

IOT-DRIVEN BUSINESS TRANSFORMATION WITH ARIS

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SENIOR PRODUCT MANAGER ARIS

NOVEMBER 13TH, 2018

INTERNET OF THINGS

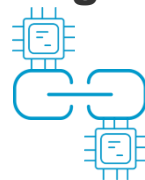
WHY IT MATTERS?

“A majority of **business processes will be impacted by the Internet of Things** (IoT), creating pressure on IT leaders to evolve systems and infrastructure to adapt.”

Source: Gartner, 2015

25 billion
connected things

will be used
worldwide
by 2020

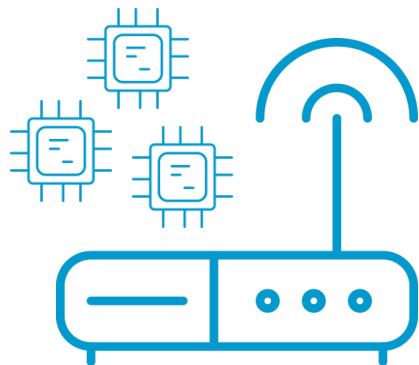


Source: Gartner, 2015

Total **IoT**
spendings will reach
\$442 bn.
by 2020



Source: Gartner, 2017



Just **41%** of
IT professionals
do projects to prepare
business for IoT

ComputerWeekly, 2014

75 % of IoT projects will
take up to **twice as long**
as planned requiring **IT/OT**
alignment programs.



Source: Gartner, 2015

The “How” of IoT: Don’t Start with the Technology!

Veröffentlicht: 28. Juli 2017



Wolfgang Beeck
CTO DACH at Software AG



83



6



64

The first rule of *how* to do Internet of Things implementations is *don't start with the technology*.

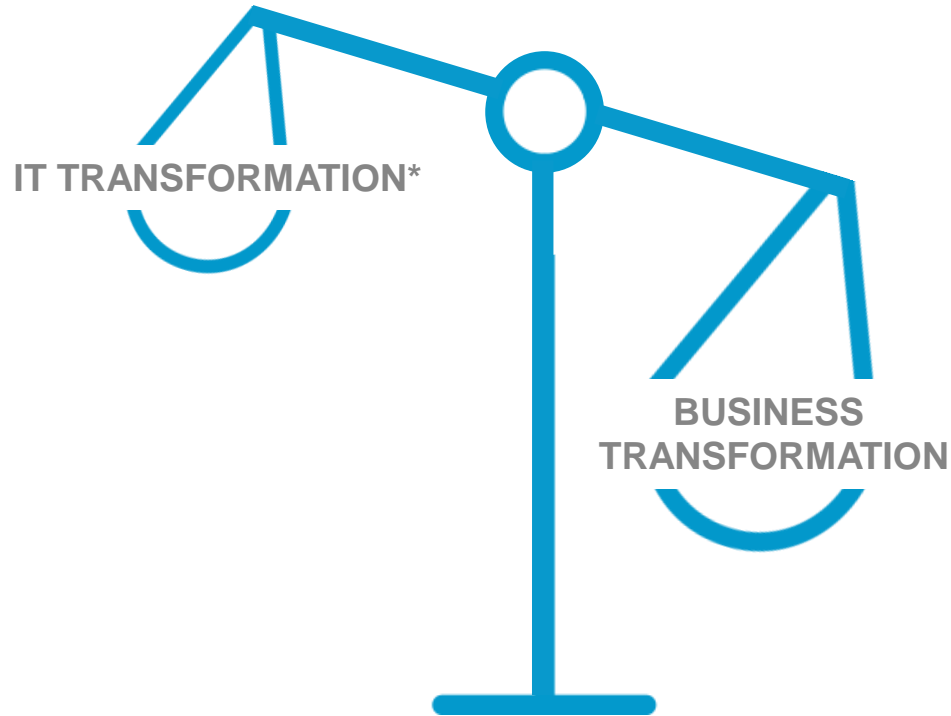
Organizations are bored of hearing *what* the Internet of Things is - 50 billion devices by 2050, \$3 trillion in potential revenues by 2025, blah, blah, blah - instead, they want to know *how* to implement it.

This is understandable because it is within the *how* of IoT that the secrets lie:

- How to use IoT to differentiate yourself
- How to put IoT technology into context and make it work
- How to structure your IoT project
- How to fit IoT in with your current IT structure

“Have a clear understanding of what business goal you want to achieve.”

DIGITAL TRANSFORMATION FOCUS AREAS



DIGITAL
TRANSFORMATION

=

DIGITIZE

&

OPTIMIZE

BUSINESS ASSETS

* IT costs make only 4% out of total company expenses*

THE VALUE OF COMBINING PROCESSES & IOT

SOME GARTNER'S INSIGHTS

« **Begin** a program of **IT/OT alignment** and integration to **unlock the value hidden** in equipment oriented OT systems. »

« By 2020, more than half of major new **business processes** and systems will **incorporate** some element, large or small, of the **IoT**. »

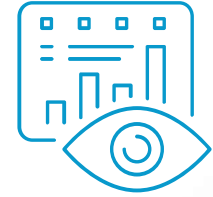
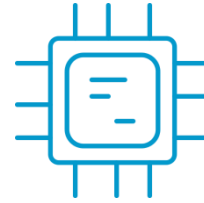
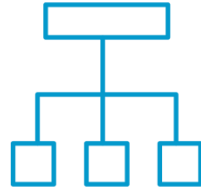
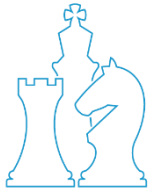
« **Proactively** identify early **opportunities** to **augment** critical **business processes** with **IoT capabilities**, and ensure collaboration with teams focused on business process design. »

« A majority of **business processes** will be **impacted** by the **Internet of Things**, creating pressure on IT leaders to evolve systems and infrastructure to adapt. »

Source: Gartner, 2015

IOT LIFECYCLE

COVERED BY SOFTWARE AG'S DPB COMPONENTS



**IoT &
Strategy**

**IoT &
Processes**

**IoT &
Operation**

**IoT &
Analytics**

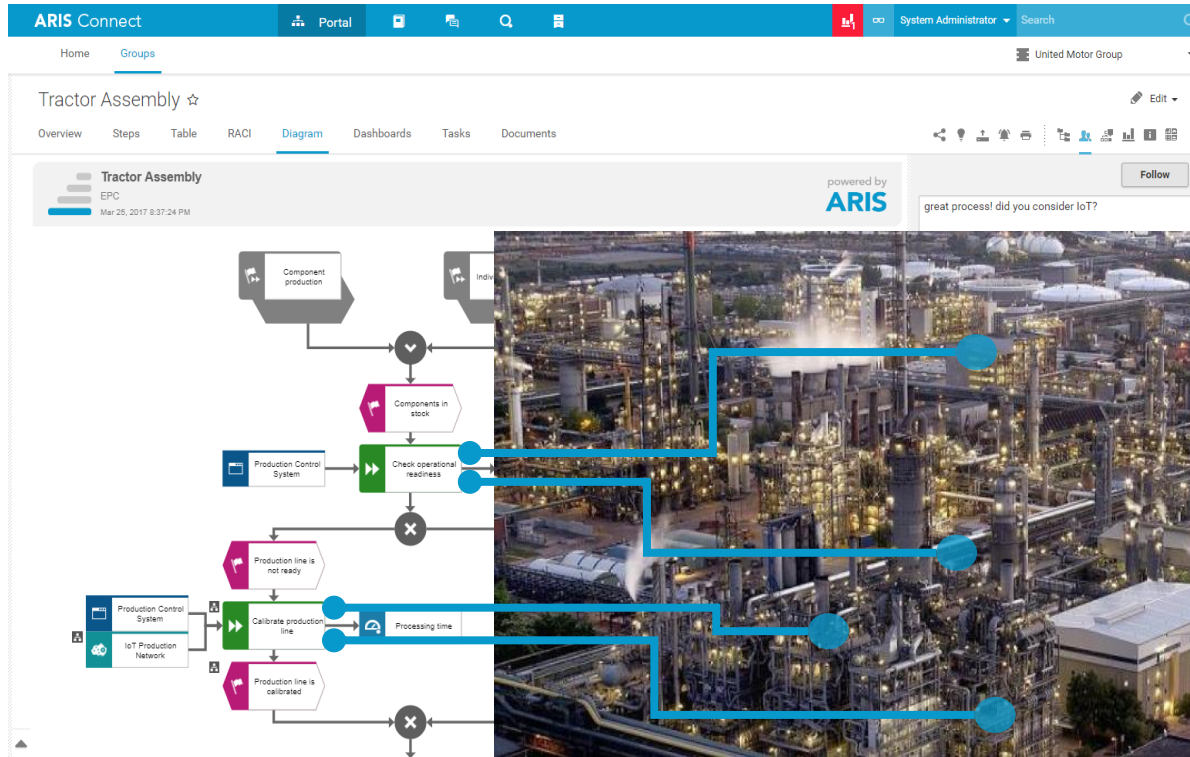
ARIS

CUMULOCITY

**APAMA
ZEMENTIS**

IOT-DRIVEN BUSINESS TRANSFORMATION WITH ARIS

ARIS



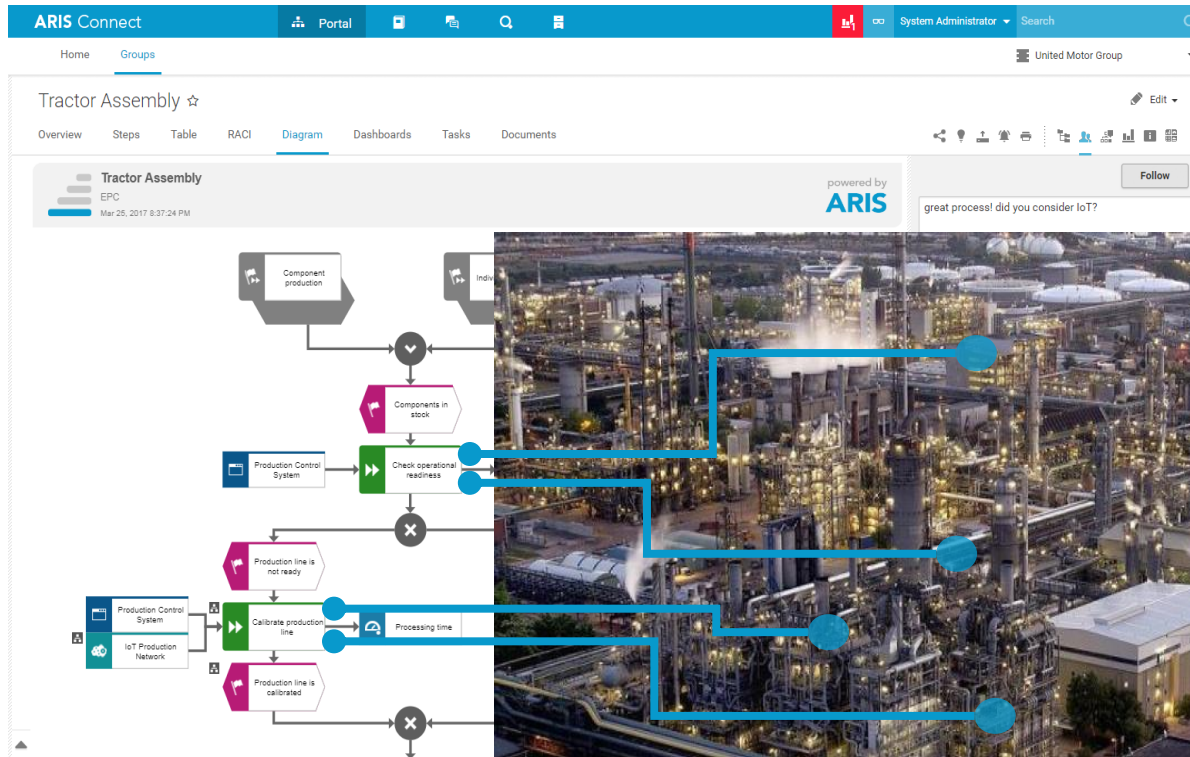
PLAN IOT
PROJECTS &
BUILD UP
DIGITAL IoT TWINS

DESIGN & MANAGE
IOT PROCESSES

**MONITOR &
CONTROL**
PROGRESS

IOT-DRIVEN BUSINESS TRANSFORMATION WITH ARIS

ARIS



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PLAN IOT PROJECTS WITH ARIS



Define your **IoT strategy** and **corresponding goals & KPI's** to make sure the IoT project has a clear direction and strategy can be executed and **success** measured correctly

Balanced Scorecard - Corporate IoT strategy

Break-down goals into concrete KPI's

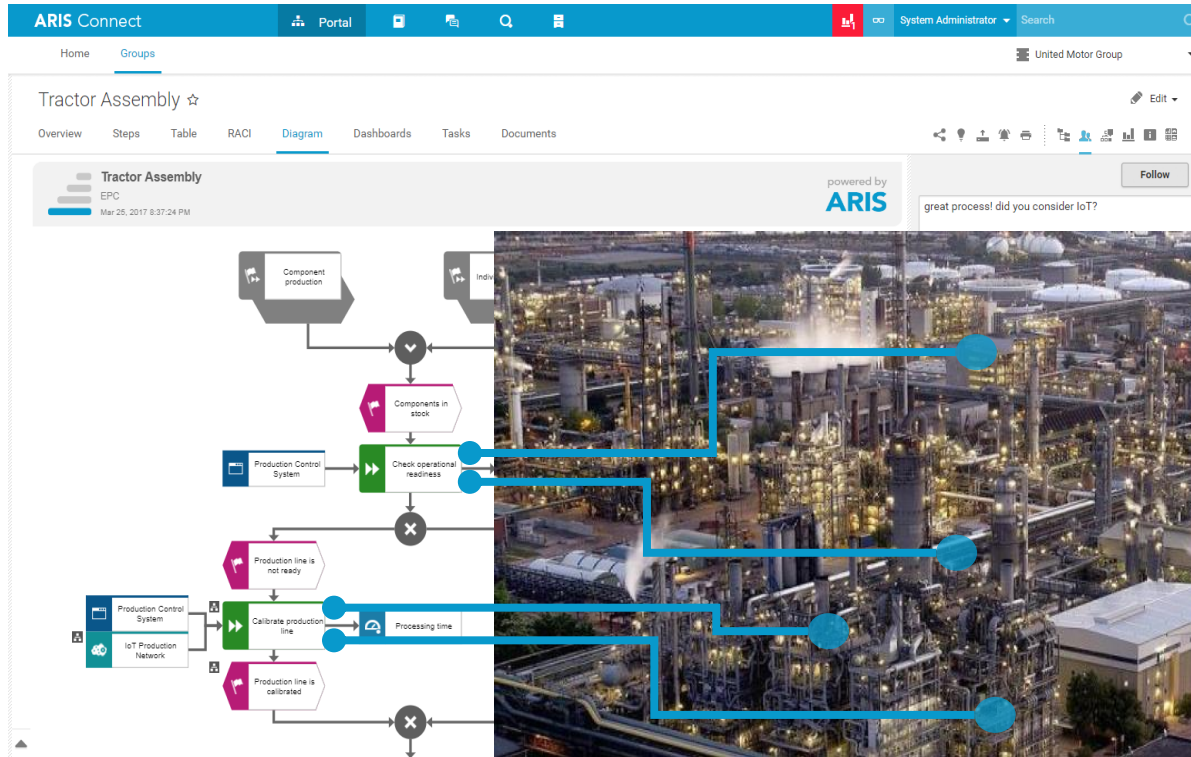
Digital transformation to increase efficiency by 30%

Cycle time improvement

e.g. shipping process

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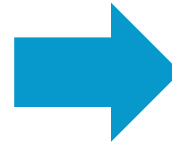
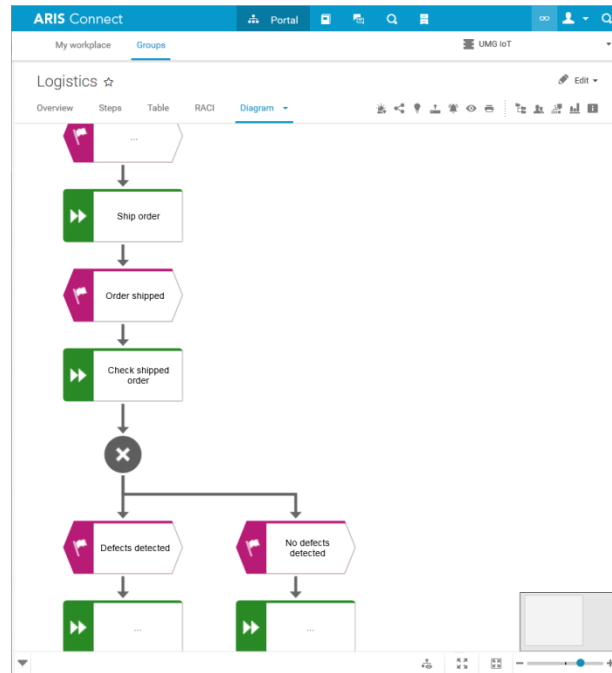
**DESIGN & MANAGE
IOT PROCESSES**

MONITOR &
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PROGRESS

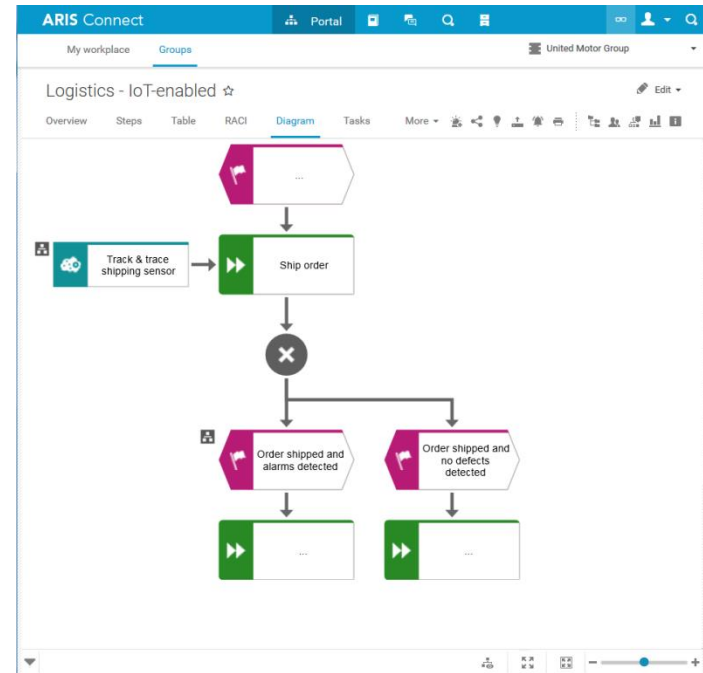
EXAMPLE: IOT-TRANSFORMED BUSINESS PROCESS

SHIPPING HANDLING – TRACK & TRACE

Standard shipping process

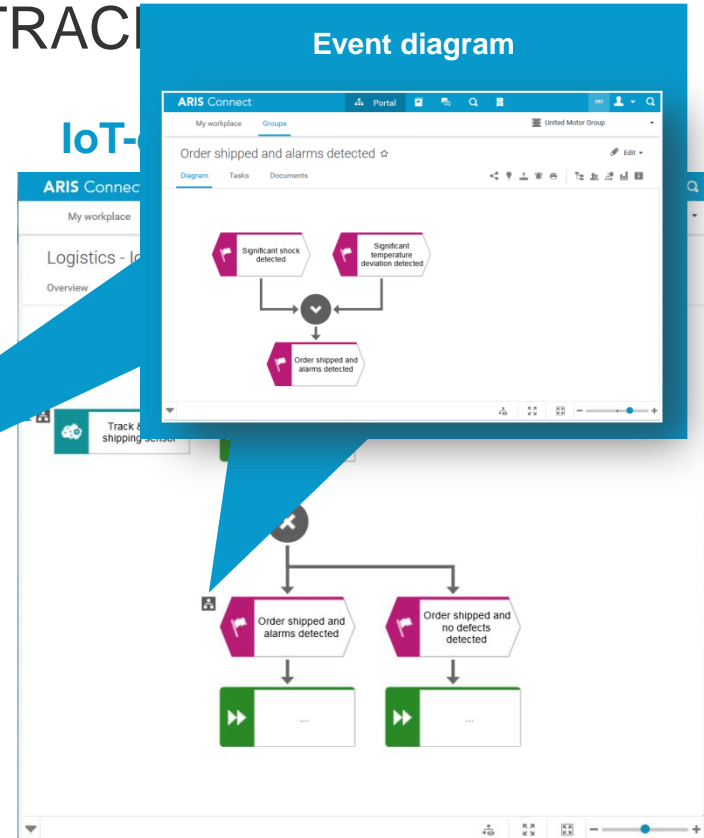
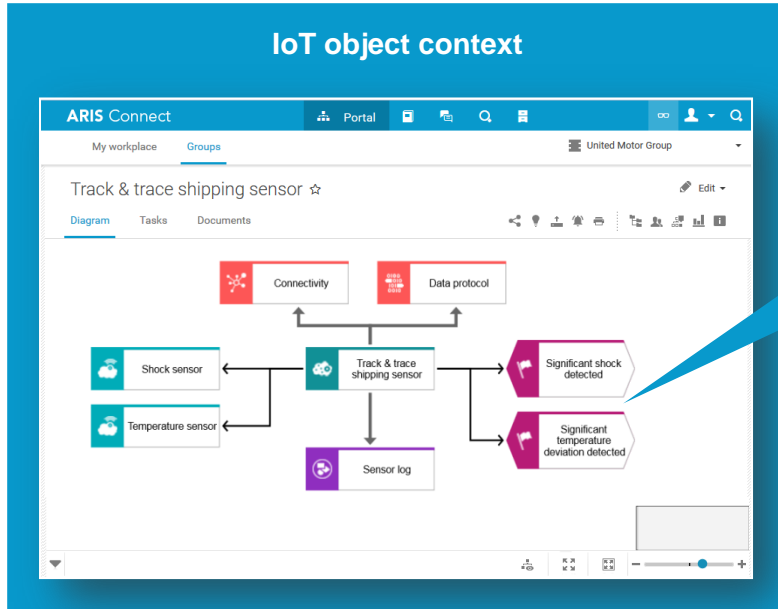


IoT-enabled shipping process



EXAMPLE: IOT-TRANSFORMED BUSINESS PROCESS

SHIPPING HANDLING – TRACK & TRACE

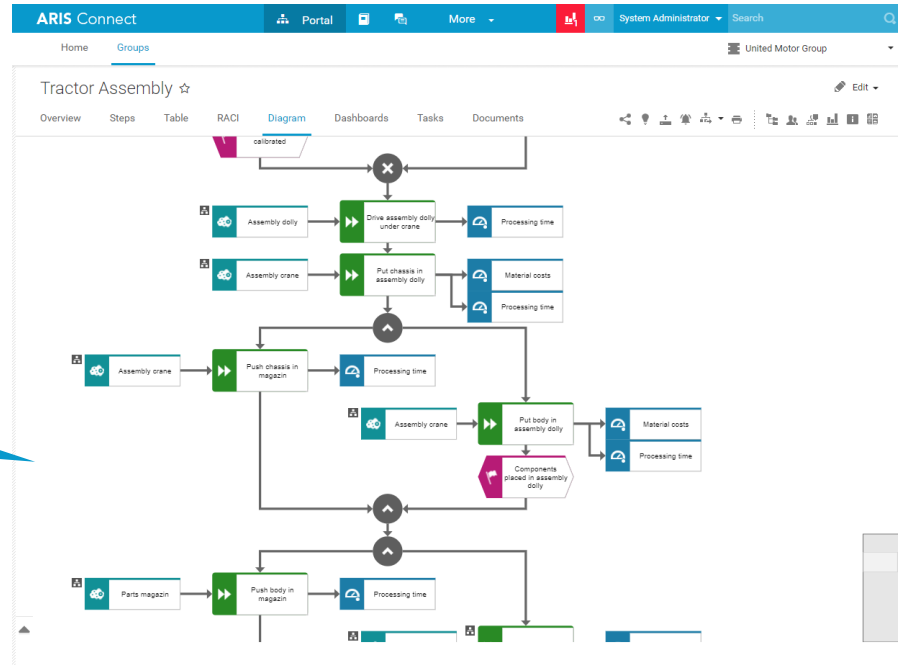


CONNECT IOT TO BUSINESS PROCESSES FOR A CLEAR VIEW



Combine and extend **business process** definition to **IoT** objects.

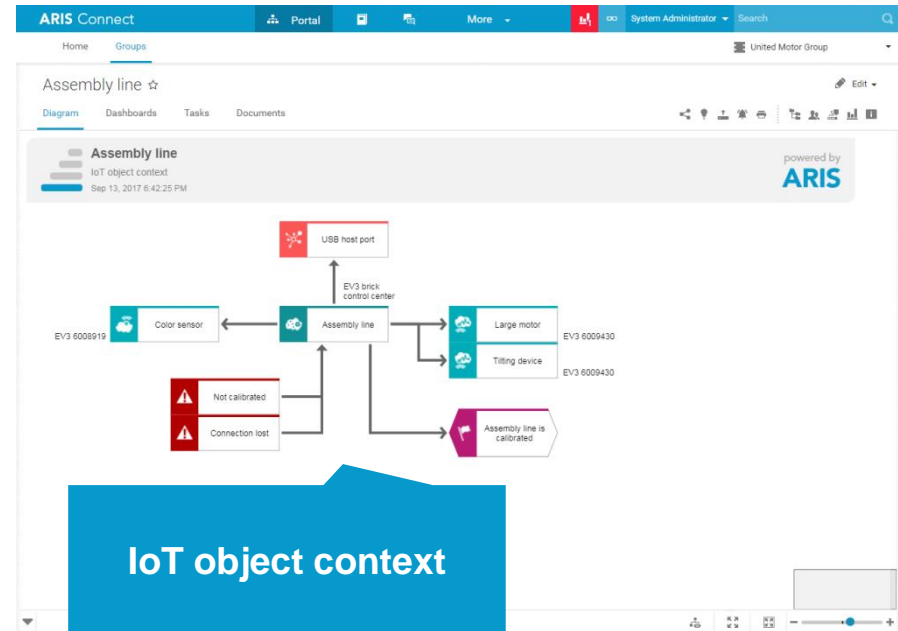
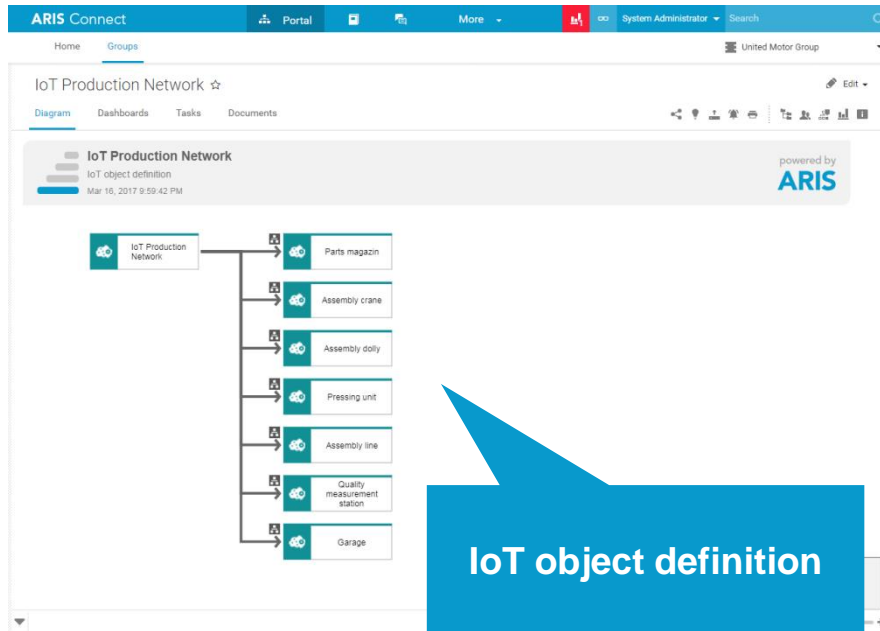
**IoT
processes**



DESIGN & MANAGE IOT OBJECTS FOR OT/IT ALIGNMENT



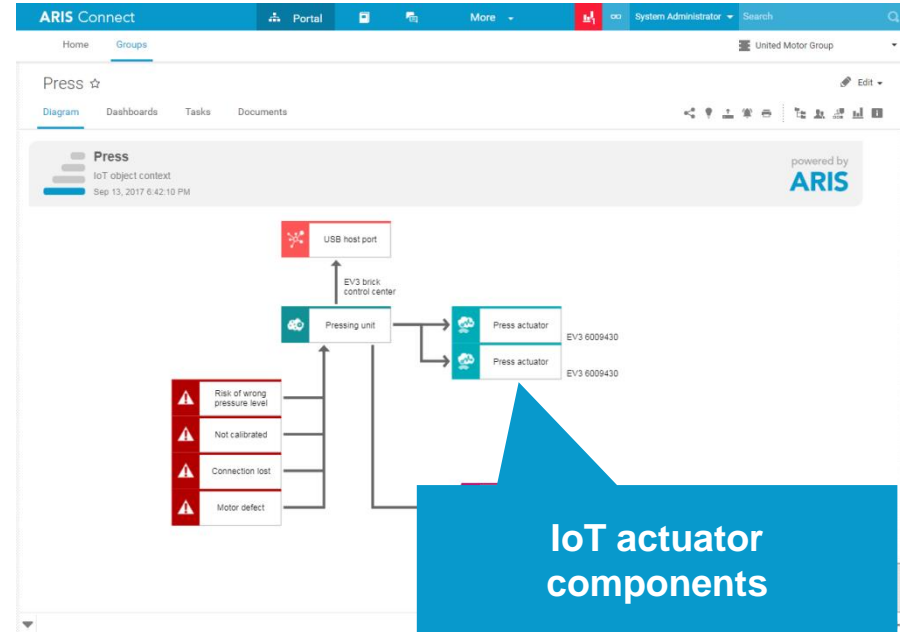
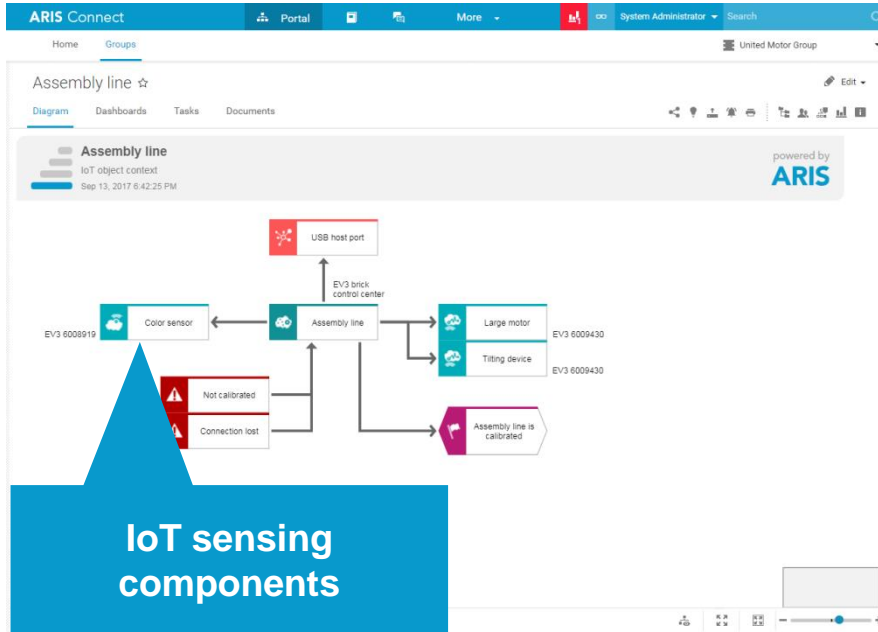
Define IoT objects and their context



DESIGN & MANAGE IOT OBJECTS WITH NEW DEDICATED MODELS



The **IoT object context** includes sensing and actuators **components** as well as risks, data, events and configuration.



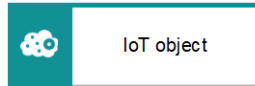
DESIGN & MANAGE IOT OBJECTS

WITH NEW DEDICATED OBJECTS



Dedicated objects support the detailed **definition of IoT objects**.

IoT object, e.g. any type of sensor



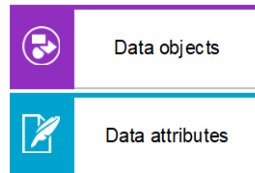
IoT components, such as sensors and actuators



IoT configuration, such type of protocol



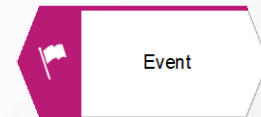
Definition of IoT data variables



Definition of IoT-related risks

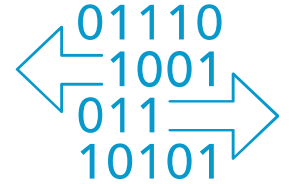


Definition of **events** emitted or consumed by IoT objects



INTEGRATE DEVICES WITH ARIS AND CUMULOCITY

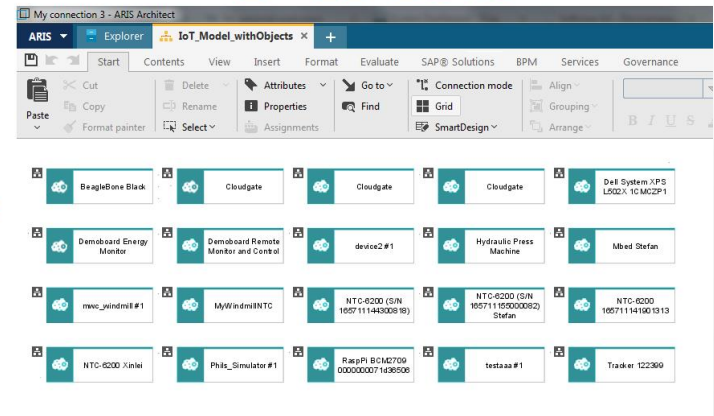
ARIS CONNECT/DESIGN SERVER EP IOT



ARIS will import device definitions from Cumulocity to jumpstart IoT projects.

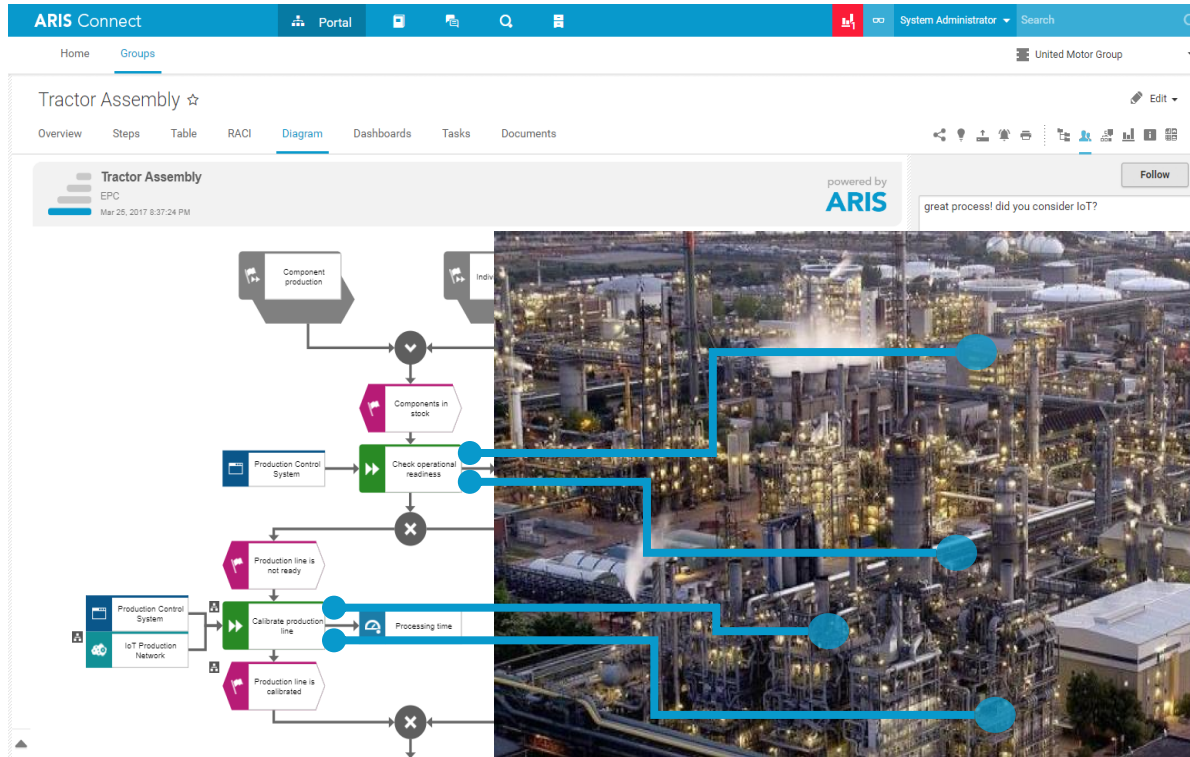
IoT objects managed in Cumulocity

| STATUS | NAME | TYPE | MODEL | TYPE | SERIAL NUMBER | GROUP | TYPE | REGISTRATION DATE | SYSTEM ID | IMEI | TYPE | ALIAS | TYPE |
|--------|-------------------------------|------|------------------|------|------------------|-----------|------|-------------------------|-----------|------|------|------------------|------|
| | Cloudgate | | Cloudgate | | MQM-11111-01 | Cc | | | 35194000 | | | | |
| | RaspPi BCM2709 | | RaspPi BCM2709 | | 000000071434506 | Cc | | 18 February 2016 13:46 | 43324245 | | | | |
| | NTC-4200-SINR | | NTC-4200-SINR | | 163711133791256 | Cc | | 12 May 2016 15:28 | 451642958 | | | 351954500128762 | |
| | MyWork Tracker | | OSU_5T | | 400 | | | 31 May 2016 18:54 | 45337998 | | | 400 | |
| | Cloudgate | | Cloudgate | | MX1Y09114R | | | 13 June 2016 17:10 | 458811055 | | | | |
| | Cloudgate | | Cloudgate | | MX1Y09114R | | | 17 June 2016 11:32 | 459329075 | | | | |
| | NTC-4200-AARSHAF PNC George | | NTC-4200-S2 | | 163711151000265 | AandW | | 8 August 2016 12:10 | 47624780 | | | 351954500697713 | |
| | ecsaTestDevice | | | | | | | 11 August 2016 13:20 | 471130324 | | | 10000011 | |
| | Mbed Test Device | | Ublox C027 | | 358683565991101 | | | 14 August 2016 15:32 | 471200913 | | | 358683565991101 | |
| | ZINC device | | ES55-X | | 5400440315 | | | 23 August 2016 14:07 | 472596874 | | | 357666056198997 | |
| | Mbed Test Device | | Ublox C027 | | 353814057472798 | | | 25 August 2016 14:43 | 47450599 | | | 353814057472798 | |
| | device1 #1 | | simulated device | | | | | 2 September 2016 15:04 | 475623500 | | | | |
| | Stefan Device | | Ublox C027 | | 352648569589921 | | | 8 September 2016 15:12 | 477134413 | | | 352648569589921 | |
| | Tracker 413264 | | | | | | | 9 September 2016 22:23 | 477460198 | | | 413264 | |
| | Dashboard Monitor and Control | | NTC-4200-S2 | | 163711133795052 | Demoboard | | 12 September 2016 12:02 | 478101855 | | | 351954500121823 | |
| | test1224 #1 | | simulated device | | | | | 15 September 2016 15:03 | 478880773 | | | | |
| | AndroidDevice_2X1023 | | | | | | | 15 October 2016 09:37 | 482434792 | | | | |
| | Mbed Test Device | | Ublox C027 | | 3526485695971842 | | | 18 October 2016 13:29 | 486283353 | | | 3526485695971842 | |
| | Testora #1 | | simulated device | | | | | 20 October 2016 05:56 | 486706880 | | | | |
| | Testora test #2 | | simulated device | | | | | 20 October 2016 05:56 | 486768882 | | | | |
| | RaspPi BCM2708 | | RaspPi BCM2708 | | 000000030556464 | | | 25 October 2016 11:15 | 487920974 | | | | |
| | Activity Demonstrator | | | | | LPWAN | | 3 November 2016 14:06 | 48954370 | | | | |



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ARIS



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IoT-DRIVEN BUSINESS TRANSFORMATION WITH ARIS

MANAGE YOUR IOT PROJECTS

The screenshot displays the ARIS Connect interface for 'Tractor Assembly'. The main area shows a process diagram with steps like 'Component production', 'Individual sourcing', 'Components in stock', 'Check operational readiness', 'Processing time', 'Production line is not ready', 'Production line is ready', 'Calculate production rate', 'Production line is calibrated', 'One assembly only under crane', 'Processing time', 'Assembly crane', 'Put cranes in assembly only', 'Material costs', 'Processing time', 'Push cranes in magazine', and 'Processing time'. The interface is powered by ARIS.

Two callout boxes highlight key features:

- View the current IoT implementation status**: Points to a dashboard showing 'Progress of IoT process implementation' at 28%.
- Keep track on changing process measures since the IoT project implementation**: Points to two line charts: 'Process cost rate since IoT project implementation' and 'Process duration since IoT project implementation'.

The dashboards on the right show:

- Progress of IoT process implementation**: A progress bar showing 28% completion.
- Process cost rate since IoT project implementation**: A line chart showing cost rate over time (2017, April, July, October).
- Process duration since IoT project implementation**: A line chart showing duration over time (2017, April, July, October).

IOT-DRIVEN BUSINESS TRANSFORMATION WITH ARIS

IDENTIFY WEAKNESSES IN YOUR IOT PROCESSES

The screenshot displays the ARIS Connect interface for a 'Tractor Assembly' process. The process diagram shows a flow starting with 'Component production' and 'Individual sourcing', leading to 'Components in stock'. This is followed by a 'Check operational readiness' step, which then branches into two paths: one leading to 'Production line is not ready' and another to 'Production line is ready'. The 'Production line is not ready' path involves 'Calibrate production line' and 'Production line is calibrated' steps. The diagram includes various system icons like 'Production Control System' and 'IoT Production Network'.

Overlaid on the diagram is a blue callout box with the text: **Identify critical IoT devices in your process design given the number of alarms**. A blue arrow points from this box to the 'IoT alarm status' dashboard on the right.

The 'IoT alarm status' dashboard includes a date range selector (Start: 01/01/2018, End: 09/03/2018) and a section titled 'Critical IoT alarms' showing a large red '# 4' with three status icons (sad, neutral, happy). Below this is a table titled 'IoT alarms at a glance':

| IoT device name | Severity | # Alarms |
|-----------------|----------|----------|
| Ublox C027 | MAJOR | 1 |
| Ublox C027 | CRITICAL | 4 |

IOT-DRIVEN BUSINESS TRANSFORMATION WITH ARIS

GAIN TRANSPARENCY ON OPERATIONAL IOT DATA

The screenshot displays the ARIS Connect interface for a 'Tractor Assembly' process. The main area shows a process diagram with various steps and states. A blue callout box points to the diagram with the text: 'View the status of your devices implemented in your IoT-enabled process'. On the right, there is a panel titled 'IoT device status' which includes a 'Select device' section with dropdowns for 'Device type' (Ublox C027) and 'Device instance' (10349), a 'Select date range' section with 'Start' (01/01/2018) and 'End' (09/03/2018) date pickers, and a 'Downtime rate [%]' section with a gauge chart showing a value of 13.80.

ARIS Connect

Administrator System Search

United Motor Group

Tractor Assembly ☆

Overview Steps Table RACI Diagram Dashboards Tasks Transactions Documents

Tractor Assembly
EPC
Jan 26, 2018 10:27:33 AM

powered by ARIS

View the status of your devices implemented in your IoT-enabled process

IoT device status

Select device

Device type: Ublox C027

Device instance: 10349

Select date range

Start: 01/01/2018

End: 09/03/2018

Downtime rate [%]

13.80

IOT-DRIVEN BUSINESS TRANSFORMATION WITH ARIS

UPCOMING WEBINAR

Webinar Series:

ARIS 10

MANAGE YOUR DIGITAL FUTURE

FREE webinar on November 27, 2018

 software AG

ARIS 10: The 5 Best Kept Secrets of Successful IoT Projects

Register now for our free program on Nov 27, 2018 | 9:00 am
EST on <https://bit.ly/2yREbv0>

Hear best practices and success factors for your IoT project
and learn how ARIS supports the different phases of your
IoT project, from planning to successful control

See ARIS 10 live - including the connection to Cumulocity,
Software AG's IoT platform.

