

## Panel: Digital-Physical Systems

Bill O'Neill, VP and Head of Digital Enterprise Center of Competence at Siemens in the Americas

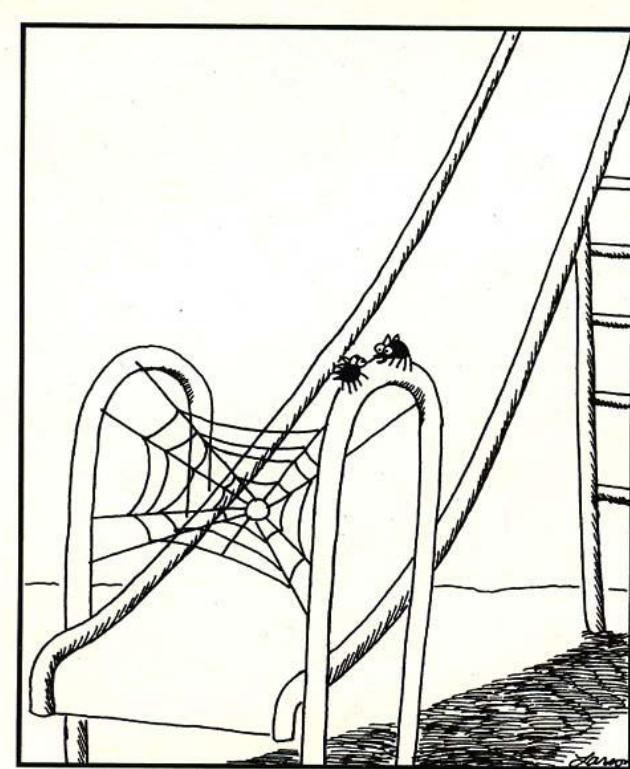
GUIRR Conference, October 26, 2016, Washington, D.C.

# The Digital Enterprise opportunity for US manufacturing

By Gary Larson

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The opportunity for manufacturers  
is unprecedented



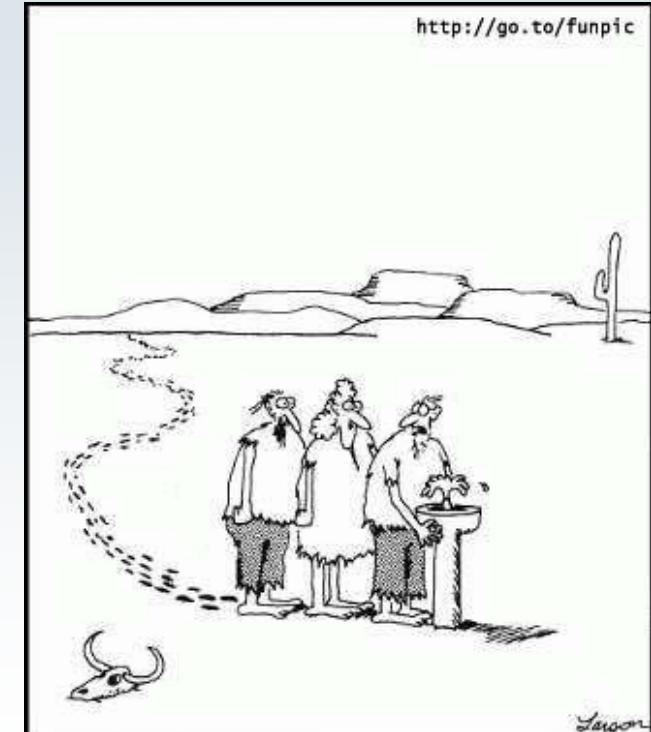
"If we pull this off, we'll eat like kings."

The competition is getting smarter



"Drive, George, drive! This  
one's got a coat hanger!"

There's no time to waste



"Now just hold your horses, everyone. ... Let's  
let it run for a minute or so and see if it gets  
any colder."

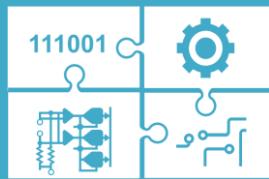
Technological forces are transforming industry

## How are digital modeling tools changing manufacturing processes?

Changing the way products come to life



GENERATIVE DESIGN



INTELLIGENT MODELS

Changing the way products are realized



MACHINE LEARNING



ADDITIVE MANUFACTURING

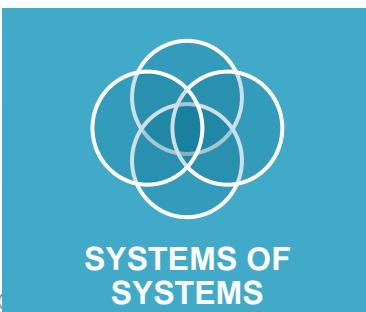
Changing the way products evolve



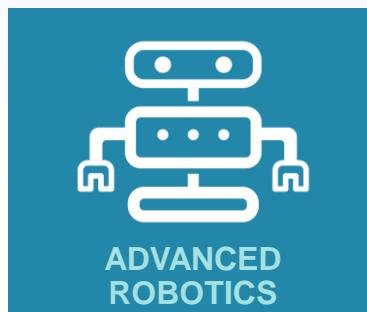
CLOUD TECHNOLOGY



KNOWLEDGE AUTOMATION



SYSTEMS OF SYSTEMS



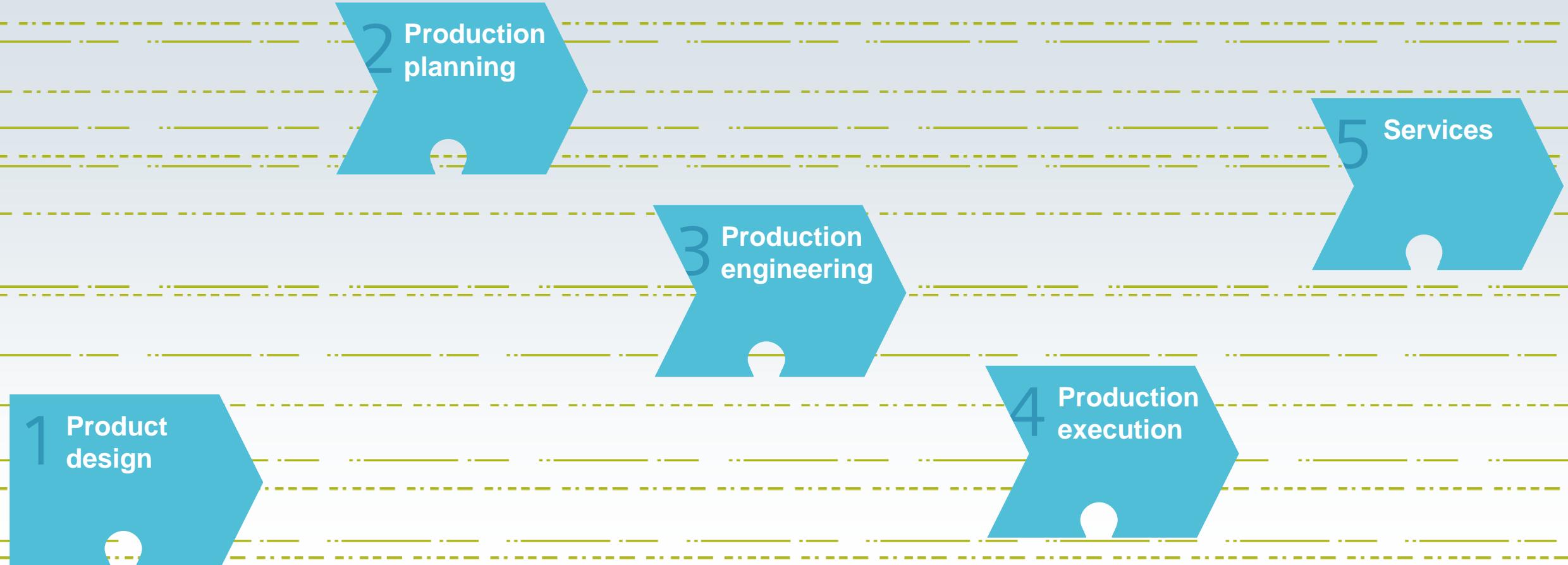
ADVANCED ROBOTICS

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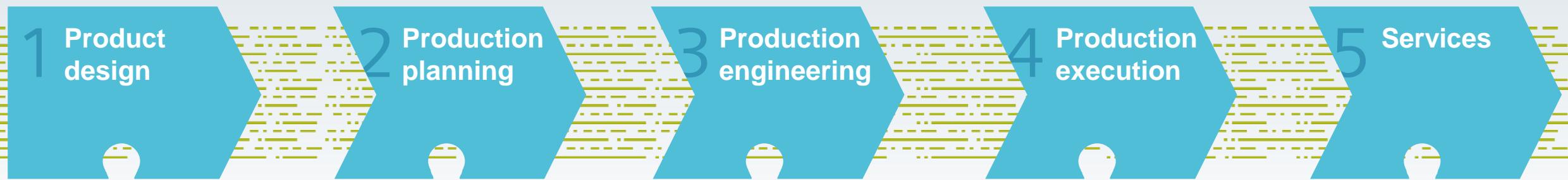


BIG DATA ANALYTICS

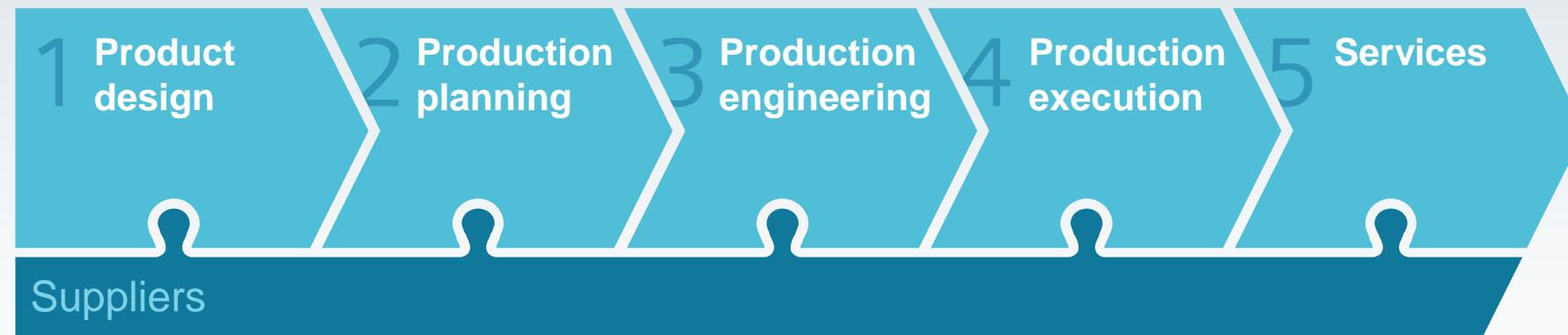
It is necessary to integrate and digitalize the entire value chain



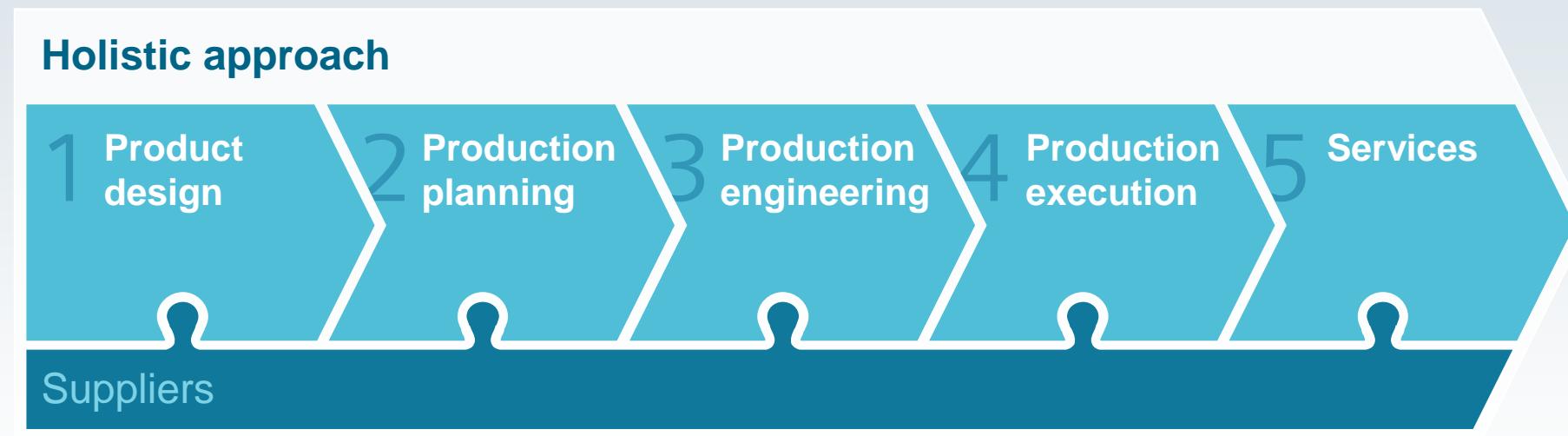
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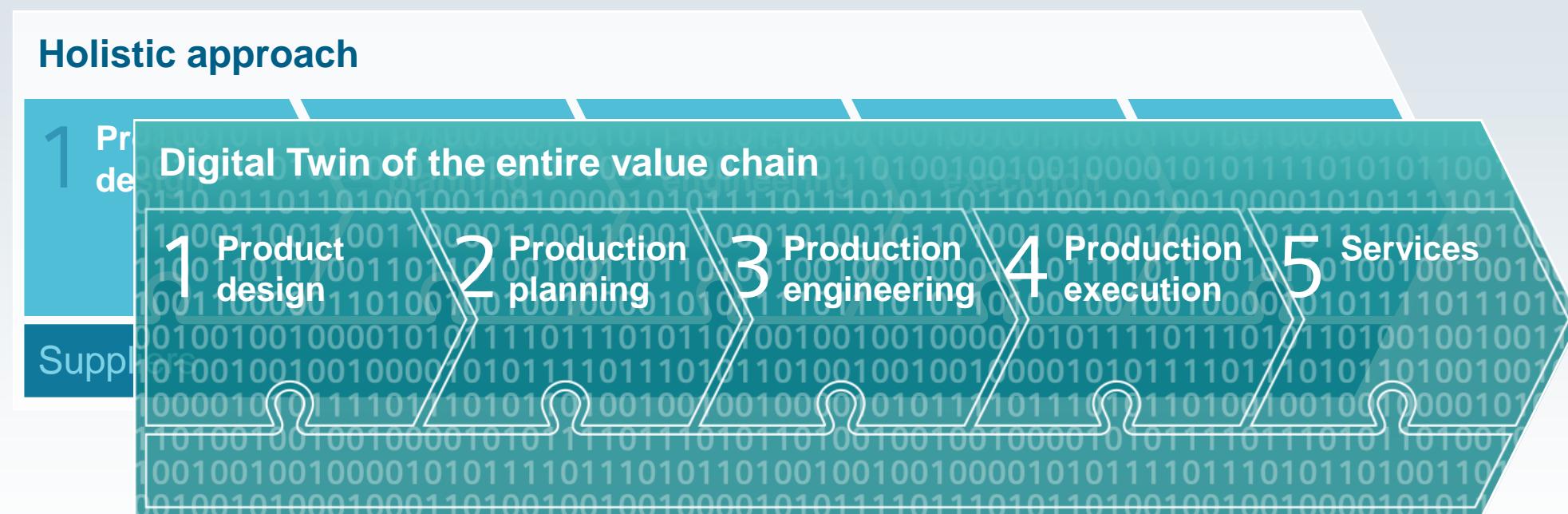
And take a holistic approach



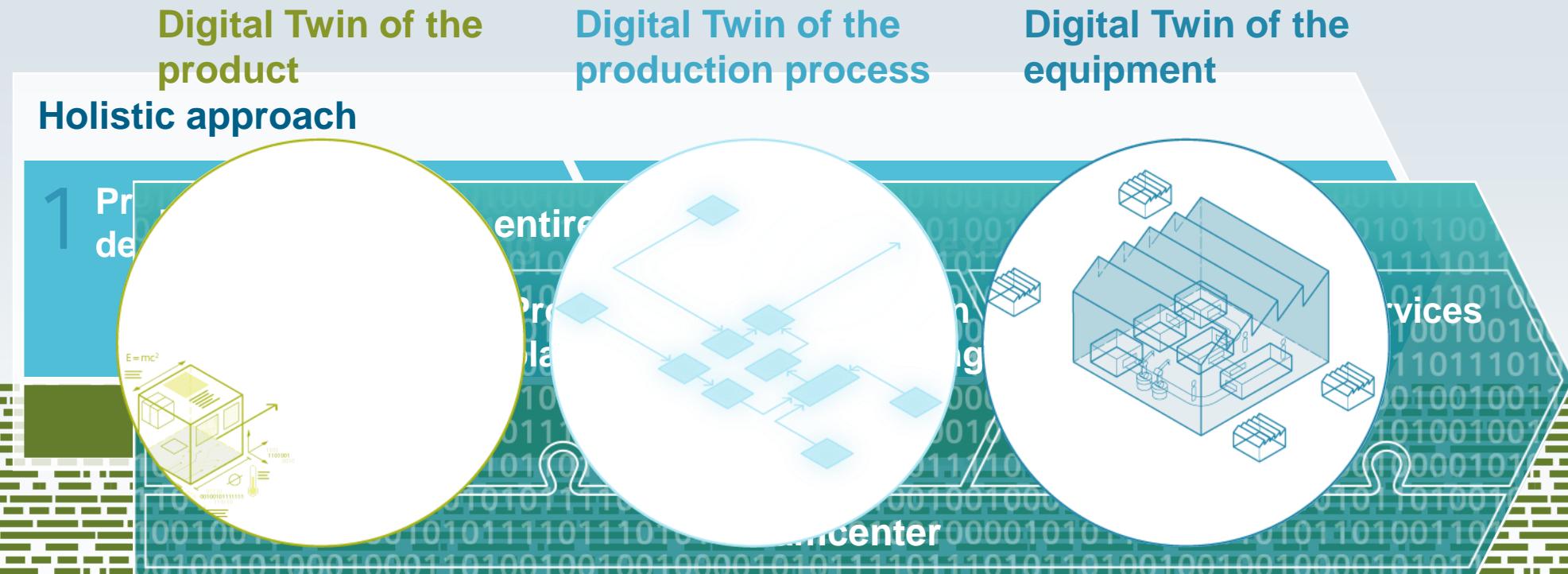
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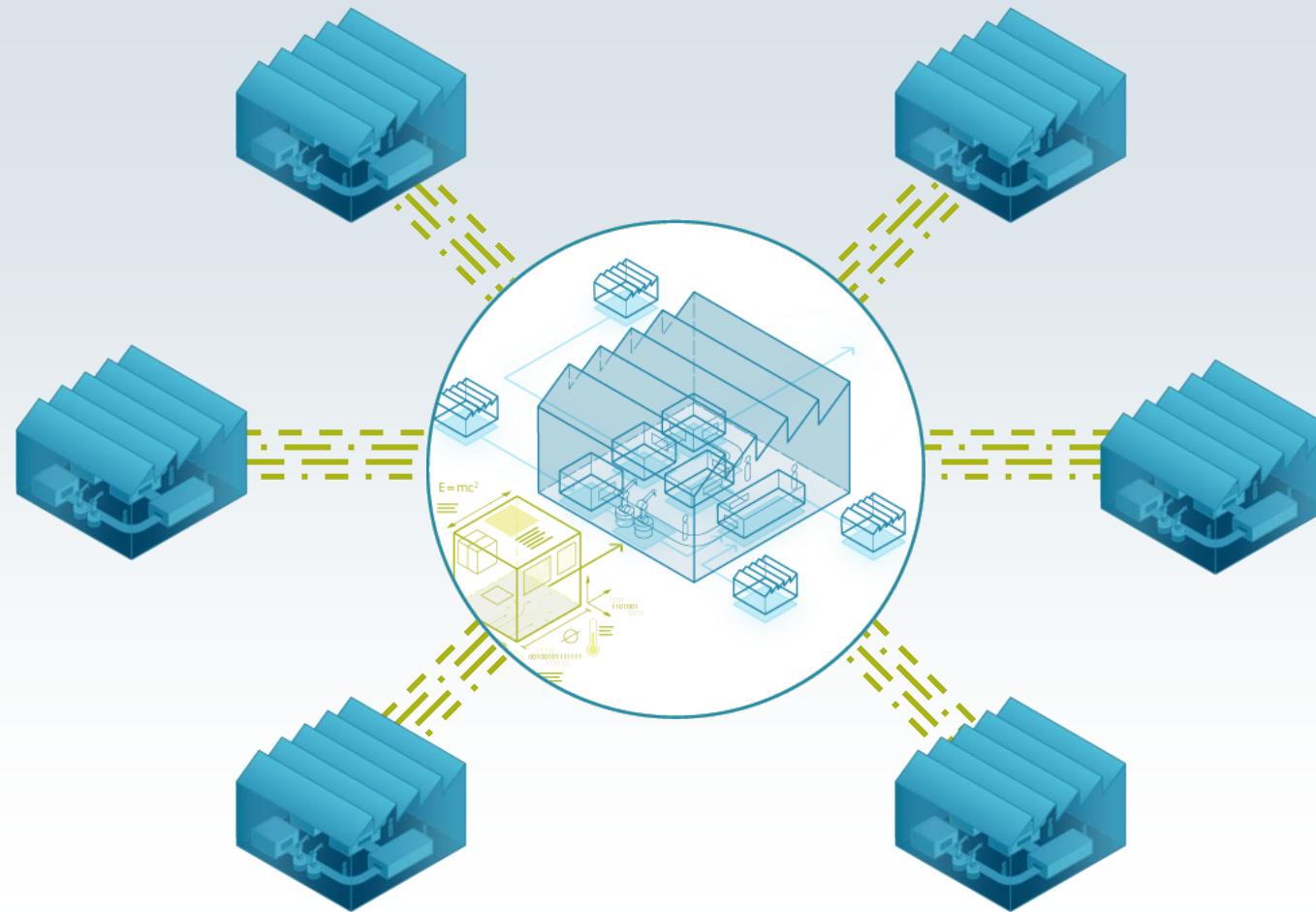
## And take a holistic approach



# Technical domains are integrated into ONE data model

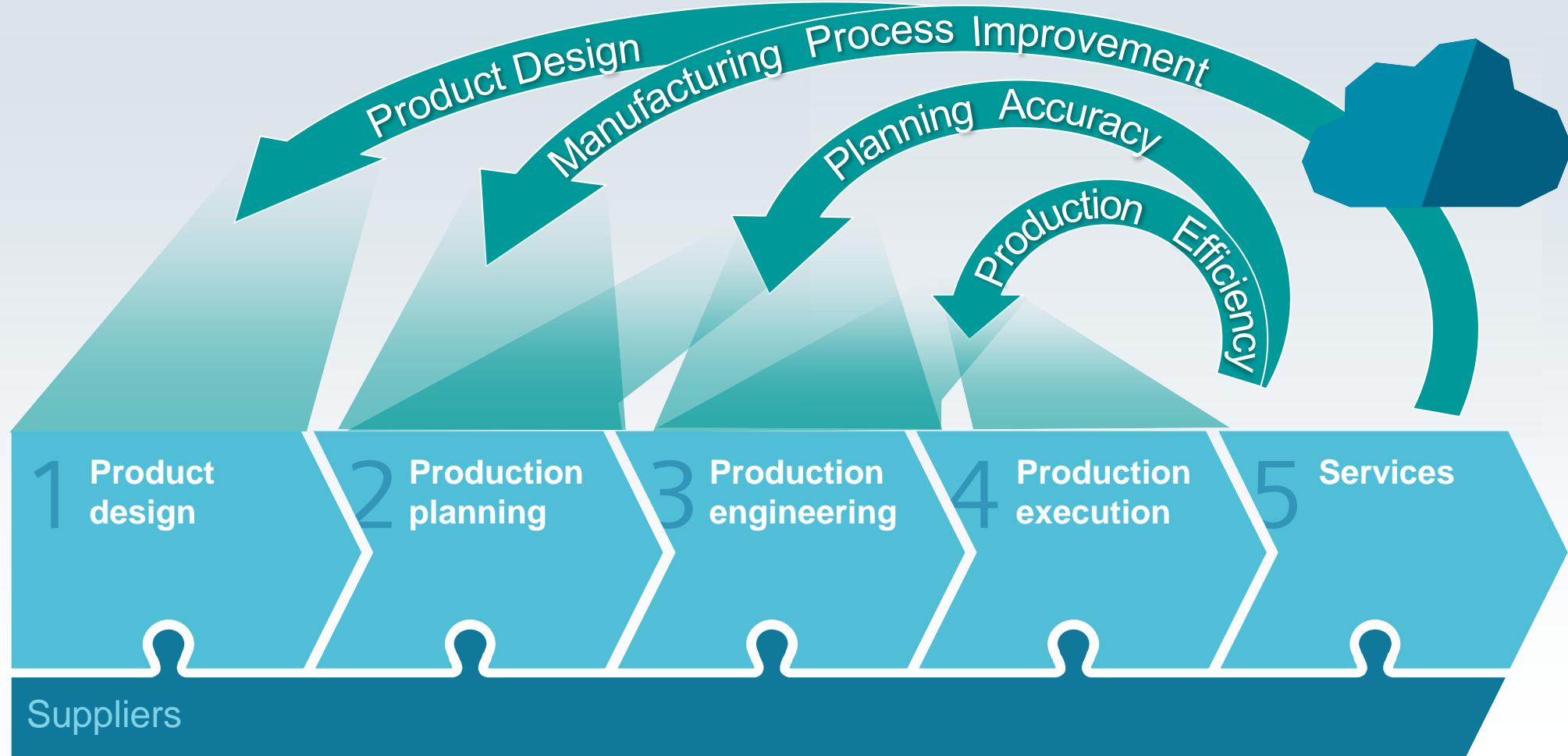


**All stakeholders can contribute to and leverage the optimized model**



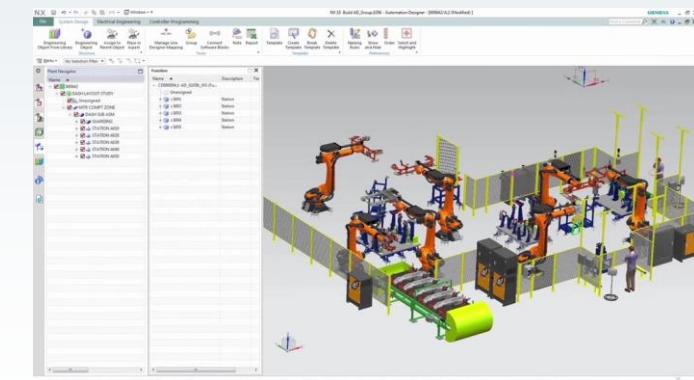
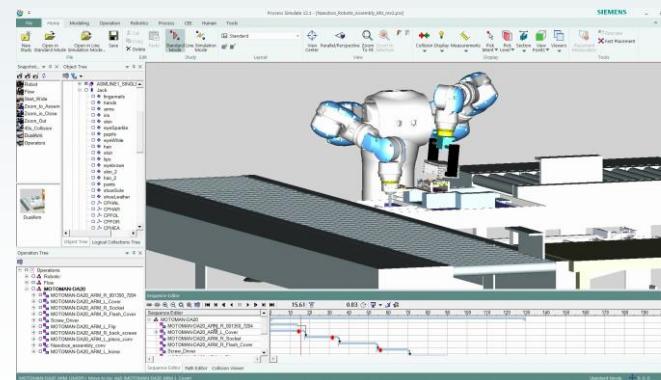
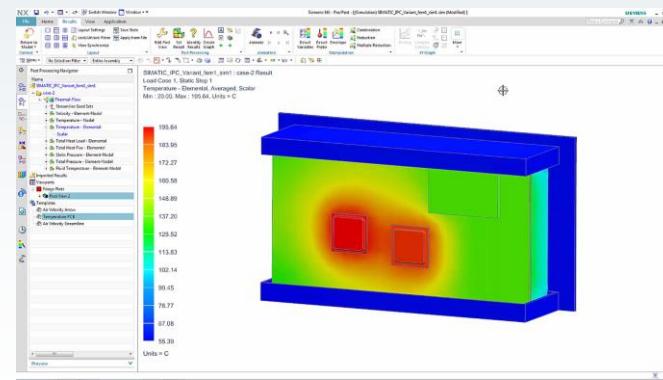
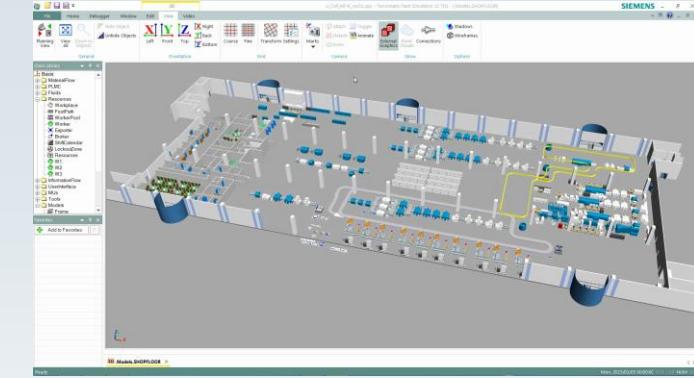
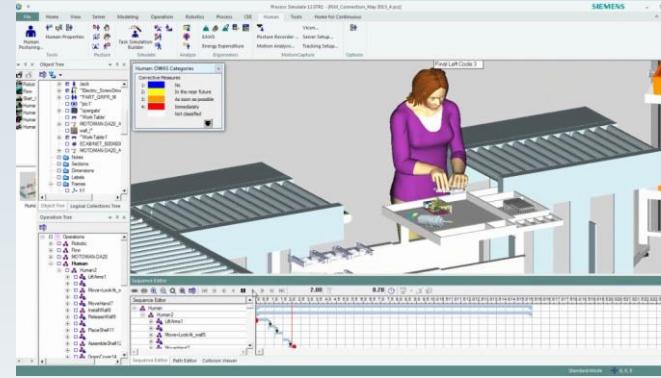
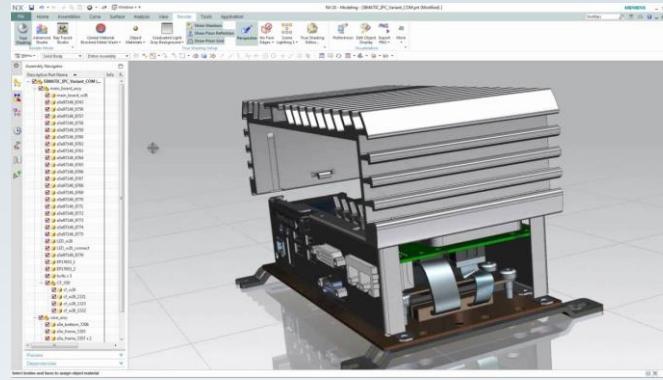
And data analytics close the loop,  
feeding insights back into the value chain

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I'd really love to **SHOW** you how this comes together in practice  
but I only have ten minutes

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## Maserati: Ghibli

Time-to-market  
reduced from  
30 to 16 months.

Production tripled.



## Local Motors: Strati

First 3D printed  
structural car

Totally digital process  
to connect design  
and manufacture

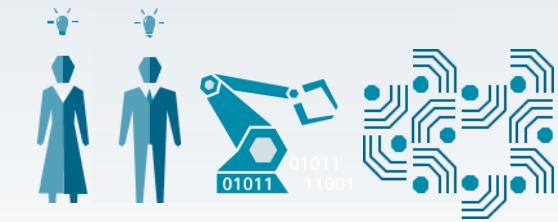
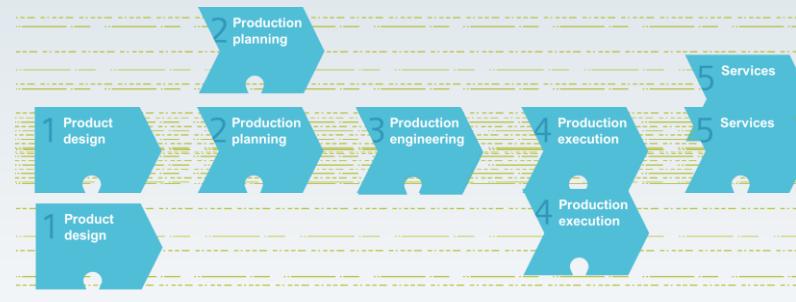
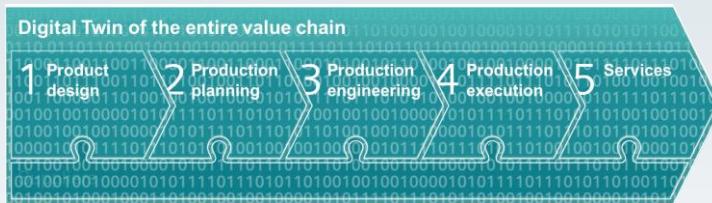


# Digitalization Ingredients

A company needs these “digital companions” to transform into a digital enterprise

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# Revolutionary Results with an Evolutionary Process



# Intelligence of Digital Twin

1

# Connectivity of Digital Thread

1

# Insight from Lifecycle Analytics

# Moving industry from curiosity to commitment

## Challenges along the path and how we can overcome them

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How do I get started

Organizational

How does this affect  
supplier relations

What is “our” end-  
state

How do I deal with  
legacy systems

Educational

How do I determine  
ROI

What are my  
competitors doing

Cultural

How long will this  
take

Technological

Who else can help

# Moving industry from curiosity to commitment

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Unique world class  
showcases where  
industry, academia,  
and government  
explore  
digitalization

DMDII, Chicago, IL

