splunk>
a cisco company

Building Next-Gen Manufacturing Operations with AI and ML

July 2025

Forward-looking statements

This presentation may contain forward-looking statements that are subject to the safe harbors created under the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended. All statements other than statements of historical facts are statements that could be deemed forward-looking statements. These statements are based on current expectations, estimates, forecasts, and projections about the industries in which we operate and the beliefs and assumptions of our management based on the information currently available to us. Words such as “expects,” “anticipates,” “targets,” “goals,” “projects,” “intends,” “plans,” “believes,” “momentum,” “seeks,” “estimates,” “continues,” “endeavors,” “strives,” “may,” variations of such words, and similar expressions are intended to identify such forward-looking statements. In addition, any statements that refer to (1) our goals, commitments, and programs; (2) our business plans, initiatives, and objectives; and (3) our assumptions and expectations, including our expectations regarding our financial performance, products, technology, strategy, customers, markets, acquisitions and investments are forward-looking statements. These forward-looking statements are not guarantees of future performance and involve significant risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from results, performance or achievements expressed or implied by the forward-looking statements contained in this presentation. Readers are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties, and assumptions that are difficult to predict, including those identified in the “Risk Factors” section of Cisco’s most recent report on Form 10-Q filed on February 20, 2024 and its most recent report on Form 10-K filed on September 7, 2023, as well as the “Risk Factors” section of Splunk’s most recent report on Form 10-Q filed with the SEC on November 28, 2023. The forward-looking statements made in this presentation are made as of the time and date of this presentation. If reviewed after the initial presentation, even if made available by Cisco or Splunk, on Cisco or Splunk’s website or otherwise, it may not contain current or accurate information. Cisco and Splunk undertake no obligation to revise or update any forward-looking statements for any reason, except as required by law.

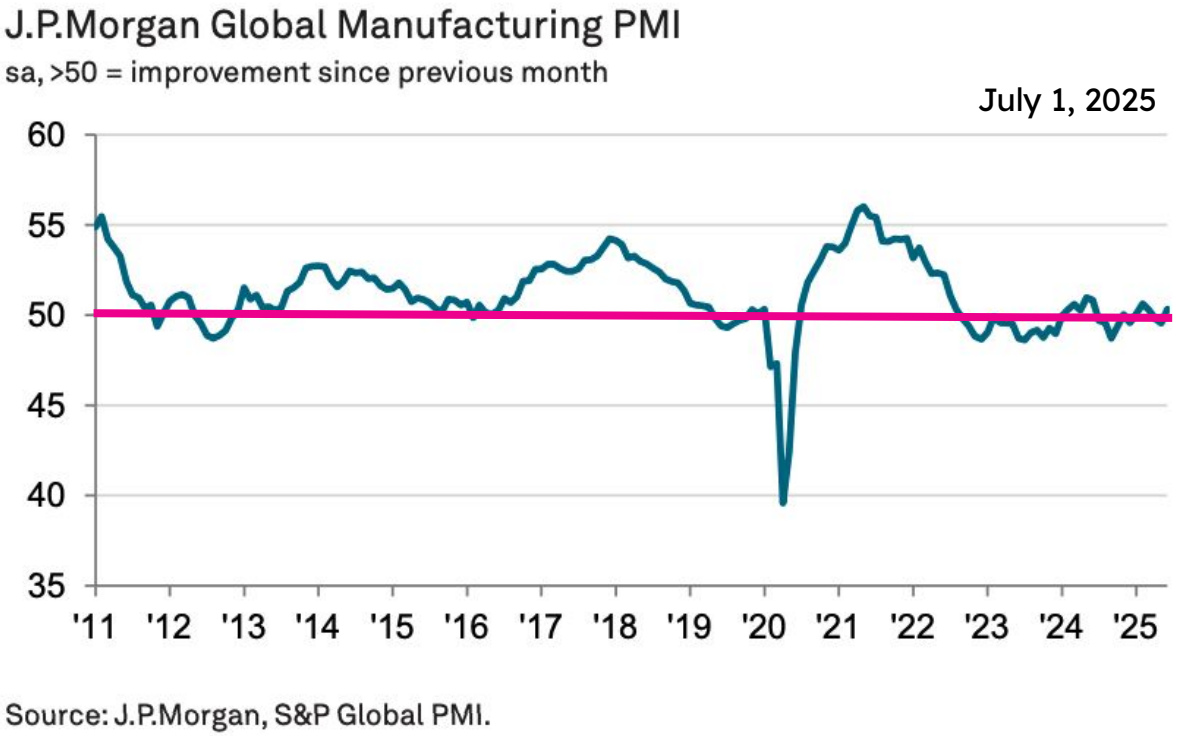
In addition, any information about new products, features, functionality or our roadmap outlines our general product direction and is subject to change at any time without notice. It is for informational purposes only and shall not be incorporated into any contract or other commitment or be relied upon in making a purchasing decision. We undertake no commitment, promise or obligation either to develop the features or functionalities described, in beta or in preview (used interchangeably), or to include any such feature or functionality in a future release. The development, release, and timing of any features or functionality described for our products remains at our sole discretion.

splunk>
a CISCO company

AGENDA

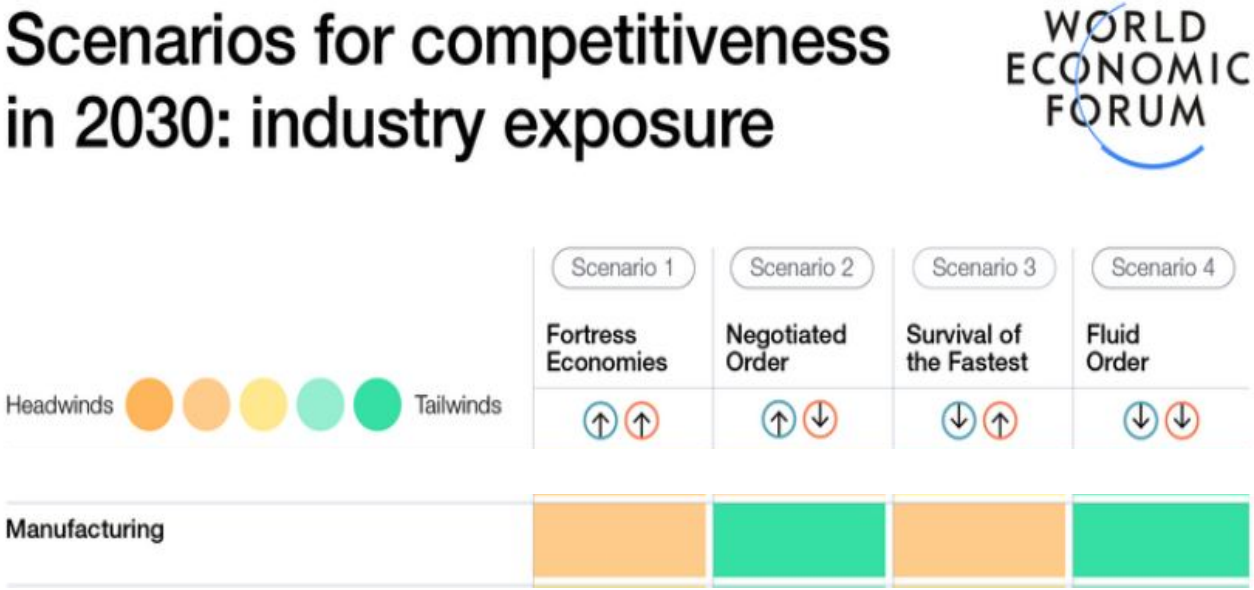
1. Resilience in the Manufacturing Industry: Trends & Challenges
2. AI in Manufacturing
3. How Splunk Adds Value
4. Three Case Studies: AI in Manufacturing
   Bosch Rexroth, Zeppelin, Audi
5. Outlook + Collaterals

Resilience is Key to Recover, Survive and Thrive Amidst Disruptions



The manufacturing industry has a long history of resilience.

Resilience is Key to Recover, Survive and Thrive Amidst Disruptions

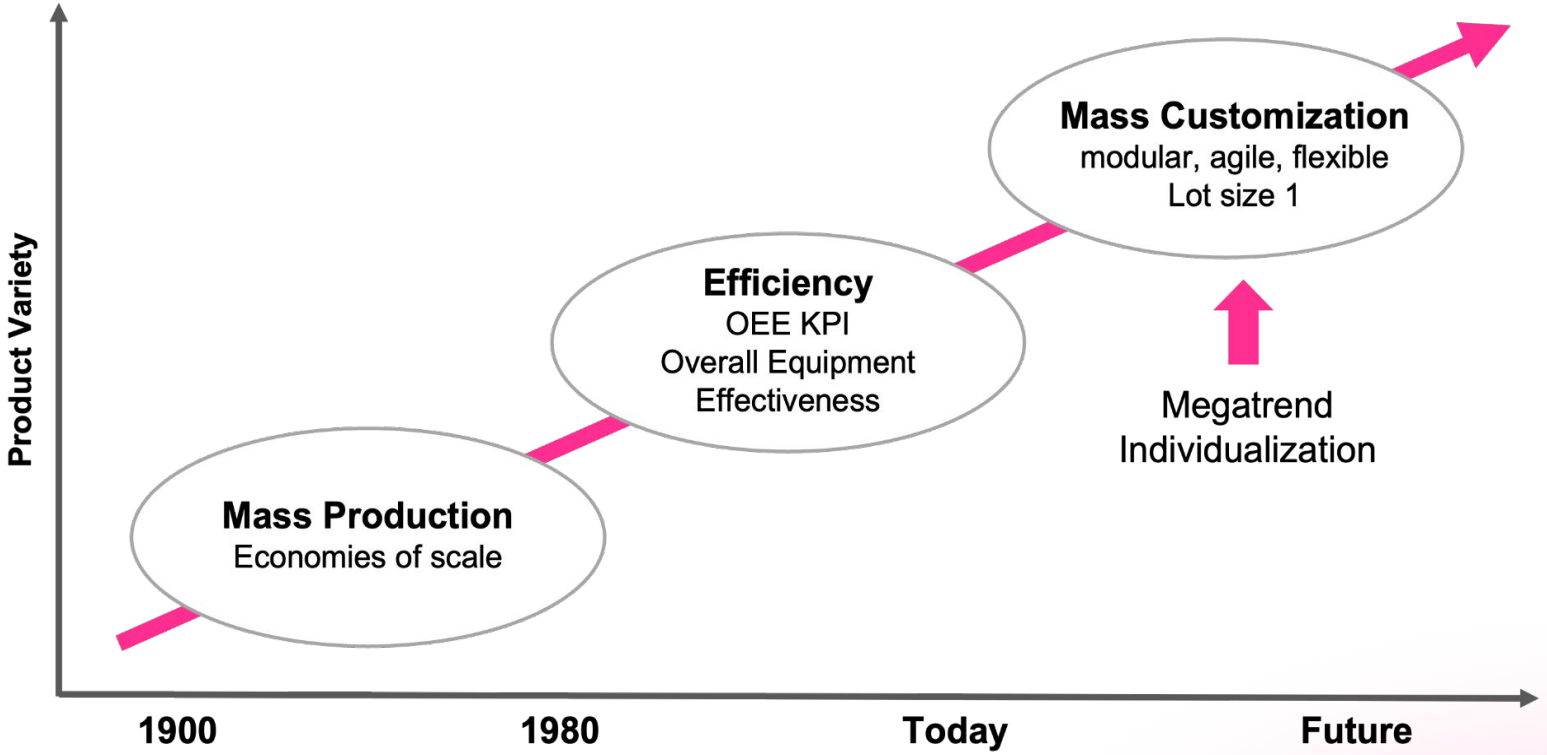


Resilience is key for future competitiveness - in any scenario.

Source: World Economic Forum, Global Economic Futures: Competitiveness in 2030

Resilience is Key for Next-Gen Operations

From mass production to mass customization



AI in Manufacturing

AI is transforming organizations at an unprecedented rate

The global market size of AI in manufacturing is estimated to grow seven fold between 2023 to 2028, reaching USD 21 billion by 2028. Source: Markets and Markets


AI in Manufacturing
A Journey
Simulation
Classification
Optimization
Digital Twins
AR / VR
Quality Control
Predictive
Analytics
Predictive Maintenance
Predictive Quality
Gen
AI
Industrial Copilots
Chat Bots
AI Assistants
Agentic
AI
Response to Cyberattacks
Automated Optimizations
Agentic AI-driven Operations
Physical
AI
AI-driven Robotics for Production
Warehouse Robots
Self Driving Cars

Driving Change with AI in Manufacturing

96% of manufacturers are exploring GenAI in observability

66%

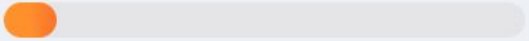
have tried generative AI for data analysis

63%

have experimented with generative AI recommended actions to resolve issues

11%

have fully adopted these capabilities



Source: The State of Observability in Manufacturing

Strengthening digital resilience with AI

55%

Use AI and ML
for anomaly detection

52+%

Cite the following top security use cases for GenAI

- Malware analysis
- Threat detection
- Alert enrichment

Source: The Hidden Costs of Downtime

AI in German Manufacturing

42%

are using AI in the production

19%

are using AI in robotics,
with **46%** being in the planning/discussion stage

Energy Management is the top emerging AI use case

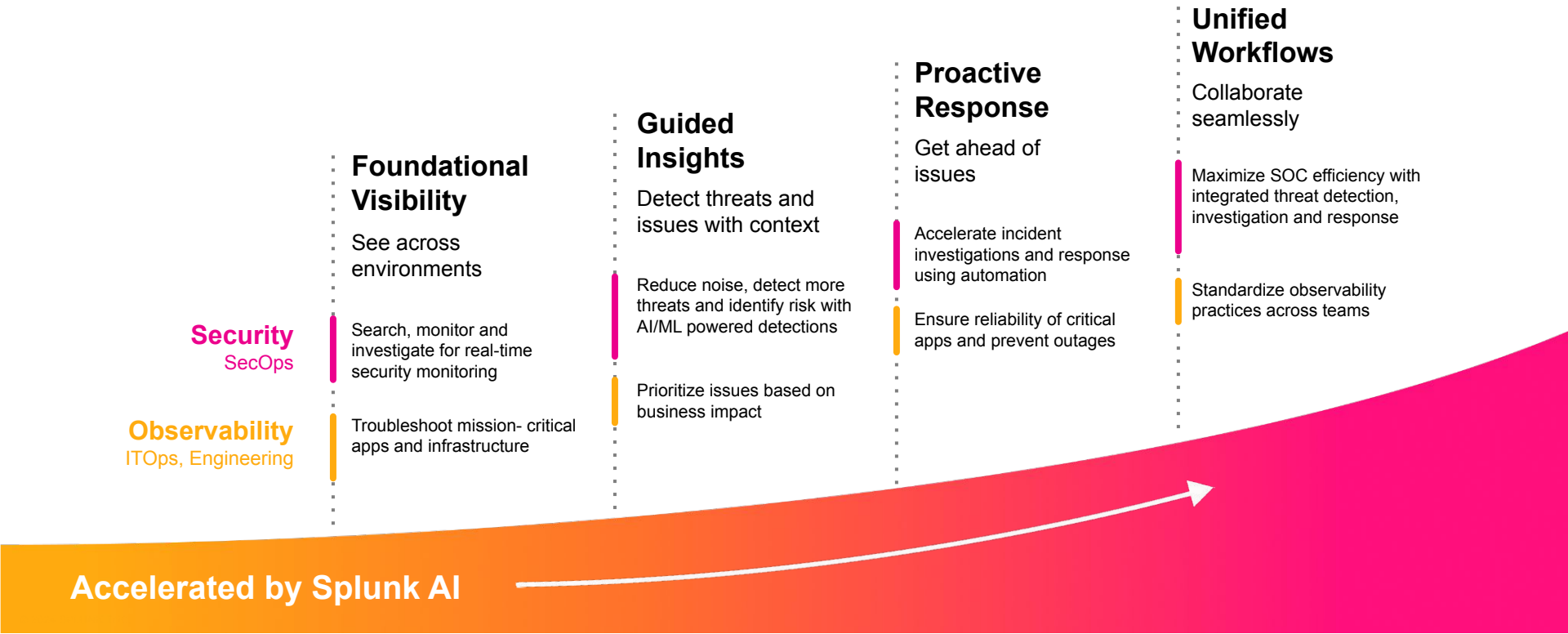
64%

are planning/discussing the implementation

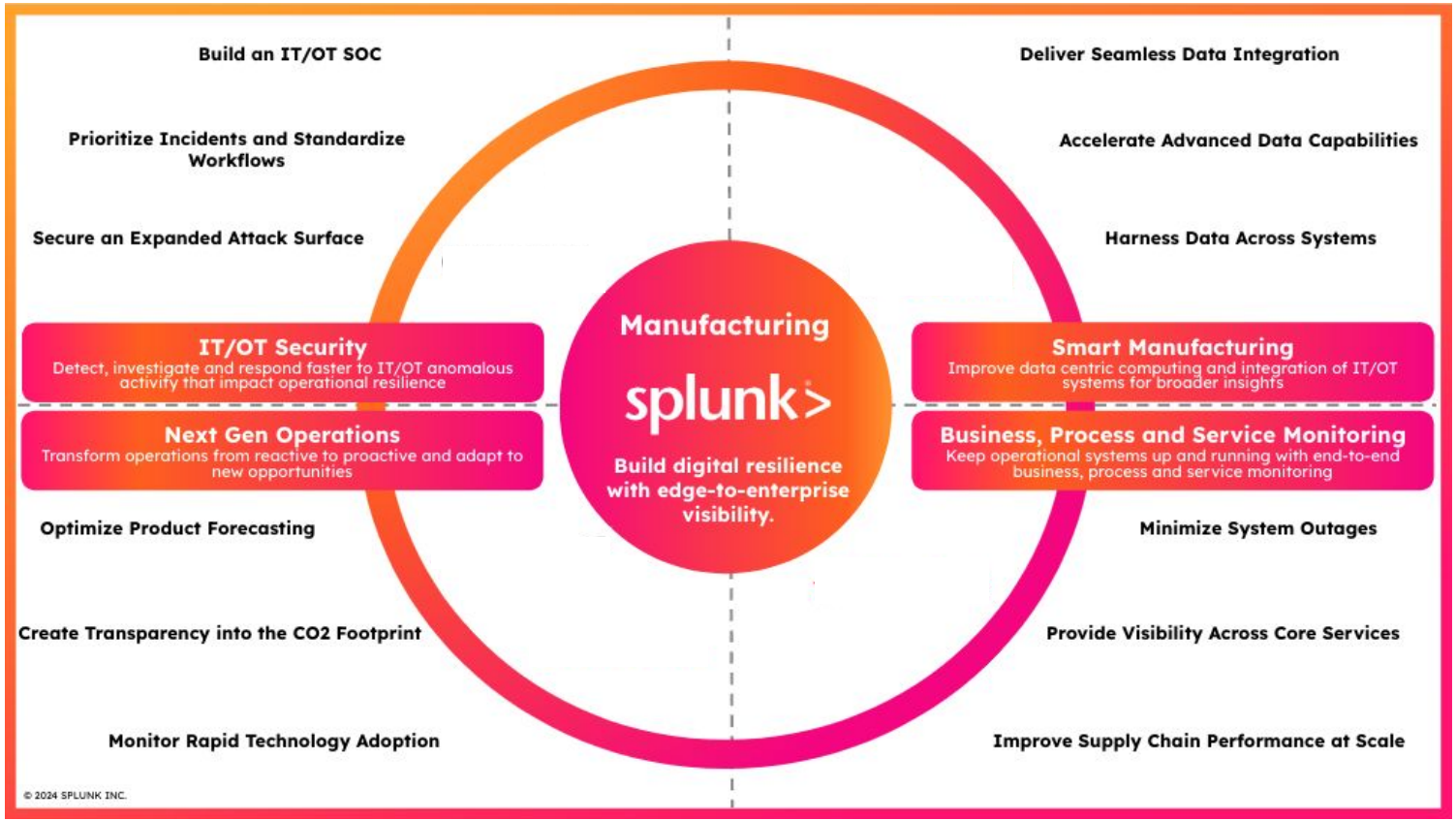
Source: bitkom


How Splunk
Adds Value

The path to greater digital resilience



Focusing on Four Key Business Outcomes

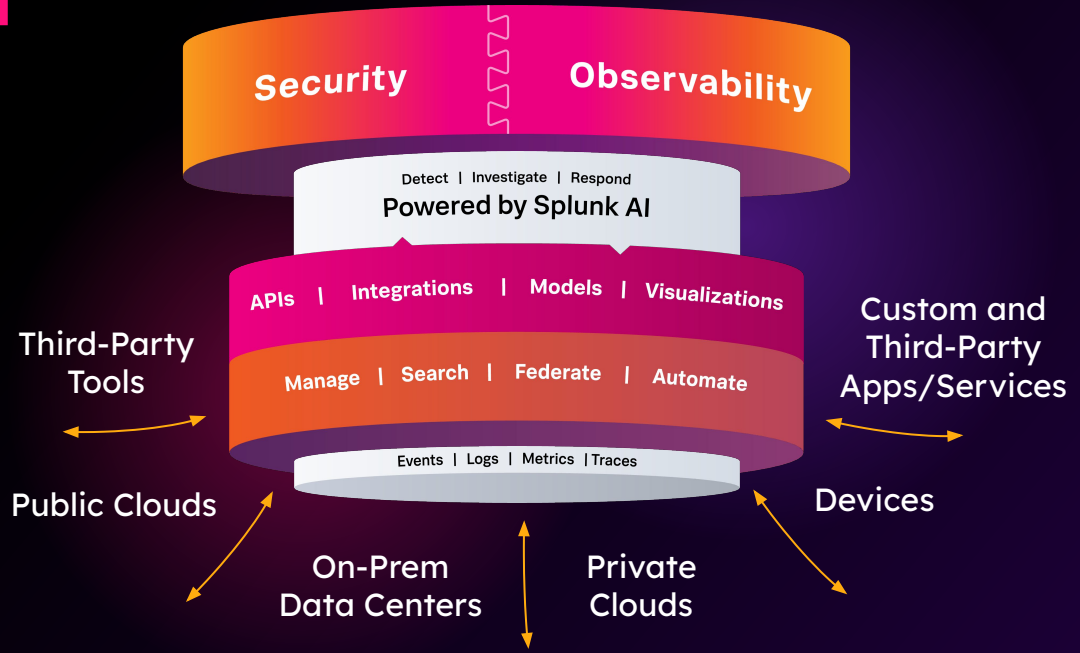


Splunk AI

Video

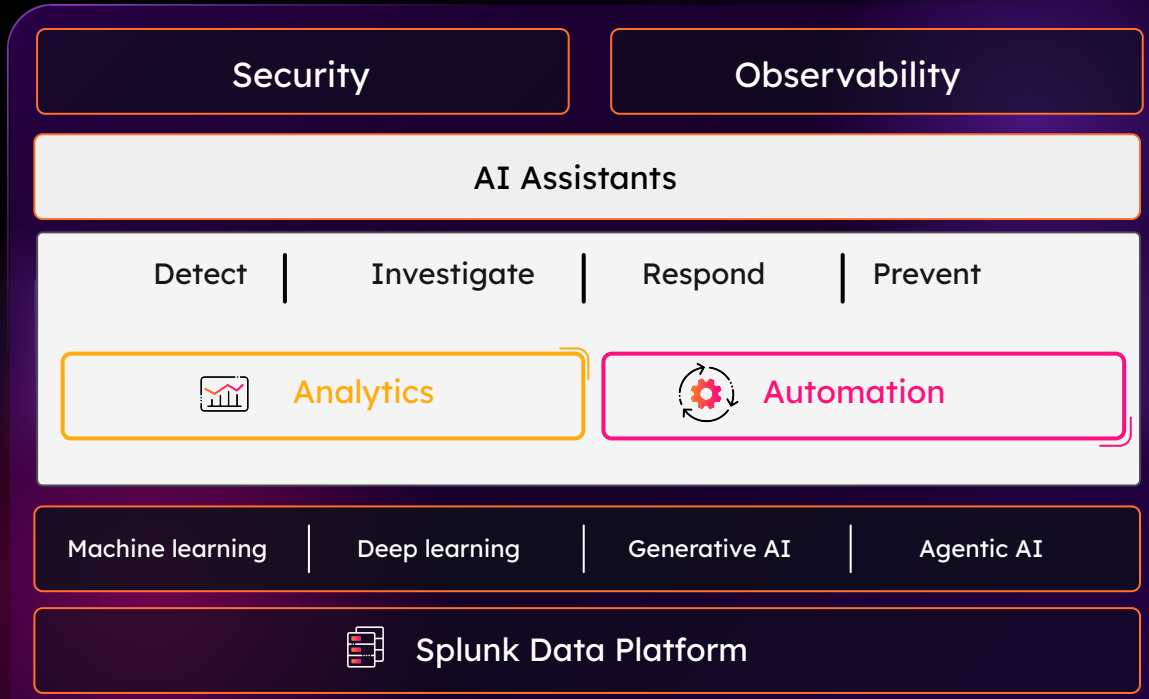
www.splunk.com/en_us/solutions/splunk-artificial-intelligence.html

Built on a unified data platform



With a foundation of AI services + data

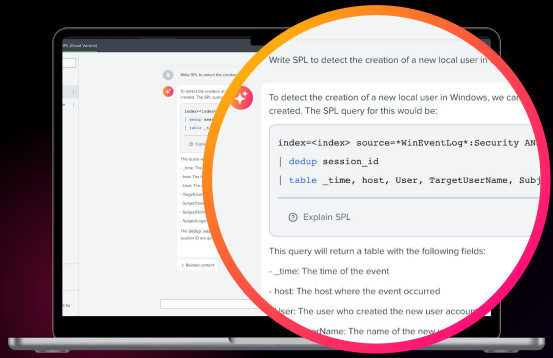
- Generative AI Assistants to simplify and make your job easier.
- Prebuilt AI analytics and task automation enabled by agentic AI.
- Powered by leading AI technologies to deliver accuracy and efficiency.
- Integral part of the Splunk portfolio and Data Platform.



Splunk AI Assistants everywhere

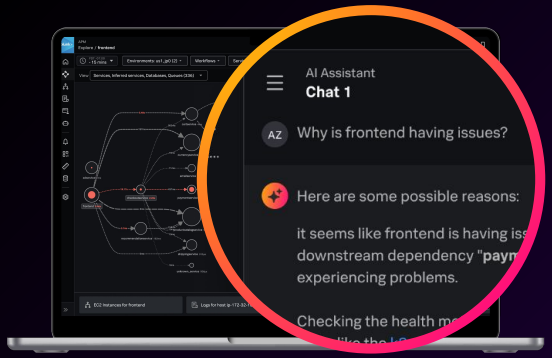
Increase productivity and deliver faster detection and response

AI Assistant for SPL



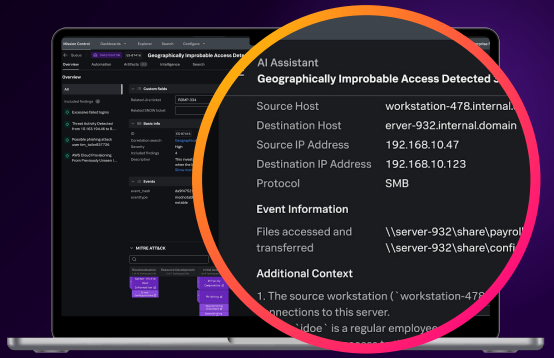
Generally Available

AI Assistant in Observability Cloud



Generally Available

AI Assistant in Enterprise Security



Preview

Including a broad portfolio of ML and AI analytics

Analytics

Generative AI

Make everyone an expert

Reduce need for environment and tool expertise by simplifying analysis and investigations.

Detect and predict

Real-time, streaming analysis to detect anomalies and forecast trends.

Machine and Deep Learning

Correlate and diagnose

Aggregate and analyze all data to investigate and identify root causes.

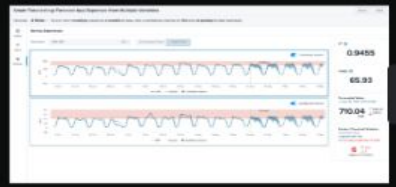
Splunk Machine Learning Toolkit

The Splunk Machine Learning Toolkit delivers new SPL commands, custom visualizations, assistants, and examples to explore a variety of ML concepts. Each assistant includes end-to-end examples with datasets, plus the ability to apply the visualizations and SPL commands to your own…

Built by Splunk LLC

Login to Download





Latest Version 5.6.0

May 13, 2025

Release notes

Compatibility

Splunk Enterprise, Splunk Cloud

Platform Version: 10.0, 9.4, 9.3, 9.2, 9.1

Rating

5 ★★★★★ (39)

Log in to rate this app

Support

Splunk Supported App

Learn more

Ranking

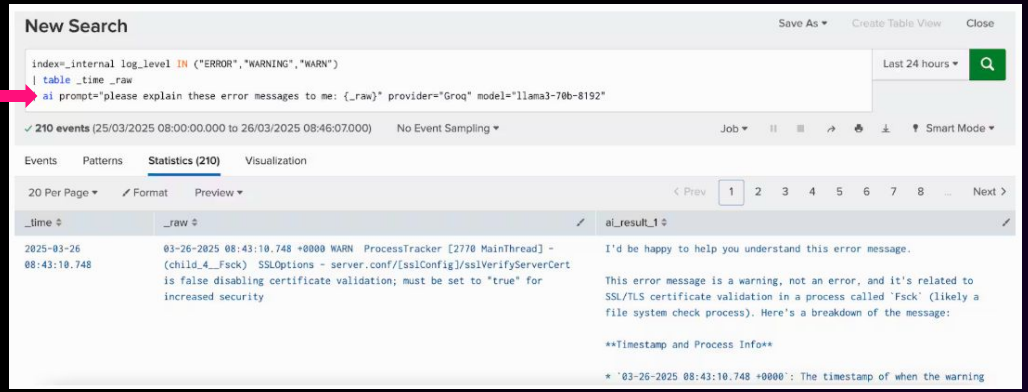
#1 In Artificial Intelligence

#2 In Business Analytics

Building on AI Capabilities in Splunk with External LLM Integration

Enabled by the Splunk Machine Learning Toolkit (MLTK) 5.6

Commanding AI with the `ai` command



Disclaimer: Any data that is sent to an external LLM is done so at your own risk!

Source: Faster Insights with Third-Party LLM Services in Splunk Search

Allows customers to connect to external LLMs directly into the Splunk search experience

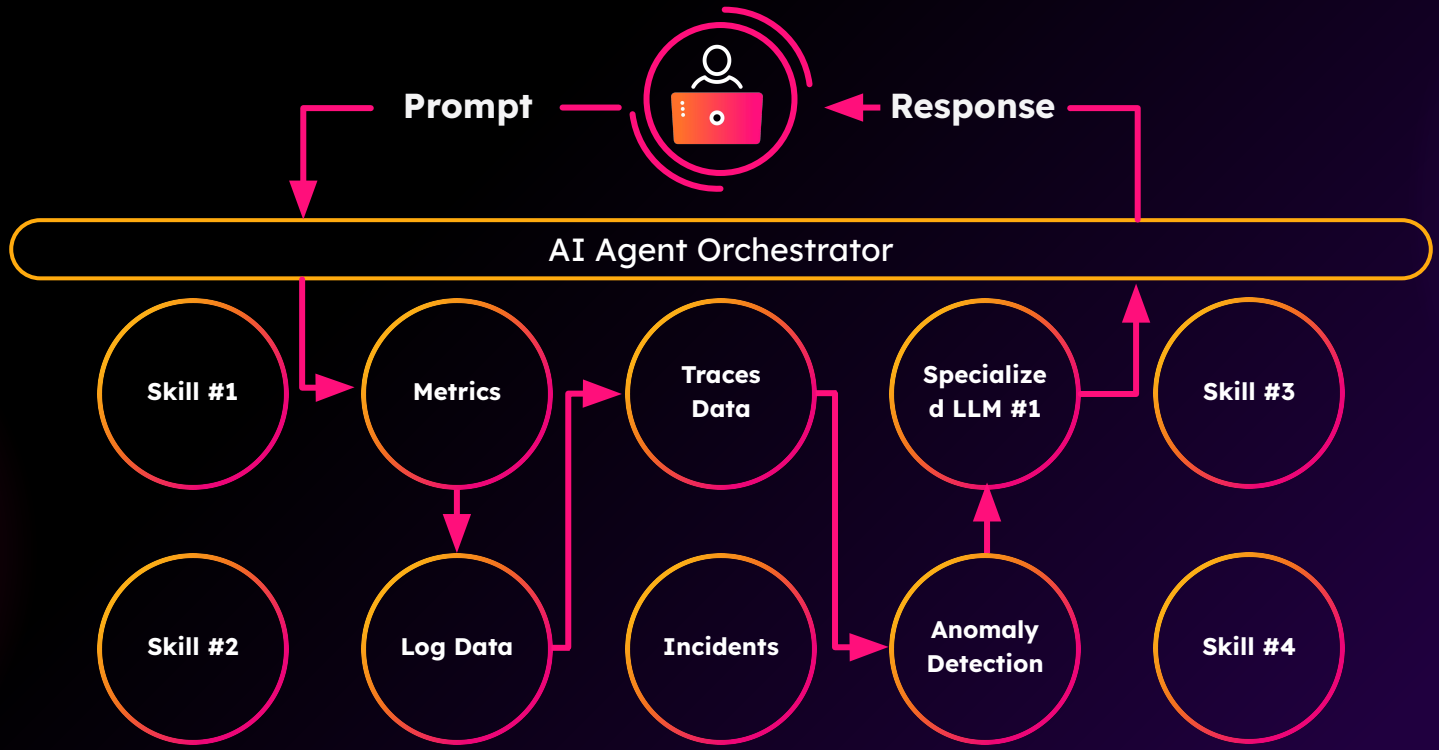
- OpenAI
- Anthropic
- Google Gemini etc.

Customers can now apply the power of these LLMs to Splunk data. Examples:

- Explain the error log that you need to investigate.
- Prioritize the list of alerts you received.
- Rank the number of login attempts by user.

And agentic AI to automate tasks

Automation



*Skill refers to the ability to perform a task or interact with other models, applications or systems.

Splunk AI accelerates digital resilience

Accelerating every step of detection, investigation and response

Boost productivity and accelerate outcomes with embedded AI

Extend results by customizing AI with your data

Secure and monitor fast changing AI environments

3 Case Studies: AI in Manufacturing

Bosch Rexroth, Zeppelin, Audi

Building Resilience with Energy Management for Factory Automation at Bosch Rexroth AG

- A Splunk + Cisco + Consist project in the Ulm model factory, Germany
- Presented at Cisco Live Amsterdam
- **Industry Innovator Award Winner** as part of Cisco's Global Customer Awards EMEA 2025 program

Customer Case

Bosch Rexroth AG

Energy Management for Factories

Key Challenges

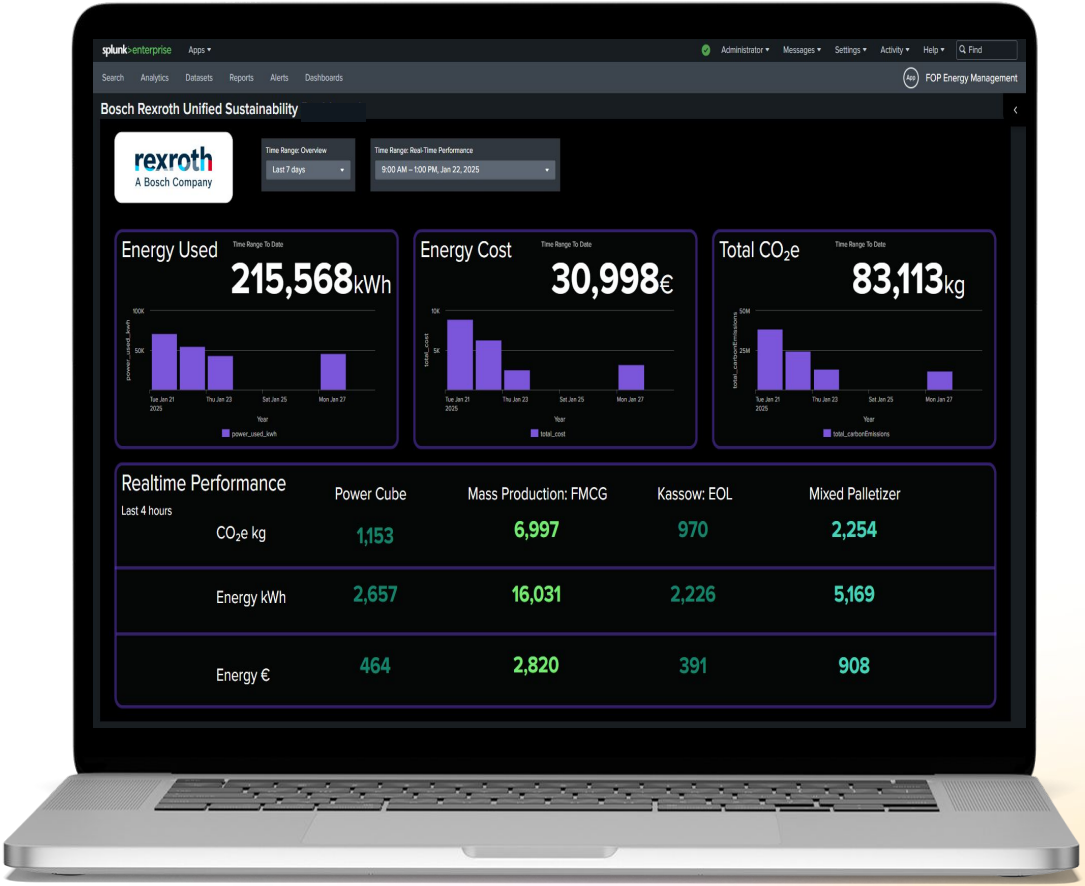
- Skyrocketing energy costs
- Increased regulation
- Lack of unified, granular and real-time visibility across IT and OT environments

Solution

- Leveraged the Splunk Machine Learning + Sustainability Toolkit
- Focused on energy-intensive machines
- Enabled optimization at scale with three key levers: Pricing (peak management), availability (standby), timing (operations scheduling)

Business Impact / Savings

- Costs (EUR) **20-30 %**
- Energy (kWh) **10-15 %**
- GHG* emissions (CO2e kg) **25-30 %**



Bosch Rexroth AG Gains IT and OT Observability and Reduces Energy Costs by 20-30%

* GHG: Greenhouse Gas

Optimizing Peak Management with ML

Sustainability

Energy Transparency | Energy Efficiency | Decarbonization

Savings with All Three Optimization Levers

- **Costs (EUR)** **20-30 %**
- **Energy (kWh)** **10-15 %**
- **GHG Emissions (CO_2e kg)** **25-30 %**

Results verified by Bosch Rexroth

Without compromising performance, quality and time requirements

Customer Case

Zeppelin

Connecting to LLMs

Key Challenges

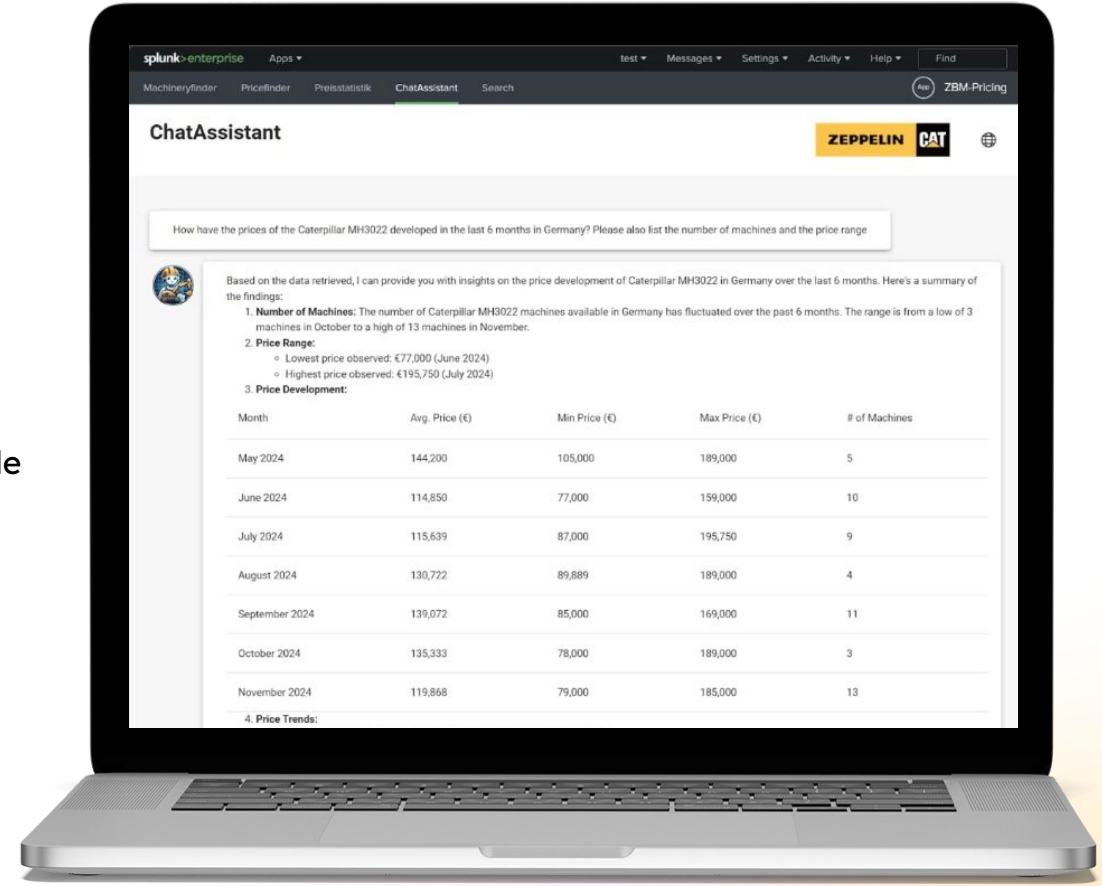
- Intransparent pricing information about used machinery

Solution

- Connected Splunk data with LLMs to interact with them, e.g. Anthropic Claude
- Created an AI assistant that would allow employees to query ANY pricing information about used machinery
- Example of user prompt: *“How have Caterpillar MH3022 prices in Germany changed in the last 6 months?”*

Business Impact

- Market intelligence at your fingertips
- Making informed decisions
- Huge productivity boost



Blog: [From Zero to LLM-Hero: Plan, Architect and Operationalize your AI Assistant in Splunk]

Customer Case

Audi AG

Virtually Controlled Production with an AI-Ready Network

Key Challenges

- Shifting paradigm: Refocus from hardware to applications
- New network required for highly critical communication
- Broader strategy to bring IT into OT

Solution

- Virtual PLCs* replace hardware-based control on the EC4P** platform
- Secure, AI-ready network by Cisco
- Applications are communicating with robots through the network in real time

Business Impact

- Important productivity leap in Audi's 360 factory strategy for efficient and data-driven manufacturing
- Gained energy efficiency and reduced the carbon footprint

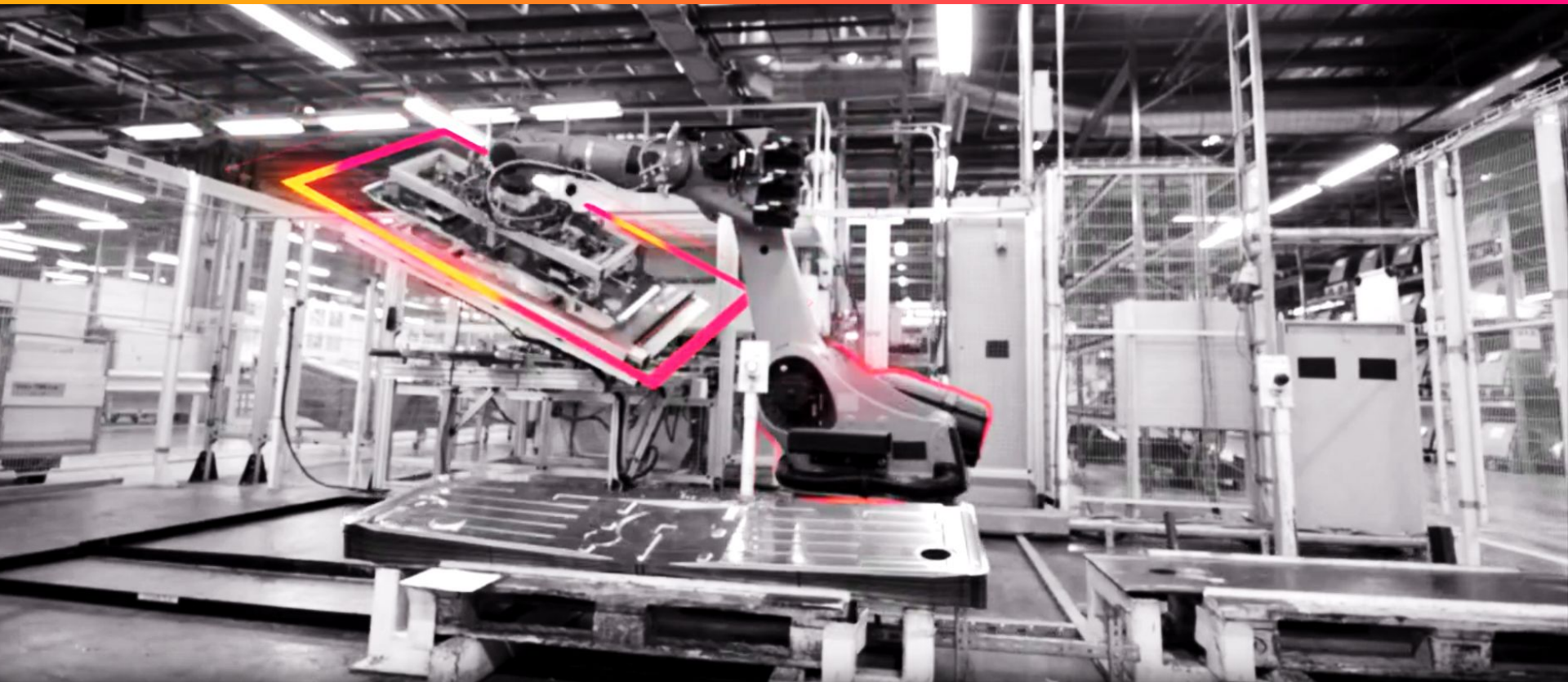
Virtually controlled production a first in Audi body shop

Audi sets the pace for a next-level smart factory

*PLC: Programmable Logic Controler **EC4P: Edge Cloud 4 Production

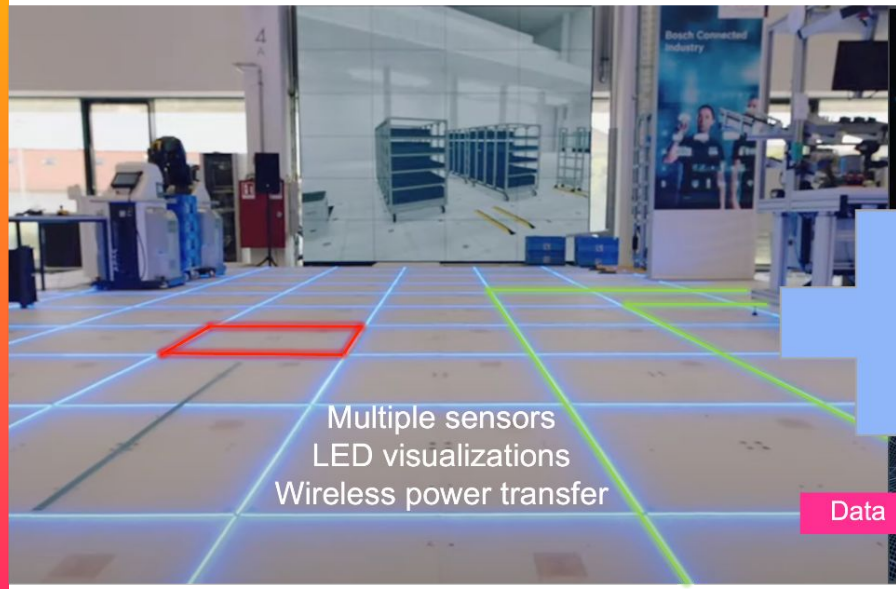
Outlook + Collaterals

The factory of the future has only two living beings: a dog and a worker?
The job of the worker is to feed the dog and
the job of the dog is to keep any humans away from machines?

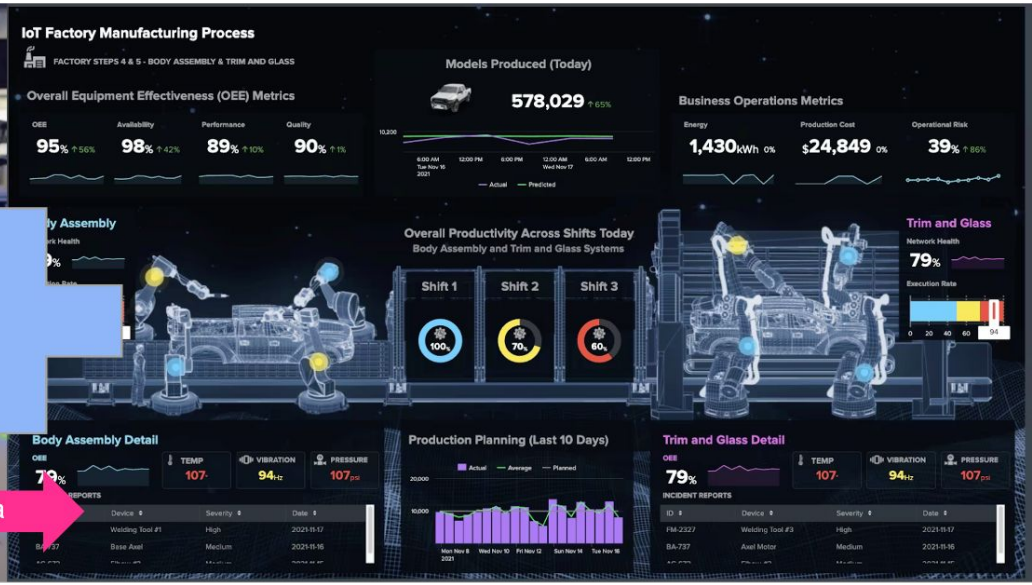


Building the NextGen Factory

Leveraging OT + IT + AI



Data



Bosch Rexroth: Intelligent Factory Floor

Roof, walls and floor are fixed, everything else can be adapted to new orders, production methods or business models.

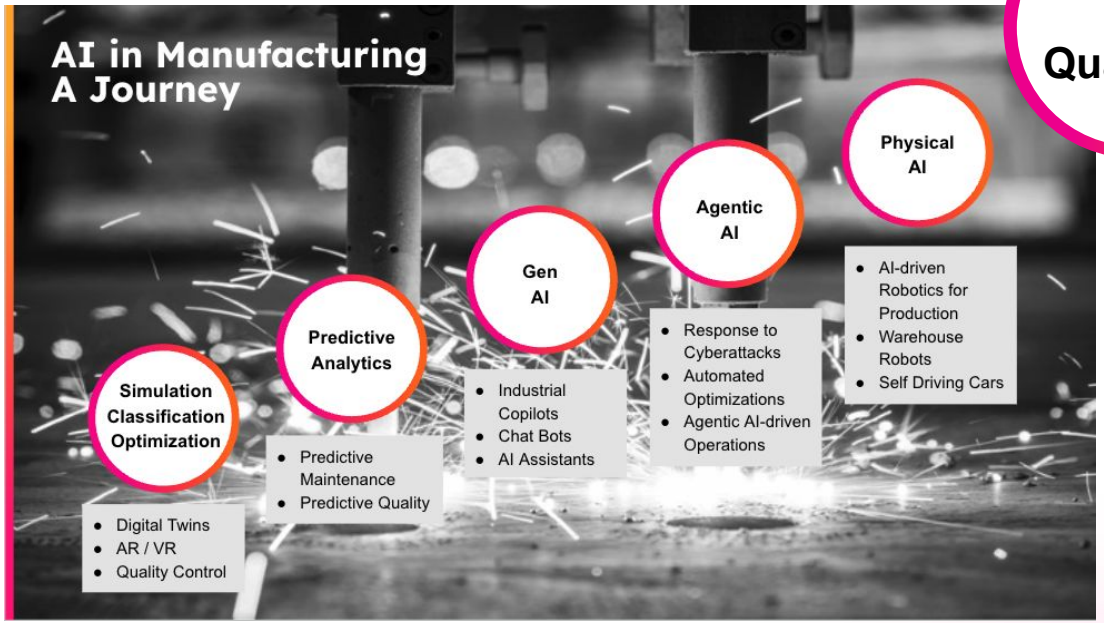
➡ modular, mobile and flexible production

Splunk: Data Analytics Platform Powered by AI / ML

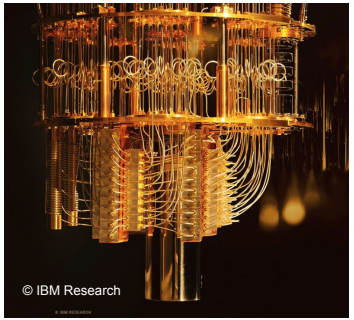
Possible Business Outcomes

- Optimized production performance, availability, security + safety
- Lot size one vs. economies of scale
- Energy management: Energy costs, efficiency, carbon footprint

Quantum Computing is the New Kid on the Block Hand in Hand with AI



AI + Quantum



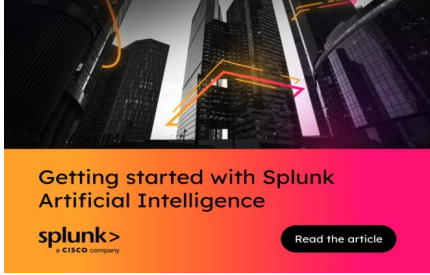
Possible Use Cases

- Optimization
  - Complex logistics / supply chain
  - Scheduling
    (also workloads in data centers)
- Accelerating new materials development
- Simulations

Link

Link

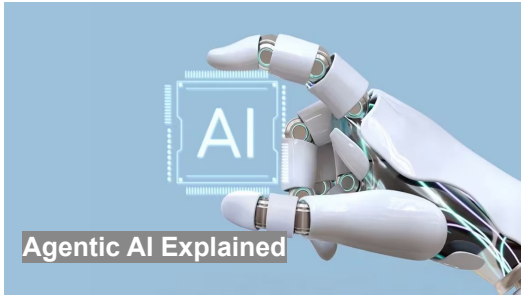
Link



Link

Link

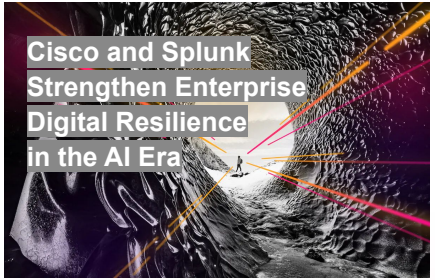
Link



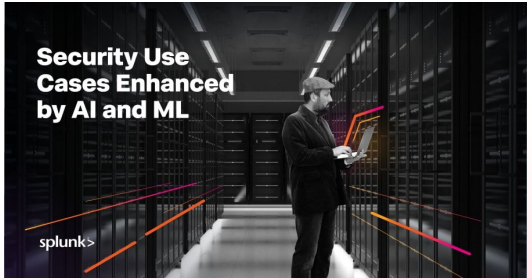
Link

Link

Link



Link



Link

Link