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# GCC POWER 2021

**A-AMPS-1466**

Real-time insights from digital enterprise  
for your secondary asset

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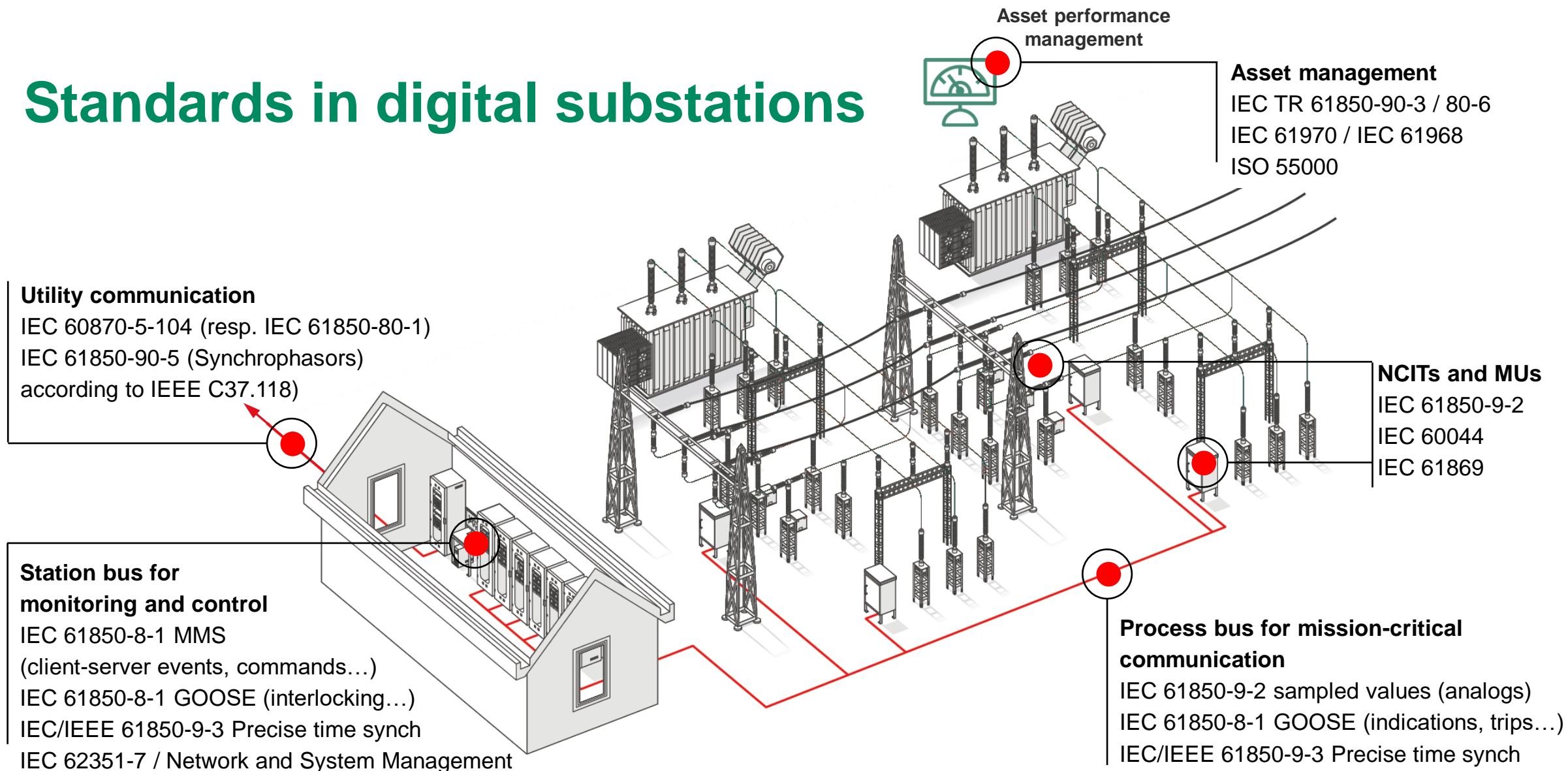
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25th - 27th October

1



# Standards in digital substations



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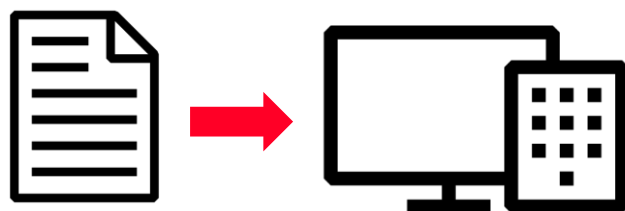
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# Digitization vs digitalization

## Digitization

vs

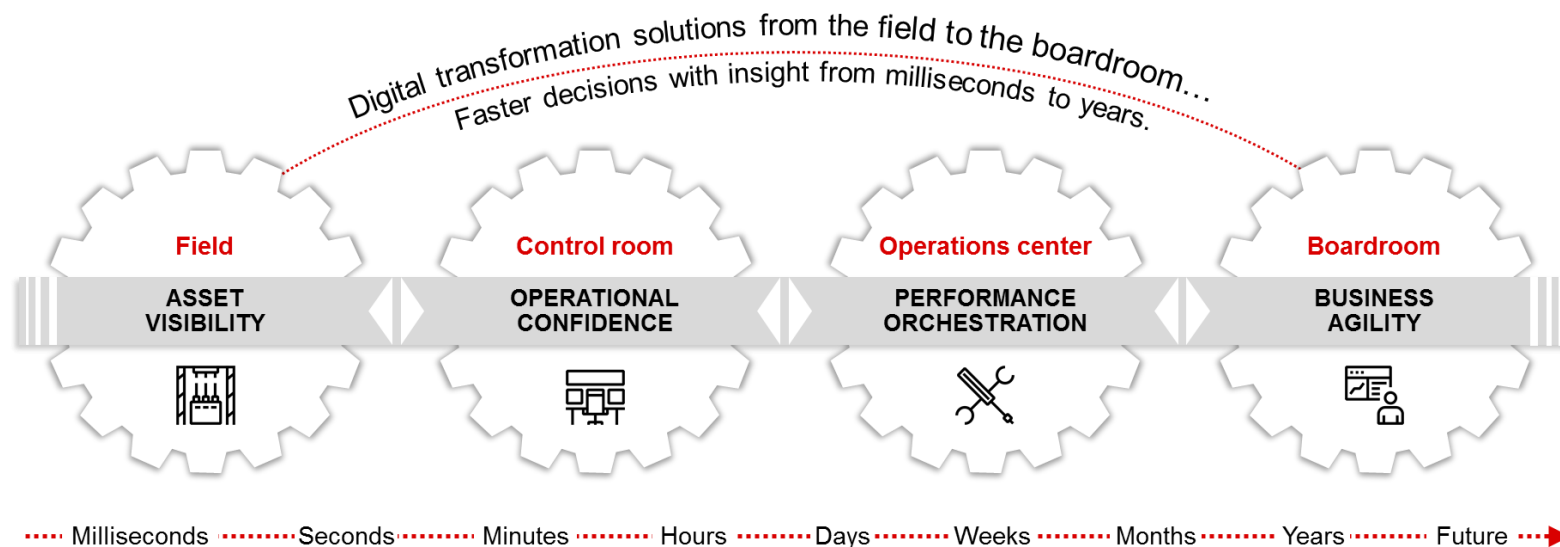
## Digitalization



Analog

Digital

Converting data from an analog to a digital format



- Creation of new **value** through the digital **transformation** of an end-to-end **business process**
- Enabled by **digitization of assets**, **foundational digital technologies** (IIoT), and **sharing of digital data**

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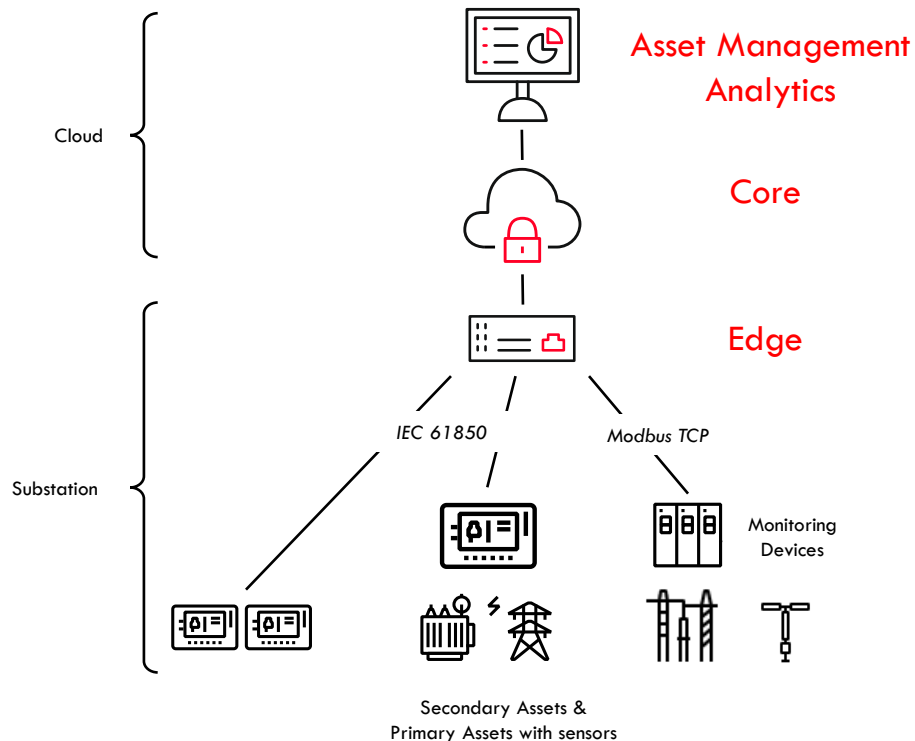
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# Connecting securely digitally enabled substation

## Digitally enabled decision support for connected cyber assets



### Cloud Core

- Flexible cloud infrastructure deployment.
- Integration of existing or new monitoring devices Asset management.
- Agile mapping of device specific measurements into a generic Data Model.
- Central Management of Edge configurations and software updates

### Edge

- Remotely manageable, secure connectivity to Enterprise Level
- WIFI, optional Cellular, 2 Ethernet Interfaces.
- Collecting data via industry standard communication protocols (IEC 61850, Modbus).
- Buffering of data in case of communication interruption to enterprise.
- Open architecture to allow future extensions of Edge functionality.

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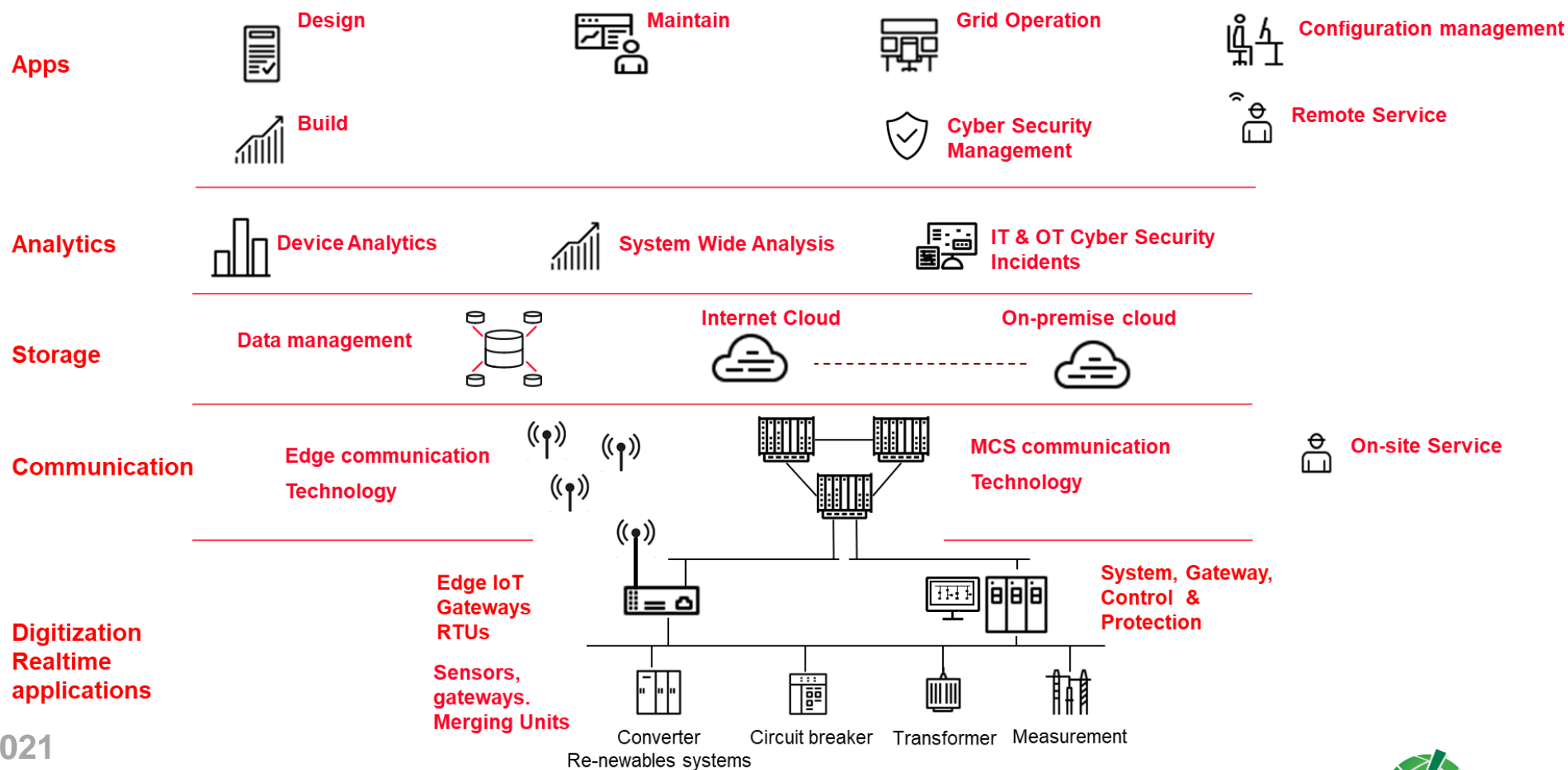
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# Reference Architecture

## From Field to Board room



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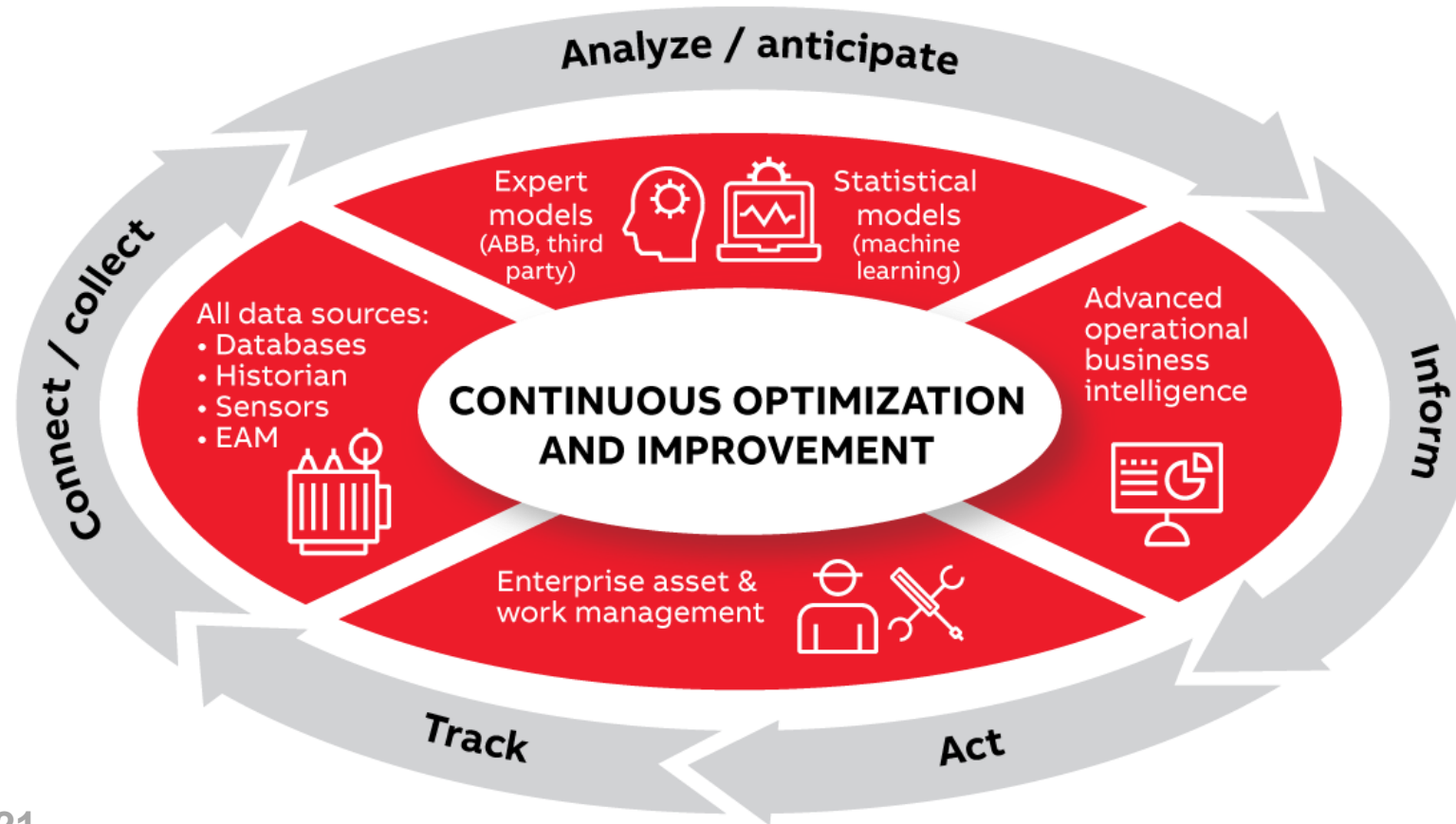
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# Connecting People and Processes in the Digital Enterprise

Enterprise asset health analytics to improve processes through risk-based optimization



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6

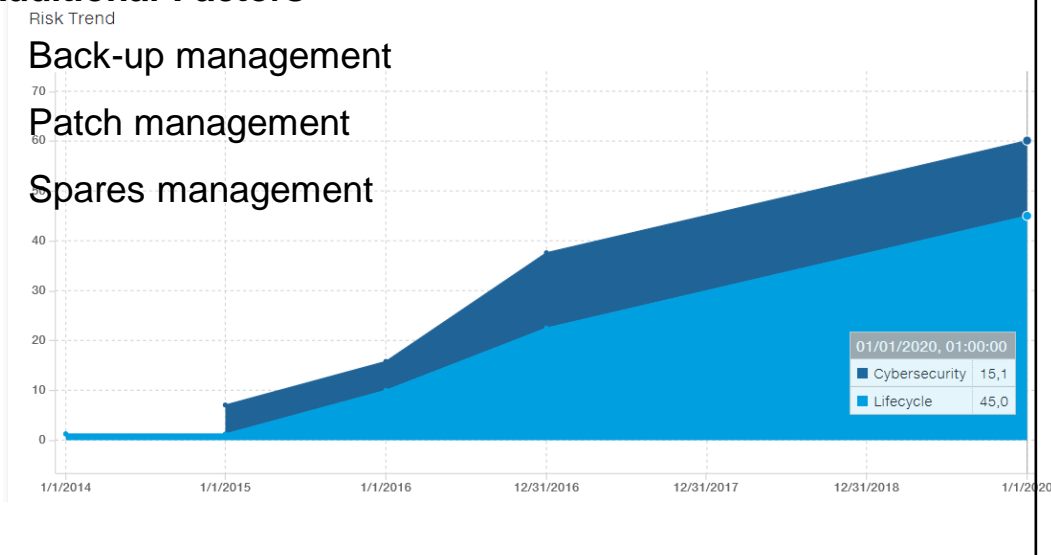
# Asset risk of secondary systems

## Main Risk Factors

- OEM lifecycle status (Active vs Obsolete)
- Cyber Security threats
- Age vs manufacturer expected life

## Additional Factors

- Back-up management
- Patch management
- Spares management



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## OEM Cyber Security Advisories

Official website of the Department of Homeland Security

About Us Alerts and Tips Resources Industrial Control Systems

ICS-CERT Landing > ICS-CERT Advisories > ABB Relion 670 Series

ICS Advisory (ICSA-19-330-01)

ABB Relion 670 Series

**ABB** Cyber Security Advisory

ABB Doc Id: 1MRG024910 Date: 2019-10-22 Lang: English Rev: - Page: 1/5

**MMS Path Traversal Vulnerability in Relion® 670 series**

ABB-VU-PPGA-1MRG024910

## OEM Lifecycle Status

Version	CU IED	BU IED	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Comment
3.xx	01	01	A	A	A	A	A	A	C	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Retrofit
4.xx	01	01			A	A	A	A	C	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Retrofit
5.xx	01	02						A	A	C	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Retrofit
6.xx	02	03							A	A	C	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	upgrade to V7.6x
7.0x	03	03							A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	L	L	upgrade to V7.6x
7.2x	03	03							A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	L	L	upgrade to V7.6x
7.3x	03	03								A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	upgrade to V7.6x
7.4x	03	03									A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	upgrade to V7.6x
7.5x	03	03										A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	upgrade to V7.6x
7.6x	03	03											A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	-
8.1x	04	04																					A	A	A	A	A	A	-
8.2x	04	04																						A	A	A	A	A	-
8.3x	04	04																									A	A	-

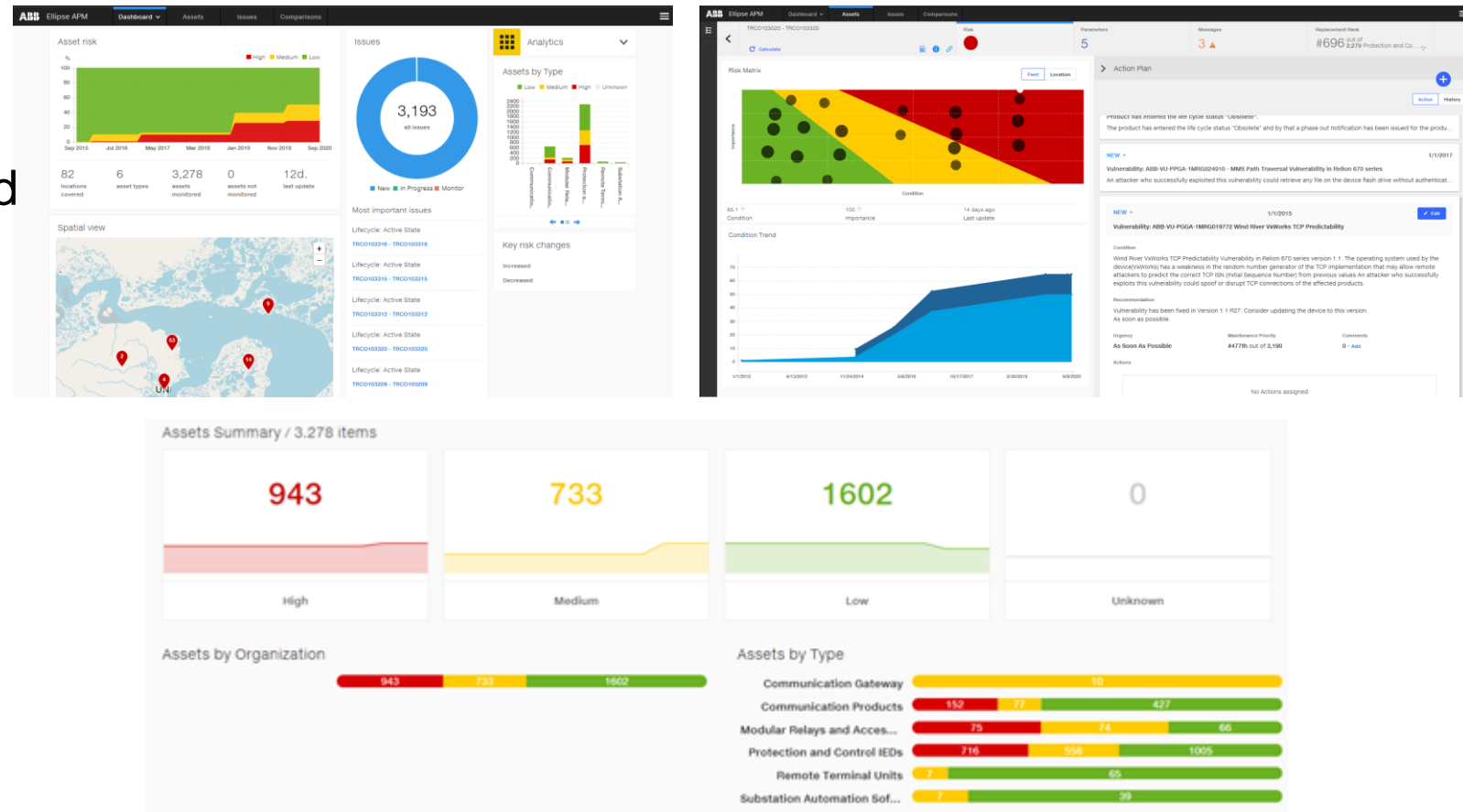


# Grid Automation Asset Performance Management

## Integrated Asset Performance Models for Grid Automation Lifecycle and Vulnerability Assessment

### Analytics to assess

- Lifecycle impact on the installed base with guidance on how to address update/upgrade and replacements, e.g. lifecycle announcements, retrofit proposals
- Vulnerability risk impact and guidance for patch management with access to advisories and recommended patches



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8



# Summary

## Take away

- Asset management business process for secondary assets will become more important with the increasing digitization and digital transformation of business process in the enterprise
- The power of analytics will help the asset owner to better plan and execute the maintenance activities and more effectively use the available resources
- Digitalization of business processes that connect people and processes with actionable data will improve productivity of the enterprise and allow you to define new business models