Digital Transformation Summit

October 7-9, 2024   Southlake, TX

The State of A&D Digital Transformation Maturity

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Siemens Digital Industries Software

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Digital Transformation Survey

scan for slides and survey

click here for the link

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Digital transformation: Importance

87% key to strategy or important

10% customer expects it

3% fad or not important

97% important

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Digital transformation: Expected benefits

60% reduce cost

50% efficient workforce

49% faster time to market

build complex products   improve supply chain

sustainability

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Digital transformation: Status

55% mature or complete

34% transforming now

11% planning / not started

55%
done

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Digital transformation: Seeing expected ROI

72% no or not yet

22% yes: as expected

6% yes: more than expected

72%
⬇ ROI

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Digital transformation: The endless loop
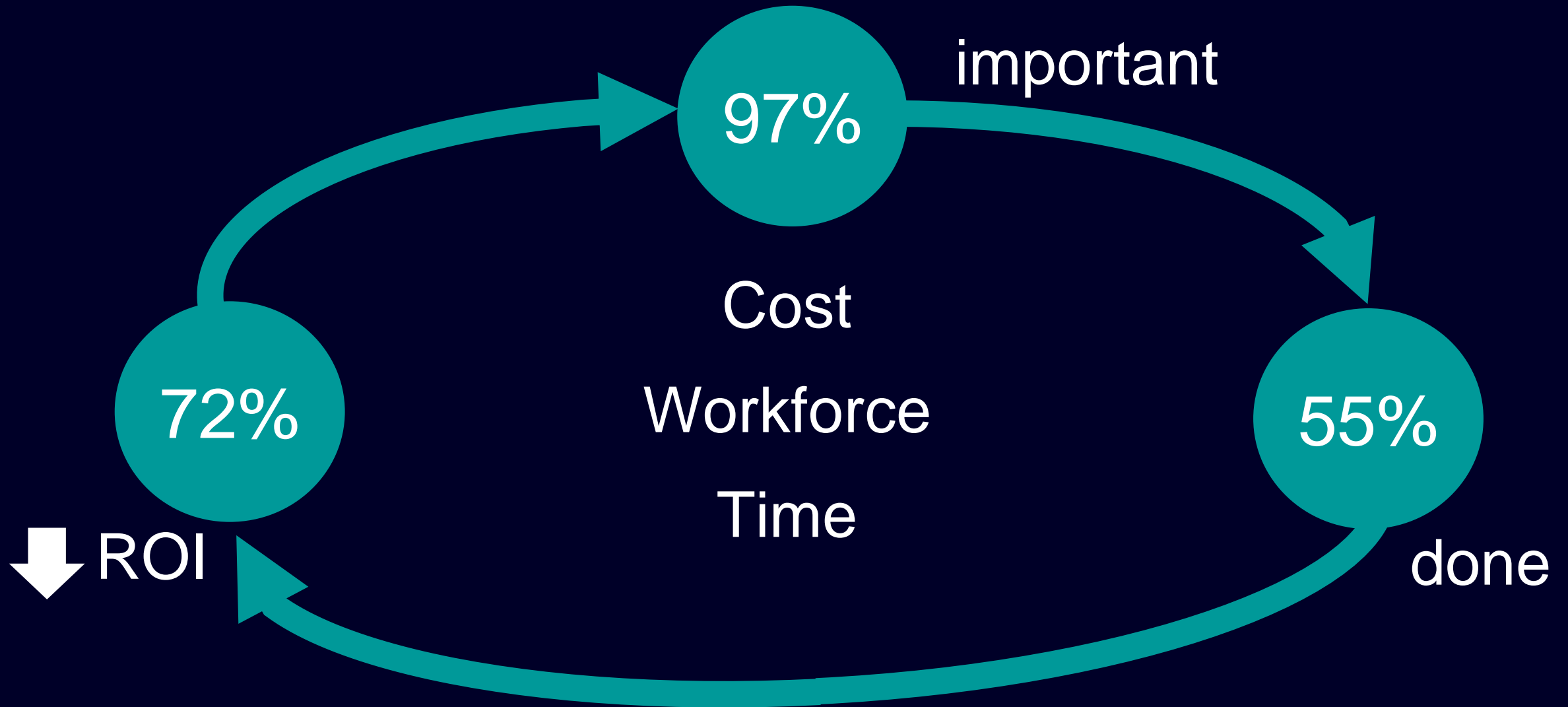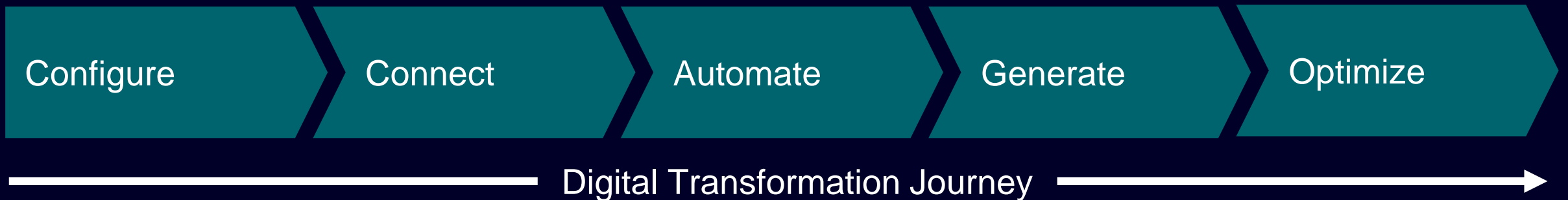
important

97%

Cost

Workforce

Time

72%

55%

↓ ROI

done

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Digital Transformation Maturity

Configure → Connect → Automate → Generate → Optimize

Digital Transformation Journey

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Digital transformation maturity assessment

| Plan | Configure | Connect | Automate | Generate | Optimize |

Digital Transformation Journey

Current State Design

81%

| 12% | 26% | 43% | 15% | 4% | 1% |

72% ⬇ ROI

Current State Manufacturing

| 16% | 34% | 40% | 2% | 6% | 1% |

90%

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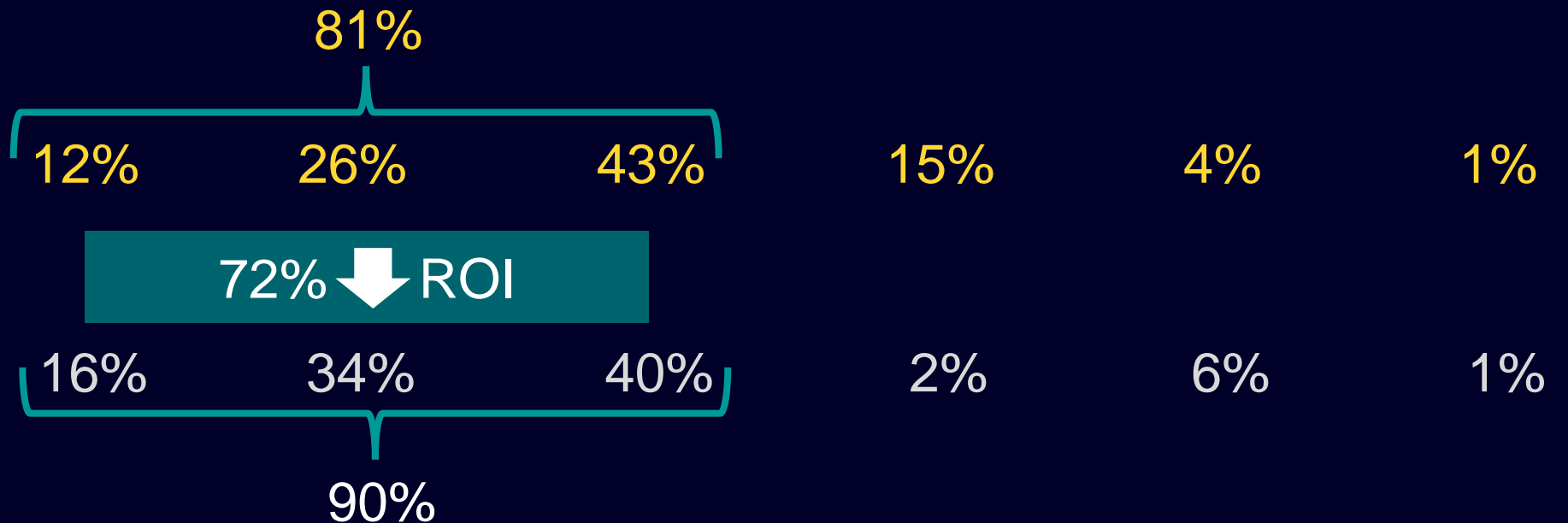
Digital transformation: Implementation issues

50% disconnected tools & systems
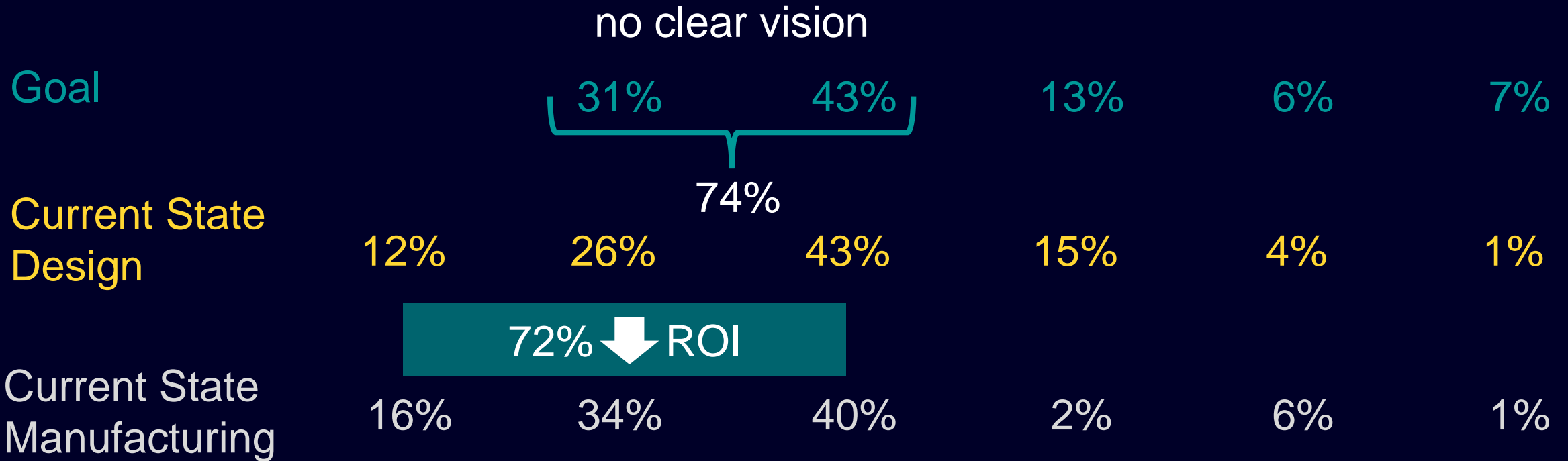
47% underestimated scope

company culture   unusable data
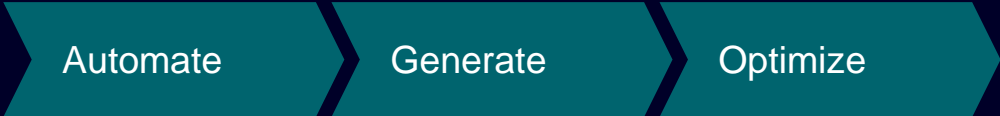
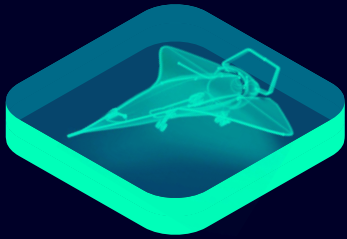cost to implement   progress / ROI

23% no clear vision

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Digital transformation maturity assessment

Plan	Configure	Connect	Automate	Generate	Optimize

Digital Transformation Journey

no clear vision

	Plan	Configure	Connect	Automate	Generate	Optimize
Goal		31%	43%	13%	6%	7%
		74%				
Current State Design	12%	26%	43%	15%	4%	1%
		72% ⬇ ROI				
Current State Manufacturing	16%	34%	40%	2%	6%	1%

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Maturing your digital transformation

Automate → Generate → Optimize

Digital Threads

Comprehensive Digital Twin

AI
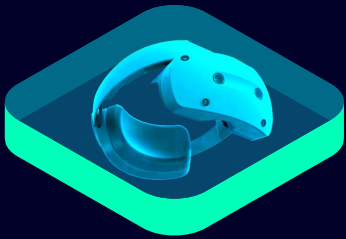
Immersive Engineering

People

Process

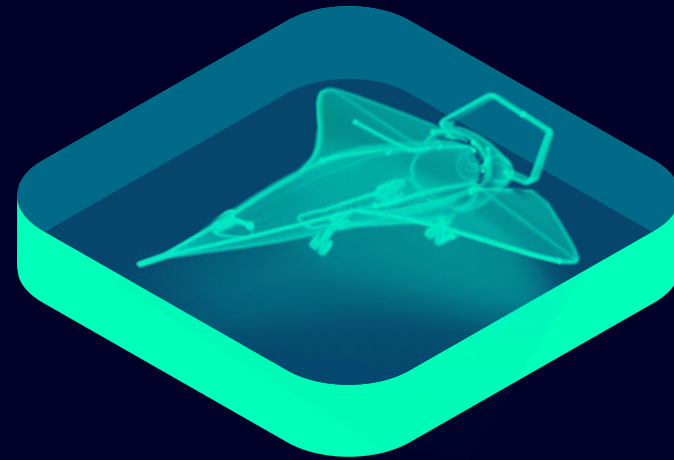Tools

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Digital Threads

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Digital Threads

Conceptual Design

Systems Architecture

RAMS

Manufacturing Planning

Electronics

Electrical

Software

Mechanical

Verification Testing

Manufacturing Operations

Asset Operations and Sustainment

Requirements Management

Analysis & Simulation

Program Management

Factory Construction

Simulation Driven Verification

Manufacturing Execution

Supplier Collaboration

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Comprehensive Digital Twin

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Product
Digital Twin

Production
Digital Twin

Comprehensive
Digital Twin

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AI

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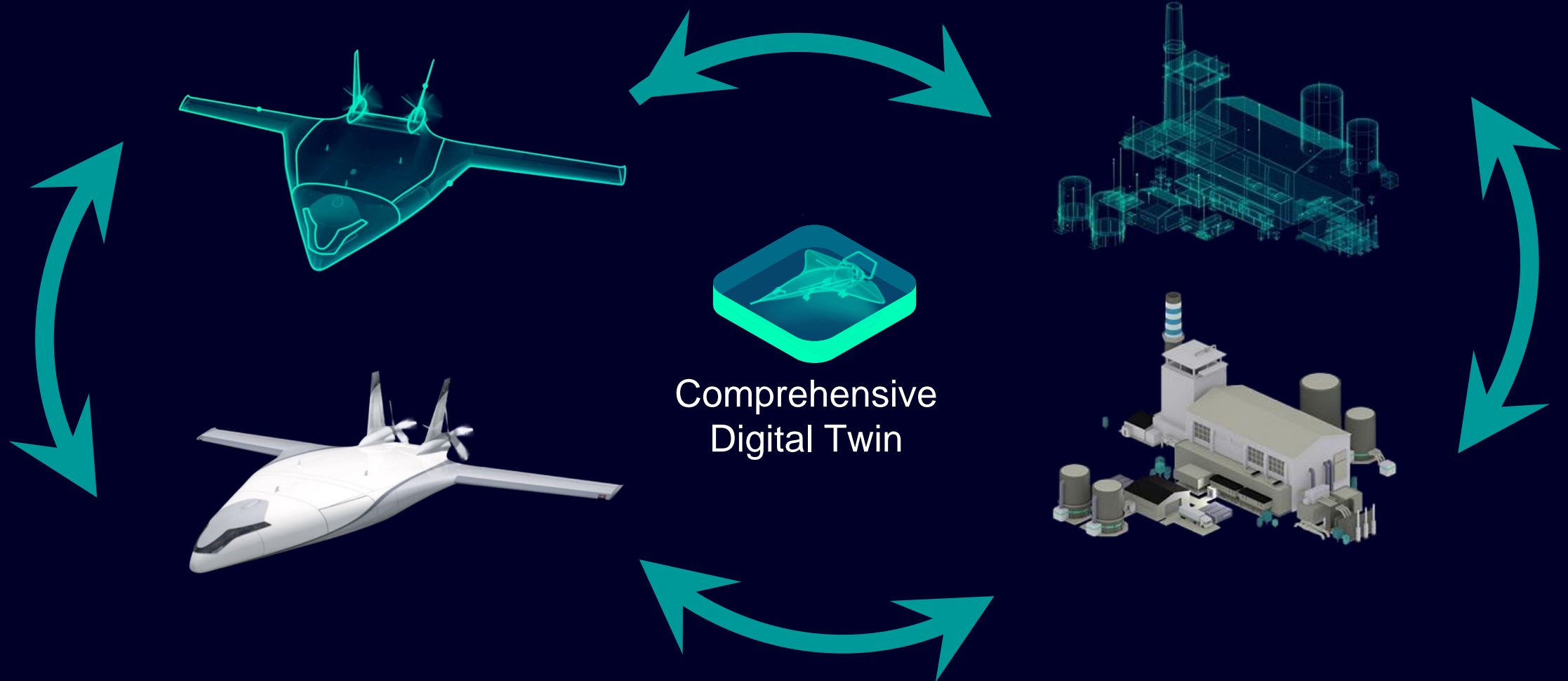
Status of AI in my company

AI

51% not interested / maybe later

23% planning to implement AI

17% AI part of non-technical workflows

8% AI part of technical workflows
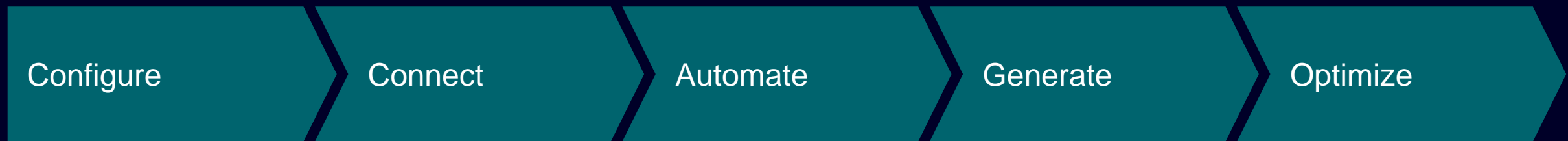
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8% AI part of technical workflows

AI

Configure → Connect → Automate → Generate → Optimize

Digital Transformation Journey

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8% AI part of technical workflows

AI

Configure ➤ Connect ➤ Automate ➤ Generate

AI/ML

➤ Optimize

Digital Transformation Journey

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8% AI part of technical workflows

AI

| Configure | | Connect | | Automate | | Generate | | Optimize |

AI/ML

AI/ML

Digital Transformation Journey

AVIATION WEEK NETWORK SIEMENS

8% AI part of technical workflows

AI

| Configure | Connect | Automate | Generate | Optimize |

AI/ML · AI/ML · AI/ML · AI/ML · AI/ML

Digital Transformation Journey

Growing AI from 8% to 80%

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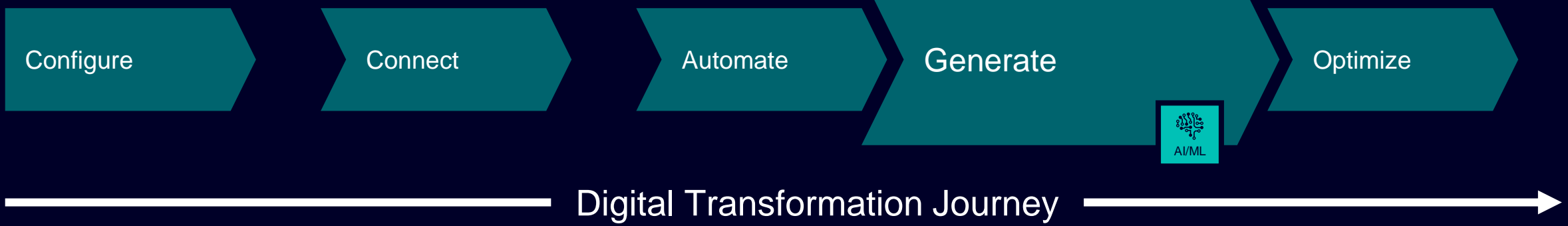
Leading issues with AI implementation

AI

36% AI not integrated into workflow

35% don't trust AI with my data

24% don't trust AI results
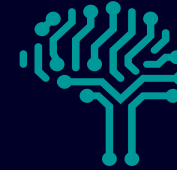
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35% don't trust AI with my data

AI

User

Natural language prompt

Large Language Model

TRAINING

Public IP
Internet text, graphics

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35% don't trust AI with my data

AI

User

Natural language prompt

Retrieval Augmented Generation (RAG)

Augmented prompt

Large Language Model

DATA EMBEDDING

TRAINING

Teamcenter security model

Siemens IP
Docs, Best Practices

Customer IP
Models, Specs

Public IP
Internet text, graphics

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AI

Modalities

Existing large language models

Text

Image

Video

Code

Siemens IP
Docs, Best Practices

Teamcenter security model

Customer IP
Models, Specs

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AI

Modalities

Existing large language models

Text

Image

Video

Code

RAG augmented models
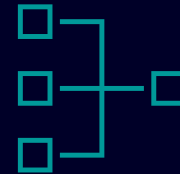
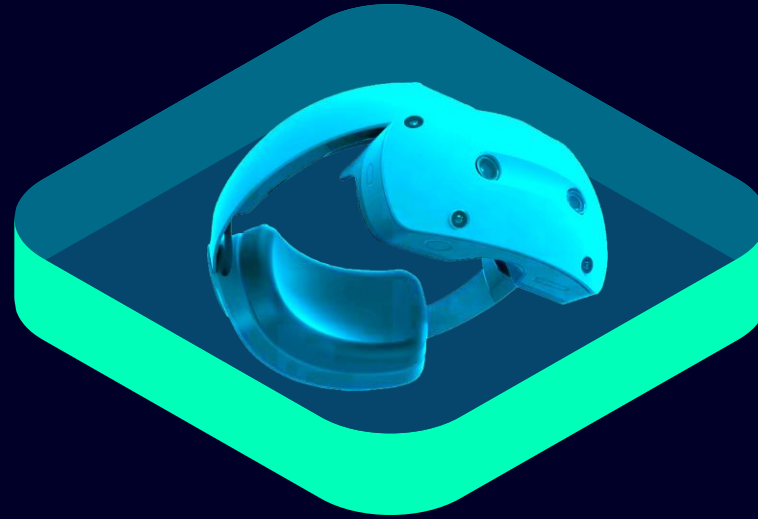System Design
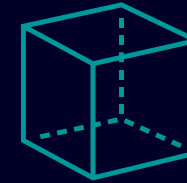
Mechanical Design
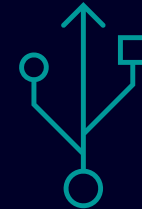
Electrical Design

Simulation

Manufacturing
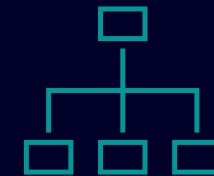
BOM

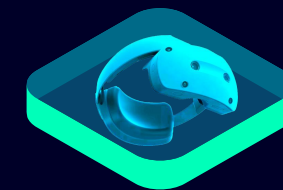## Training on the Language of Engineering & Manufacturing

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Immersive Engineering

AVIATION WEEK
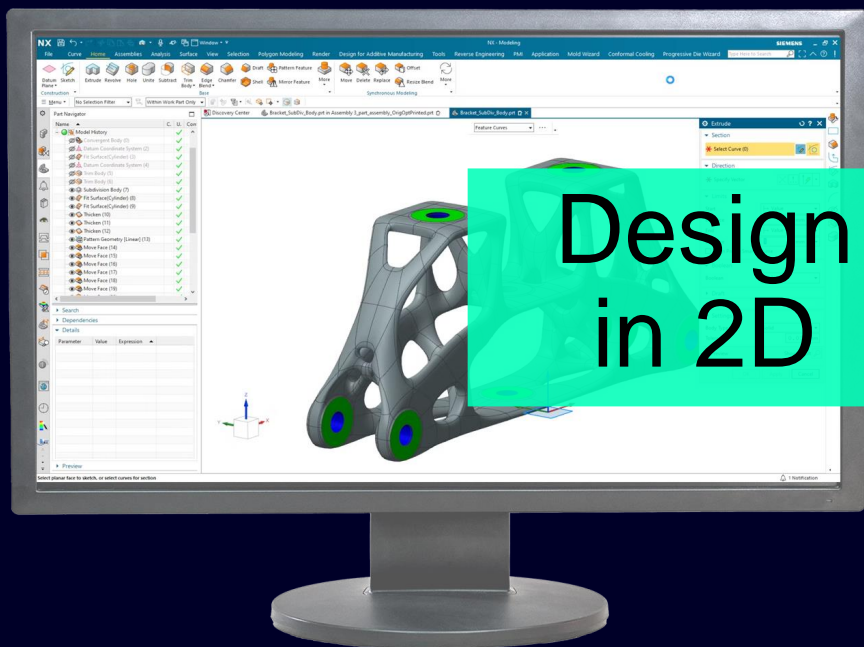NETWORK

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What is Immersive Engineering?

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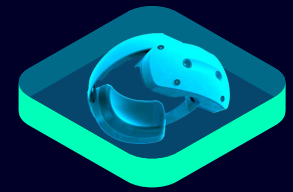
What is Immersive Engineering?

Immersive Engineering

Design in 2D

Design in 3D

Physics based & collaborative AR/VR

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Immersive Engineering

[click for link to video on Youtube](#)

Cost

Workforce

72% ⬇ ROI

Time

| Configure | Connect | Automate | Generate | Optimize |

Digital Transformation Journey

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Cost

Workforce

72% ⬇ ROI

Time

Configure	Connect	Automate	Generate	Optimize

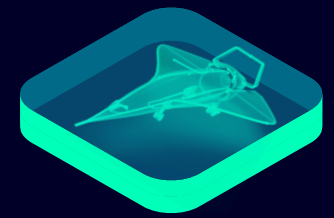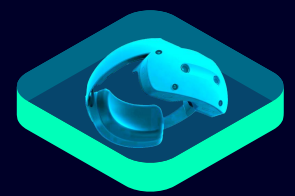| 74% think this is the goal	largest ROI is realized here

→ Digital Transformation Journey →

Digital Threads

Comprehensive Digital Twin

AI

Immersive Engineering

scan for more info
click here for the link

Todd Tuthill
VP Aerospace, Defense, & Marine Industry