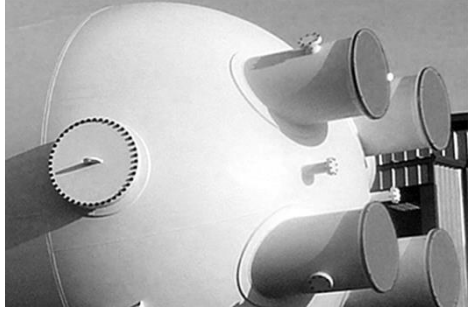
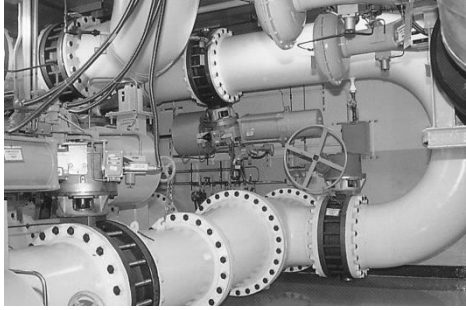
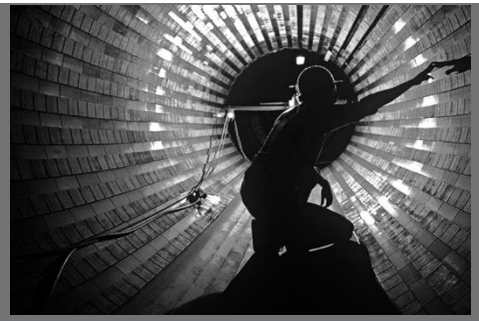
CURTISS-WRIGHT

Nuclear Division





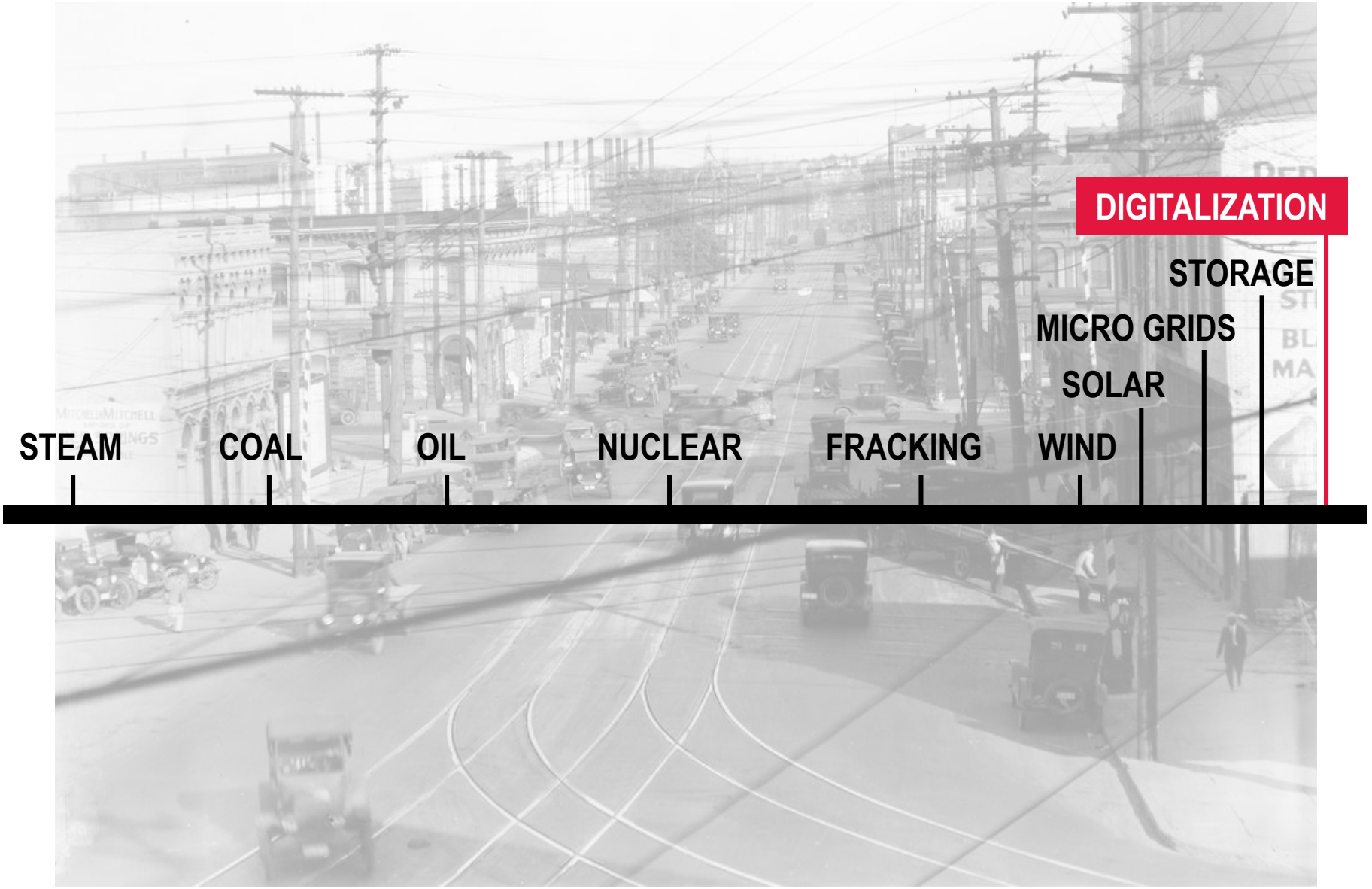


Symposium 2018

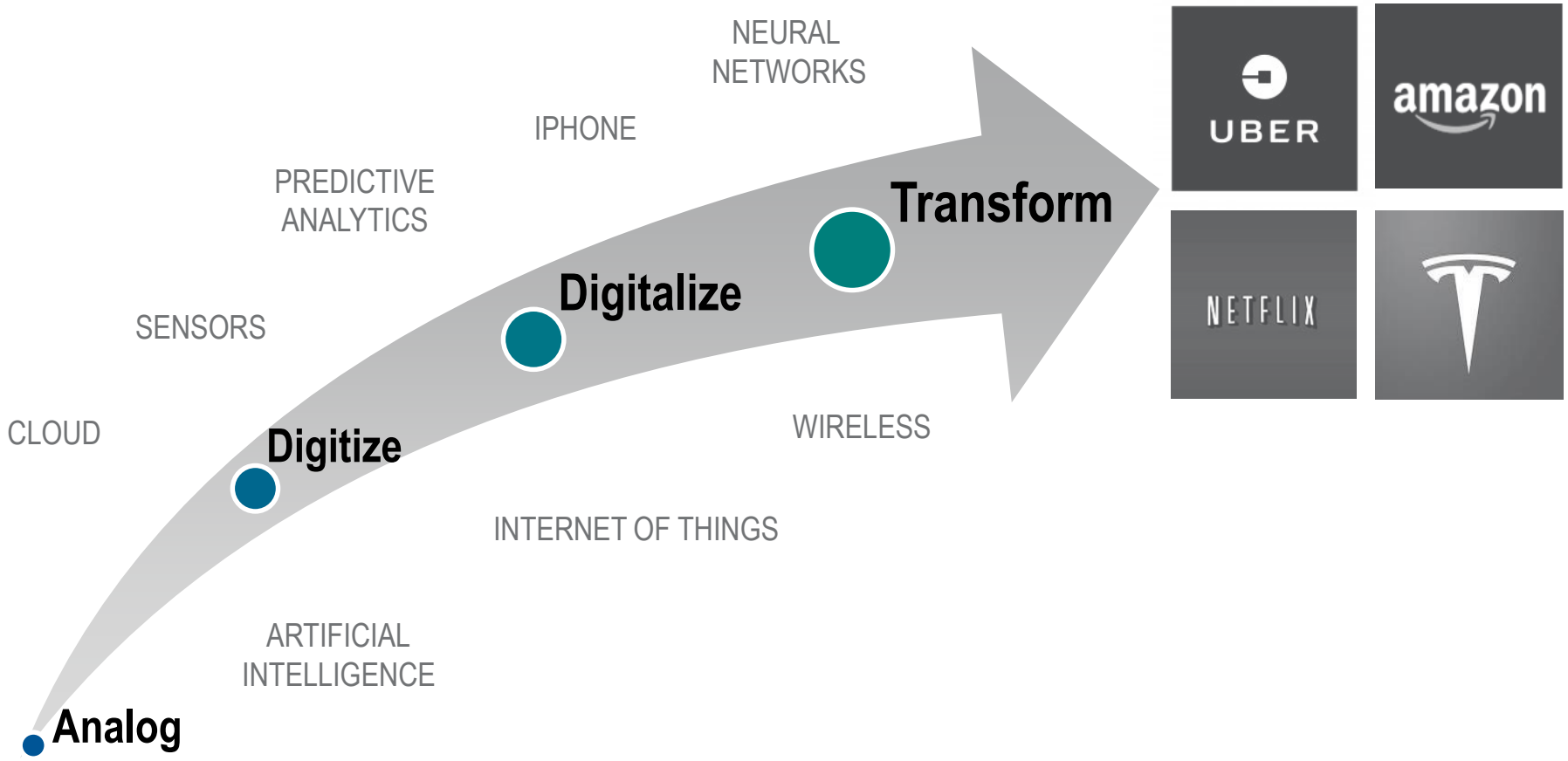
Grand Targhee, Wyoming

Introduction

The Electric Power Landscape is Changing



Digital Technologies are Transforming Business Models



First Observation – Huge Potential

Growing the Economy
Europe can add €2.5 trillion to GDP in 2025

Unlocking Value
The digitalization of electricity could unlock $3.1 trillion in industrial value over the next decade

Transitioning to a sustainable world
Digital initiatives could deliver an estimated 26 billion tons of net avoided CO2 emissions

Second Observation – Everyone's Onboard

77%

of businesses view digitalization as their first strategic priority

70%

said their companies have a digital transformation strategy

$2 Trillion

to be spent on digital transformation (IDC)

usds.gov

"building a more awesome government"

Third Observation – It's Disruptive

33 years → **14 years**

average S&P500 tenure in 1965 — *average S&P500 tenure in 2026*

All disruption takes place on an industry-wide scale, forcing a significant shift in profitability from one prevailing business model to another.

Fourth Observation – High Barriers

Only 18% of companies consider their digital strategies very effective

Regulatory

Risk Averse Culture

Skills

Cyber Security

Organization Structure

Cost

Fifth Observation – A Lot of Hyperbole

Digitalization – a sure-fire Path to Gend

Feature Story

31. Januar 2017

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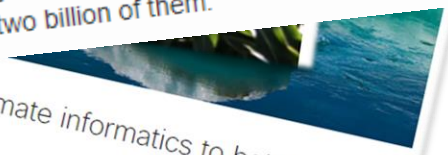
Digitization for peace: Empowering global youth through technology

By Ola Jo Tandre | Jan 06, 2017

- ***2016 showed us that we live in volatile times: record breaking global temperatures, record number of refugees fleeing conflict, global security threats, and others***
- ***The Telenor Youth Forum, in partnership with the Nobel Peace Center, empowers youth to solve social issues through technology.***

The Nobel Peace Prize events are well timed with the December holidays and the approaching New Year, when much of the world takes a collective breath to reflect on what's most important in our lives. Both looking back and charging ahead, we resolve to do better and be better. Because 2016 showed us that we live in volatile times: record breaking global temperatures, record numbers of refugees fleeing conflict, global security threats, political upheaval; the list seems endless.

But the good news is that we already have a lot of the knowledge and resources needed to create solutions that could better our circumstances. And we have the largest single generation of youth the world has ever seen who want to do something about this. Nearly two billion of them.



y field of climate informatics to better

ow much impact you believe humans have caused our climate—be that a little or a lot—global

Final Observation – Lots of Opportunity

Digitalization will impact every step of the electric power value chain

Power Generation

PREDICTIVE ANALYTICS
DIGITAL TWINS
VIRTUAL REALITY

Transmission & Distribution

MOBILE WORKERS
AUGMENTED REALITY

Commercial & Residential

BLOCKCHAIN
CUSTOMER EXPERIENCE
CONNECTED HOME
ENERGY MANAGEMENT

Digitalization at Curtiss-Wright

Dave Adams, CEO

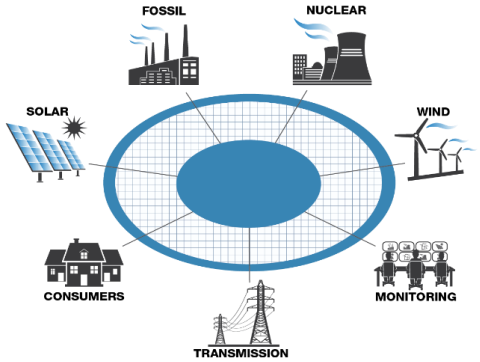
*…**Innovation** should be a key component of every planning team's efforts...*

*…Every business should consider the macro trends of Automation, **Digitalization** and Electrification as they relate to their specific industry and market…*

CW Nuclear Key Strategies

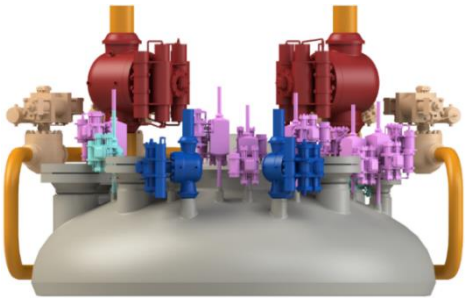
ENABLE DIGITALIZATION OF POWER INFRASTRUCTURE

- Expand our products and service offerings to help power companies transform to digital
- Hardware and software solutions



INNOVATION

- New products and services to address obsolescence, aging, safety and cost pressures
- New plant designs



Innovation Product Pipeline

Ideate

- Real-Time PEPSE
- Digital Feedwater Controls
- Mobile In-Processing
- AcousticEye DUET™
- Manually Encoded PAUT

Develop

- High Density EPA
- Pinserts
- NuScale Valves / EHOs
- Small Linear EHO
- Wireless Monitoring
- AP1000 ZEND
- ITT Hydramotor Replacement

Test

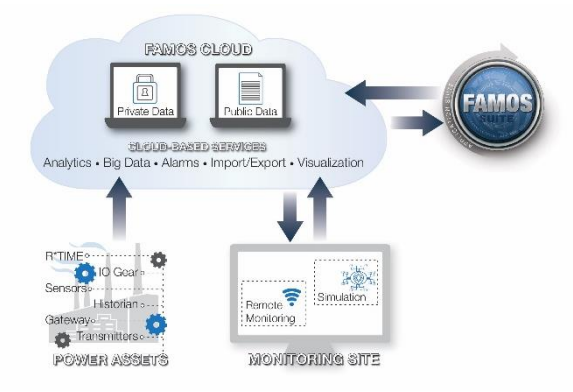
- Field Assembled QDC

Commercialize

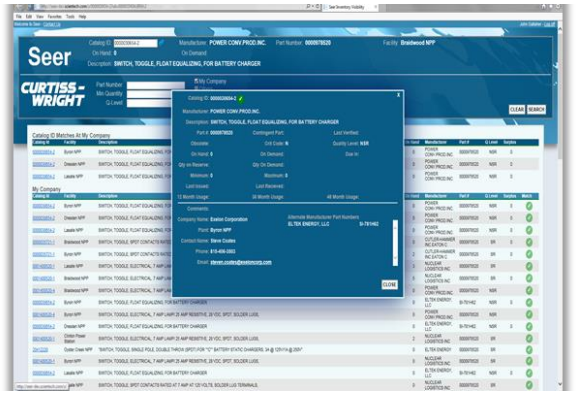
- Advanced MSIV Actuator
- Zero Entry Nozzle Dam
- Modern Analog Safety System
- Remotely Installed SG FME Covers
- Segmented Reactor Vessel Guide Pins
- Cycle Isolation
- Vertical Hinge
- Non-Safety Digital Control
- SEER

Digital Focus Areas

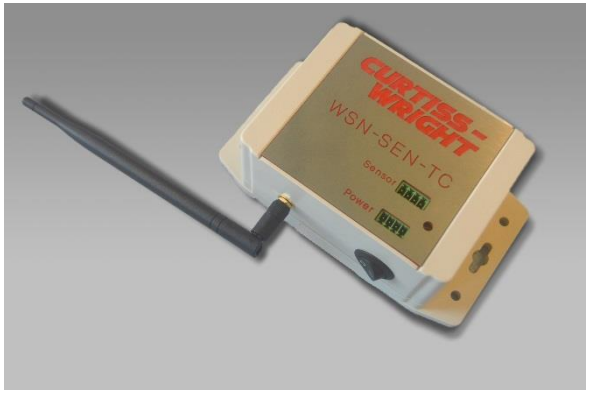
CLOUD



ANALYTICS



SENSORS & WIRELESS



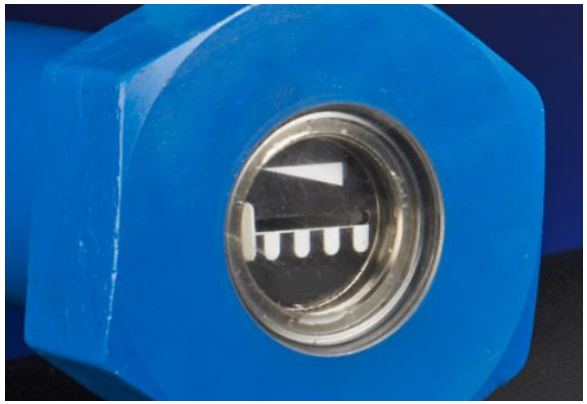
MOBILE

MACHINE LEARNING

DIGITAL CONTROL

Digital Focus Areas

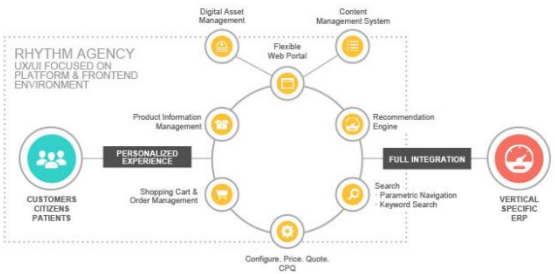
“DIGITAL” HARDWARE



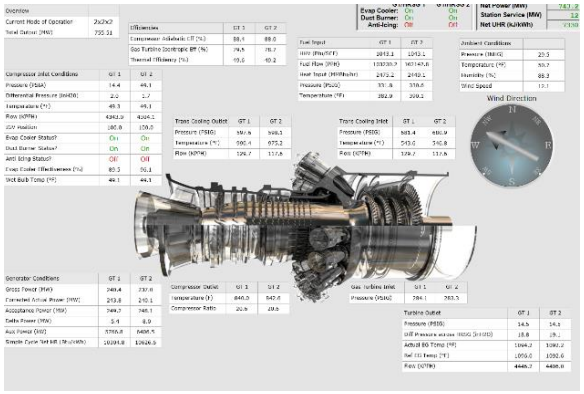
DIGITAL MONITORS

DIGITAL EQUIPMENT CONTROL

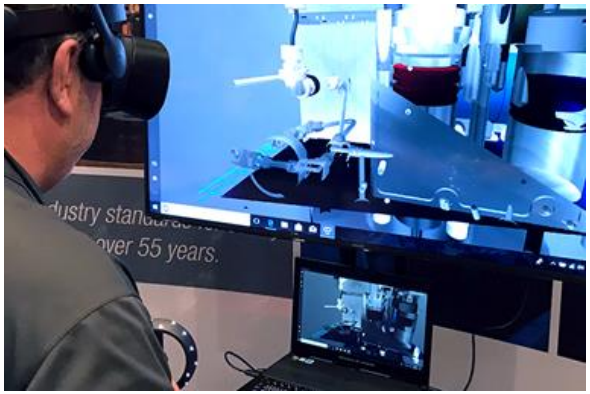
CUSTOMER VALUE



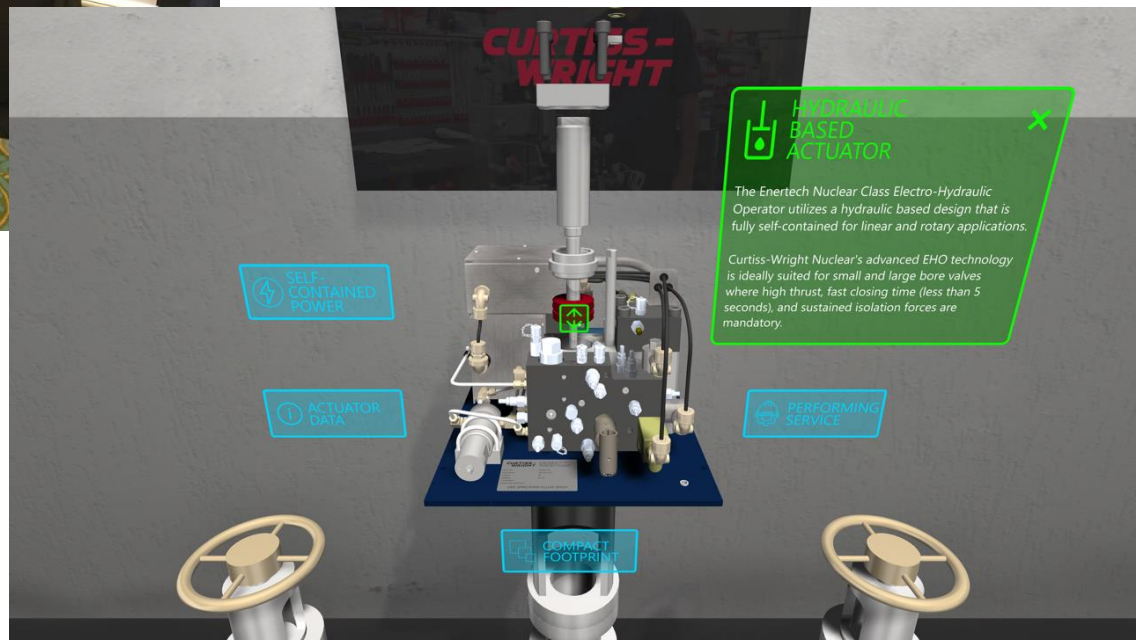
APA / PDP



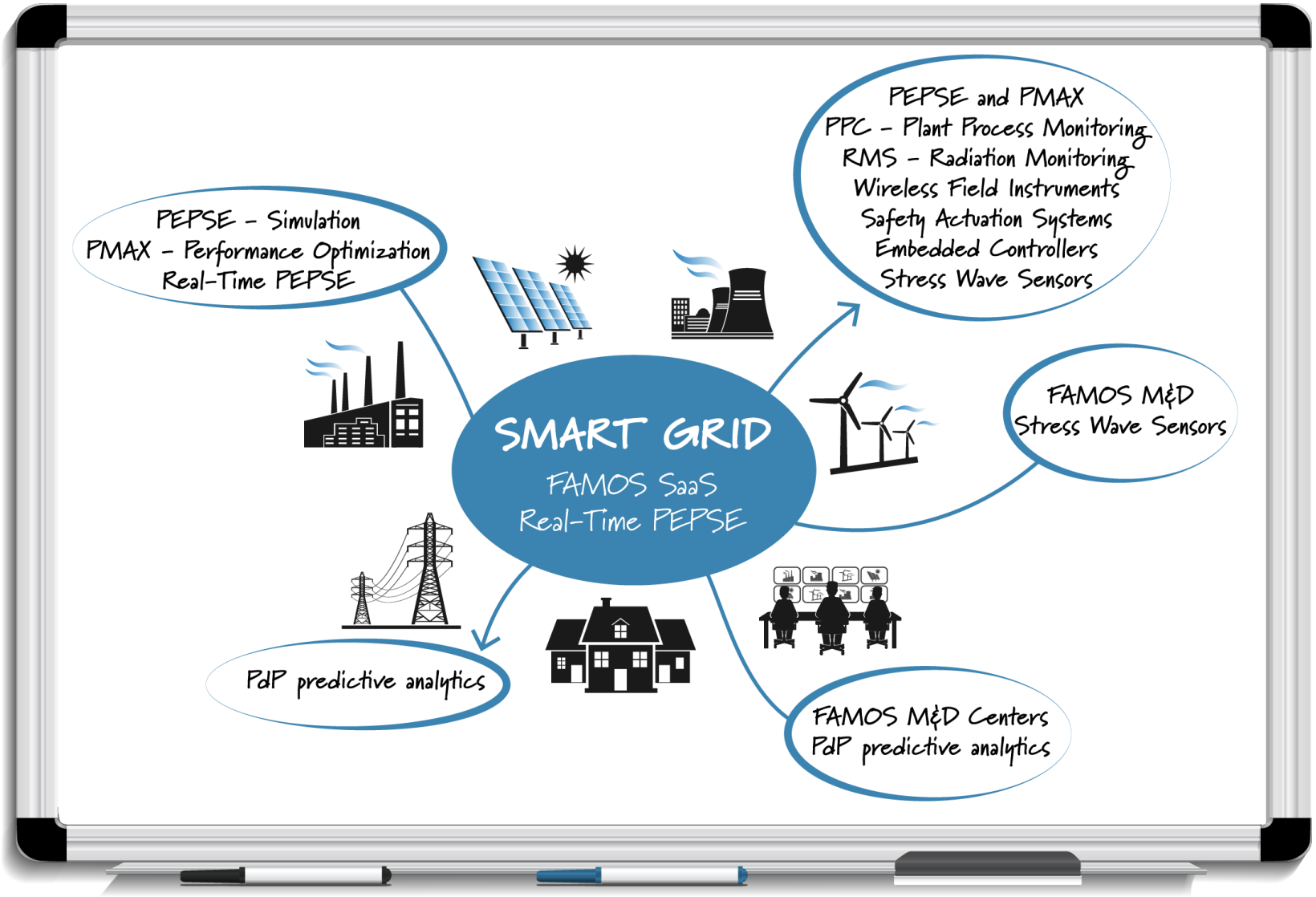
AUGMENTED REALITY



Digital Sales



Digitalization White Board



Conclusion

DigitalizThe powTogethernsformation is changing our industry.

CURTISS-WRIGHT

Thank You

Kurt Mitchell

VP/GM, Curtiss-Wright Nuclear

[redacted]

www.cwnuclear.com

