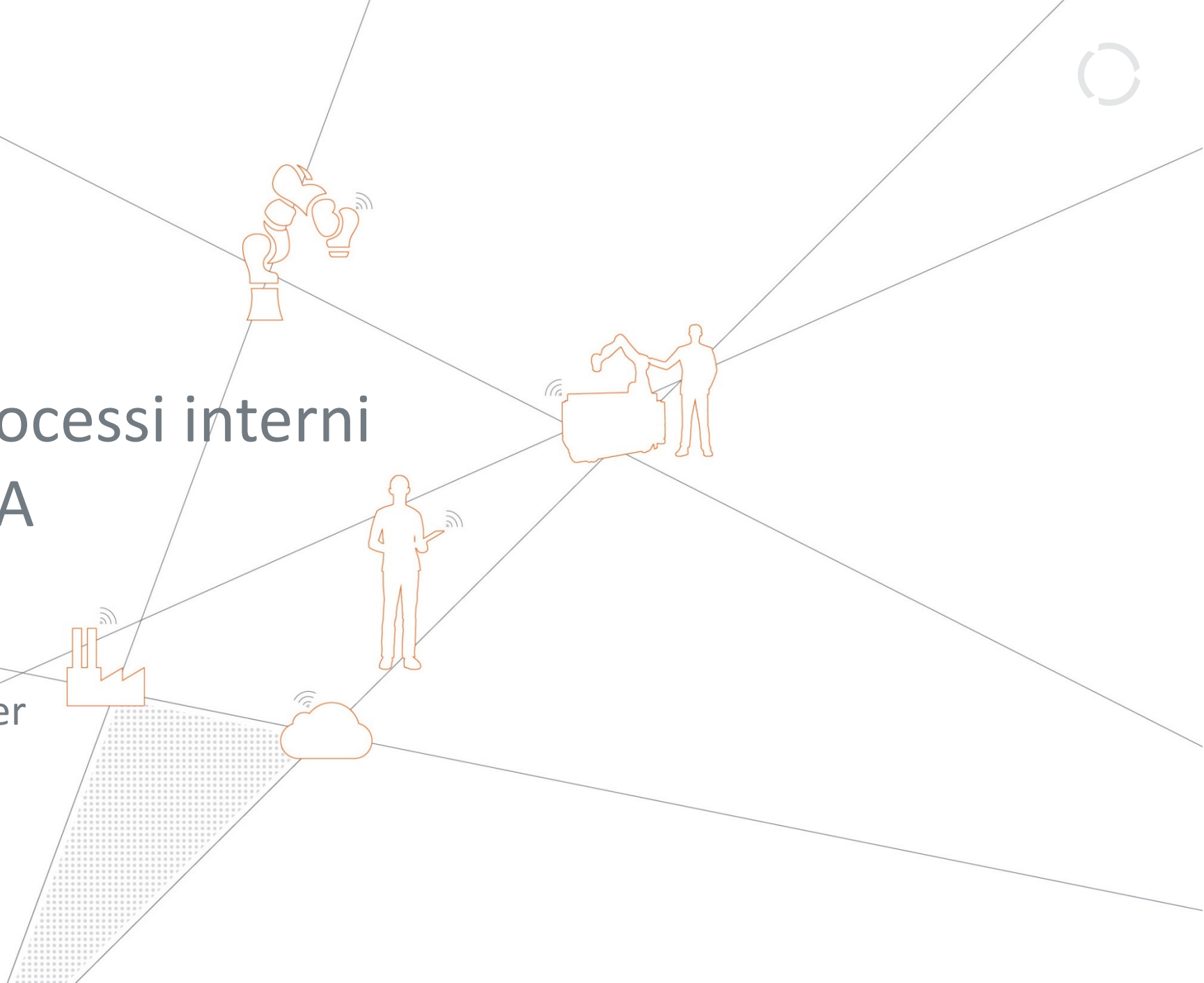
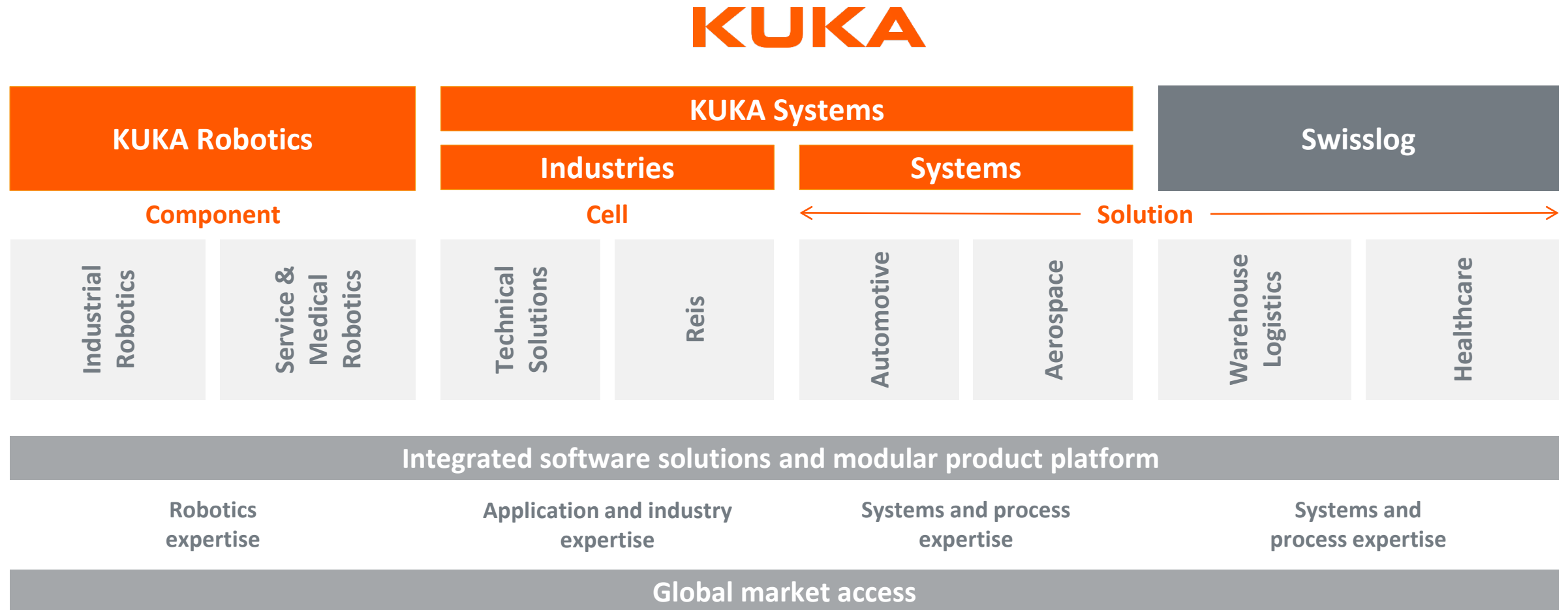


Industry 4.0 nei processi interni e nei prodotti KUKA

Alberto Pelleri
Strategy & Marketing Manager
KUKA Roboter Italia spa



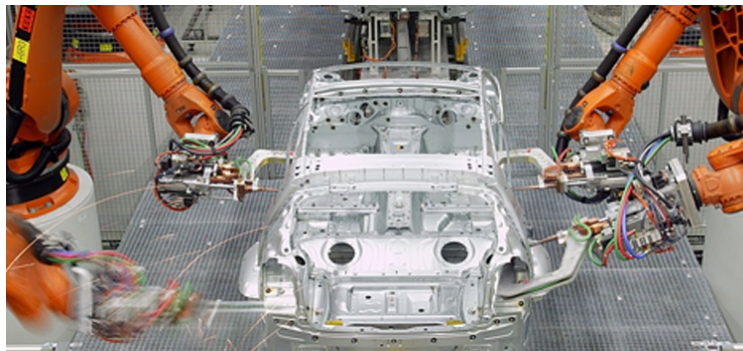
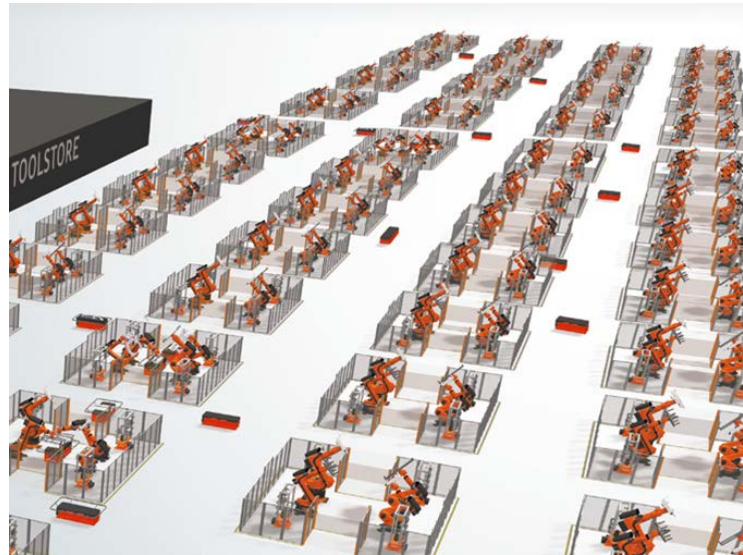
KUKA – one stop shop for solutions



How KUKA already shapes the factory of the future



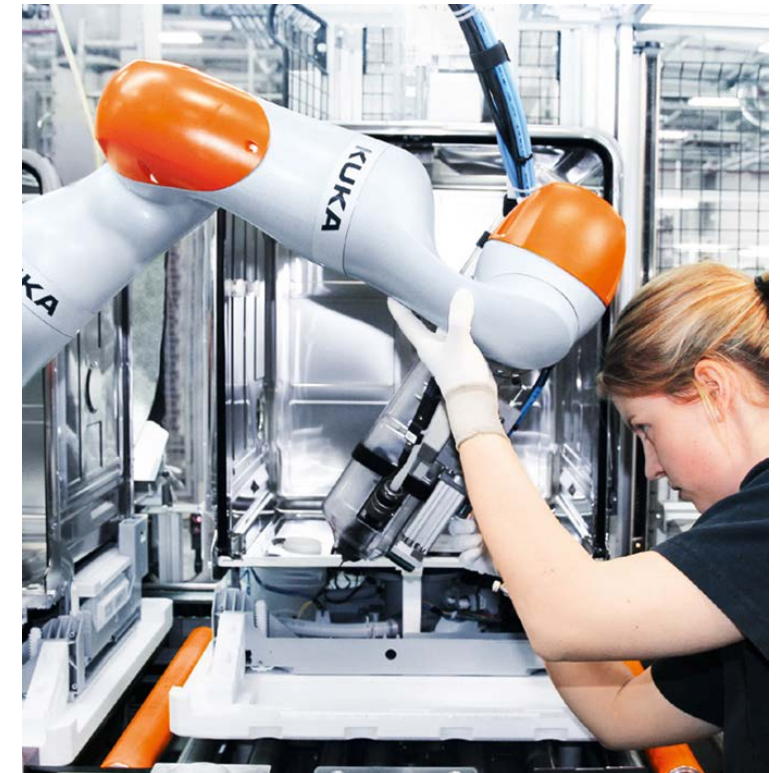
INNOVATIVE TECHNOLOGIES



CELL AUTOMATION CONCEPTS

RE-THINKING THE THE SHOP FLOOR

ENHANCING COLLABORATION



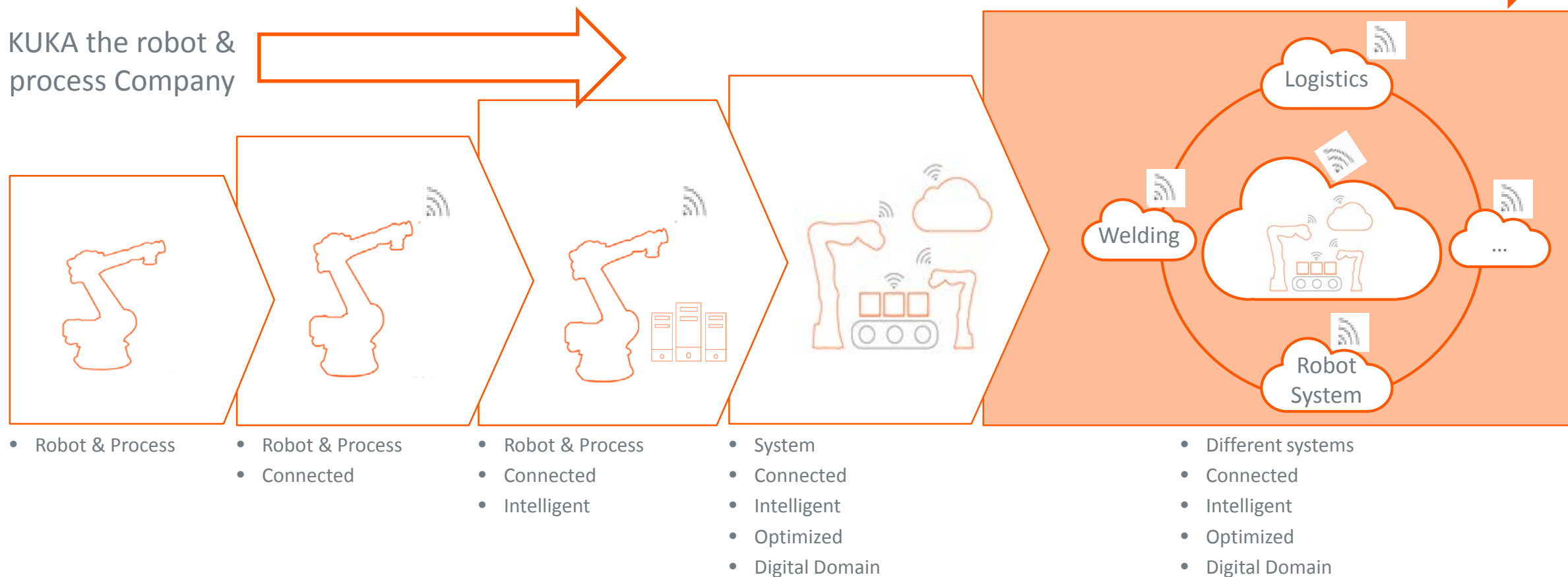
What does *this* smart factory look like?



Industrie 4.0: Evolution of KUKA's PRODUCT PORTFOLIO

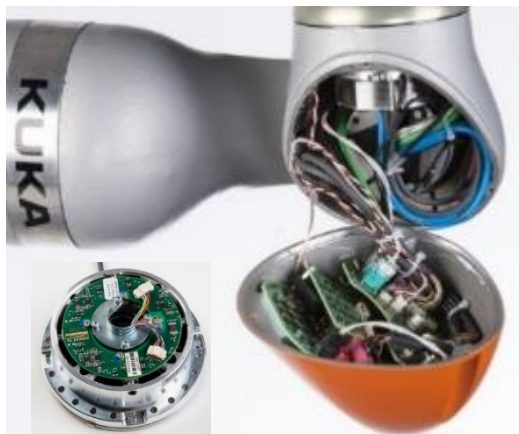
KUKA the robot, process and cloud/ software company

KUKA the robot & process Company





- KUKA products actually **meet the requirements of Industry 4.0** and bring flexibility in the utilization of production capacity, in logistics, in the sustainable use of resources. KUKA achieves this by **merging the IT world and conventional high-tech industry solutions** into complete Cyber-Physical Production Systems (CPPS).
- With the newest member of the KUKA robot family – the **LBR iiwa** lightweight robot and the controller Sunrise **designed for direct cooperation between humans and robots** – KUKA now takes it a step further, offering products that are truly **“Industry 4.0-ready”**.
- Specific robot and system solutions are used to illustrate the three focal points of **mobility, control and human-robot-collaboration**. Here, it also becomes evident that the core of the **“smart factory” of tomorrow involves people rather than machines**.



CoBot Market (for Barclays and ABI)

Barclays Research Market Demand Projections

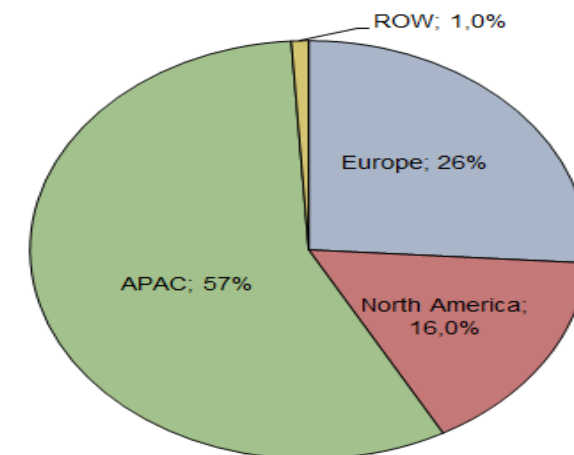
	Current Manufacturing workforce millions	Robot penetration by 2020	Robot penetration by 2025
Germany	7.8	1%	4%
United States	12.2	1%	5%
China	53	0.3%	2%
Japan	10.4	1%	5%
South Korea	4.1	1%	7%
Other Countries		1%	4%

We (Barclays Research) believe the co-bot high growth phase will last until at least 2025

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Germany	100	220	450	700	1 100	3 000	5 000	9 000	15 000	25 000	35 000	47 000	59 000	68 000
United States	100	220	450	1 000	1 300	6 000	11 000	16 000	28 000	46 000	67 000	89 000	111 000	128 000
China	100	220	450	800	2 500	12 000	20 000	30 000	49 000	83 000	123 000	161 000	201 000	232 000
Japan	100	220	450	700	2 000	6 000	10 000	16 000	27 000	46 000	67 000	87 000	109 000	126 000
South Korea	100	220	450	700	2 200	2 000	6 000	10 000	16 000	28 000	39 000	52 000	66 000	76 000
Other Countries	200	200	250	400	1 000	3 000	6 000	9 000	15 000	25 000	37 000	48 000	61 000	70 000
Total Co-Bot units	700	1 300	2 500	4 300	10 100	32 000	58 000	90 000	150 000	253 000	368 000	484 000	607 000	700 000
Average Selling Price	22 700	22 700	24 000	28 177	27 860	24 812	23 386	21 951	20 955	20 273	19 470	18 732	18 079	17 448
Market Size Estimate US\$ Mn	16	30	60	116	282	808	1 348	1 978	3 146	5 123	7 157	9 074	10 970	12 228

Source Barclays Equity Research

Chart 8
Collaborative Robots: 2020 Unit Sales Marketshare by Region
World Market, 2015



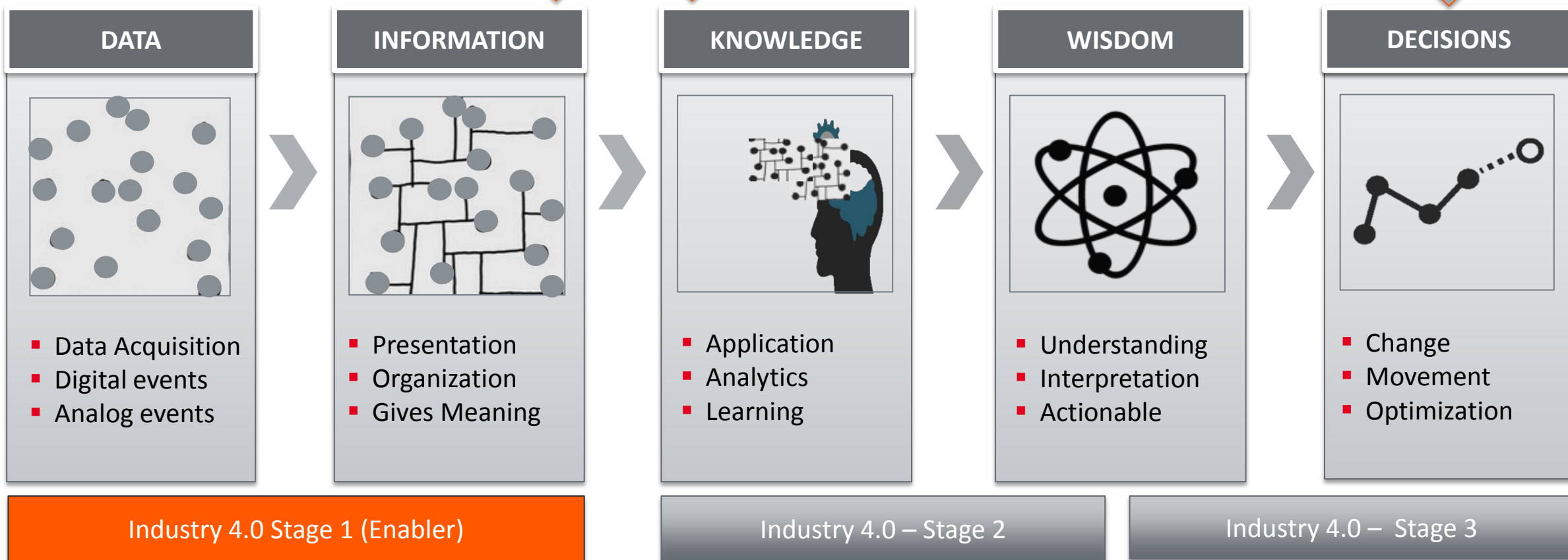
Source: ABI Research

Stages to Industrie 4.0

This is where our clients are

Journey to Industry 4.0 demystification

The typical Industrie 4.0 story



Example for an APP: online-tag information, view information by just looking on it



PU212

Effluent pump

Online \updownarrow CRO



29 Eigenschaften

5 Dokumente



Barcode

PU212



Description

Effluent pump



Maintenance finished

False



Name

PU212



Nominal Diameter DN1

80



Protection

II 2 G c TX



Installation Level

35 m



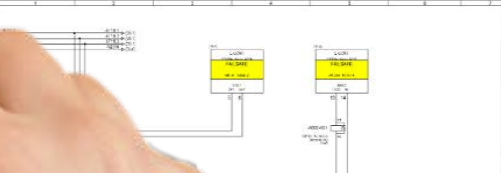
Manufacturer

KSB AG

[Root] > 01 Operator Inspection Pump > PU212 [Detail]



5 Dokumente



FAILSAFE

CORE STEPS OF INDUSTRIE 4.0

Which essential steps are necessary to take?

CONNECTIVITY

“We help you connect your devices and sensors”

Why

- Explosive growth in usage sensors and smart devices on the production floor
- Fundament for smart production

TRANSPARENCY

“We help you to focus on the right metrics”

Why

- Gaining insights of your assets and knowledge of your processes
- Big data to smart data

EFFICIENCY

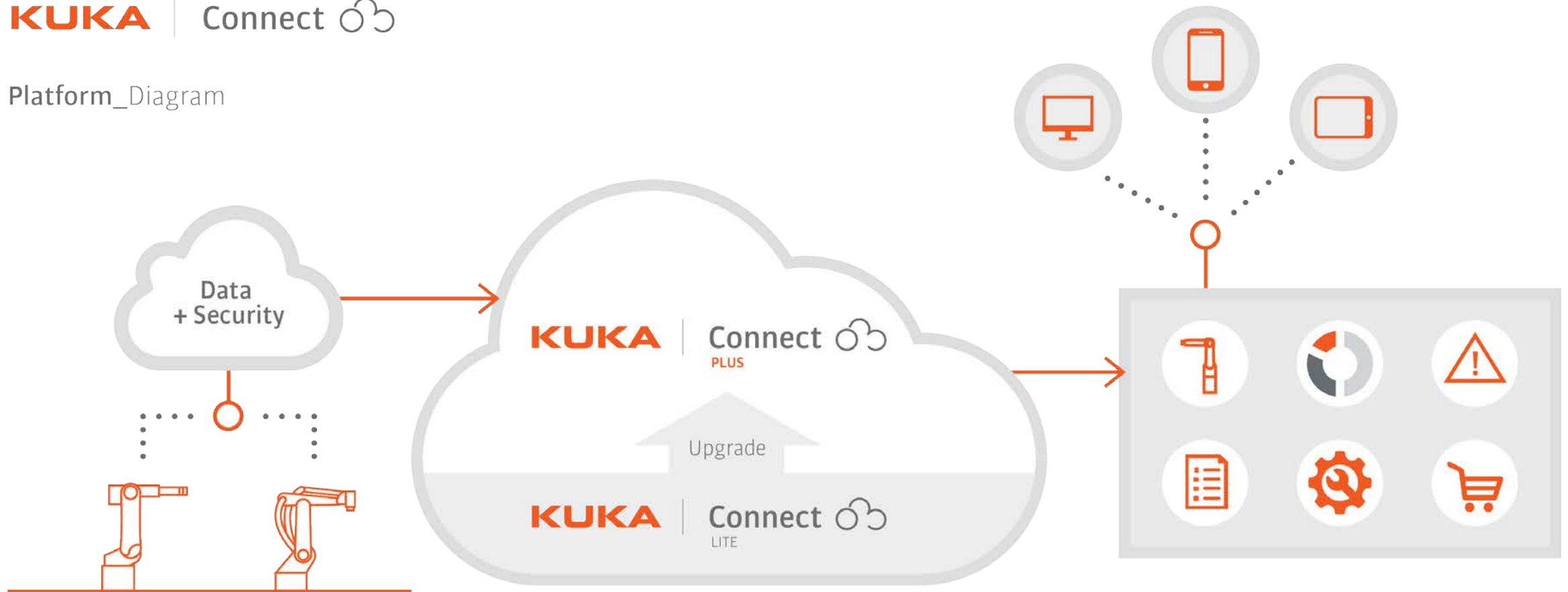
“We deliver business value”

Why

- Smart data to value data → Data analytics
- Optimize integrated processes
- Business model innovation

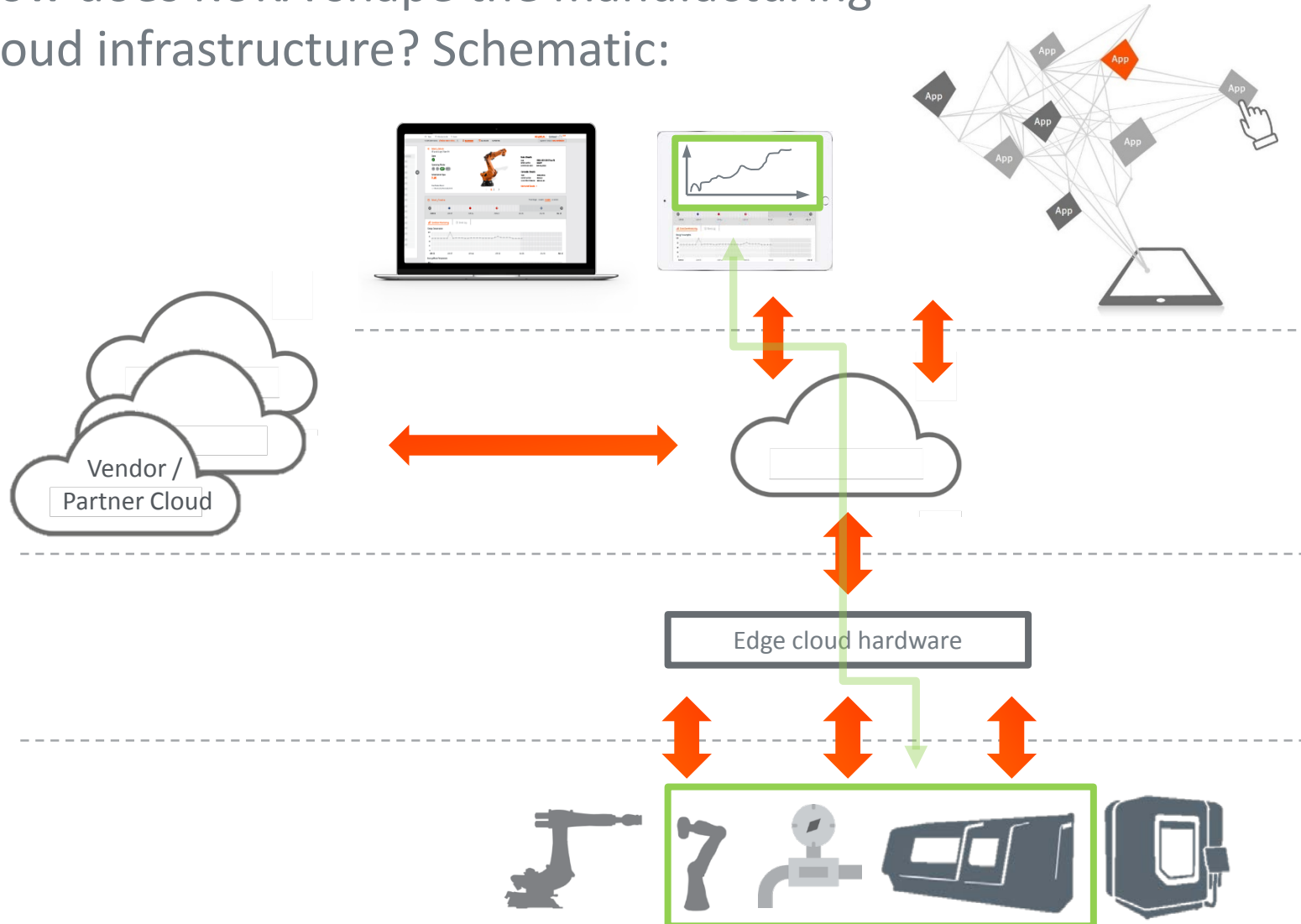
KUKA | Connect



Platform_Diagram



connect.kuka.com

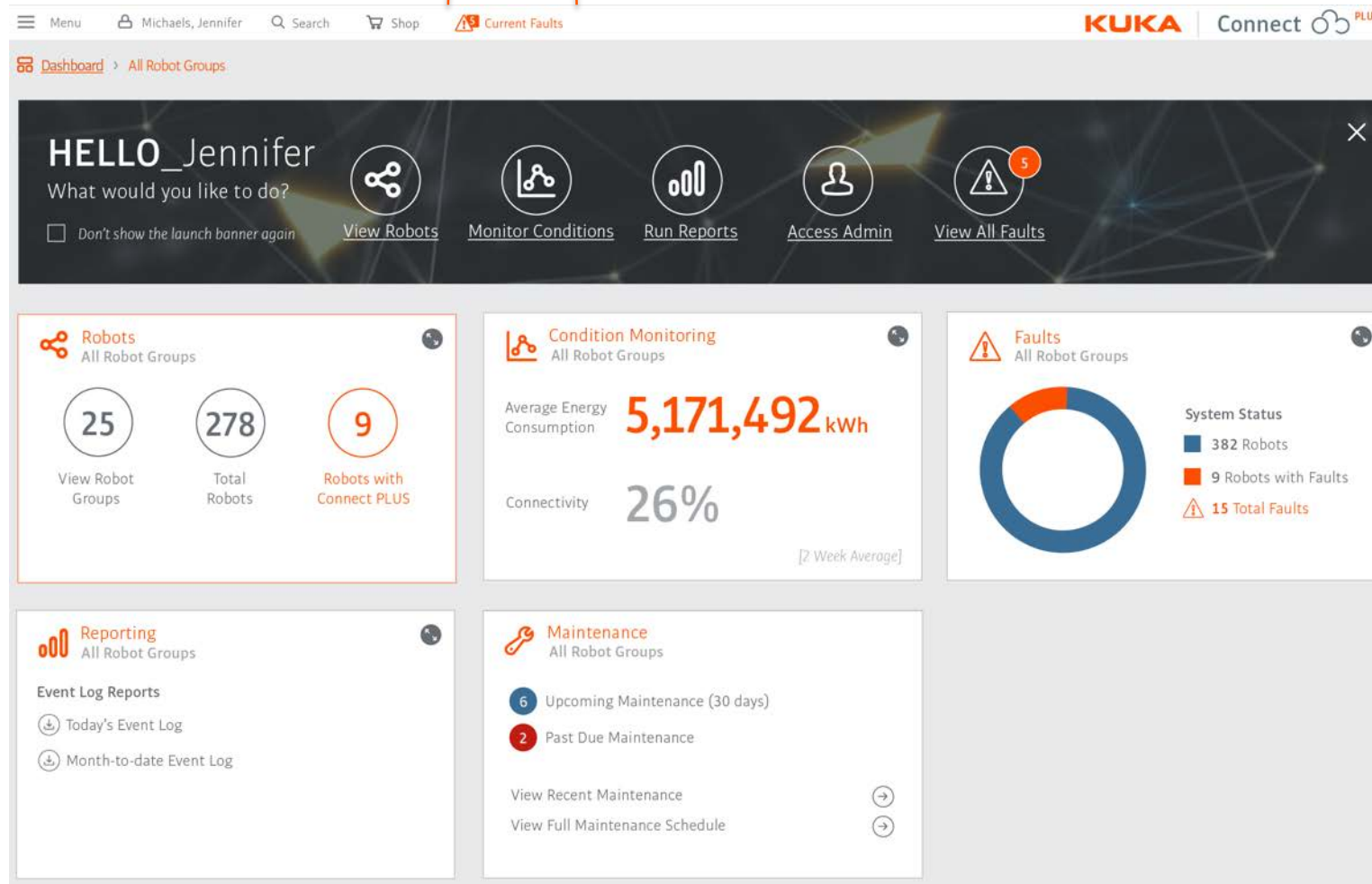
How does KUKA shape the manufacturing cloud infrastructure? Schematic:



 Vertical Integration
 Horizontal Integration



Fleet-wide Robot Status



Launch Banner

Expandable Cards for Key Notifications

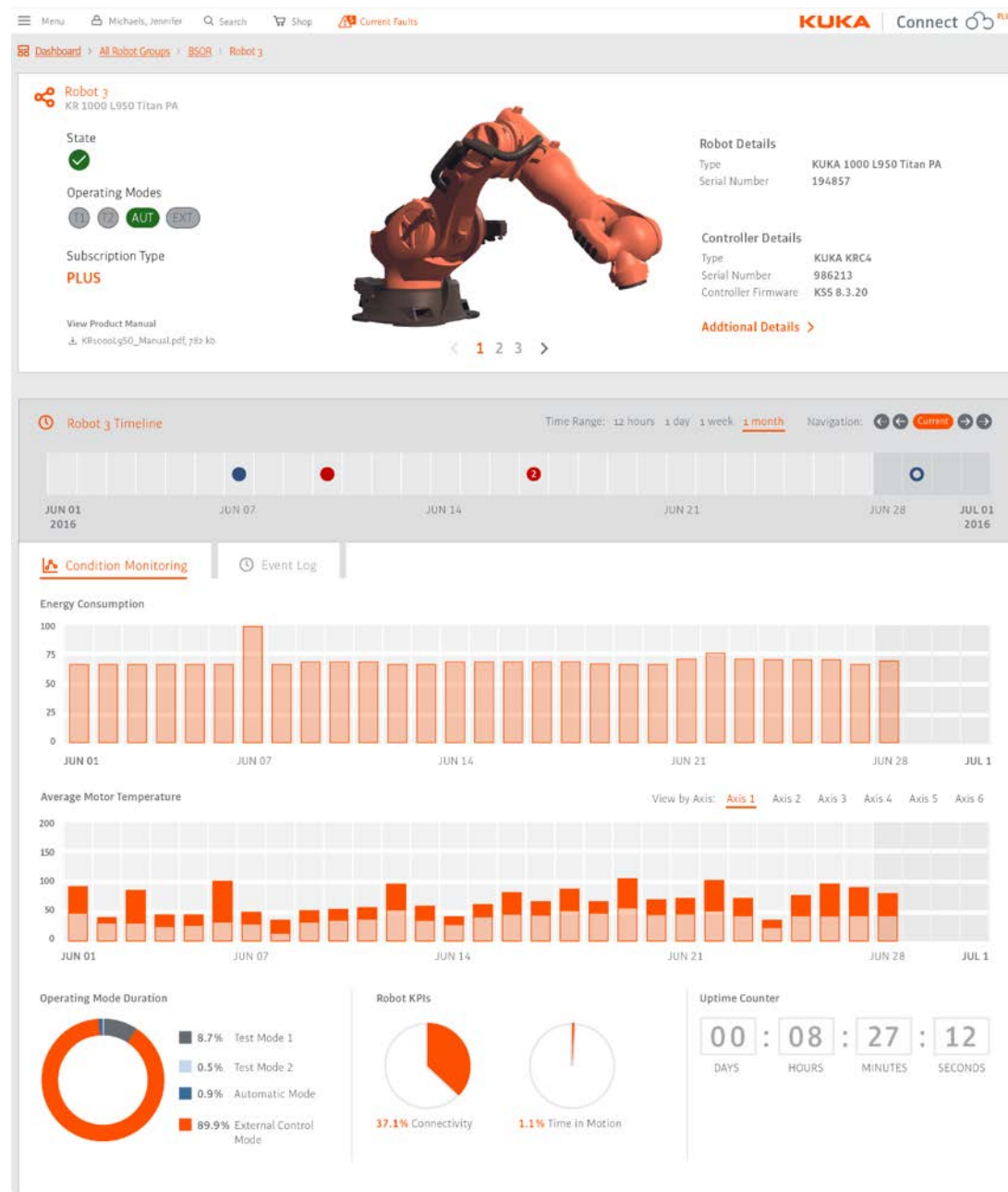
Robot Details

Access to Robot Manual

Timeline with Faults and Maintenance Milestones

Condition Monitoring

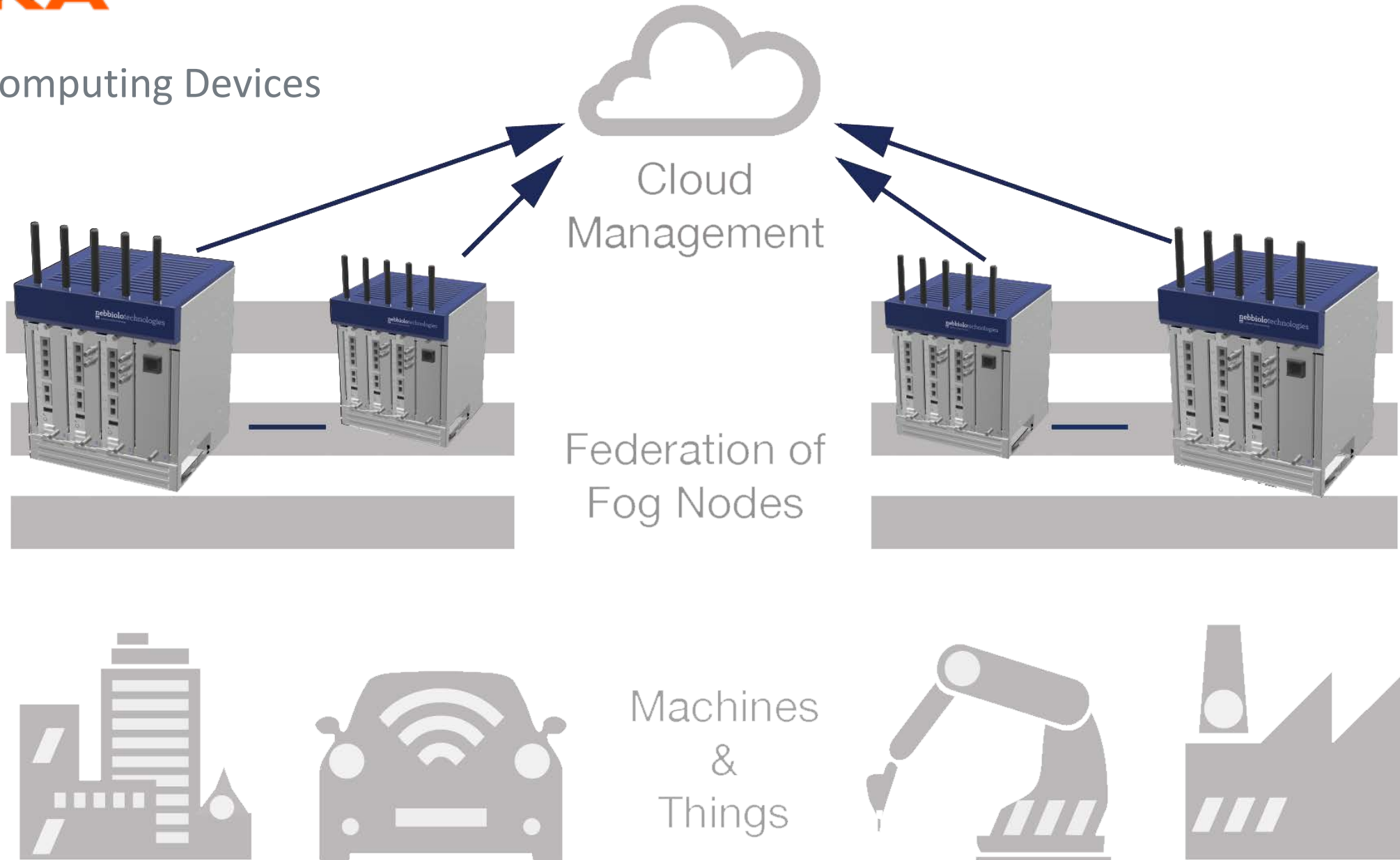
Robot Key Performance Indicators



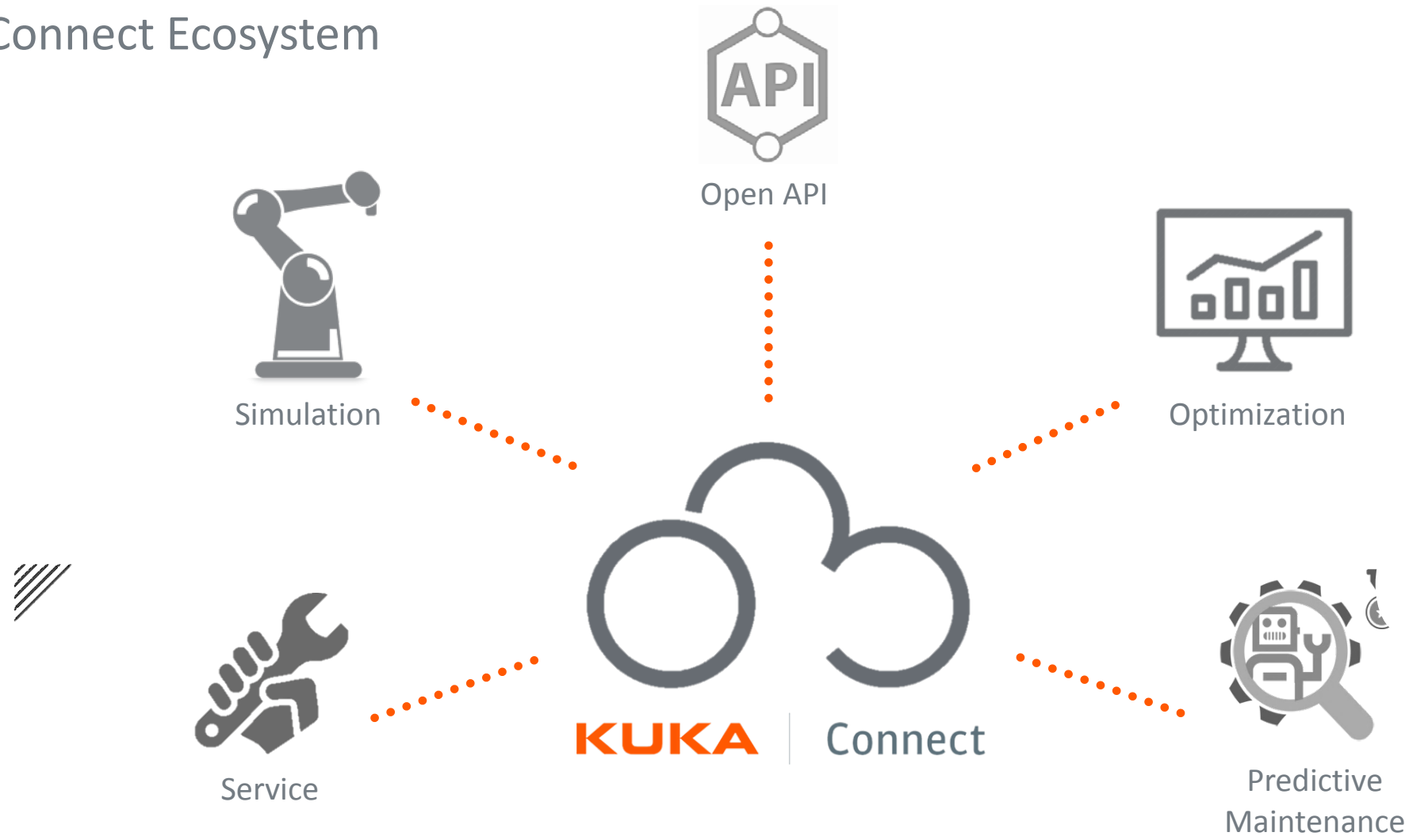
Robot Identification and Specification Data

Responsive Time Selector

“Fog” Computing Devices

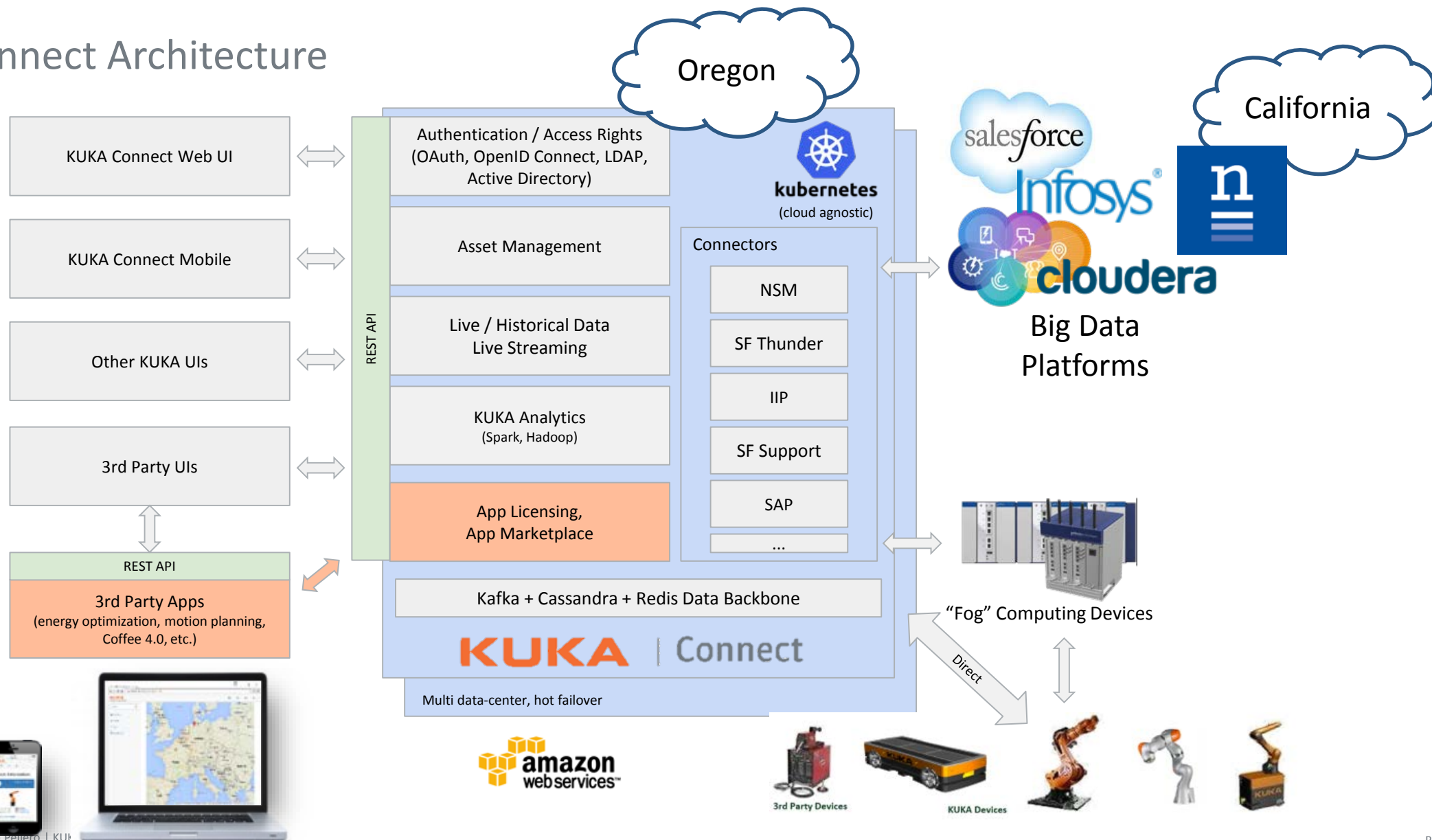


KUKA Connect Ecosystem



KUKA Appstore Community

KUKA Connect Architecture



Grazie per l'attenzione

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Let's Drive TOGETHER to the Future

