



II JORNADAS TÉCNICAS - ABB EN PERÚ, 6 ABRIL, 2017

Servicios Avanzados en la era digital

Aplicacion de la Plataforma ABB Ability y Servicios de Supervision Remota

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Servicios Avanzados en la Era Digital

Agenda

1. Introducción
2. Internet de las cosas
3. Las Tecnologías Digitales
4. ABB Ability / Alcance / Características
5. ABB Ability / Servicios de Diagnostico Remoto / Aplicaciones
6. Conclusiones
7. Informacion de Contacto

1. Introduccion

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A new world

Disruptive events

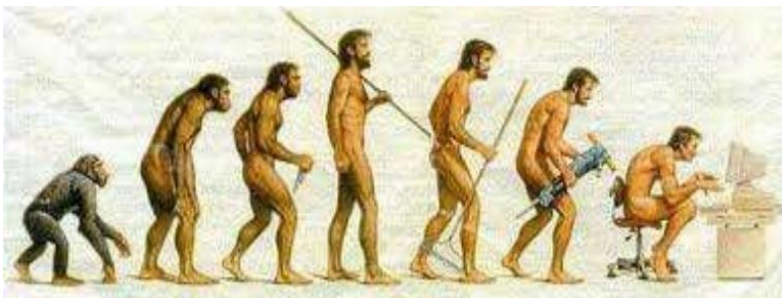
The Stone Age did not end because humankind ran out of stones. It ended because rocks were displaced by a superior technology : bronze.

The age of film photography did not end because we ran out of film but because of rapid improvements in digital imaging and information technologies and because of a disruptive business model : the cost of an additional picture dropped to zero.

Landlines lost significance not because we ran out of copper but because smart phones managed to benefit from combining advanced technologies : data transmission, internet, music, camera technology.... and great marketing

*Clean Disruption
of Energy and Transportation
by Tony Seba*

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Se empieza a ver con cierta simpatía la idea de “disponer” en lugar de “tener”, sobre todo por la rápida obsolescencia de los productos y el deseo de sustituirlos en ciclos cortos.

Disponer vs. Tener = Este modelo consiste, ni más ni menos, en convertir “productos” en “servicios”

Observa productos que ahora se venden e imagina fórmulas ingeniosas para alquilarlos añadiéndoles servicios de valor.

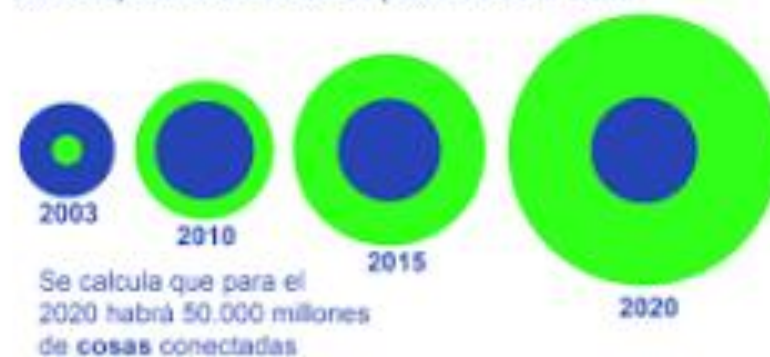




El Internet de las COSAS



El número de cosas conectadas a Internet durante 2008 superaron al número de personas de la Tierra



2. Internet de las Cosas

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THE INTERNET OF THINGS

10 THINGS YOU NEED TO NOW

WHAT IS IT? A global network of connected people and devices

WHAT IS IT ENABLED BY? Decreasing technology costs, sensors, connectivity, APIs, and more...

WHAT DEVICES ARE INVOLVED?

- Artificial limbs
- Parking spaces
- Pacemakers
- Toothbrushes
- Kitchen appliances
- Wearable devices
- Jet engines
- Thermostats
- CARS
- Lights
- Medical devices
- Personal appliances
- Curling irons
- Home security systems
- Anything that has an 'on' and 'off' switch

WHAT ARE WAYS TO CONNECT?

- Human to Human
- Human to Device
- Device to Device

WHAT INDUSTRIES WILL BE IMPACTED?

Virtually all including manufacturing, retail, transportation and logistics, healthcare, energy, agriculture, financial.

BY 2020, HOW MANY DEVICES WILL EXIST?

Gartner	26 Billion Units
Cisco	50 Billion Units
Intel	200 Billion Units
IDC	212 Billion Units

■ Gartner says it will be 26 billion!
<http://www.gartner.com/newsroom/id/2684616>

■ Intel says it will be 200 billion!
<http://share.cisco.com/internet-of-things.html>

■ Cisco says it will be 50 billion!
<http://share.cisco.com/internet-of-things.html>

■ IDC says 212 billion!
<http://www.zdnet.com/internet-of-things-0-9-trillion-market-in-2020-212-billion-connected-things-7000021516/>

WHAT WILL THE MARKET SIZE BE?

\$8.90 by 2020
TRILLION - IDC

\$14.4 by 2022
TRILLION - Cisco

WHAT IS THE CONSUMER IMPACT?

- Convenience
- Life Optimization
- Personal Data Collection
- Efficiency

http://www.businesswire.com/news/home/20131003005687/en/Internet-Poised-Change-IDC#U_z4oPldW5o
<http://postscales.com/internet-of-things-market-size>

WHAT ARE THE BUSINESS CHALLENGES?

- Enabling customer privacy and property rights
- Managing vast amounts of data
- Over-reliance on technology
- Meeting customer needs and expectations

What are the BUSINESS OPPORTUNITIES?

- Improved customer service and customer personalization
- Address real-time needs, threats and opportunities
- Improved and accelerated process optimization
- More effective forecasting

2. Internet de las Cosas – Casos de Éxito

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Uber es una empresa que brinda a sus clientes una red de transporte privado, a través de su software de aplicación móvil, que conecta los pasajeros con los conductores.

Fundación: marzo de 2009, San Francisco, California, Estados Unidos

Oficina central: San Francisco, California, Estados Unidos

Director ejecutivo: Travis Kalanick (2011–)

Fundadores: Travis Kalanick, Garrett Camp



Airbnb es un marketplace para publicar, descubrir y reservar viviendas privadas. El nombre es un acrónimo de airbed and breakfast. Airbnb cubre unas 2.000.000 propiedades en 192 países y 33.000 ciudades. Wikipedia

Fundación: agosto de 2008, San Francisco, California, Estados Unidos

Oficina central: San Francisco, California, Estados Unidos

Director ejecutivo: Brian Chesky (agosto de 2008–)

Fundadores: Brian Chesky, Joe Gebbia



Trivago es un buscador de precios de hoteles online que busca y compara en tiempo real los precios ofertados por las principales agencias de viajes en Internet para una habitación de hotel en la ciudad a la que el usuario desea viajar. Wikipedia

Oficina central: Düsseldorf, Alemania

Fundación: enero de 2005, Düsseldorf, Alemania



3.- Las Tecnologías digitales Conducen a nueva innovación en los mercados industriales

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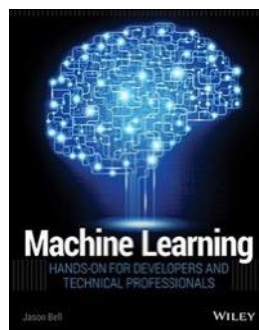
Virtual/augmented reality



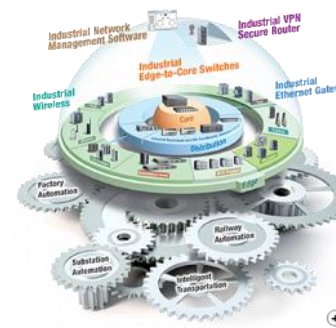
Software-defined machines



Machine learning



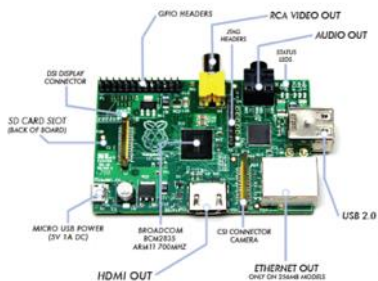
Time-sensitive networking



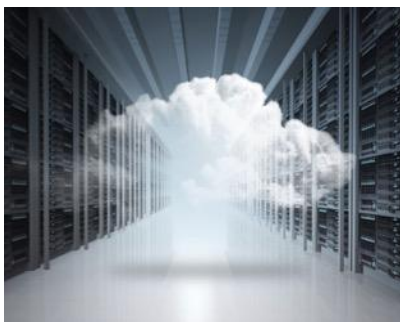
Big data



Inexpensive computing



Cloud computing



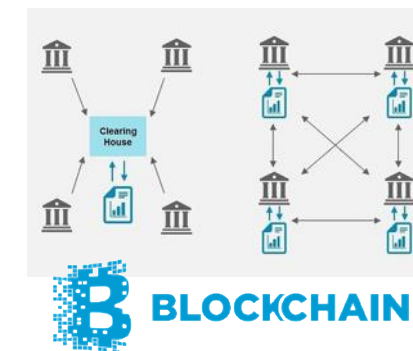
Cybersecurity



Connectivity



Blockchain



3.- Las tecnologías digitales

ABB en el “ojo de la tormenta” de una masiva migracion de valor

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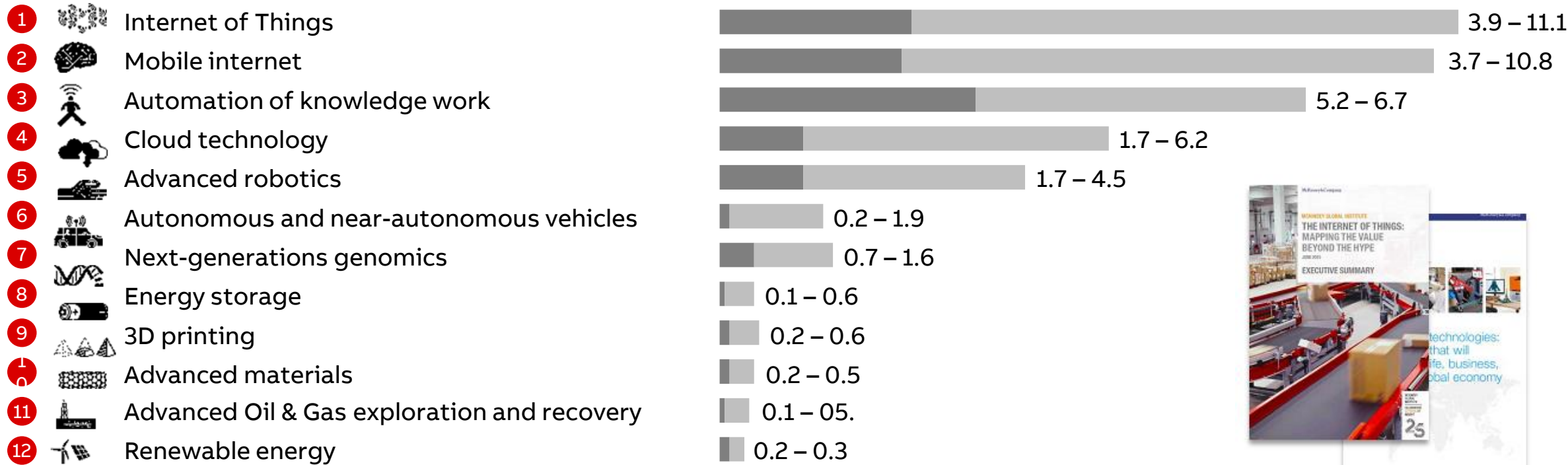
Range of sized potential economic impact

Low

High

Disruptive technologies will have substantial impact by 2025 (economic impact of 12 most significant technologies, \$ trillions, annual)

A \$4 – 11 trillion digital opportunity by 2025

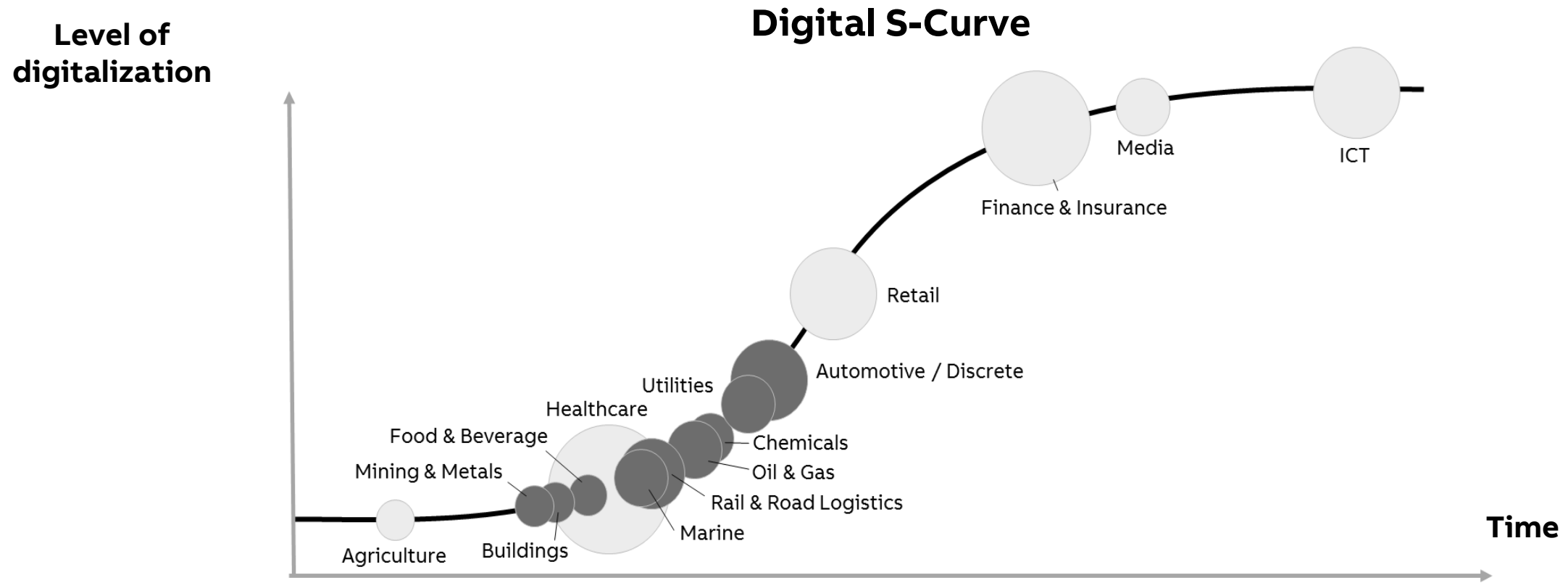


3.- Las tecnologías digitales

Los mercados industriales tienden a adoptarlas prioritariamente

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Computing + connectivity + cloud + analytics set to unlock value

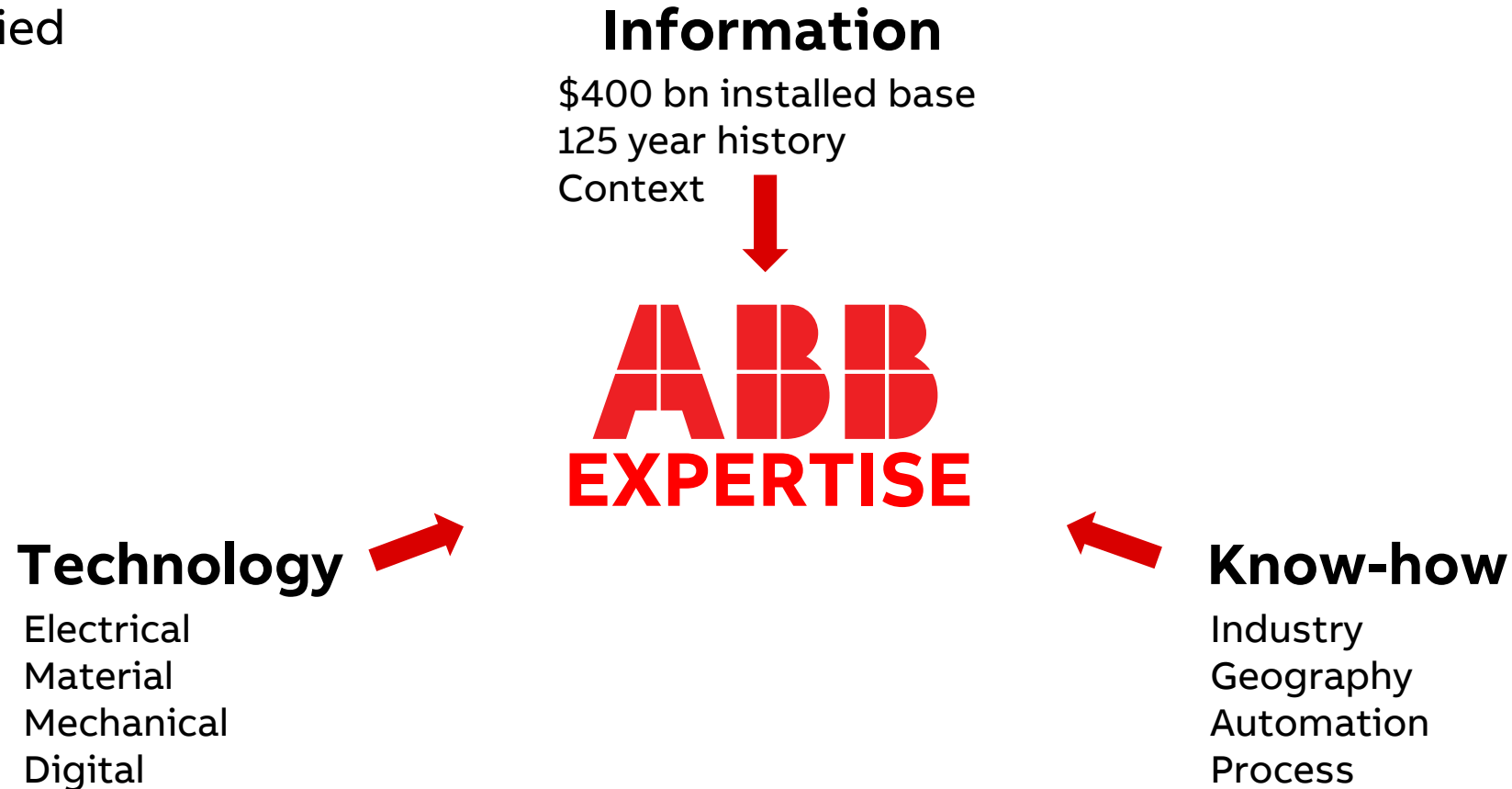


3.- Las tecnologías digitales

ABB in Digital

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Uniquely qualified



4.- ABB Ability™: industry-leading digital solutions

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Our expertise

Information

Technology

Know-how

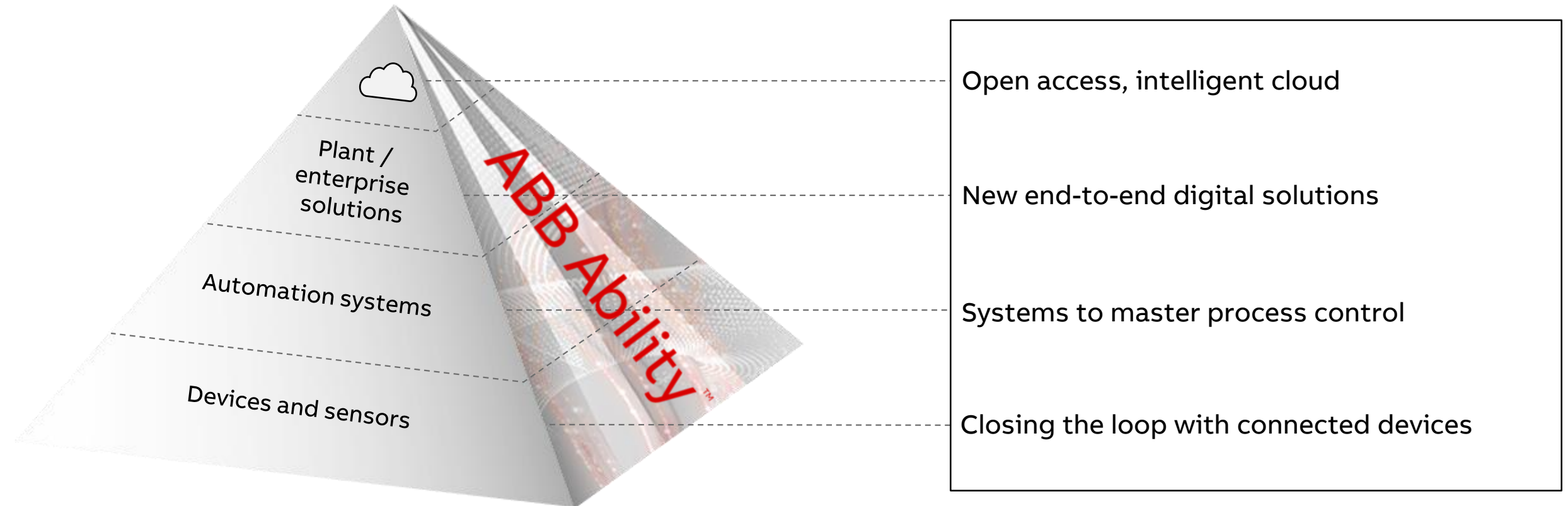


Customers

- ✓ Uptime
- ✓ Speed
- ✓ Yield
- ✓ Safety
- ✓ Security

4.- ABB Ability - Unlocking the ABB potential in digital

ABB Ability™: industry-leading digital solutions built on a common set of standard technologies
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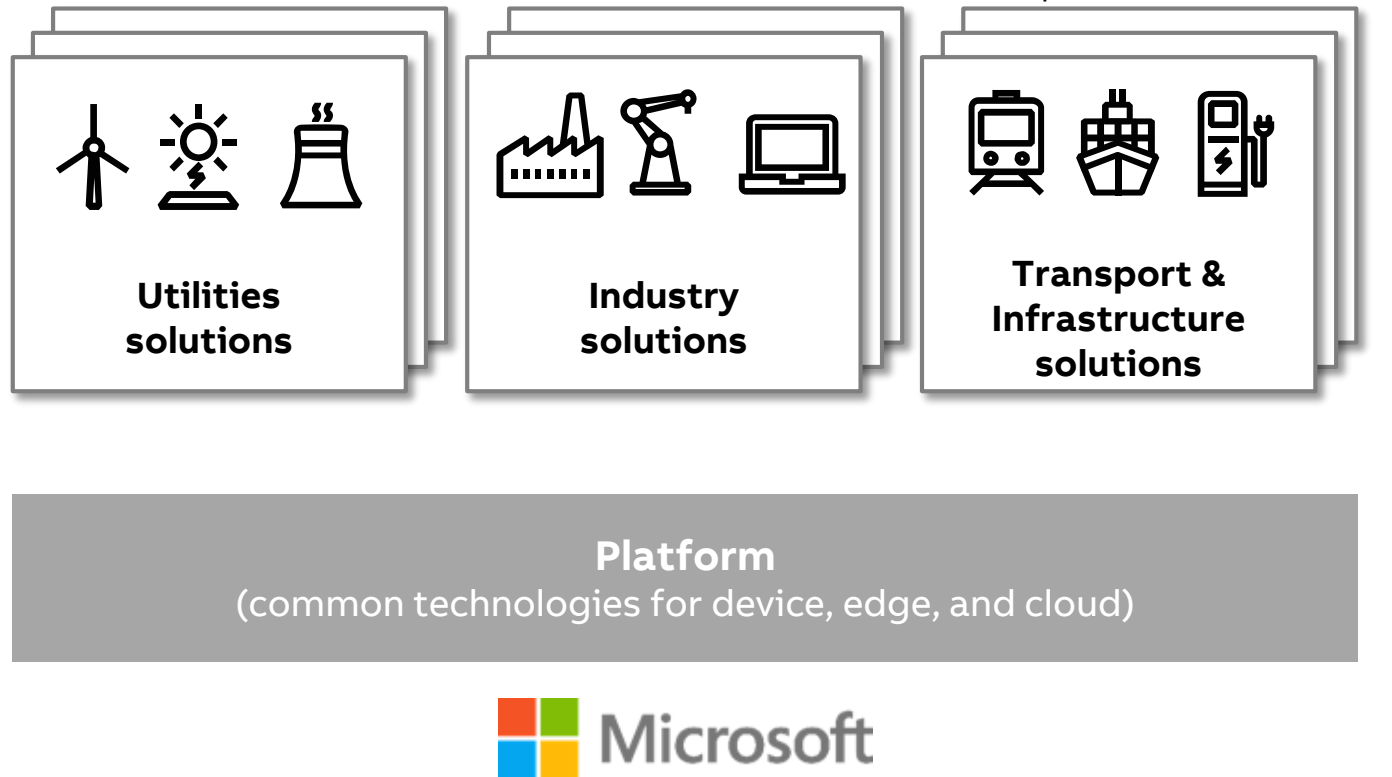
4.- ABB Ability™ solutions & platform

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The ABB Ability technology platform

The ABB Ability platform is an integrated Industrial Internet platform and cloud infrastructure based on ABB's leading expertise in technologies, industries and digital to allow businesses to harness the power of industrial data. The platform enables customers to securely integrate and aggregate their data, combine with wider industry data, apply big data and predictive analytics, and generate insights that can help them drive performance and productivity improvements.

ABB Ability™



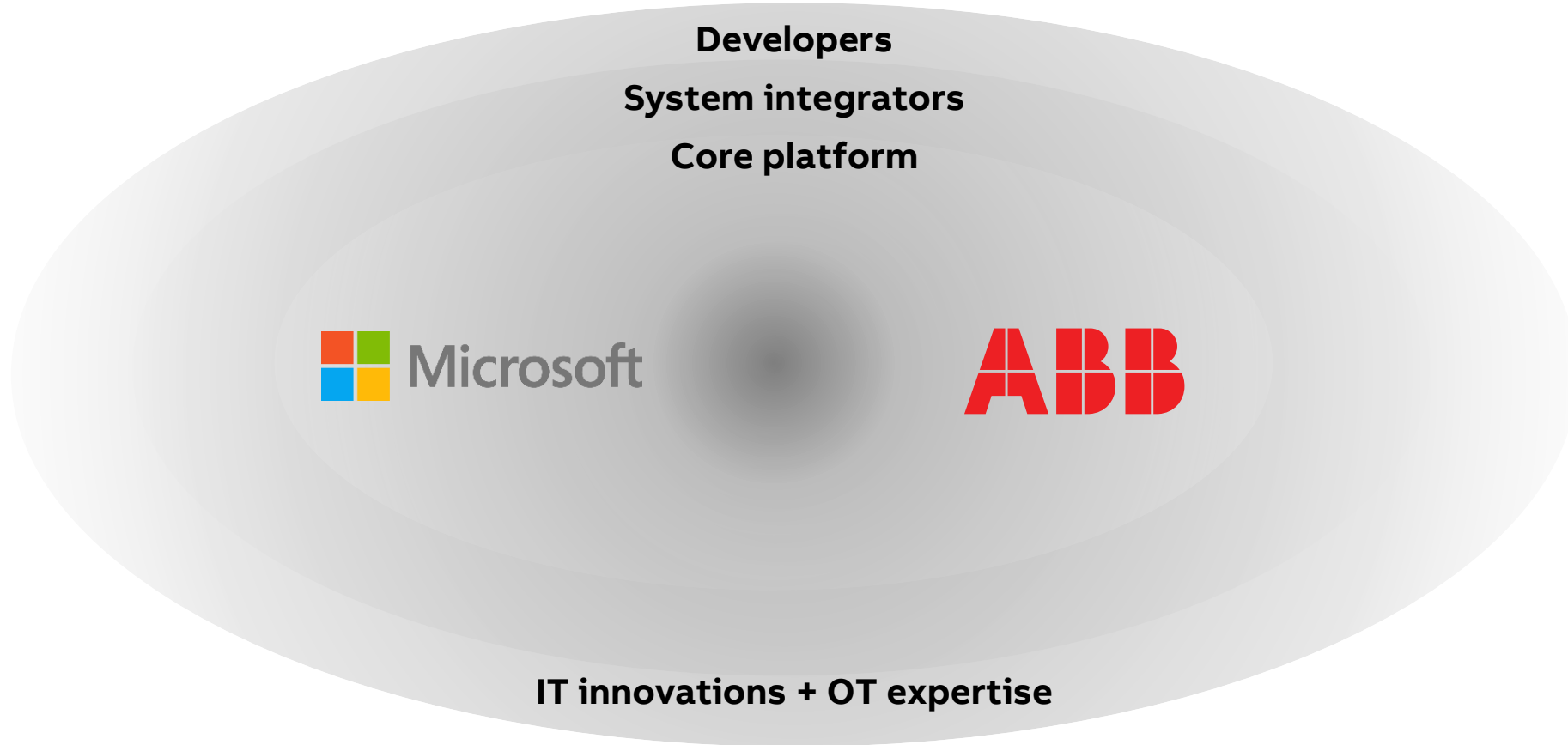
What Delivers customer benefit (uptime, speed, yield...)

How Provides ABB with efficiency and scale

4.- ABB Ability - Benefits of an industry-standard platform

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Suppliers x system integrators x developers x 3rd party apps = exponential leverage

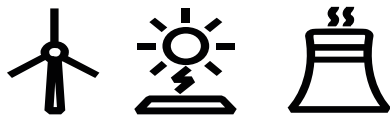


5.- ABB Ability™ - Aplicaciones - General

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Over one hundred solutions available now

180+ ABB Ability™ solutions



Utilities



Industry



Transportation &
Infrastructure



5.- ABB Ability™ - Aplicaciones – Industry - Mining

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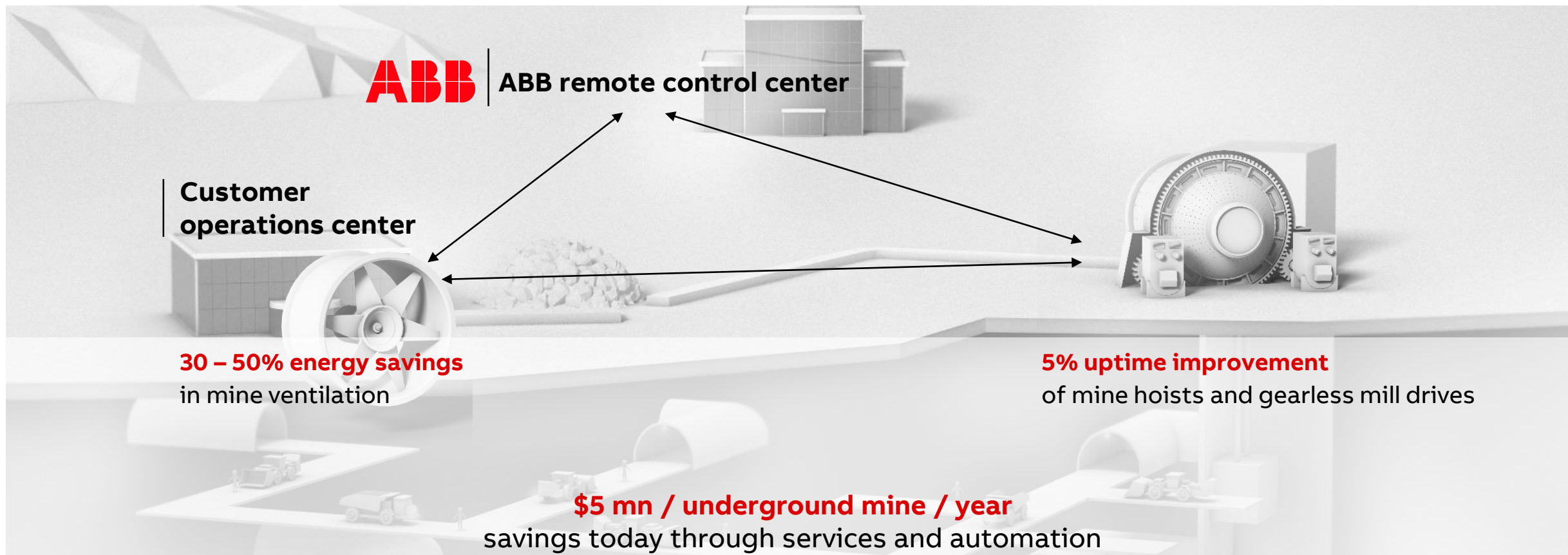


2

ABB Ability™ for Mining

Optimizing mining processes in real-time

Customer value through digital for mining



5.- ABB Ability - Aplicaciones - Servicios de Diagnostico Remoto

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Mastering the control room

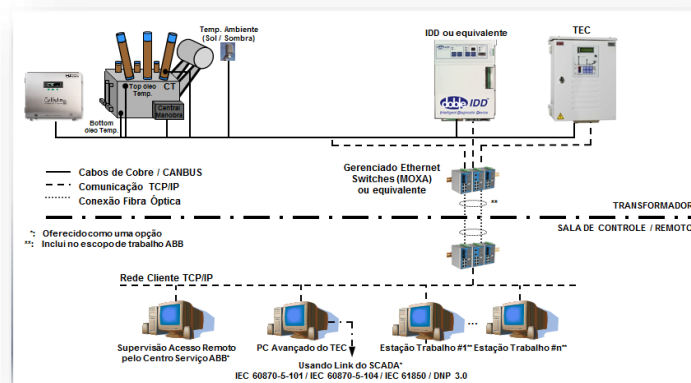
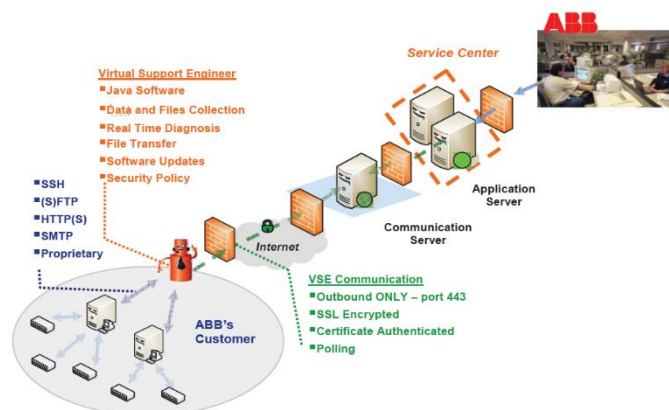
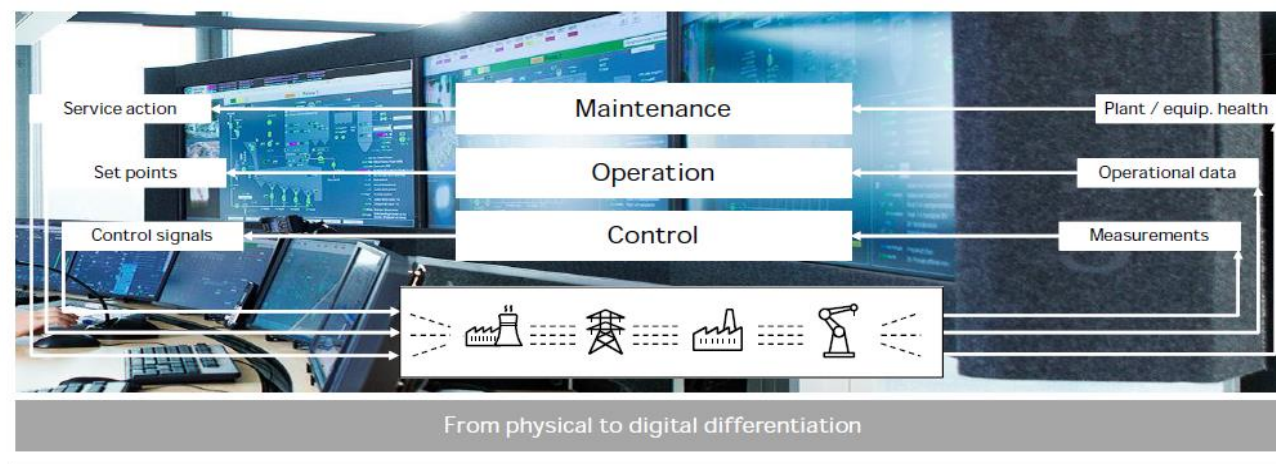


ABB Ability™ solutions in Mining

ABB Ability solutions for mining provide a data infrastructure around ABB's equipments to analyze past data, aggregate it with ongoing insights in real-time. This enables to predict potential issues in the plant installation, to provide solutions and allow 24/7 access to remote experts if anything unforeseen occurs.

5.- ABB Ability - Aplicaciones - Servicios de Diagnostico Remoto GMD´s

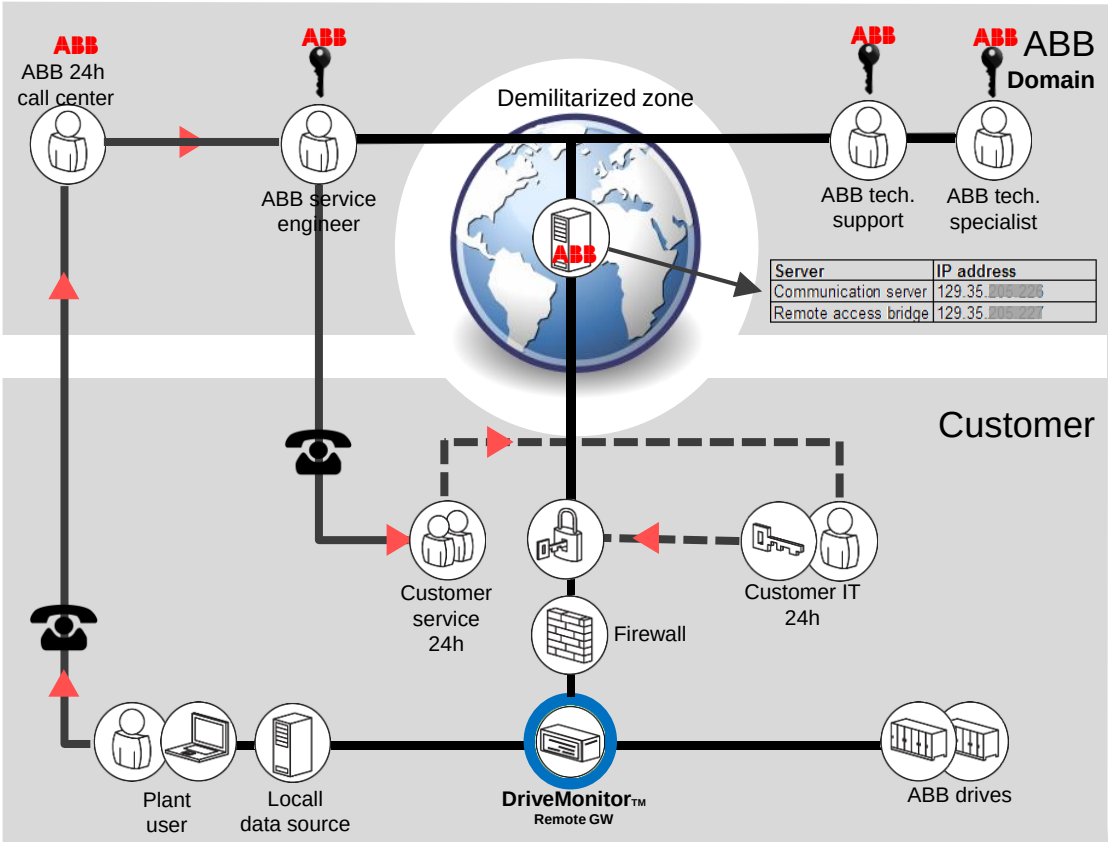
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RAP Security Overview

VSE / RAP NETWORK DESIGN



Preventive & Predictive	GMDfit™ Condition monitoring - Continuous and automated assessment of the overall operating condition of the GMD Drive system. - Trending and forecasting the future by applying state of the art predictive methods - Scheduled health and condition examination of the drive systems through periodic inspections.
Corrective	GMDbeat™ SupportLine & troubleshooting - Telephone SupportLine. 24/7 service gets the customer in immediate contact with our technical support engineers. - ABB experts are linked to the operators' HMI via a secure remote access connection to enable on-demand problem solving.



5.- ABB Ability™ Innovation takes ability / Applications

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Over one hundred solutions available now



ABB Ability™ for Mining



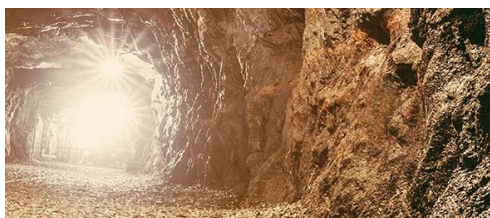
**Gearless Mill Drive
Reliability**



**Mine Smart
Ventilation**



**Hoist Performance
Monitoring services**



**Mine Location
Intelligence**



Remote Services



Integrated Mining

5.- ABB Ability™ Innovation takes ability / Applications

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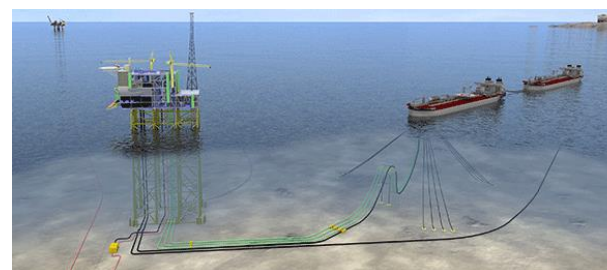
Over one hundred solutions available now



Safety Management



Collaborative Support



Subsea Technologies



**ABB Ability™ for
Oil, Gas & Chemicals**



Fleet management



Site Collaborative
Operations



Automated Data
Collection



Remote Operations



Integrated Infrastructure

5.- ABB Ability™ Innovation takes ability / Applications

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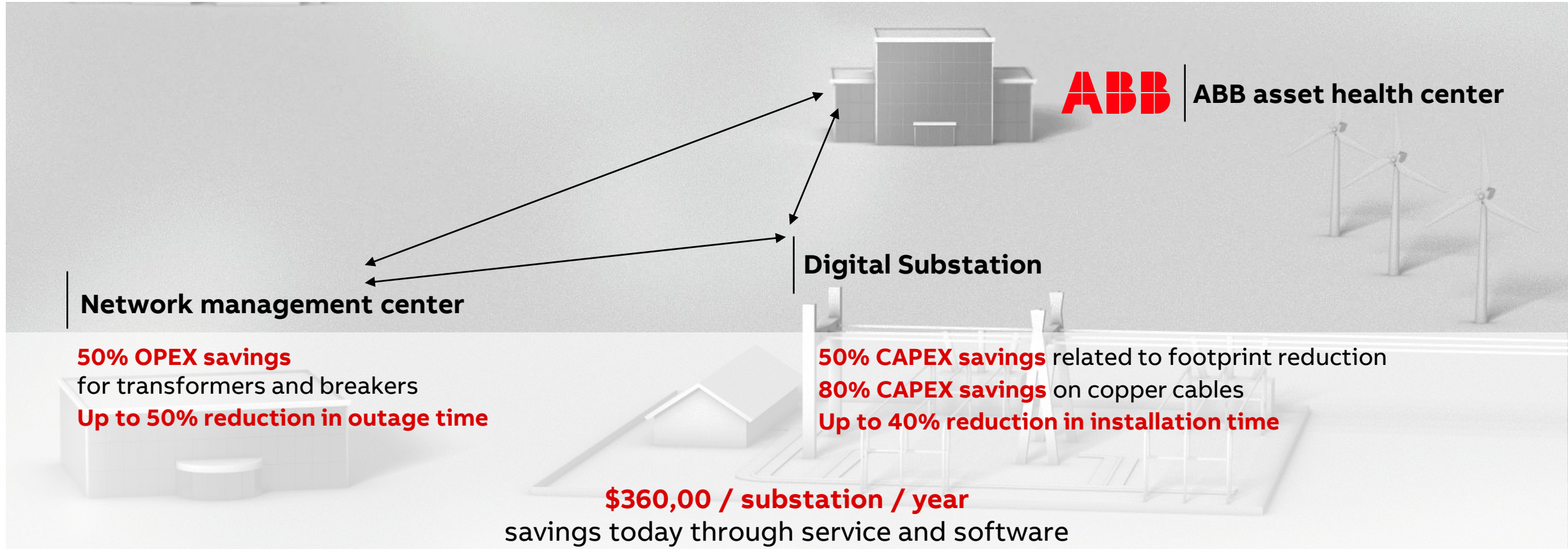


2

ABB Ability™ for Utilities

Higher efficiency in operation and maintenance

Customer value through digital for T&D



5.- ABB Ability™ Innovation takes ability / Applications

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ABB Ability™ for Utilities

Over one hundred solutions available now



Virtual Power Plants



**Power Plants and
boilers**



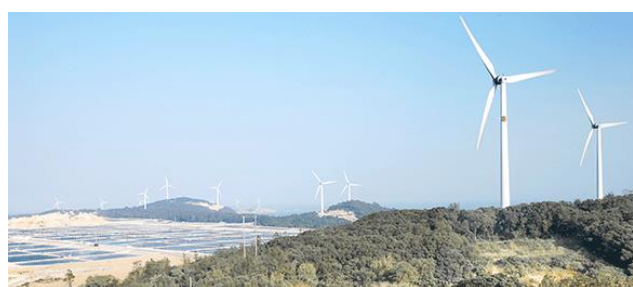
**Power Plants and
Turbines**



**Power Plants and
Automation**



**Connected Asset
lifecycle management**



**Distributed Energy
Resource Management
System**



Digital Substations

5.- ABB Ability™ Innovation takes ability / Applications

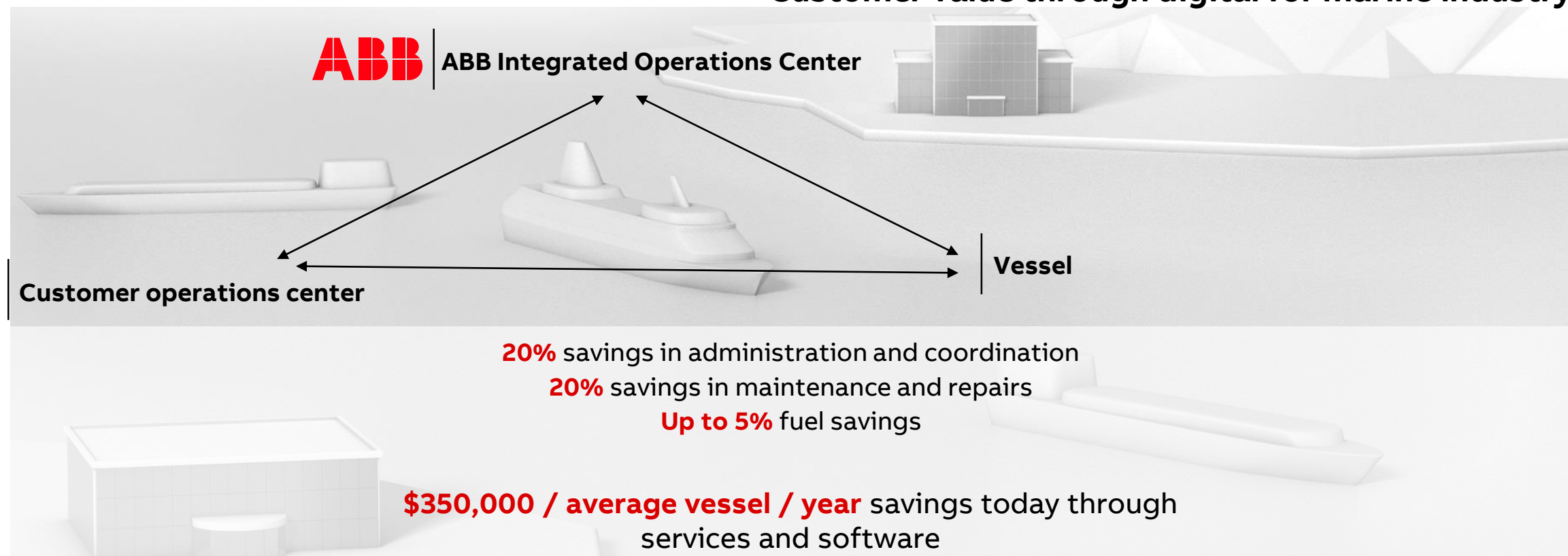
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ABB Ability™ for Transport

Higher productivity in overall operations and on the vessel

Customer value through digital for marine industry



5.- ABB Ability™ Innovation takes ability / Applications

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ABB Ability™ for Infrastructure

Making buildings smart with end-to-end solutions

Daylight harvesting / lighting / blind controls

Temperature / air quality controls

Safety / emergency solutions

Customer value through digital for buildings

Audio / visual controls

Room access controls

Power management

Up to 30% energy savings and 20% lower maintenance costs in intelligent buildings

9.- ABB Ability™ Innovation takes ability / Applications

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ABB Ability™ for Transport & Infrastructure

Over one hundred solutions available now



EV charging



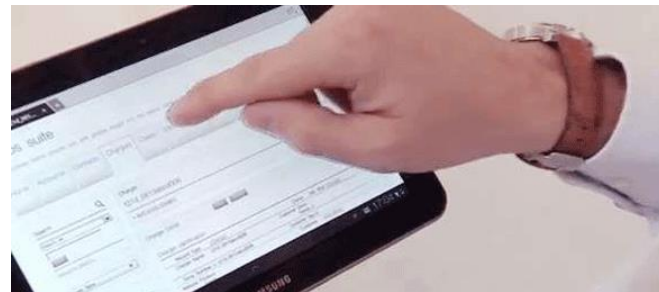
E-bus charging



Electrical vehicle
infrastructure



Fleet Management



Connected Services



Smart Buildings

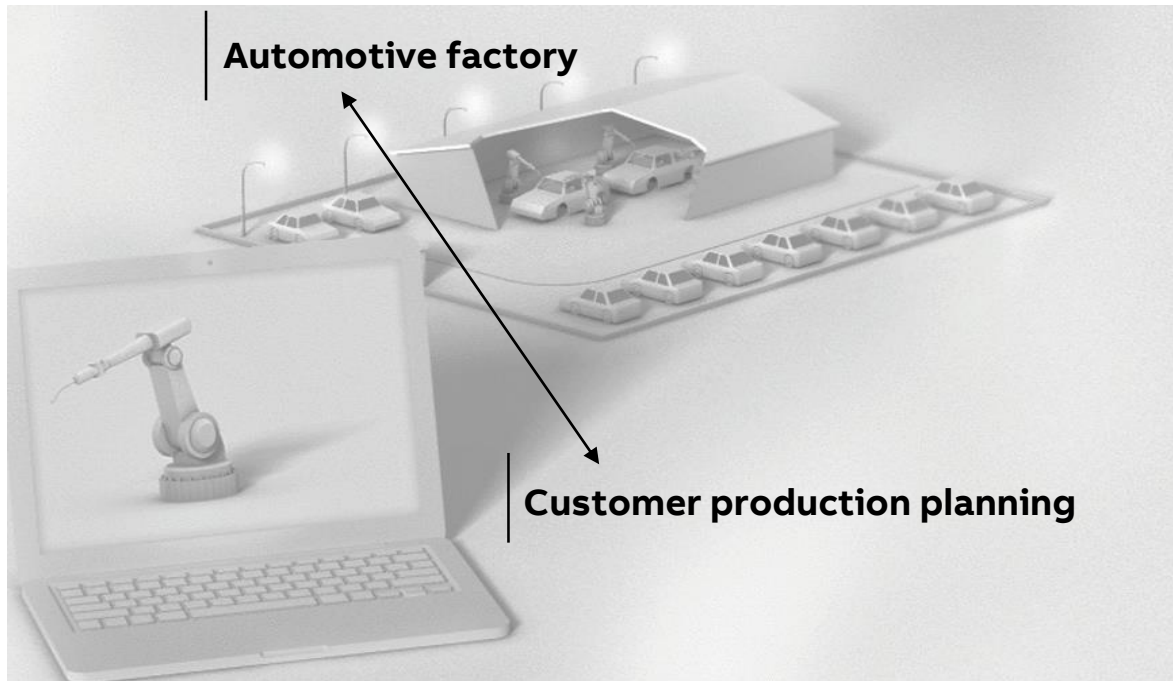
5.- ABB Ability™ Innovation takes ability / Applications

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Optimizing planning and production

25% reduction in installation costs

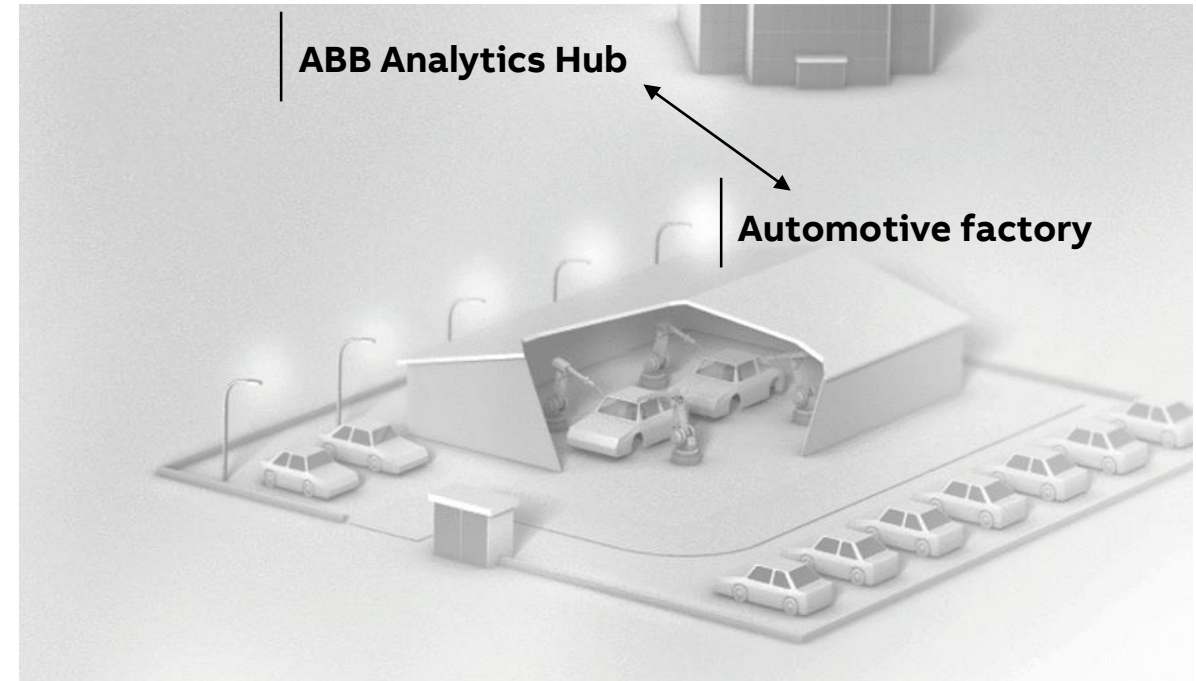
\$5 mn / plant CAPEX savings today through software



Customer value through digital for automotive industry

25% reduction in unplanned down-time

\$19 mn / plant / year OPEX savings today through services



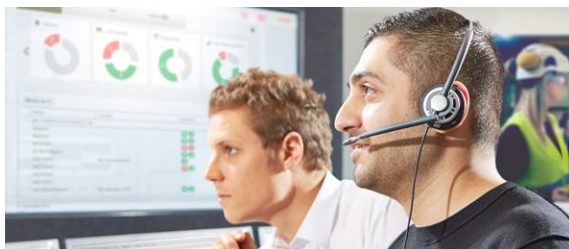
9.- ABB Ability™ Innovation takes ability / Applications

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ABB Ability™ for Manufacturing

Over one hundred solutions available now



Fleet supervision



Manufacturing efficiency



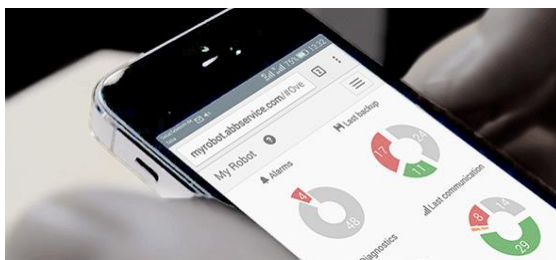
Flexible Manufacturing



Food Safety



Energy Management



Connected Services



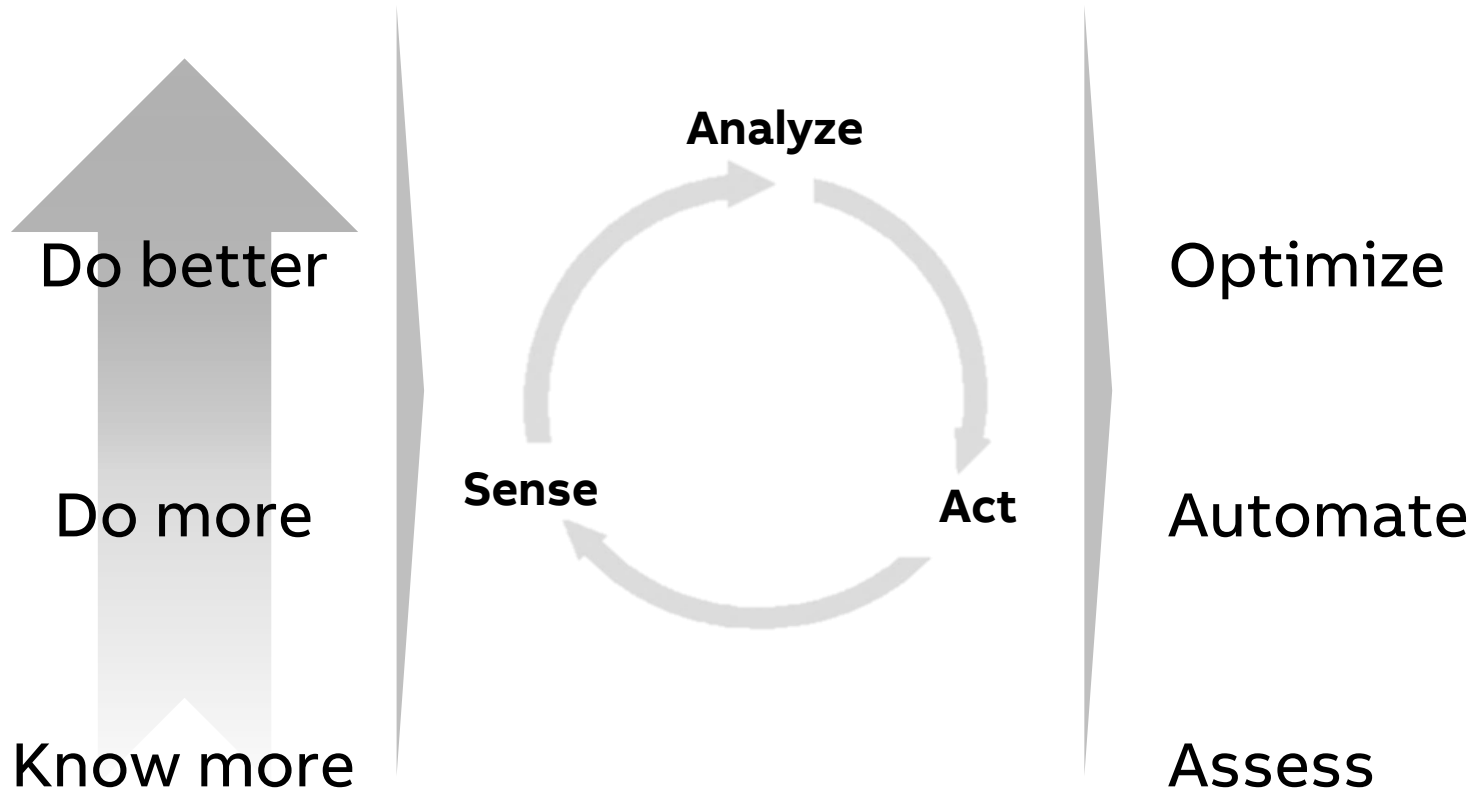
Virtual Commissioning



Smart Sensors

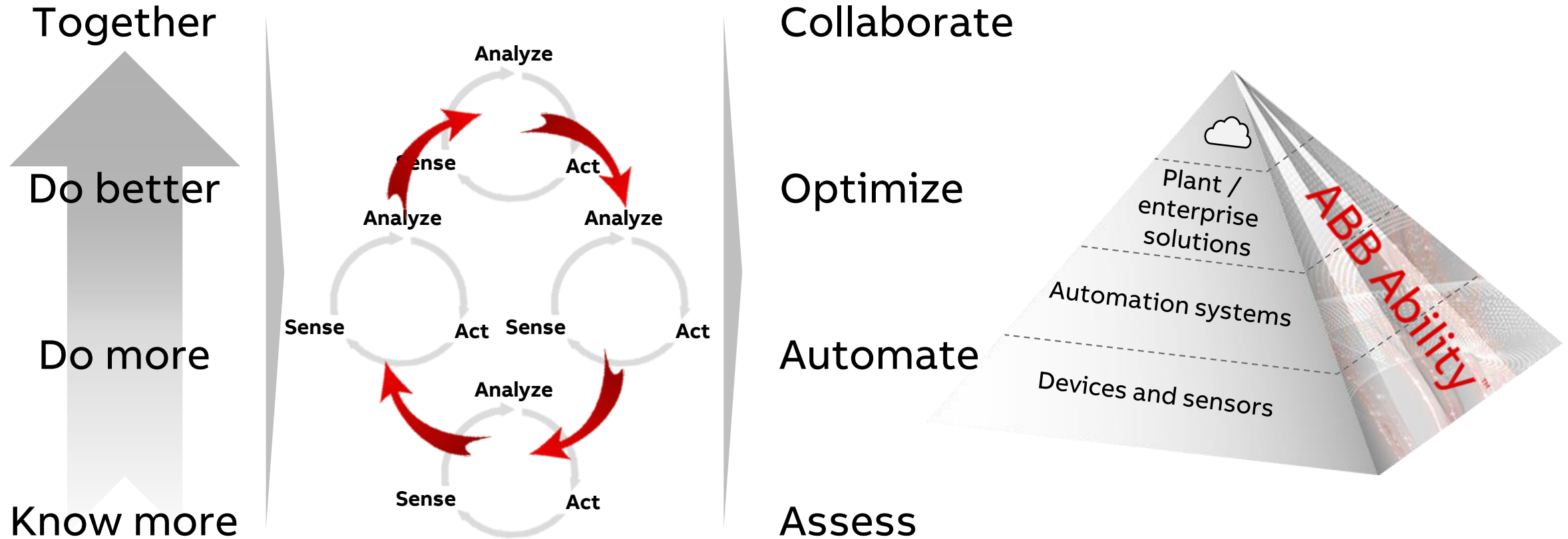
How ABB Ability™ solutions deliver value

Digitally connected products and services providing expertise



How ABB Ability™ solutions deliver value

Digitally connected products and services providing expertise



9.- ABB Ability/ Aplicaciones (continuación)

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"ABB on ABB": 3x improvement in output

ABB's Heidelberg factory automation case study



Adaptive

Self-learning

Smaller batch sizes

More flexible production

ABB Ability™:

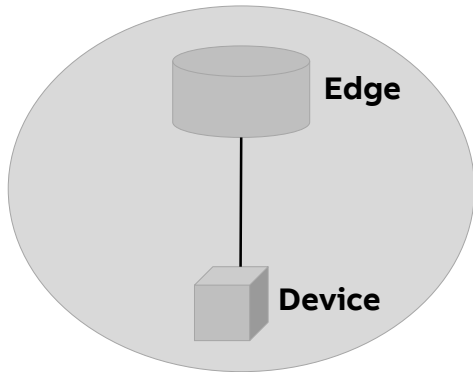
Manufacturing Execution System (MES)

Robots

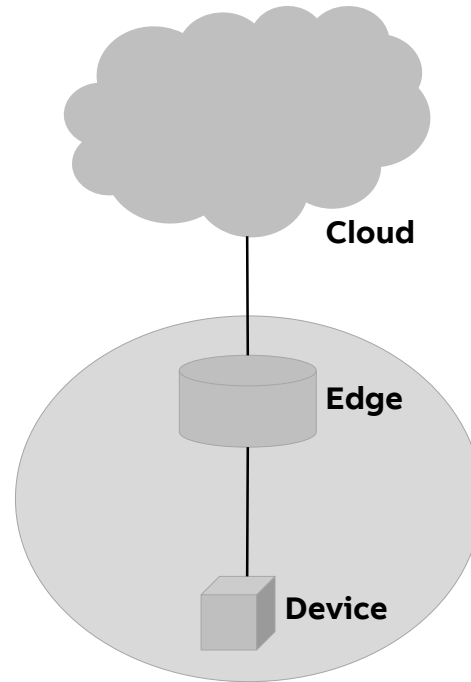
Leveraging the ABB Ability™ platform

On-premise, in the cloud, and in an ecosystem

Fog



Cloud



Intercloud

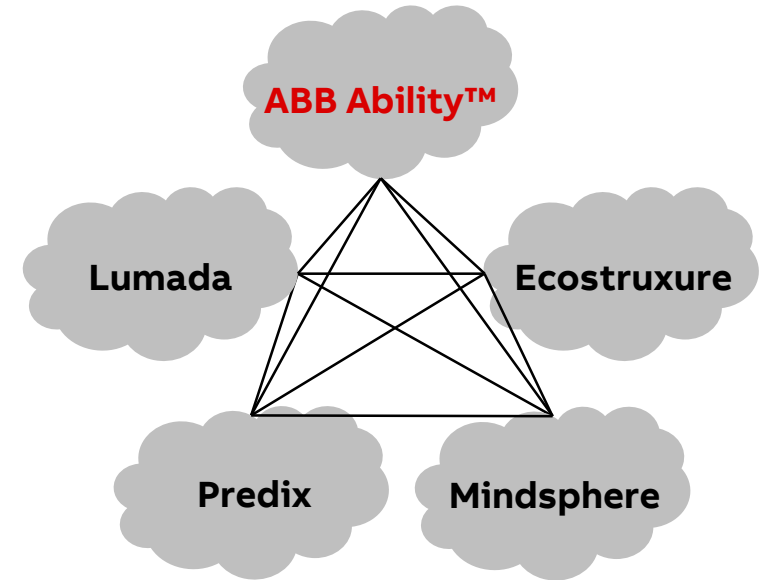


ABB Ability™: security, data, and IP

Making solutions and data safe for mission-critical applications



We secure your systems:

- Secure operations
- Threat detection
- Secure communications
- Secure updates
- Secure boot



ABB cybersecurity standards



You own your data:

- Identity
- Measurement data
- You know what we do with your data
- We only share data with your consent



ABB IoT data manifesto¹

$$f(x) = \$$$

You own your IP:

No loss of intellectual property when using ABB Ability™ solutions



ABB intellectual property position²

Future blueprint for ABB Ability™

Using connected digital solutions to deliver expertise for customer value

Expertise

Integrated

Data-driven

Supported

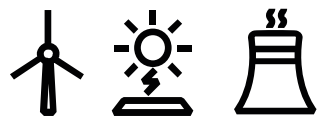
Flexible

Connected

Secured & Trusted

Physical + Digital

ABB Ability™ solutions' customers



Utilities



Industry



Transportation & Infrastructure



10.- Conclusiones

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- La era digital ya esta con nosotros
- Lo digital esta transformando cada aspecto de la industria
- “Disponer” vs “tener”
- Los datos tienen mas importancia ahora.
- Las operaciones y las Tecnología de Información se van integrando mas.
- ABB esta presente desde hace varios años en este campo
- ABB tiene un amplio rango de soluciones para la industria en este campo
- Ya vivimos un ecosistema de innovación en el industria con lo existente.
- Las soluciones de ABB Ability ya están disponibles.

5. Informacion de contacto

II Jornadas Técnicas – ABB en Perú | April 6, 2017

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E-mail: julio.sotomayor@pe.abb.com

Celular: 993573293



Writing the digital future takes ability.
ABB Ability™.

