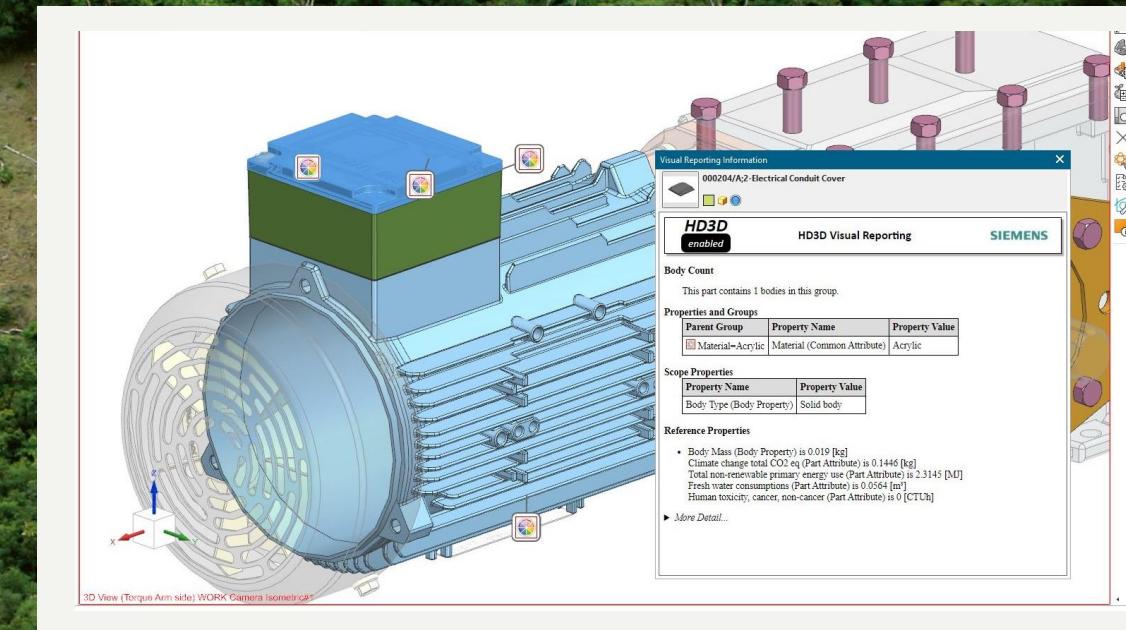
# Sustainability

When **80%** of a product's **environmental impact** is determined at the **concept phase**, digitalization across the product lifecycle is key.



# Environmental impact at the heart of product design

New NX capability enables smart decisions  
based on accurate up-to-date data  
early in the design process.



**NX** **NX - Modeling**

Type Here to Search

**File** **Home** **Curve** **Surface** **Assemblies** **Analysis** **View** **Selection** **Render** **Tools** **PMI** **Application** **Visual Reporting** **Teamcenter** **Coating**

**Datum Plane** **Sketch** **Extrude** **Revolve** **Hole** **Unite** **Subtract** **Trim Body** **Edge Blend** **Chamfer** **Shell** **Mirror Feature** **Pattern Feature** **Offset** **More**

**Construction** **Base**

**Move** **Delete** **Replace** **Offset** **More**

**Synchronous Modeling**

**Assign Materials** **Calculate Scores** **Sustainability Assess...** **Report Name** **Activate Report** **Deactivate Report**

**Assembly Navigator**

Object	Number	Revision
+ Sections		
- <b>000200/A;6-Gearmotor Main Assembly (Order...)</b>	000200	A
+ Component Patterns		
+ Constraints		
- <b>000208/A;2-Motor Assembly</b>	000208	A
+ Component Patterns		
+ Constraints		
- <b>000192/A;2-Frame</b>	000192	A
- <b>000218/A;2-Fan Cover</b>	000218	A
- <b>000177/A;2-Fan</b>	000177	A
- <b>000183/A;2-End Shield</b>	000183	A
- <b>000222/A;2-Name Plate</b>	000222	A
- <b>000199/A;4-Electrical Conduit</b>	000199	A
- <b>000204/A;2-Electrical Conduit Cover</b>	000204	A
- <b>000220/A;2-Drive Shield</b>	000220	A
- <b>000194/A;2-Eye Bolt</b>	000194	A
- <b>000187/A;2-Retaining Bolt x 6</b>	000187	A
+ <b>000191/A;2-Motor Electronics</b>	000191	A
- <b>000216/A;2-End Bearing</b>	000216	A
- <b>000223/A;2-Start Bearing</b>	000223	A
- <b>000213/A;2-Drive Shaft</b>	000213	A
- <b>000188/A;2-Tension Washer</b>	000188	A
- <b>000180/A;2-Oil Seal</b>	000180	A
- <b>000190/A;3-Cable Entry Blindstop Big</b>	000190	A
- <b>000195/A;2-Cable Entry Blindstop Small</b>	000195	A
- <b>000207/A;2-Sealing_Top</b>	000207	A
- <b>000198/A;2-Sealing_Bottom</b>	000198	A
- <b>000193/A;2-Screw For Electric Cover x 2</b>	000193	A
- <b>000219/A;2-Screw for Nameplate x 2</b>	000219	A
- <b>000203/A;2-Clip for Bearing Big</b>	000203	A
- <b>000209/A;2-Clip for Bearing Small</b>	000209	A
- <b>000182/A;2-Bolt for Fan Cover x 3</b>	000182	A
- <b>000215/A;2-Distance Piece for Fan Cover ...</b>	000215	A
+ <b>000202/A;2-Gearbox Assembly</b>	000202	A
- <b>000187/A;2-Retaining Bolt x 4</b>	000187	A

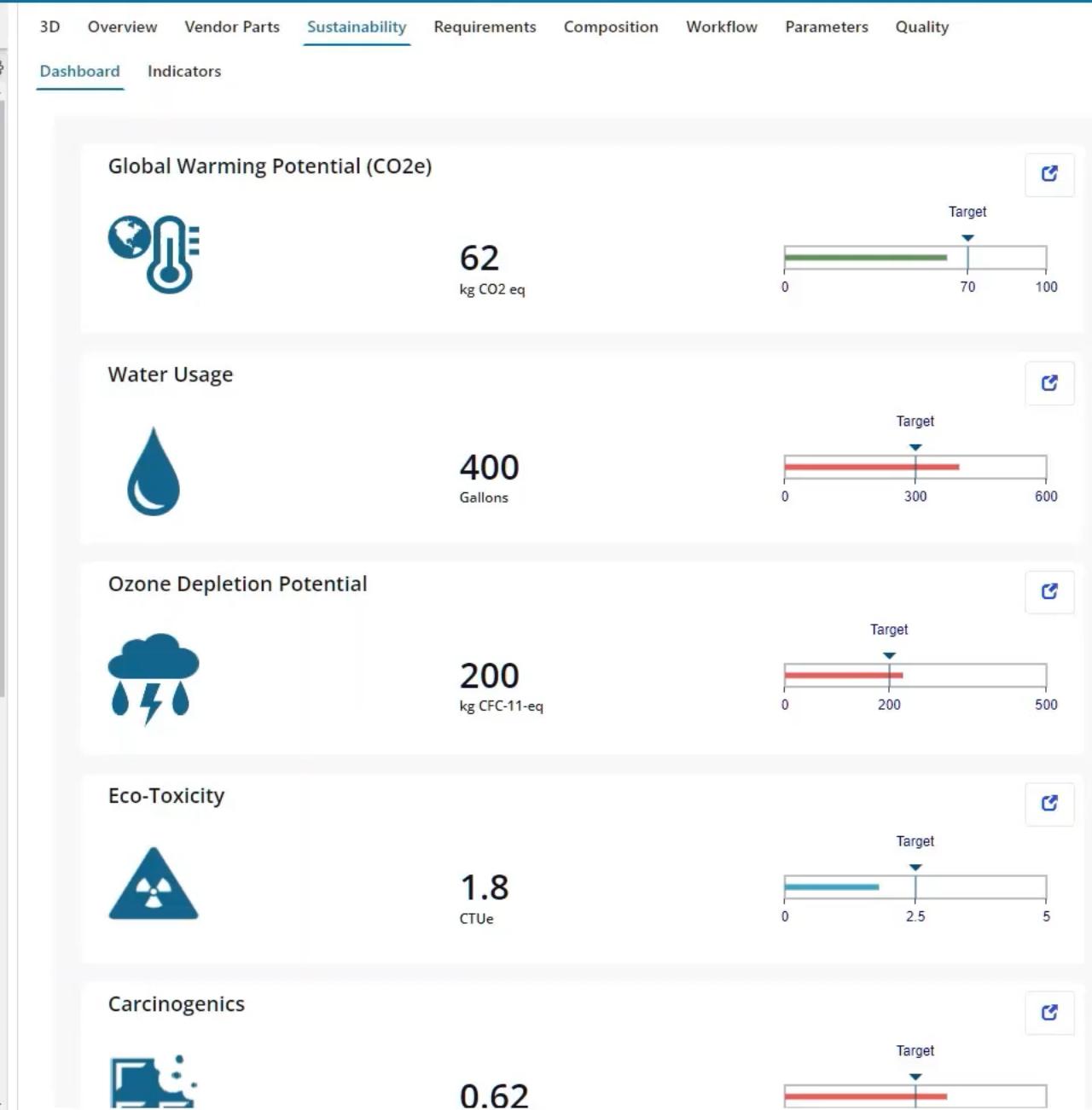
**Summary** **Dependencies**

**000200/A;6-Gearmotor Main Assembly** **000192/A;2-Frame**

3D View

Work part set to displayed part

Element	ID	Revision	Vendor Parts	
Gearmotor Main Assembly	000200	A	 Request Calculation  View Report	
Motor Assembly x1	000208	A		
Frame x1	000192	A	1	Make
Cable Entry Blindstop Big x1	000190	A	1	Make
Distance Piece for Fan Cover x1	000215	A	1	Make
Screw for Nameplate x4	000219	A	4	Buy 000463(000362)
Clip for Bearing Small x2	000209	A	2	Buy 000464(000362)
Fan Cover x1	000218	A	1	Make
Drive Shaft x1	000213	A	1	Make
Oil Seal x1	000180	A	1	Make
Electrical Conduit x1	000199	A	1	Make
Start Bearing x1	000223	A	1	Make
Distance Piece for Fan Cover x1	000215	A	1	Make
End Shield x1	000183	A	1	Make
Screw For Electric Cover x4	000193	A	4	Buy 000465(000362)
Bolt for Fan Cover x4	000182	A	4	Make
Distance Piece for Fan Cover x1	000215	A	1	Make
Retaining Bolt x1	000187	A	1	Make
Retaining Bolt x1	000187	A	1	Make
Tension Washer x1	000188	A	1	Buy 000466(000362)
Bolt for Fan Cover x1	000182	A	1	Make
Retaining Bolt x2	000187	A	2	Make
Motor Electronics x1	000191	A	1	Make
Sealing_Top x1	000207	A	1	Make
Screw for Nameplate x2	000219	A	2	Make 000463(000362)
Distance Piece for Fan Cover x1	000215	A	1	None
Bolt for Fan Cover x1	000182	A	1	None
Fan x1	000177	A	1	None 000363/000362



## Leader in Aerospace & Defense

100%

US National security launch vehicles  
US submarines  
US aircraft carriers  
and manned space flights

95%

Global satellites

70%

Global airframes

are designed and/or manufactured  
with Siemens Software



# Recent A&D wins and recognition of excellence

## Recent wins



## NG Strategic Excellence Award



SIEMENS

Leader in Automotive & Transportation

All top 23

of the largest car manufacturers  
use Siemens Xcelerator

All top 20

global plug-in electric car manufacturers  
use Siemens Xcelerator



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# Recent Automotive and Transportation wins and recognition of excellence

## Recent wins



## GM Supplier of the Year Award



**SIEMENS**

Leader in Semiconductor

100%

of the Top 50 Global  
Semiconductor\* companies  
use Siemens Xcelerator.

This includes:

- Electrical system
- Printed circuit board design
- Fluid & mechanical simulation software
- Semiconductor lifecycle management
- Closed loop manufacturing

\*According to IC Insights



SIEMENS

Leader in Consumer Electronics

9 out of 10

Top consumer electronics  
companies worldwide use  
Siemens Xcelerator.



SIEMENS

# 14%

Annualized  
recurring revenue

# 74%

Small and medium  
businesses



**Panasonic**  
Gulfstream

JLR



PANGEA™  
AEROSPACE



**HARSH**  
INTERNATIONAL, INC.

**BAE SYSTEMS**

DAIMLER TRUCK



SIMPLE  
energy



**HALL**  
DESIGNS



**toolcraft**

**SIEMENS**



€1B  
Cloud ARR



Real Digital