



Emerging Tech in Supply Chain

Rutgers University

Spring 2024



JILL KLEIN

Head Of Emerging Technology And IoT

- 25+ years in the IT and OT Industry
- Technical Support Engineer
- Director of Telecom
- Portal Development & Mgmt.
- Director of Strategic Initiatives
- Mergers & Acquisitions
- Published Whitepapers and Trade Journal Articles
- ITIL and IT Service Management Solutions
- Mobility and Process Re-engineering Solutions
- **CDW Head of IoT & Emerging Technology**
- **Chair - CompTIA's IoT Advisory Council**
- **TD Synnex NextGen IoT and Analytics Advisory Council**

InfoWorld

TechData

CRN

FROST
&
SULLIVAN

CompTIA



Certified In:

Multiple Vendor Cert's
Mgmt. and Leadership
Masters Certificate in PM
Lean - Value Stream Map
Industry: ITIL, HIPAA

**Published Articles
and Research:**

Intel/Purdue
NIST (2)
TechTarget
CIO World
CompTIA IoT eBook

Whitepapers:

"Kickstarting your mobile Revolution"
"Kickstarting your IoT Revolution"
"IoT Governance Strategies"

Gateway

inacom
Information Systems

ConAgra
Foods
Food you love

- ❑ “The Hype” vs Market Ready Solutions
- ❑ Supply Chain Transformation – People, Process and Technology
- ❑ How to Kick-Start your Transformation

Hype Cycle and Customer Maturity

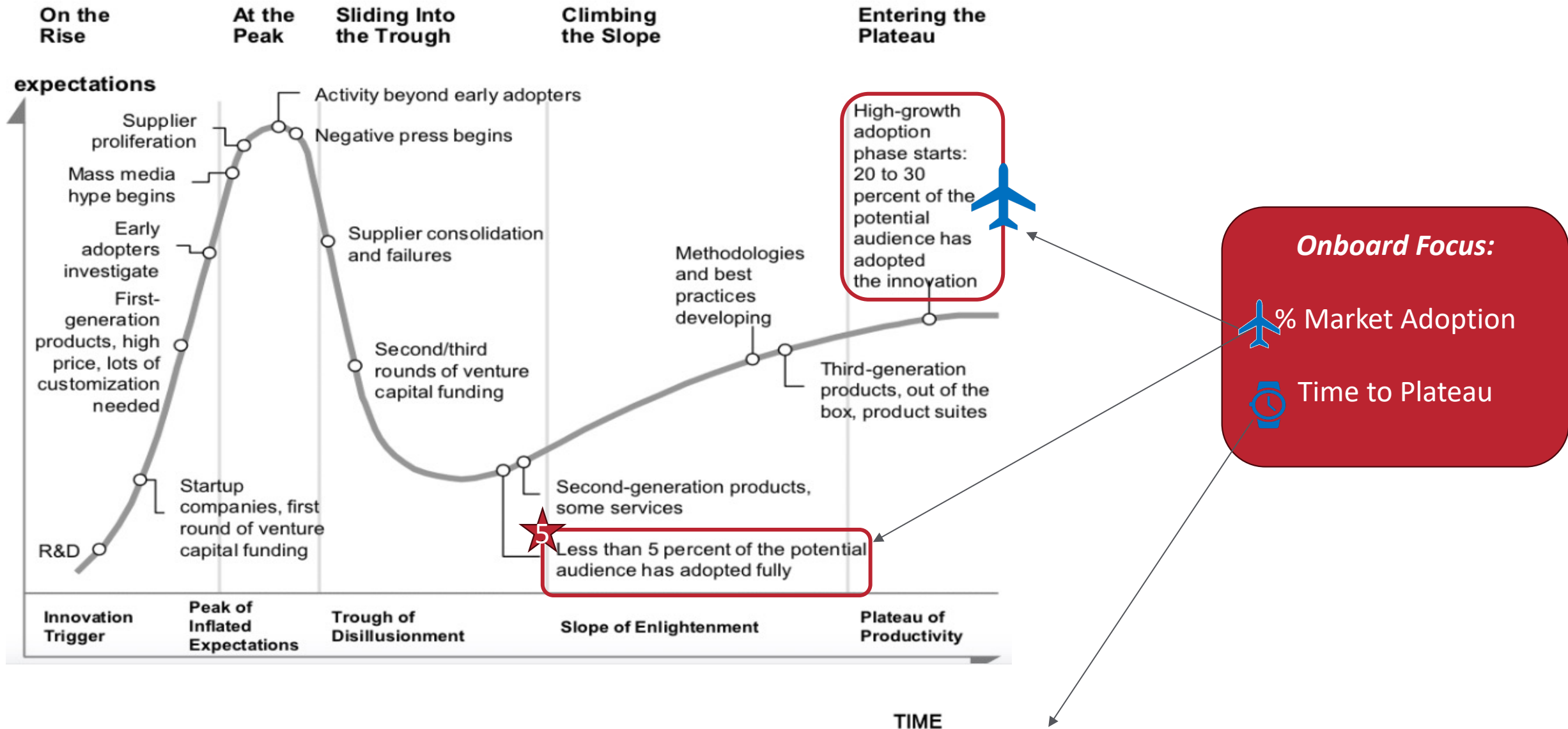
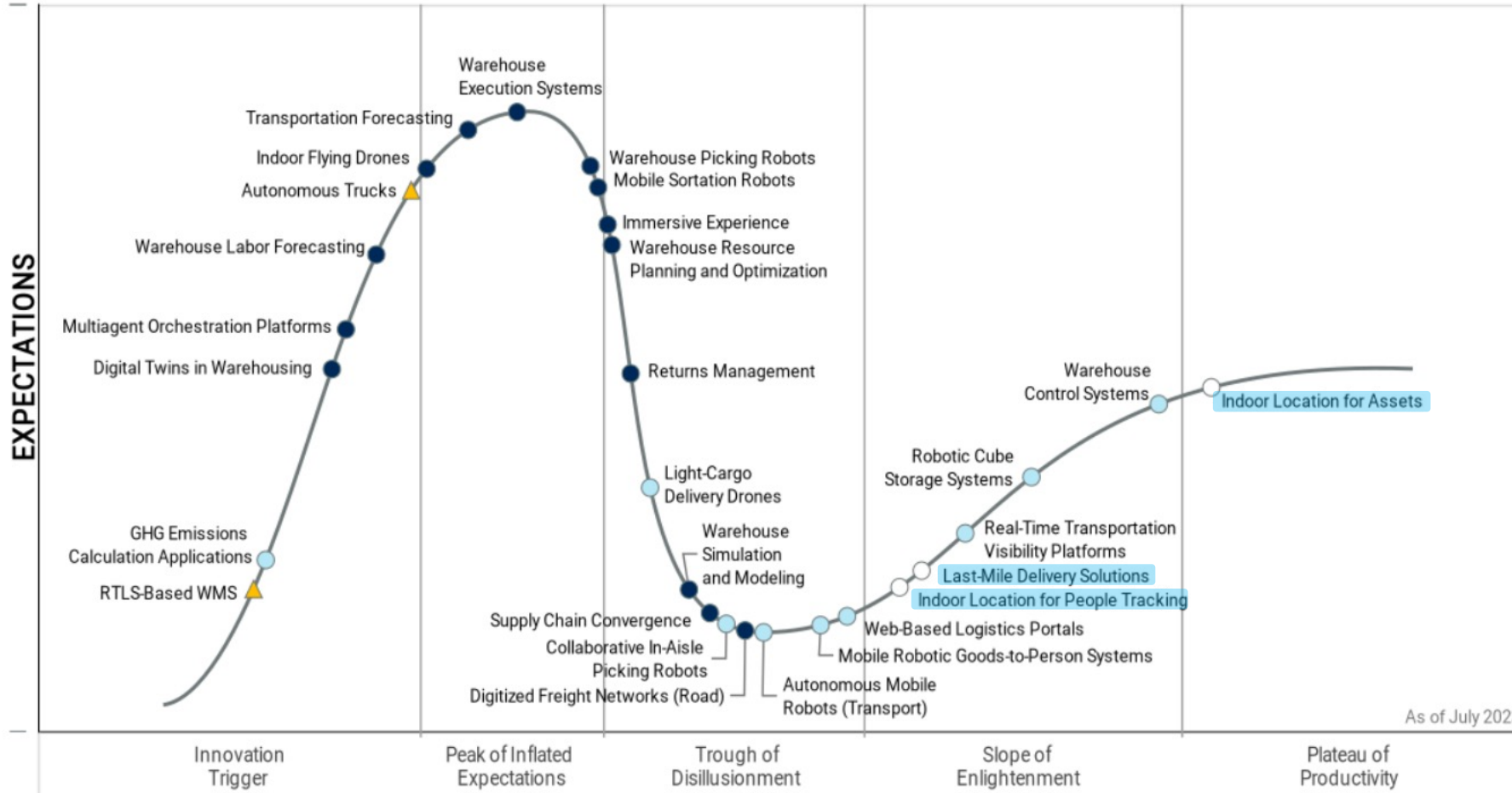


Figure 1: Hype Cycle for Supply Chain Execution Technologies, 2023

Hype Cycle for Supply Chain Execution Technologies, 2023



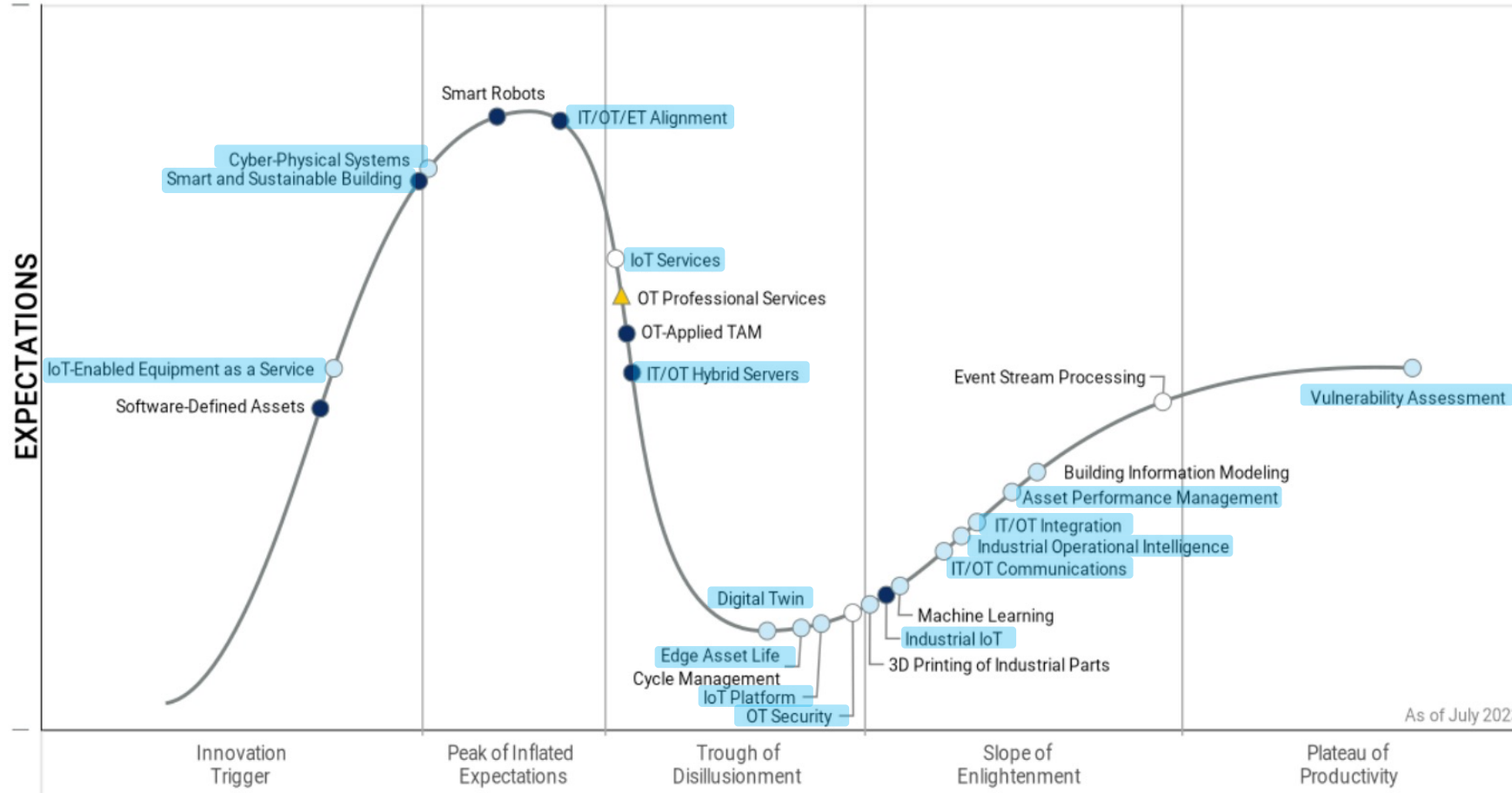
As of July 2023

Plateau will be reached: ○ <2 yrs. ● 2-5 yrs. ● 5-10 yrs. ▲ >10 yrs. ⊗ Obsolete before plateau

OPERATIONAL TECHNOLOGY

Figure 1: Hype Cycle for Managing Operational Technology, 2022

Hype Cycle for Managing Operational Technology, 2023

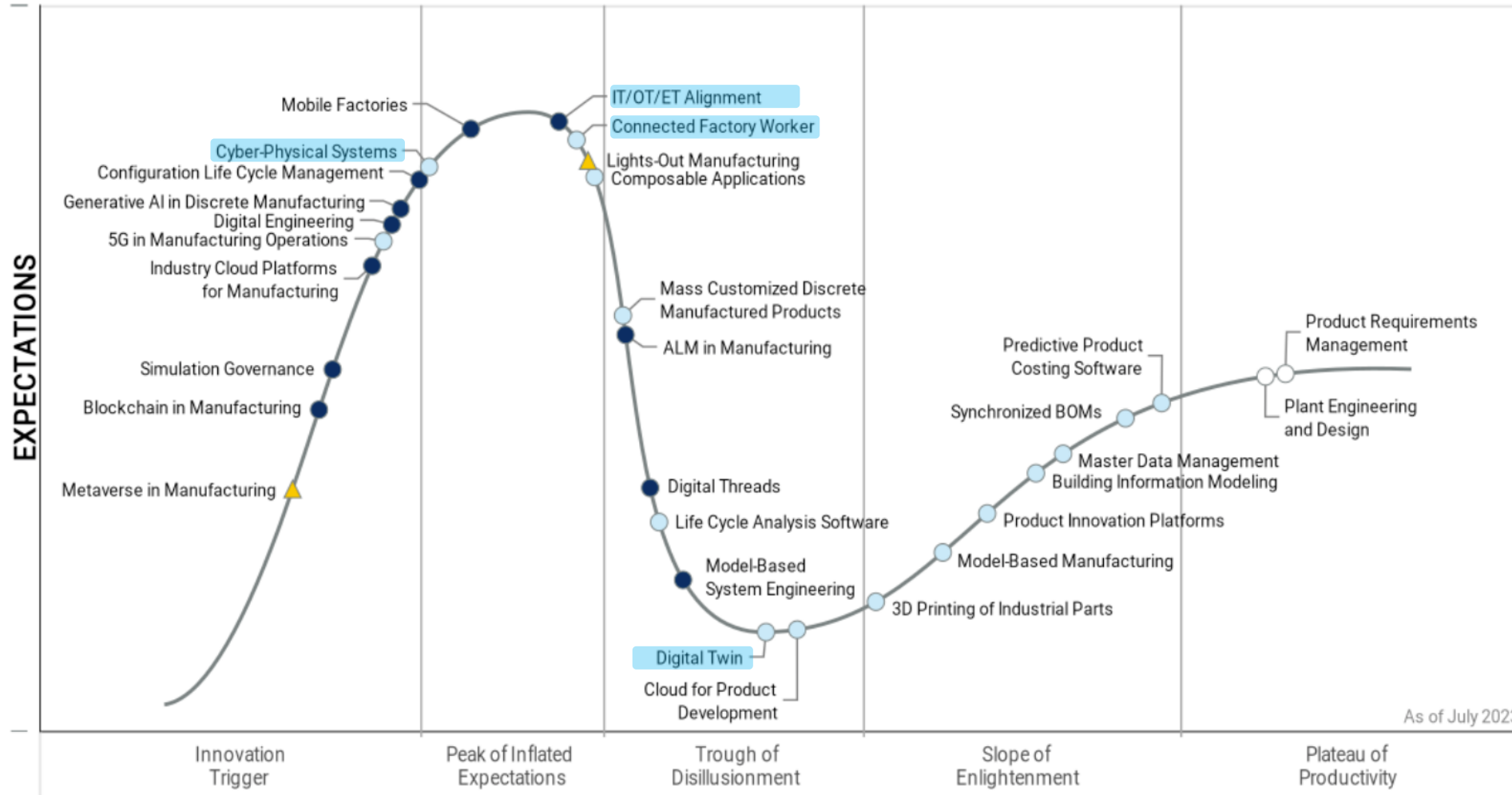


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ADVANCED TECH FOR MANUFACTURERS

Hype Cycle for Advanced Technologies for Manufacturers, 2023



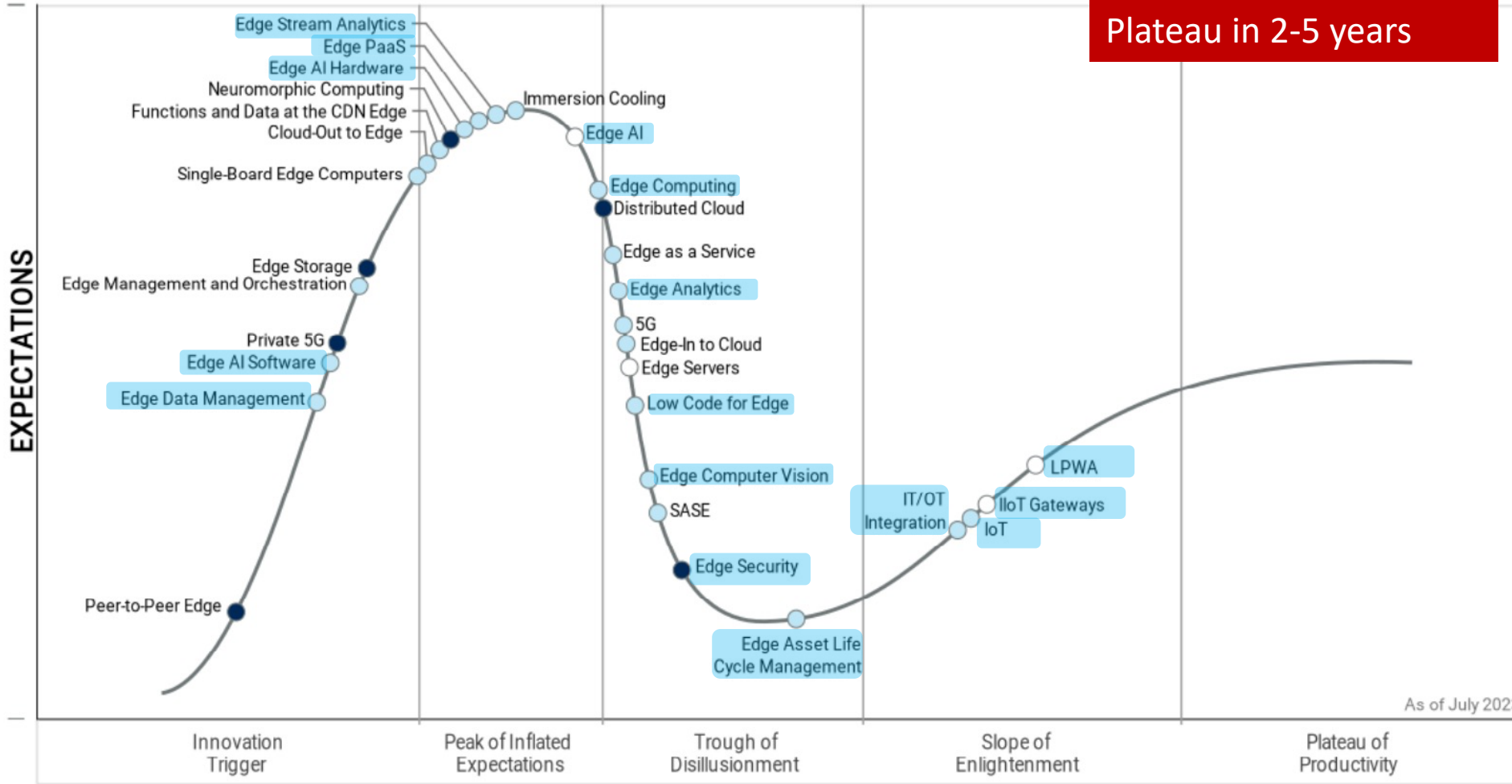
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CUSTOMER MATURITY

Hype Cycle for Edge Computing, 2023

#1 Growth Area for IoT 12 solution will reach Plateau in 2-5 years

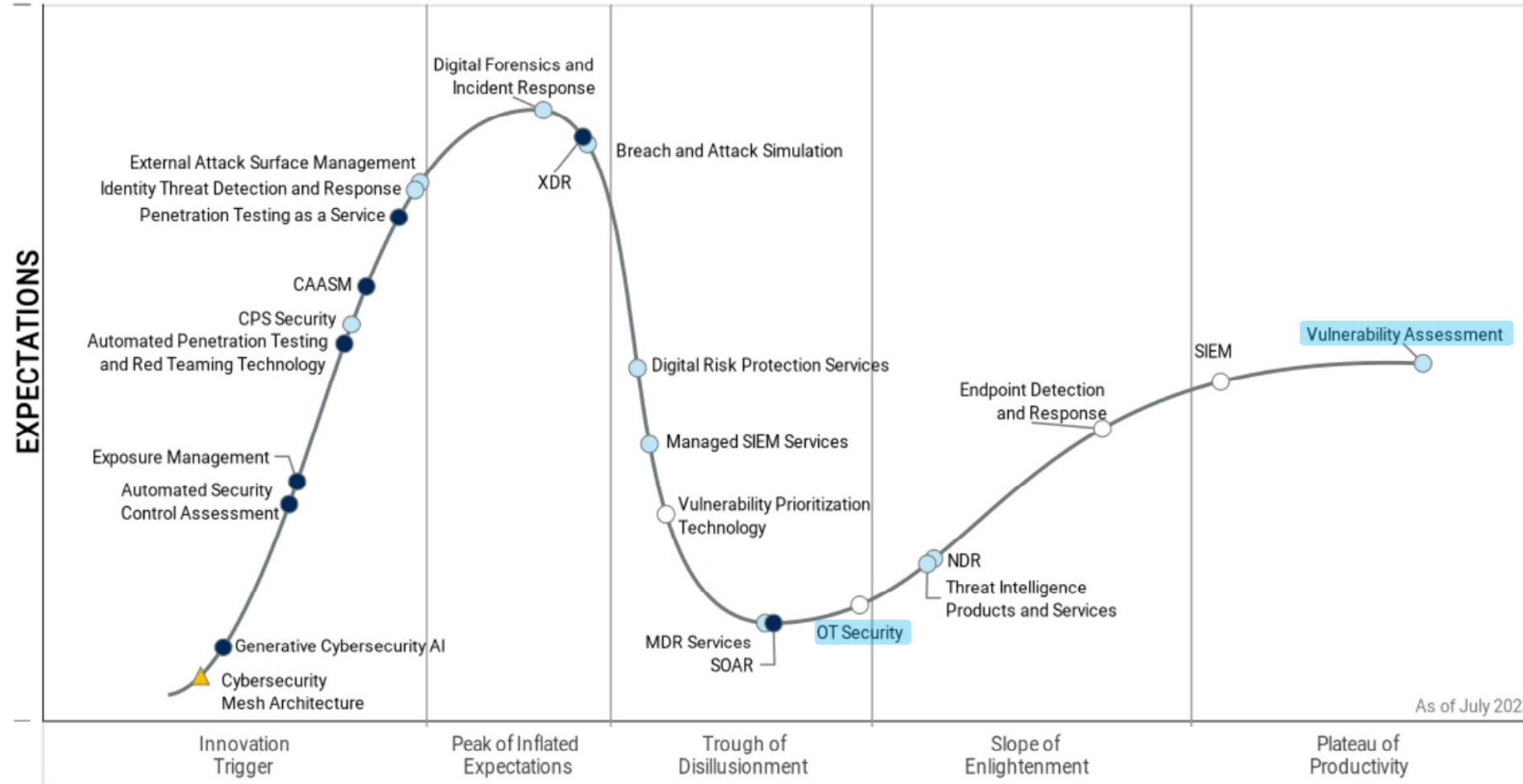


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CUSTOMER MATURITY

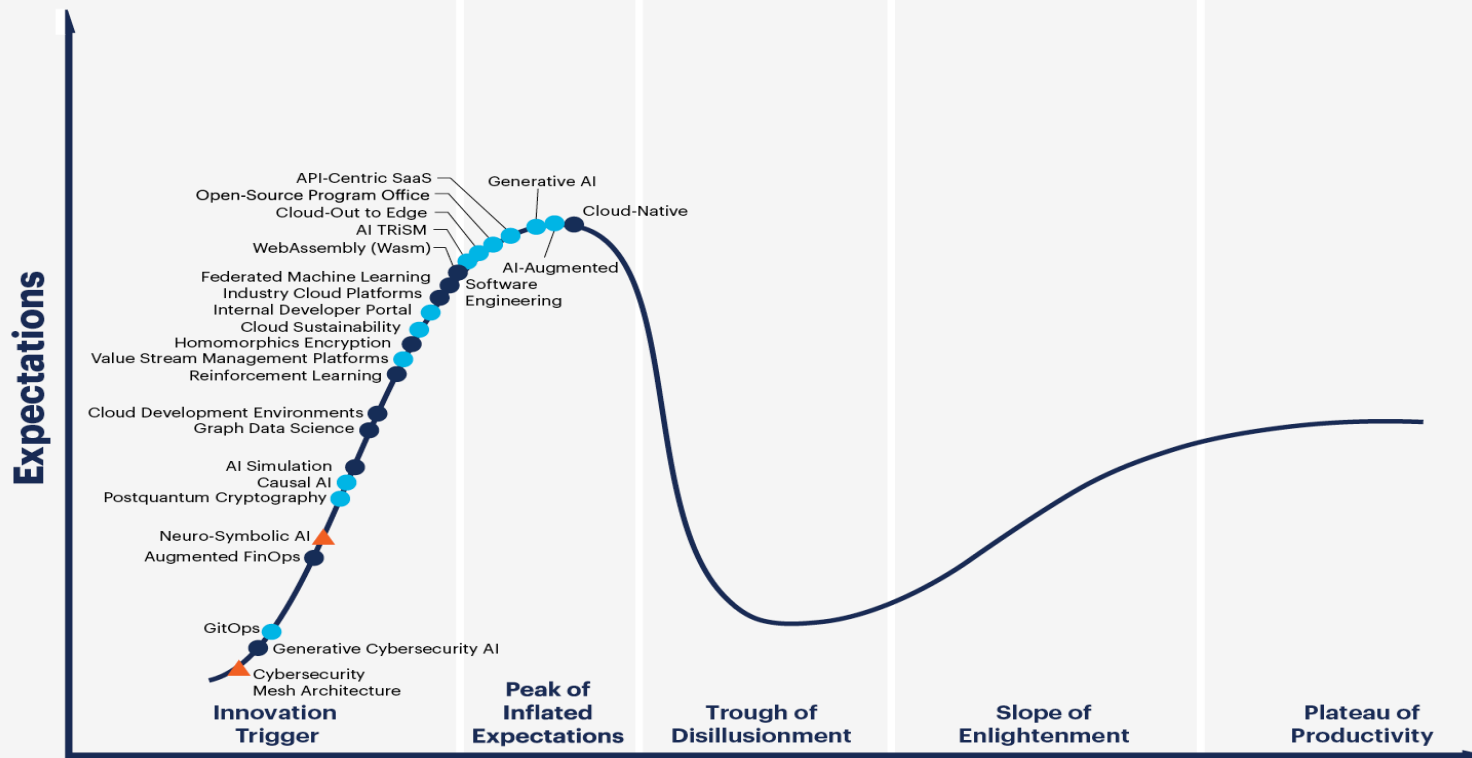
Hype Cycle for Security Operations, 2023



Plateau will be reached: ○ <2 yrs. ● 2-5 yrs. ● 5-10 yrs. ▲ >10 yrs. ⊗ Obsolete before plateau

EMERGING TECH

Hype Cycle for Emerging Technologies, 2023



Plateau will be reached:

- less than 2 years
- 2 to 5 years
- 5 to 10 years
- more than 10 years
- As of August 2023

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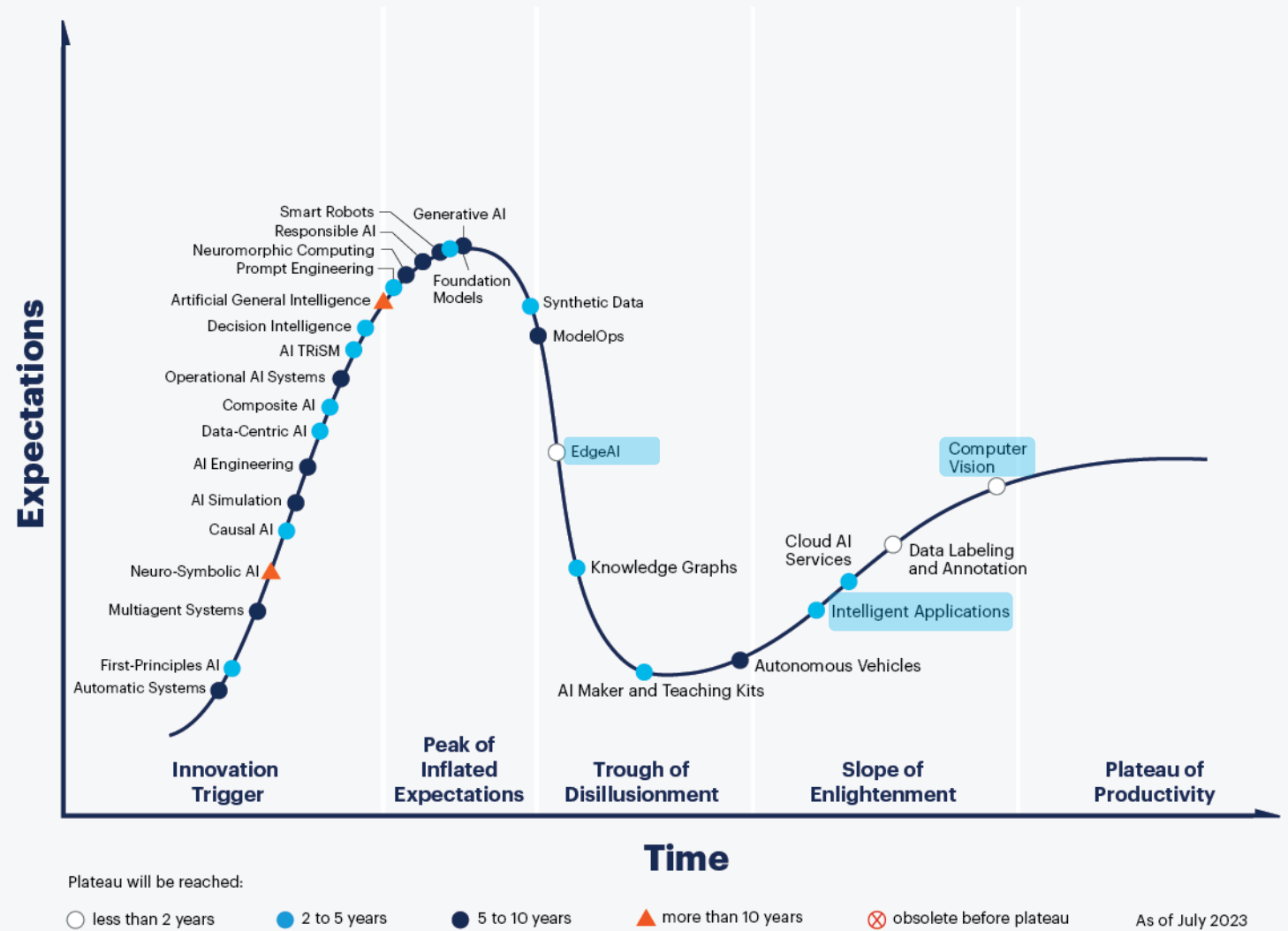
Gartner

CUSTOMER MATURITY

Time to Plateau	Count of Technologies
Less than 2 years	2*
2 to 5 years	13
5 to 10 years	11
More than 10 years	2

Stage of Maturity	Count of Technologies
Innovation	13
Peak	8
Trough	4
Slope	4
Plateau	0

Hype Cycle for Artificial Intelligence, 2023



[gartner.com](https://www.gartner.com)

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Gartner



- ❑ “The Hype” vs Market Ready Solutions
- ❑ Supply Chain Transformation – People, Process and Technology
- ❑ How to Kick-Start your Transformation

Supply Chain Industry Transformation Focus Area

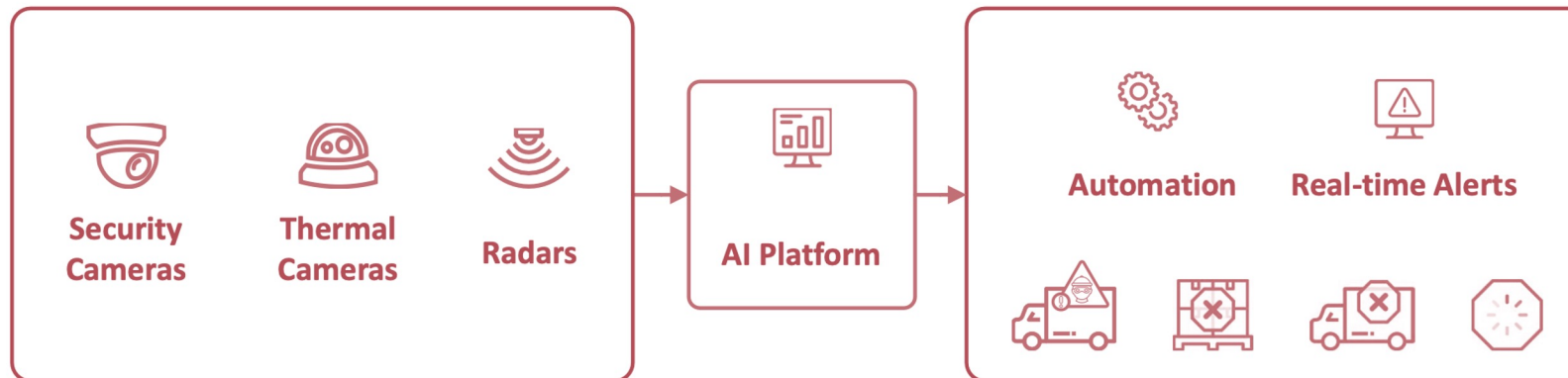
The Opportunity for Transformation



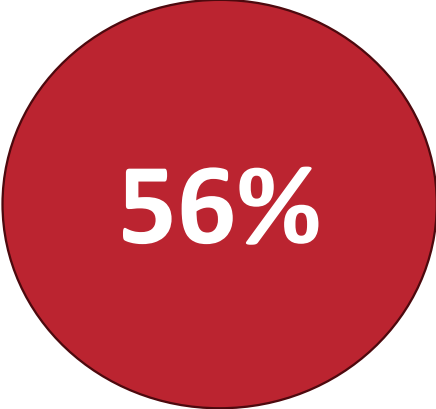
Advanced
Transportation

The Opportunity

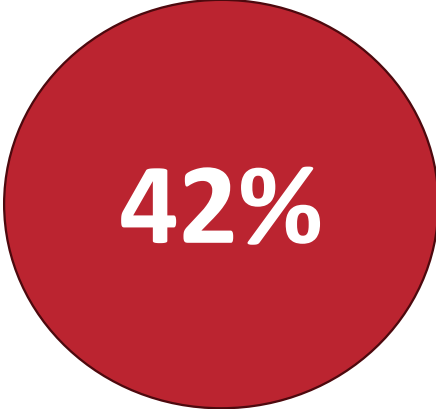
Advanced
Logistics



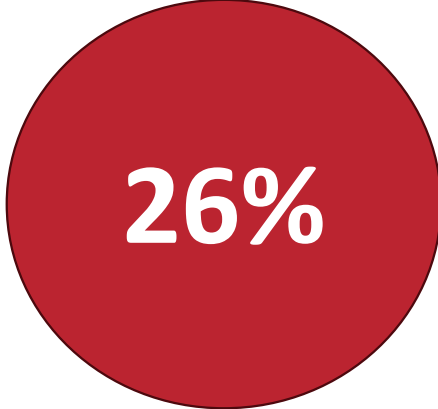
The People Focus For Transformation



Of organizations **lack staff** that have the skills required to deploy and maintain solutions



Of organizations report their **unfamiliarity with the technology prevents buy-in**



Of organizations **struggle to understand where to start** with AI+IoT

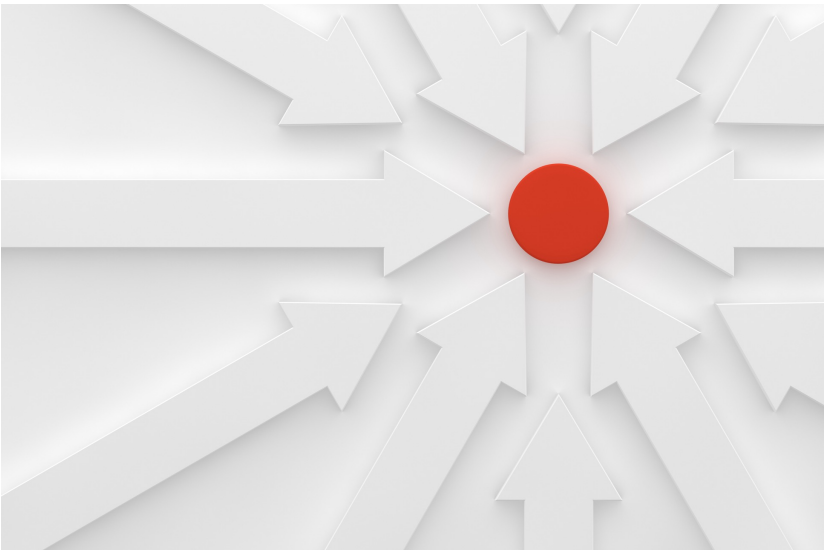
The Process Focus for Transformation

Time	Strategy	Outcome
2025	40% of G2000 companies will implement broad <u>robotics automation</u> to improve order fulfillment speed and accuracy	Resulting in <u>increased pick speed of 10% and reducing pick errors by 1-2%</u>
2026	50% of <u>logistics</u> teams will have deployed <u>advanced visibility</u> enabling AI/ML analytics insight generation that <u>optimizes performance</u>	Resulting in a <u>3% savings to logistics spend by optimizing performance</u>
2026	75% of G2000 organizations will have a <u>digital commerce platform</u> in place for ecosystem operation	Driving a <u>10% higher data capitalization rate and improving customer retention by 20%</u>
2027	90% of G2000 organizations will augment operational roles with <u>automation technology</u> , elevating employee engagement	Unlocking a <u>30% increase in worker efficiency</u>
2028	50% of G2000 manufacturers will operationalize <u>circular economy principles</u> to improve availability of strategic/direct materials	Improve <u>supply reliability by 15%</u>
2027	65% of G2000 companies will look to <u>autonomous service parts planning</u> to ensure <u>mean time to repair can be improved</u>	<u>Ensure customer or operator assets are productive</u>

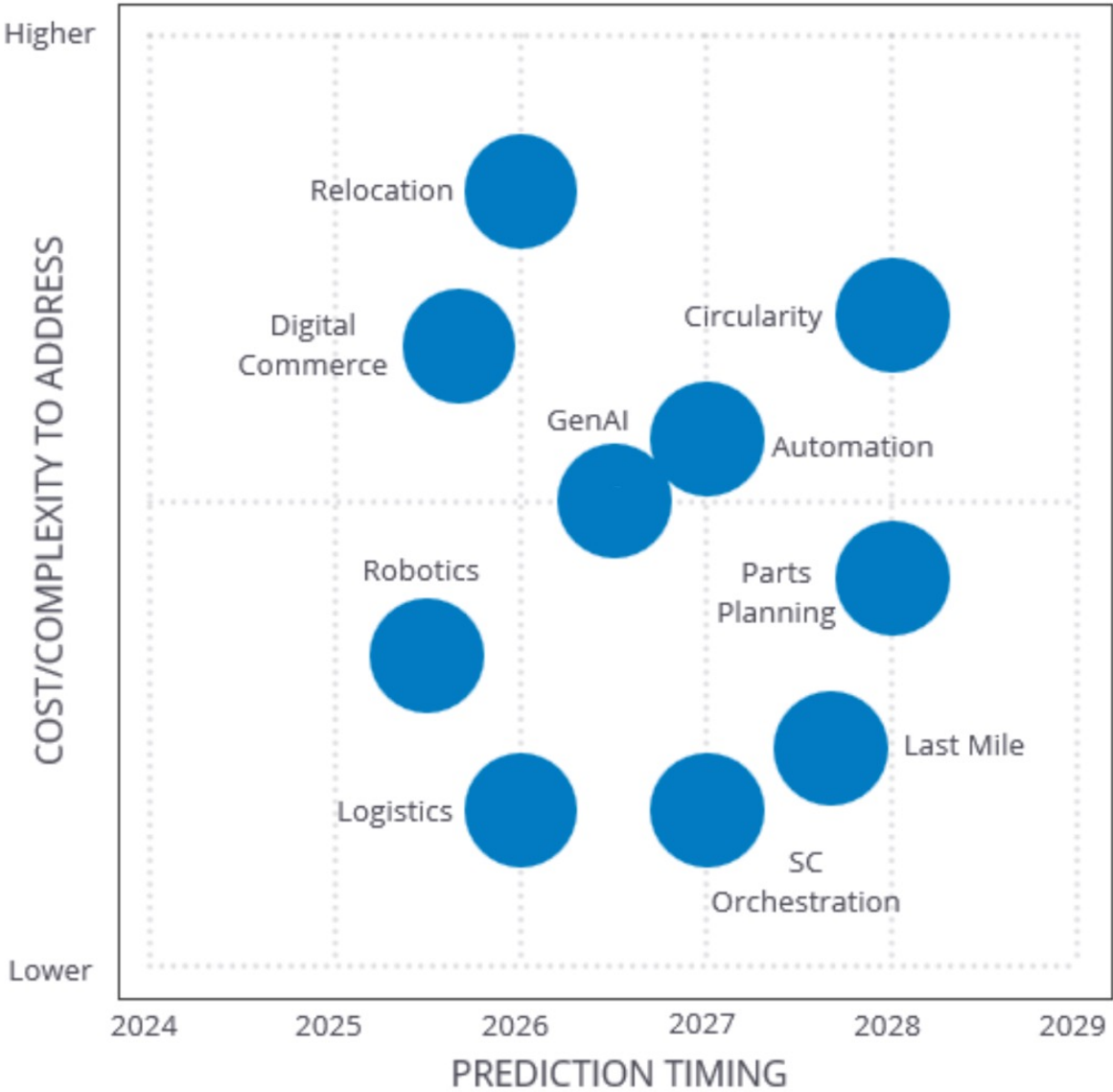
Source: IDC Futurescape

Technology Focus

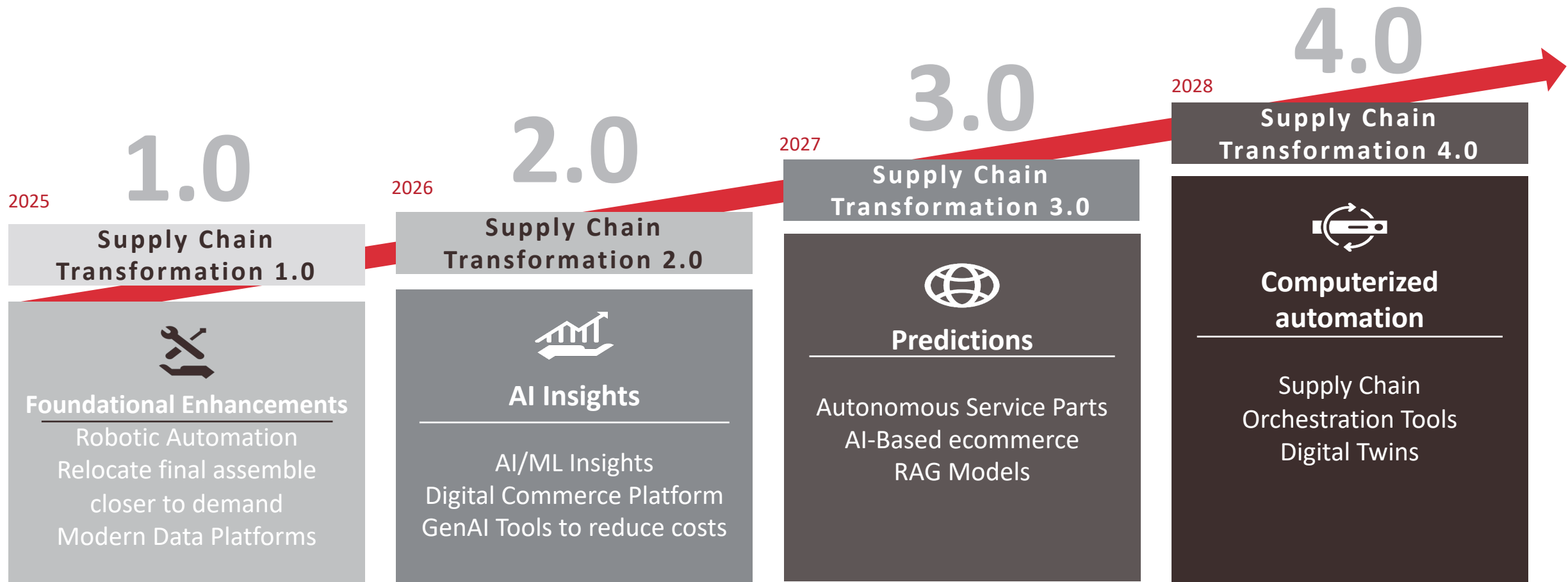
- ❑ Security
- ❑ Edge
- ❑ Intelligence
- ❑ Reduce Labor Constraints



IDC FutureScape: Worldwide Supply Chain 2024 Top 10 Predictions



Supply Chain "Process" Journey



Outcome Summary

What is the common outcome for these transformations



Efficiency: Cost, sustainability, performance

Resiliency: Responsiveness, visibility, agility

Sophistication: Automation, artificial intelligence/machine learning [AI/ML], optimization

Maturity...where are we going?



Enhanced Cyber Security for SBOMS - By 2026, 15% of supply chain software offerings will actualize software bills of materials (SBOMs) to thwart cyberattacks.



Edge Driven Intelligence - By 2027, 80% of manufacturing operations management solutions will be cloud-native and edge-driven, closing the IT/OT convergence gap.



GenAI KPIs' - By 2028, 25% of supply chain KPI reporting will be powered by GenAI models.



Smart Robots -By 2028, there will be more smart robots than frontline workers in manufacturing, retail and logistics due to labor shortages.

- ❑ “The Hype” vs Market Ready Solutions
- ❑ Supply Chain Transformation – People, Process and Technology
- ❑ How to Kick-Start your Transformation



IOT PRACTICE OVERVIEW

Technology Stack

- Data (IoT Platforms)
- Digital (Data Presentation)
- Security (Endpoint)
- Networking (Edge GW, Secure Access)
- Cloud (AWS, MS Azure, etc.)
- Sensors/Devices
- Connected Products Portfolio (Tech Data, Arrow, etc.)

Services

- Data
- Digital
- Security
- Networking
- IoT Consulting
- IoT Ideation Workshop
- OT Strategist As a Service

Industry Recognition

- Cisco IoT/Industry Partner of the Year
- CompTIA IoT Advisory Council Chair
- TD Synnex IoT and AI Advisory Council
- Author Frequent Blogs, Whitepapers, Podcasts
- Research Projects: NIST, Intel, Purdue, CompTIA IoT eBook



60+

Products and Solutions

3

Major Focus Areas:
Healthcare
Smart Spaces
Manufacturing

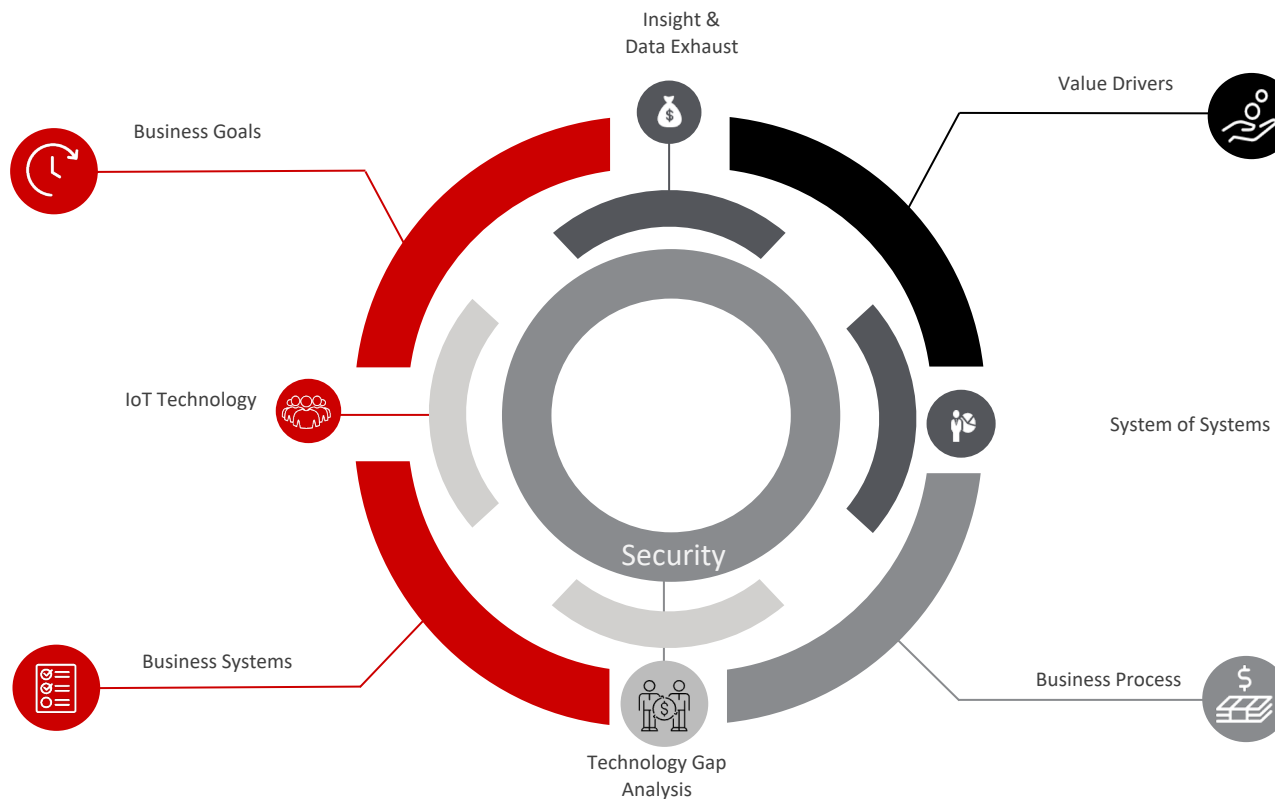
MAJOR PARTNERS:





Project Details

TRANSFORMATION WORKSHOP



10

team size

~1.5

DAY

Workshop

~1

WEEK

delivery time

65

Average transformation projects produced per workshop

\$30k

Average Workshop cost

\$M's

Average savings and revenue creation per workshop

BUSINESS OVERVIEW

- Revenue Structure
 - How do you make money?
 - How do you lose money?
- Current Challenges
- Future Challenges
- Strategic Growth
- Industry Trends
- Competitor Insights
- Most Proud of
- Assets



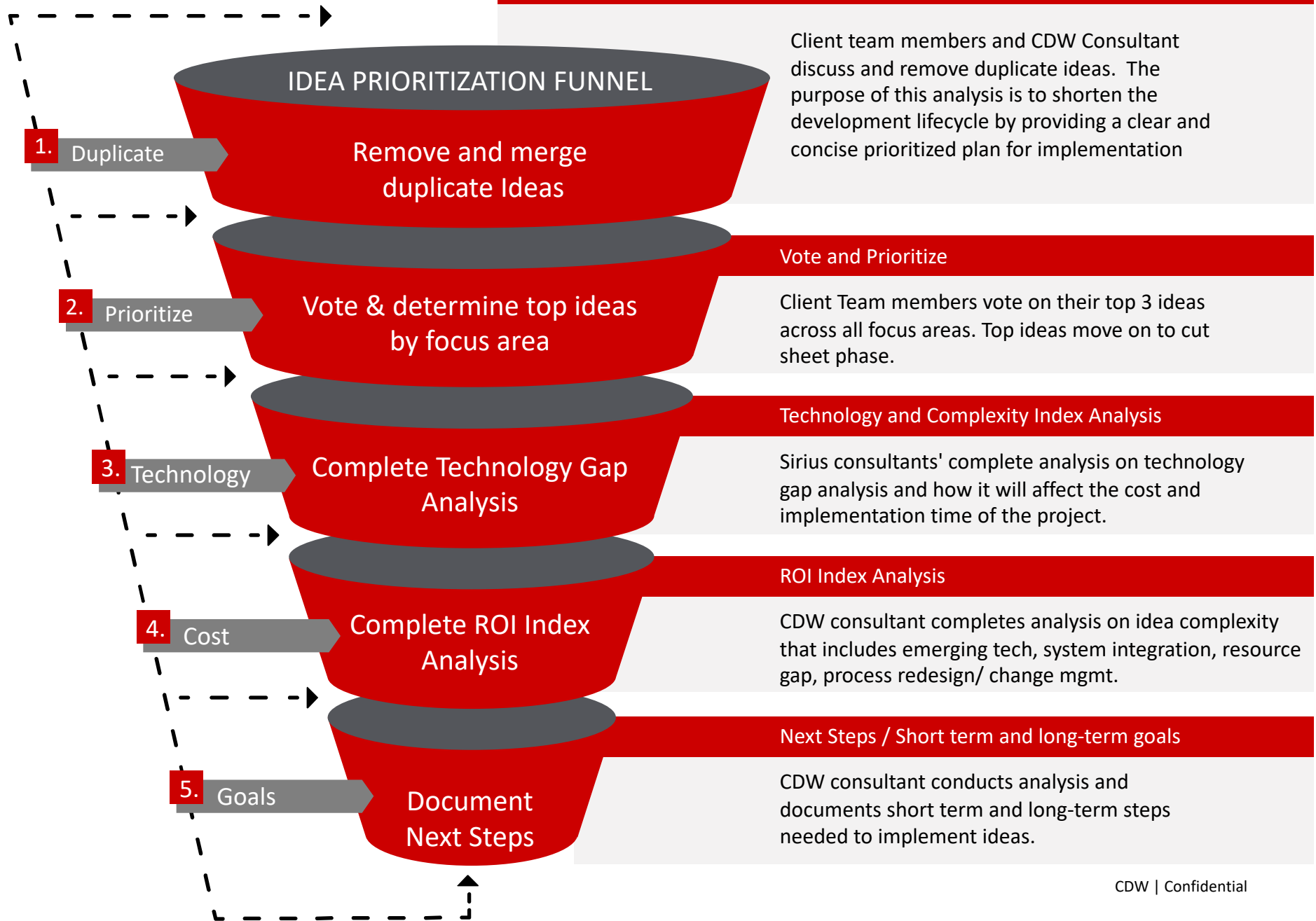
WHO HAS A SEAT AT THE TABLE FOR THE TRANSFORMATION WORKSHOP?

Fusion Team:

- Facility Manager
- Public Safety Official
- Director of Operations
- Subject Matter Expert
- Department Managers
- Process Manager
- Maintenance
- Chief Product Manager
- Chief Digital Officer
- Business Leaders



IOT IDEATION WORKSHOP PRIORITIZATION PROCESS



Client team members and CDW Consultant discuss and remove duplicate ideas. The purpose of this analysis is to shorten the development lifecycle by providing a clear and concise prioritized plan for implementation

Vote and Prioritize

Client Team members vote on their top 3 ideas across all focus areas. Top ideas move on to cut sheet phase.

Technology and Complexity Index Analysis

Sirius consultants' complete analysis on technology gap analysis and how it will affect the cost and implementation time of the project.

ROI Index Analysis

CDW consultant completes analysis on idea complexity that includes emerging tech, system integration, resource gap, process redesign/ change mgmt.

Next Steps / Short term and long-term goals

CDW consultant conducts analysis and documents short term and long-term steps needed to implement ideas.

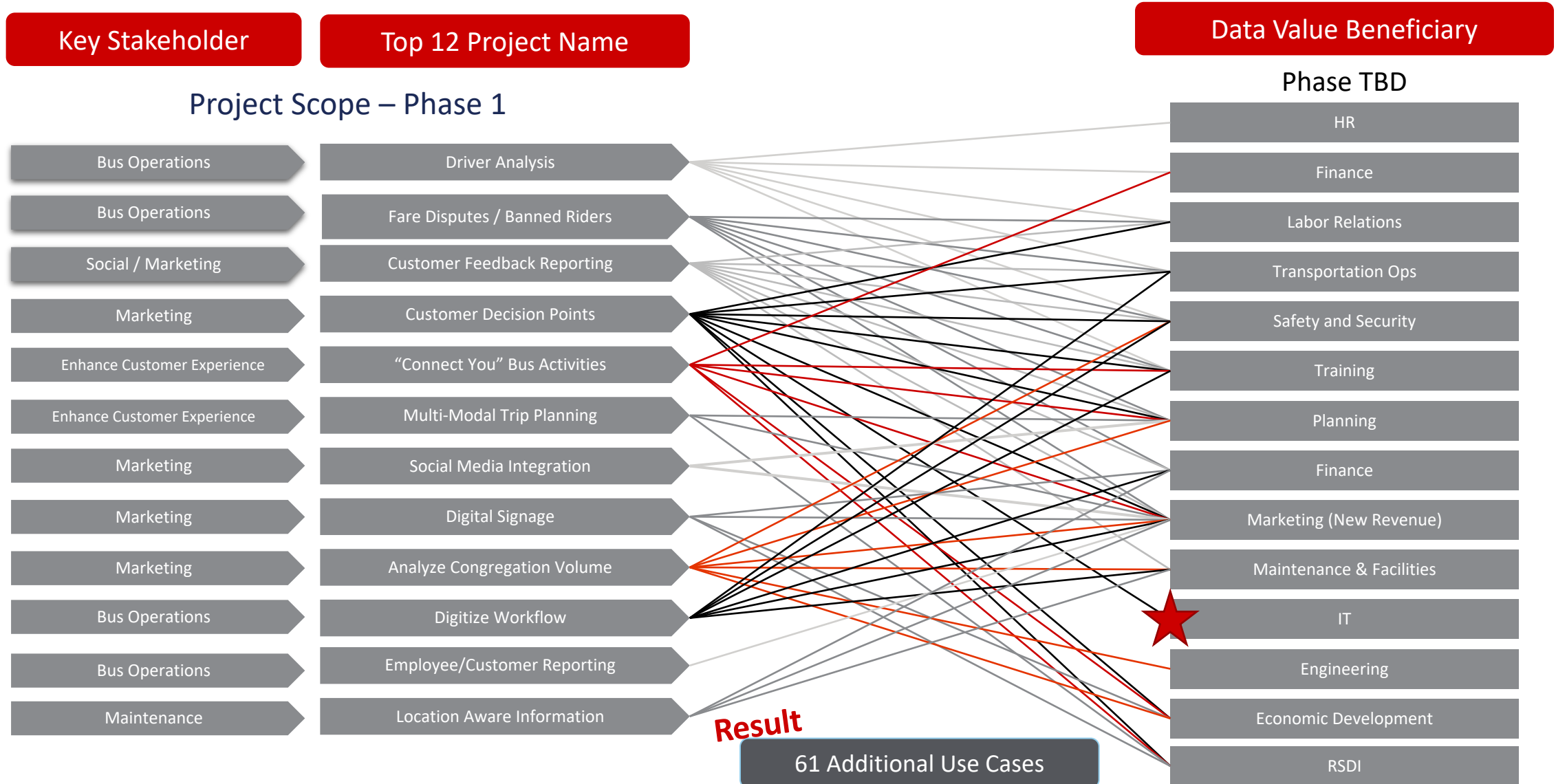


EXECUTIVE SUMMARY

FINANCIAL IMPACT, TOTAL SCORE (TECHNOLOGY GAP + COMPLEXITY INDEX)

Idea Name	Business Owner	Technology Gap Score	Complexity Gap Score	Total Score	Increase Revenue (Y1)	Cost Avoidance (Y1)
All Products Connected	Engineering	7	4	11	\$1m	500k-\$1m
Subscription Models	Sales	5	2	7	\$500k-1m	\$500k
Predictability of Equipment	Product Management	7.5	3	10.5	\$500k-1m	500k
CPQ (Customer Customization Options / Webpage)	Customer Experience	4	3	7	\$500k	\$500k
Agnostic HW and SW Platform	Product Management	7	3	10	\$1m	
Setup Guide / Quickstart	Product Marketing	7.5	4	11.5	\$500k	\$500k
Virtual Preventive Maintenance Agreements	Service	7.5	3	10.5	\$500k	\$500k

OUTPUT - DATA VALUE BENEFICIARIES



TOTAL POTENTIAL REVENUE IMPACT (Y1)

>\$1m :

Agnostic HW and SW Platform
All Devices Connected



Total Potential Impact: \$7m

\$500k - \$1m :

Subscription Models
Predictability of Equipment

Experience Personal Concierge, SOS, Speed-Dial +BlinkLink
Please Refresh Brand
CPQ (Customer Customization Options / Webpage)
Setup Guide / Quickstart like Apple
Maintenance Agreements
Predictive Product Placement

COST REDUCTION

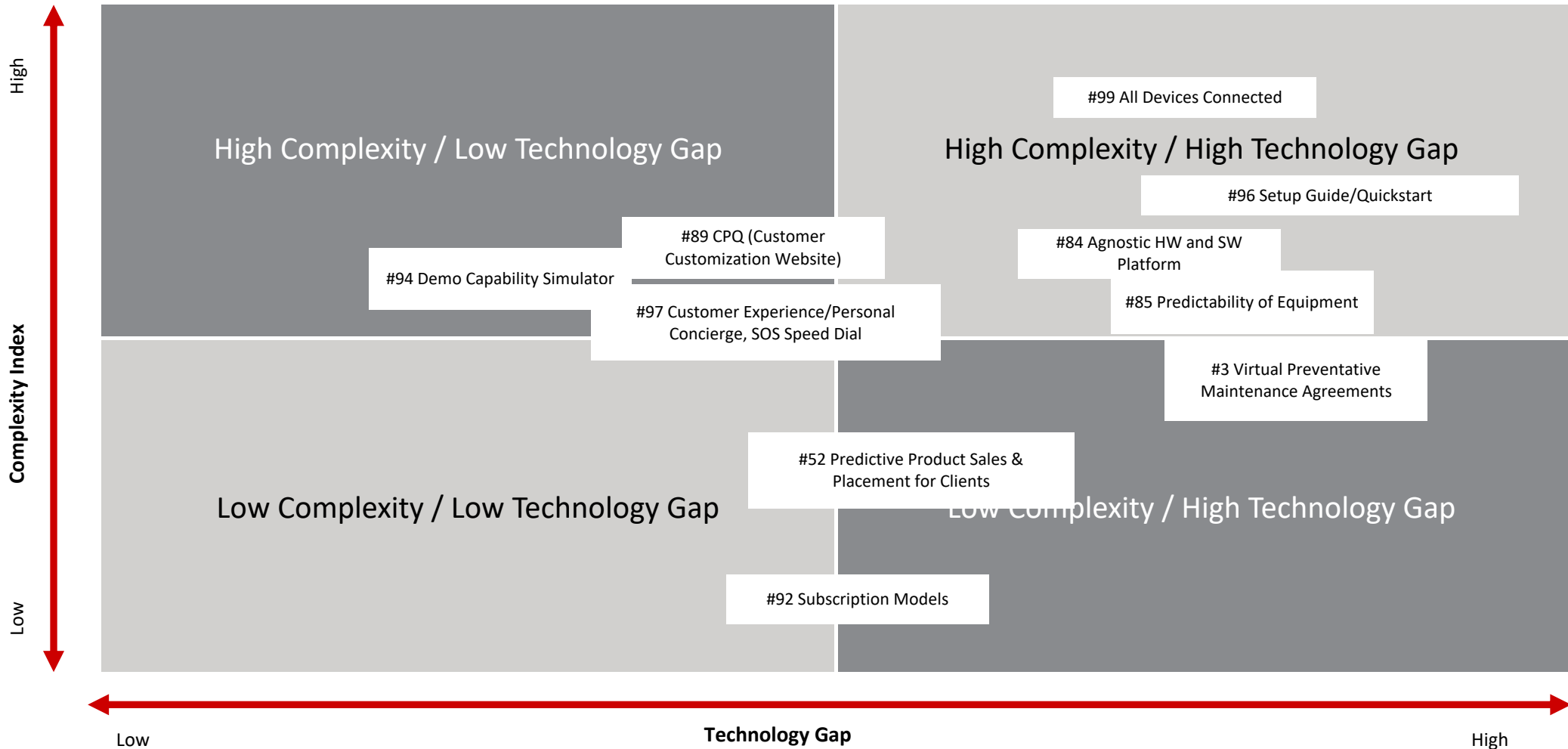


Total Potential Impact: \$3.5m

- <\$500k :
- +
- Subscription Models
- Predictability of Equipment
- CPQ (Customer Customization Options / Webpage)
- Setup Guide / Quickstart like Apple
- Maintenance Agreements

- >\$1m :
- +
- \$500k - \$1m :
- +
- All Devices Connected

TECHNOLOGY GAP AND COMPLEXITY INDEX



Client Impact

TRANSFORMATION WORKSHOP OUTPUT: SUCCESS SUMMARY

\$23.5m

Transformation Workshop Total (Y1)

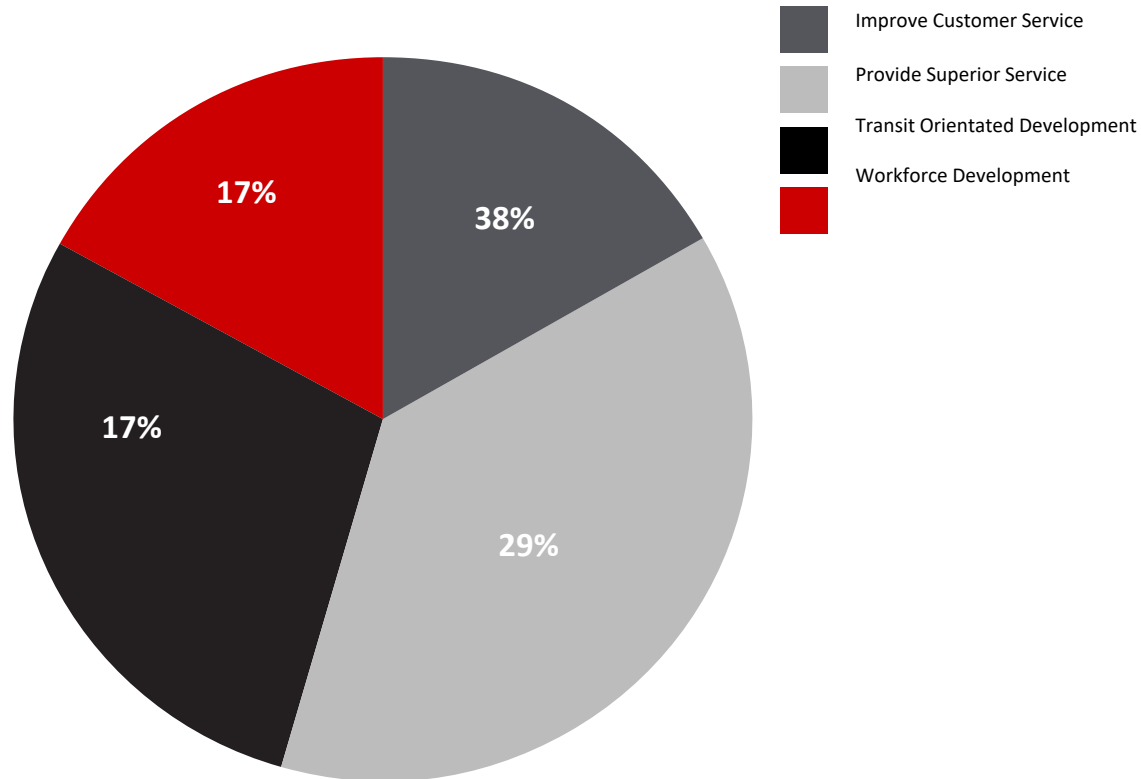
80

Transformation Ideas

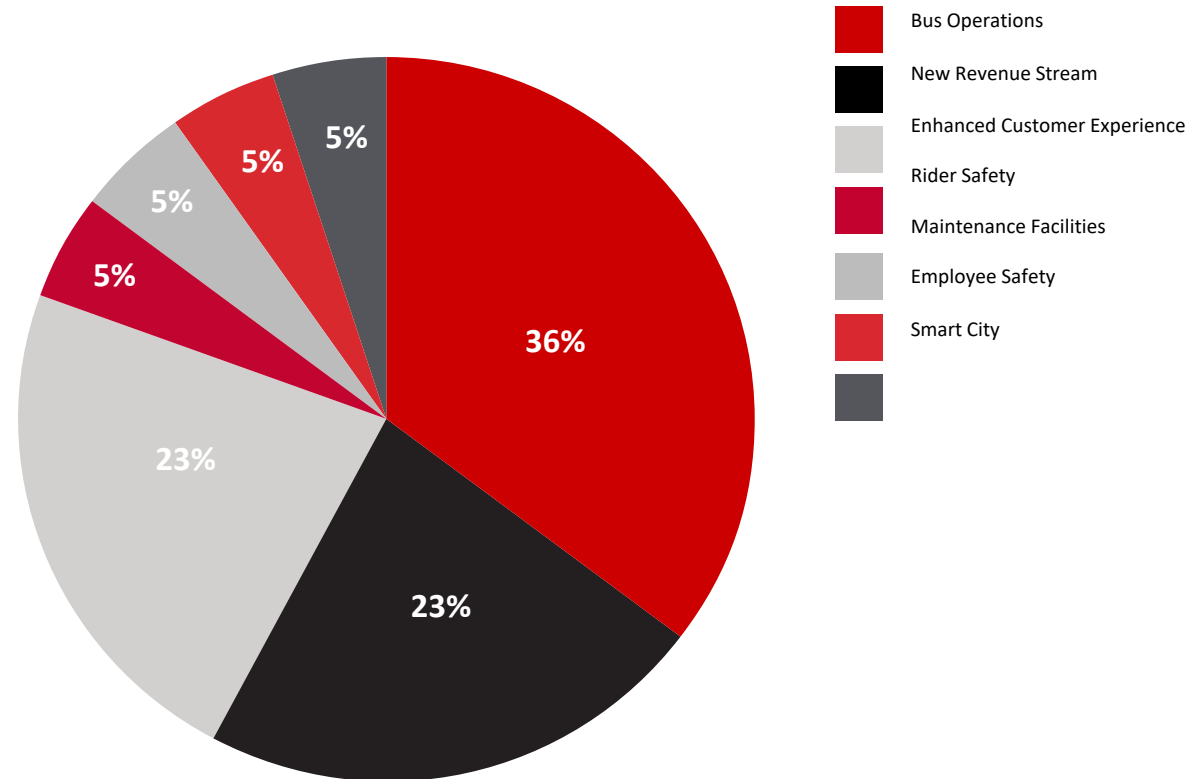
Broke a record for #of Results generated!



EXECUTIVE SUMMARY

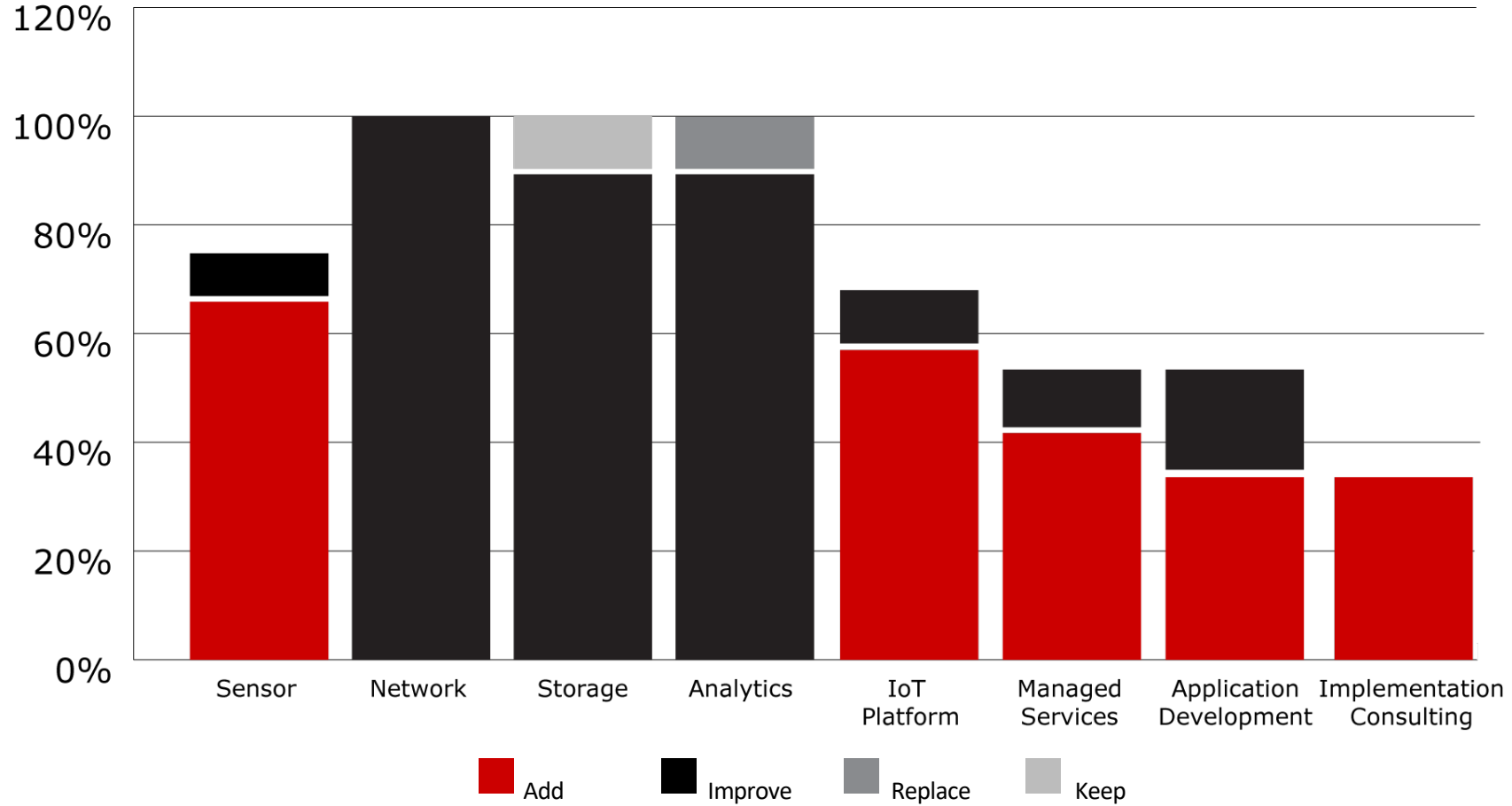


IOT IDEAS BY COMPANY GOALS



IOT IDEAS BUSINESS DRIVER

TECHNOLOGY GAP ANALYSIS



TECHNOLOGY NEEDS

WORKSHOP PHASES

Phase 1 – Plan Workshop

- Determine Business Goals (3-4 Goals)
- Determine Business Leads and SME Participants
- Determine Workshop Date

Phase 2 – Conduct Onsite Business Walkthrough

- Conduct onsite business process walkthrough

Phase 3 – Conduct Onsite Ideation Session

- Conduct Ideation session
- Prioritize Ideas
- Complete Cut Sheets for Top Ideas
 - Document Data Value Beneficiaries
 - Complete Technology Gap Impact
 - Complete ROI Impact

Phase 4 – Complete Results Analysis and Output Reports

- Complete idea analysis
- Complete Technology Gap Analysis
- Complete Complexity Index Score Analysis
- Complete Difficulty Index Analysis
- Complete ROI Index Analysis
- Document Short term and long-term goals
- Document Outcome brief
- Deliver executive report and recommendations

**This is done remotely with CDW Consultants*



The background of the slide is a stylized map with a grid overlay. Two large, dark grey road arrows with yellow dashed center lines and white dashed edge lines point upwards and to the right. The map shows various terrain features like green areas, blue water, and grey buildings.

WORKSHOP DELIVERABLES

- High-level gap analysis of technology needs
- Prioritized Roadmap for IoT Projects
- Matrix of projects and company goals
- Understanding of data value chain
- Gap Index: Tech, Complexity, ROI
- Executive Summary Report

- ❑ “The Hype” vs Market Ready Solutions
- ❑ Supply Chain Transformation – People, Process and Technology
- ❑ How to Kick-Start your Transformation

Call to action:
“Make Amazing Happen”

Jill Klein

Head of Emerging Tech and IoT