

MARCO OMETTO
EXECUTIVE VICE PRESIDENT
DANIELI AUTOMATION

CONFINDUSTRIA
Club Innovazione e Energia
November, 24th 2017

INDUSTRY 4.0
FROM EQUIPMENT TO SERVICE
KEYWORDS FOR THE FUTURE
OF CO-OPERATION
BETWEEN AUTOMATION
AND STEEL MANUFACTURING

DANIELI / SINCE 1914
PASSION TO INNOVATE
AND PERFORM
IN THE METALS INDUSTRY

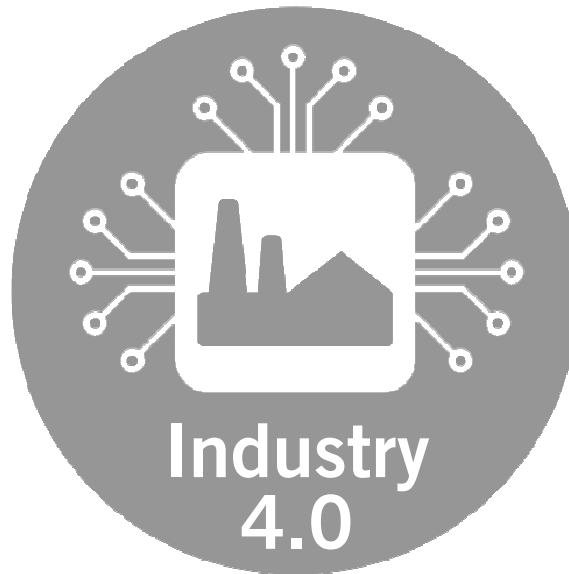


50 billion
INTERCONNECTIONS

18 billion
MACHINE TO MACHINE

14.2 trillion\$
POTENTIAL ECONOMICAL
GROWTH

1.3 zettabyte
IP GENERATED TRAFFIC



73%
INVESTING
COMPANIES

80-90%
TOP PRIORITY TO
DIGITALIZATION

65%
MONITORING
TO PREDICT

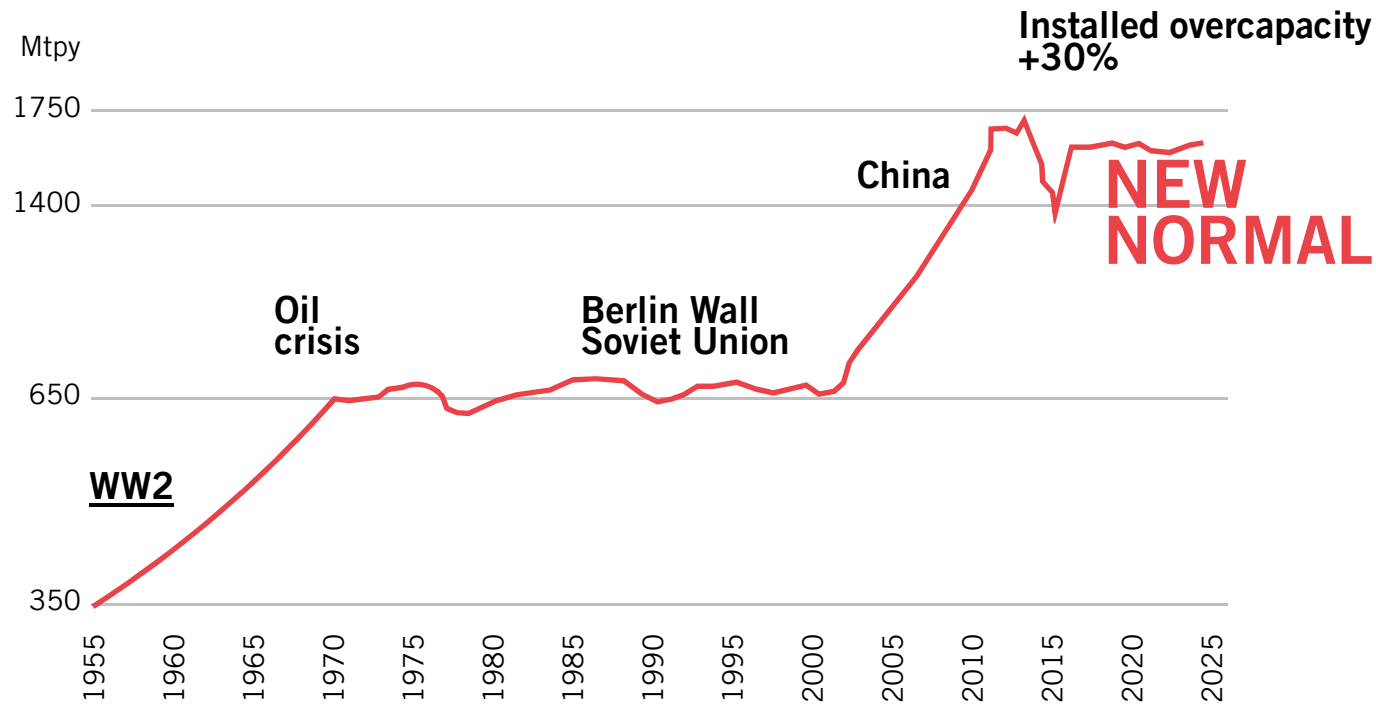
25%
INTERNAL
KNOW-HOW

Steel Demand

Short-Range Outlook 2016-2017



Source: WorldSteel Association

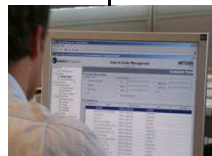


What can we do to contribute to decrease risks connected with this demand disruption?



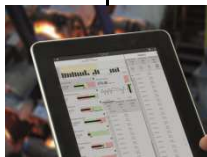
DIGIMET

2001



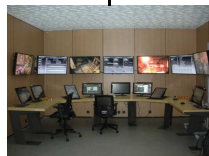
Extended MES

2007



Business intelligence platform

2010



3Q digital pulpit

2013



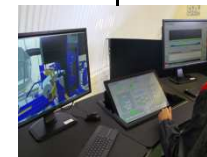
Sampling by robotic solution

2016



Automatic scrap classification

2017



Process simulator

Today



Energy monitoring & control



Equipment-embedded condition monitoring

INDUSTRY 4.0
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DIGI&MET HEADQUARTER

DANIELI

New building inauguration December 2017

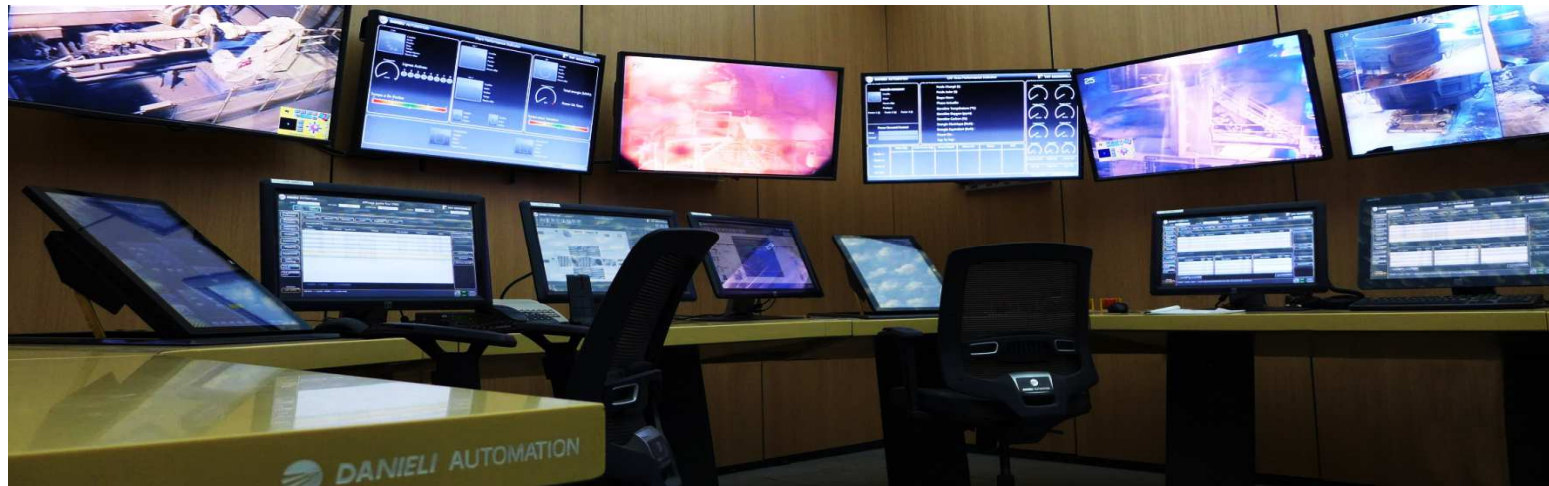


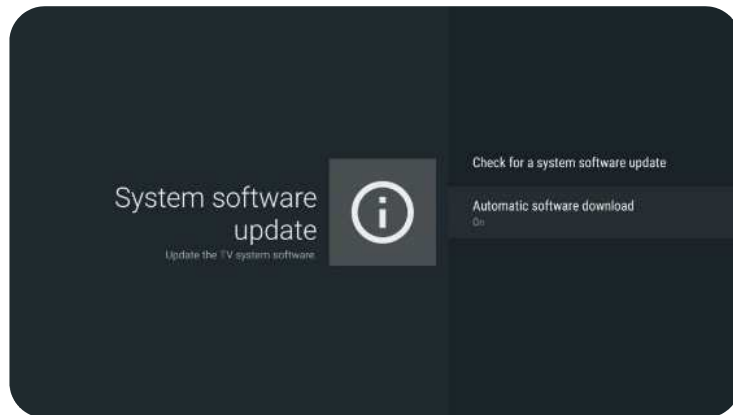
DIGIMET

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FROM EQUIPMENT TO SERVICE

SIMPLIFYING METALS COMPLEXITY

DANIELI





ICT
opportunities

**Why not also
in the industrial environment?**

Right first time
(lot size 1)

Order promising
(profitable to promise)

Process
repeatability

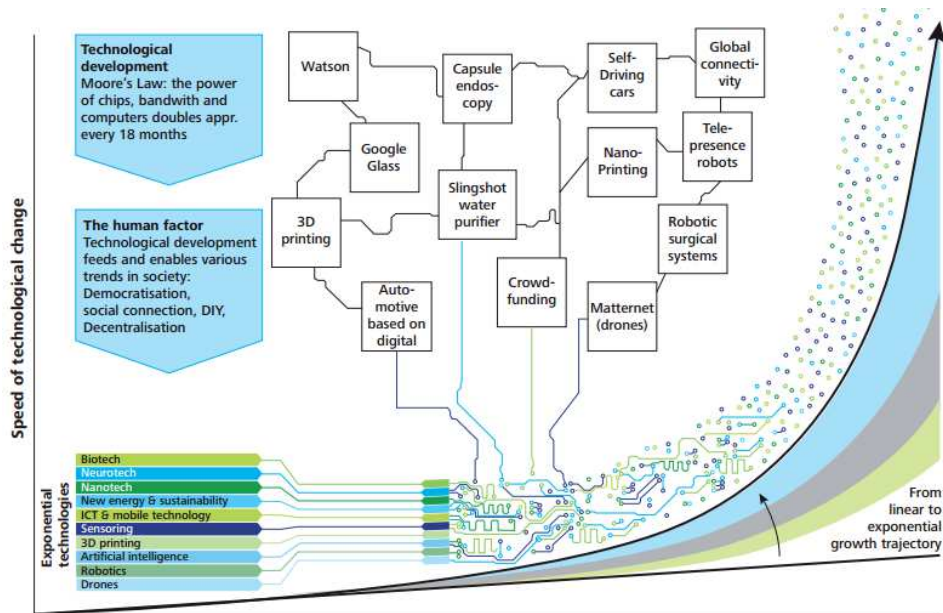
RAISING THE BAR. AGAIN.

✓ Automatic product
certification

✓ Schedule
optimization

✓ Material usage
optimization

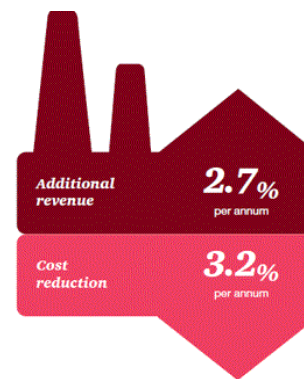
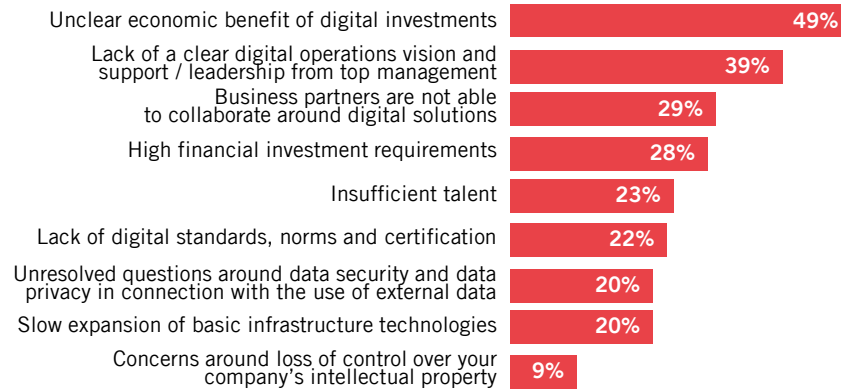
✓ Plant performance
measurement



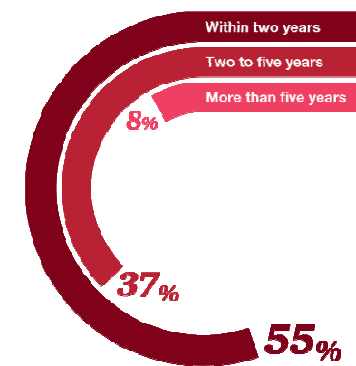
Keith Holliday is building smarter top drives for the oil industry



Rory Smith is connecting 1000 elevators a day to the cloud

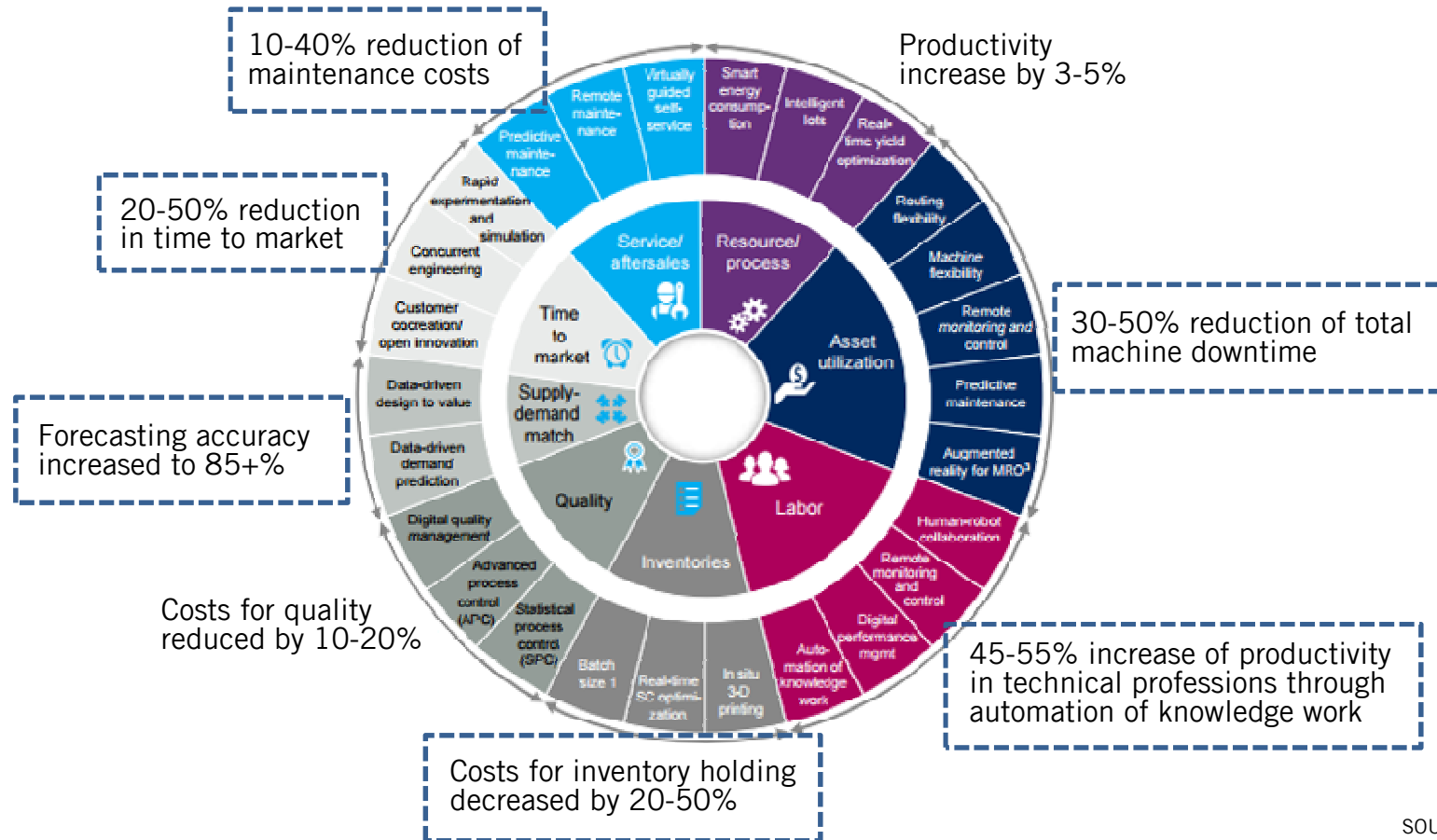


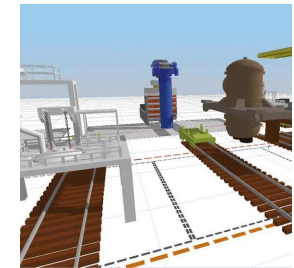
Expected benefits from digitalization over the next five years



Expected ROI on Industry 4.0 investment

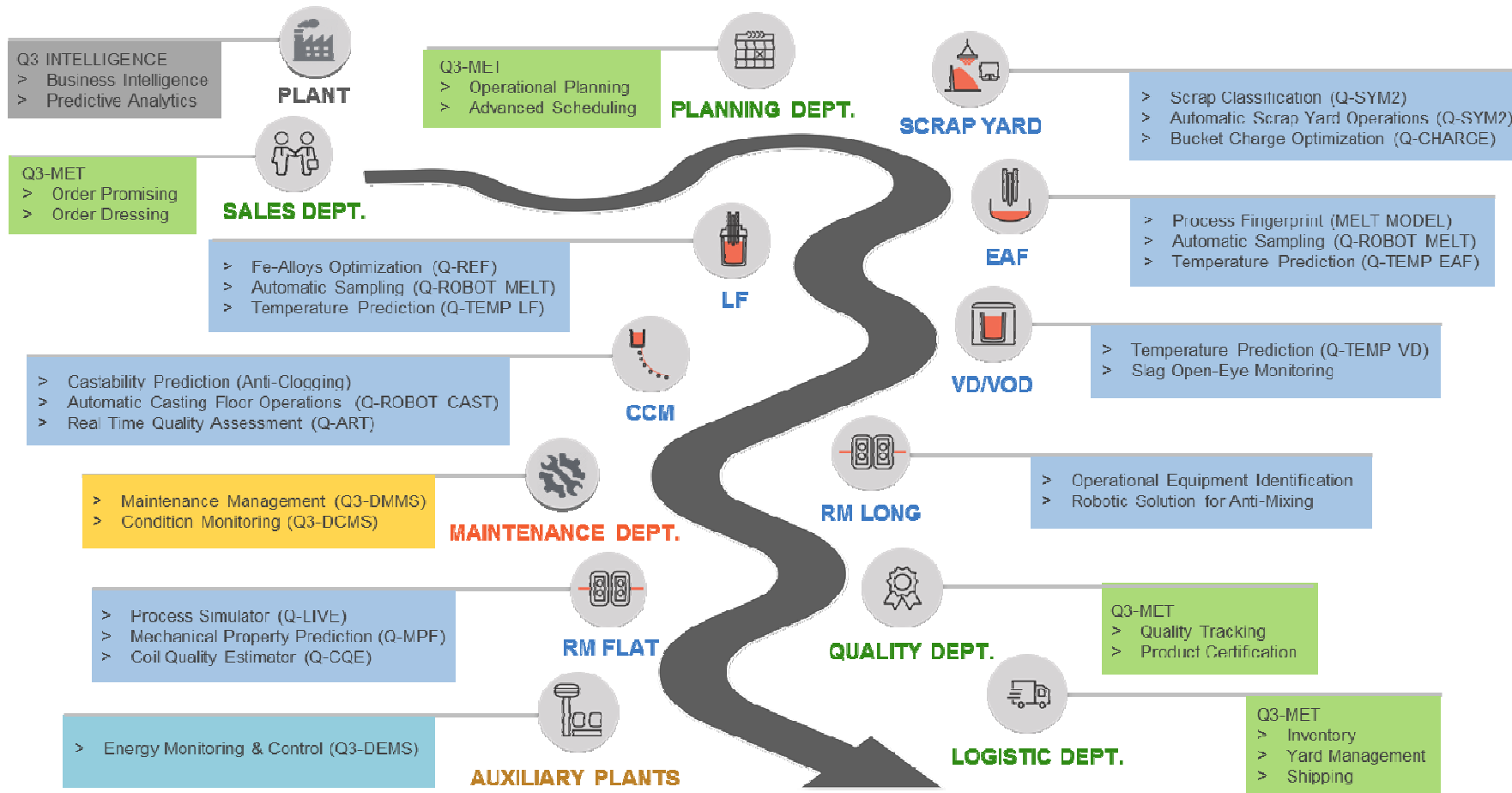
Source: PwC, "Industry 4.0: Building the Digital Enterprise – Metals Key Findings", 2016

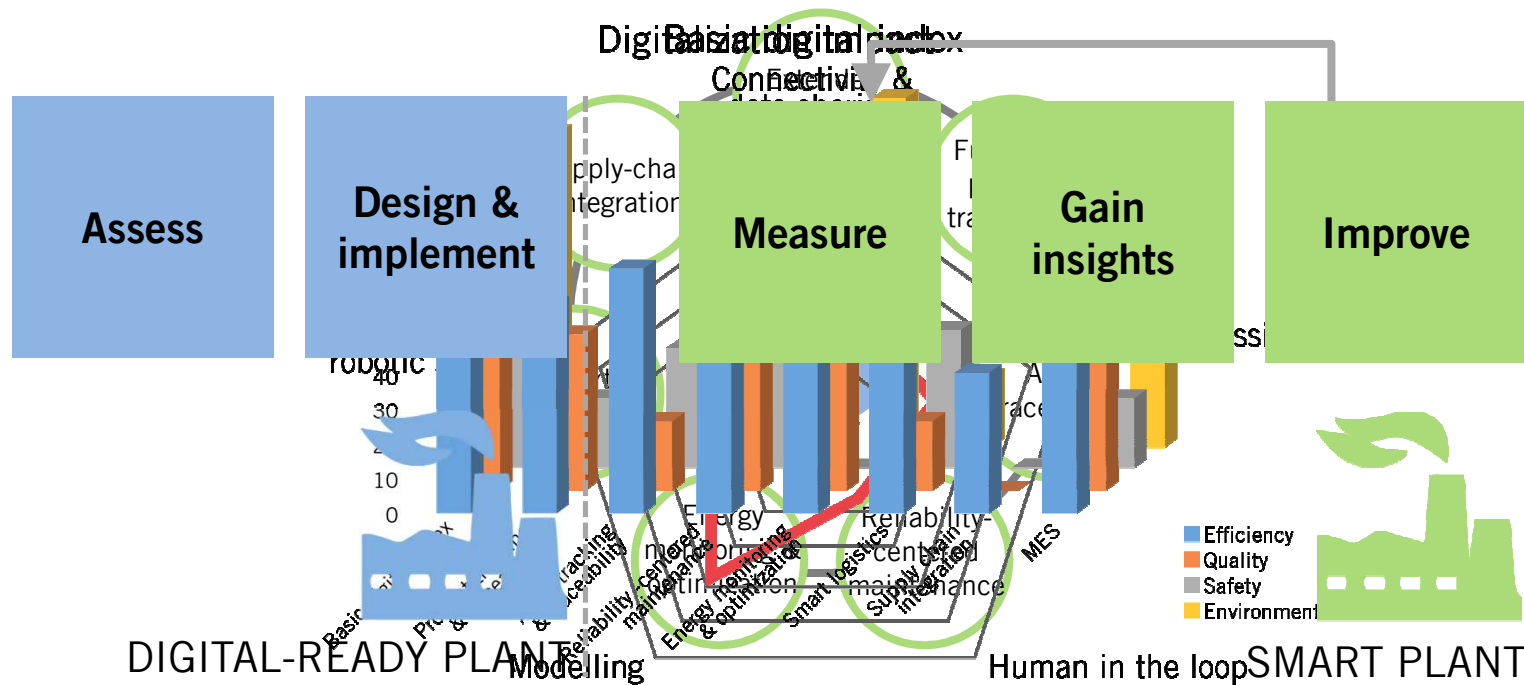


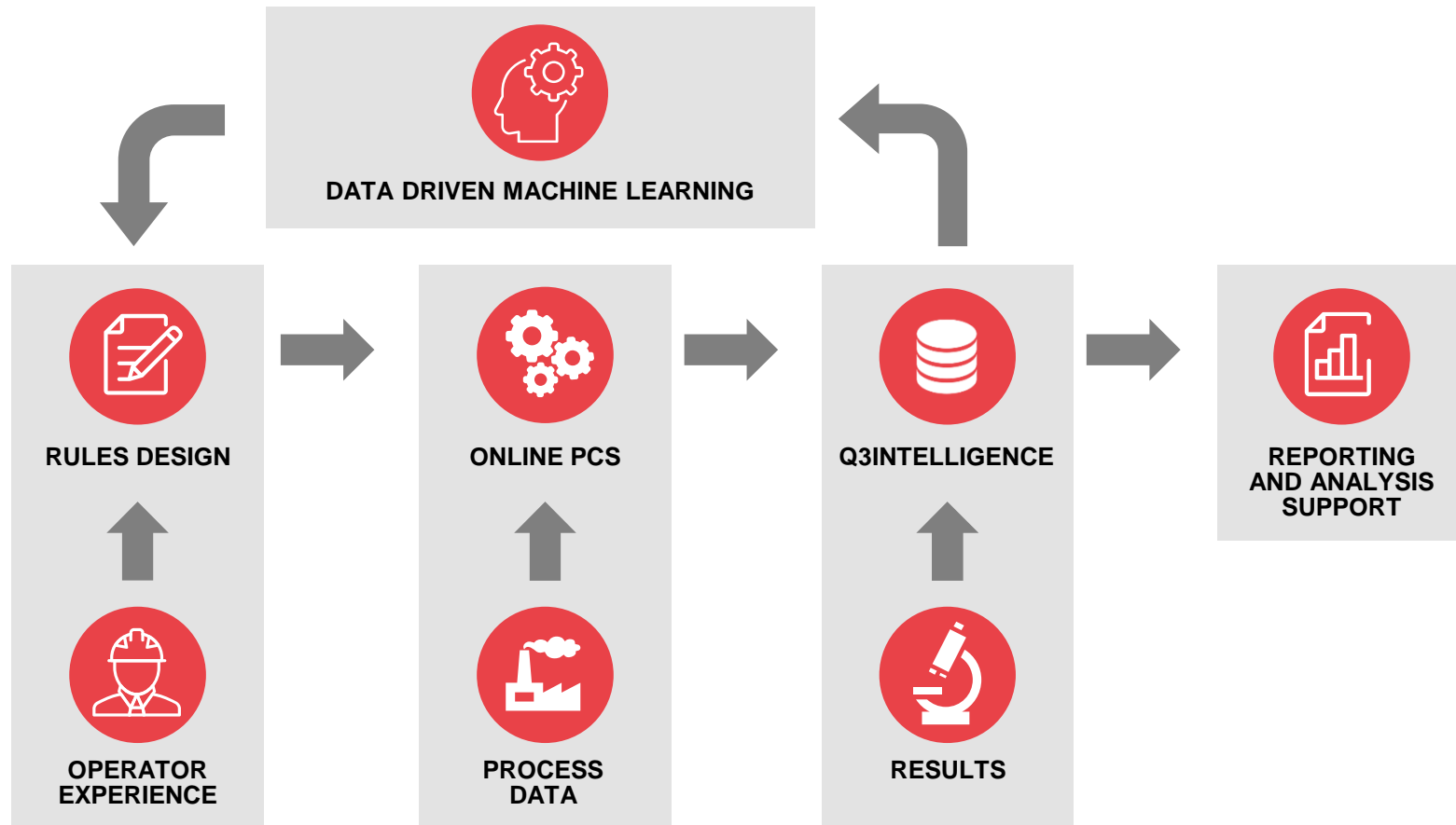


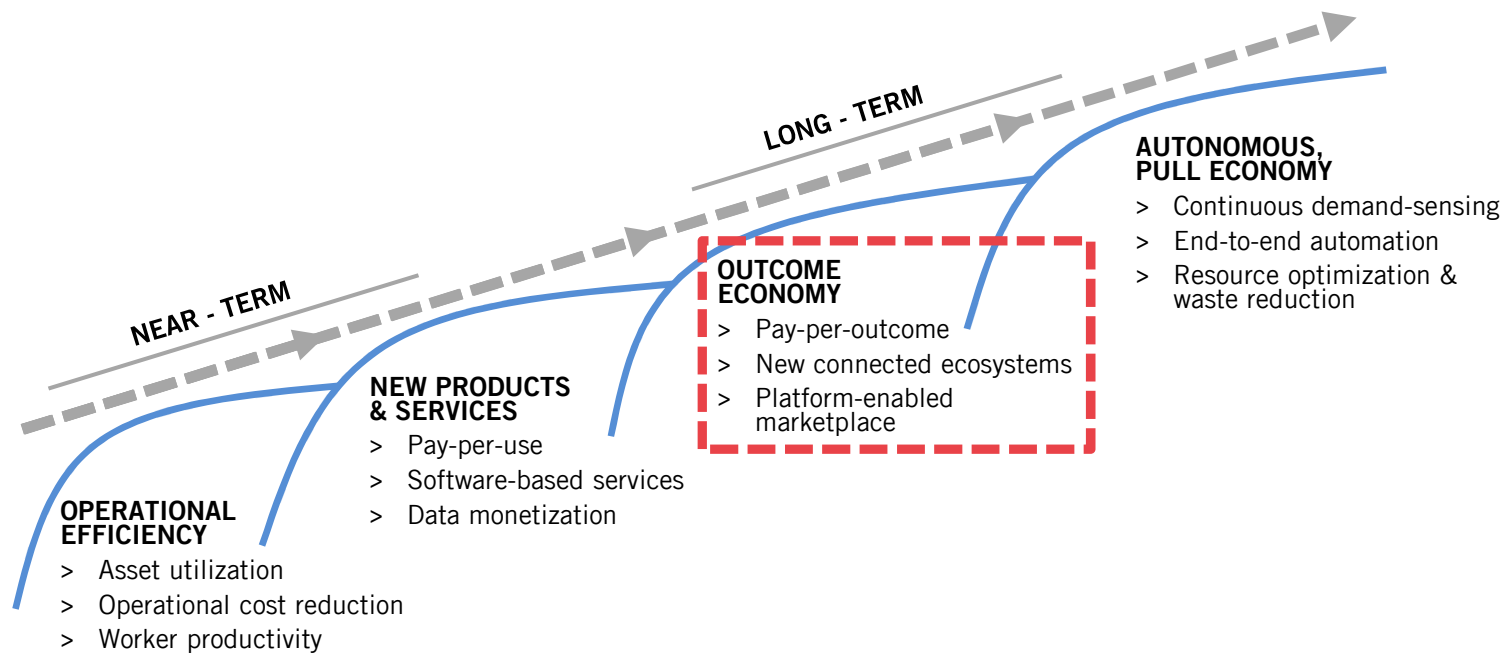
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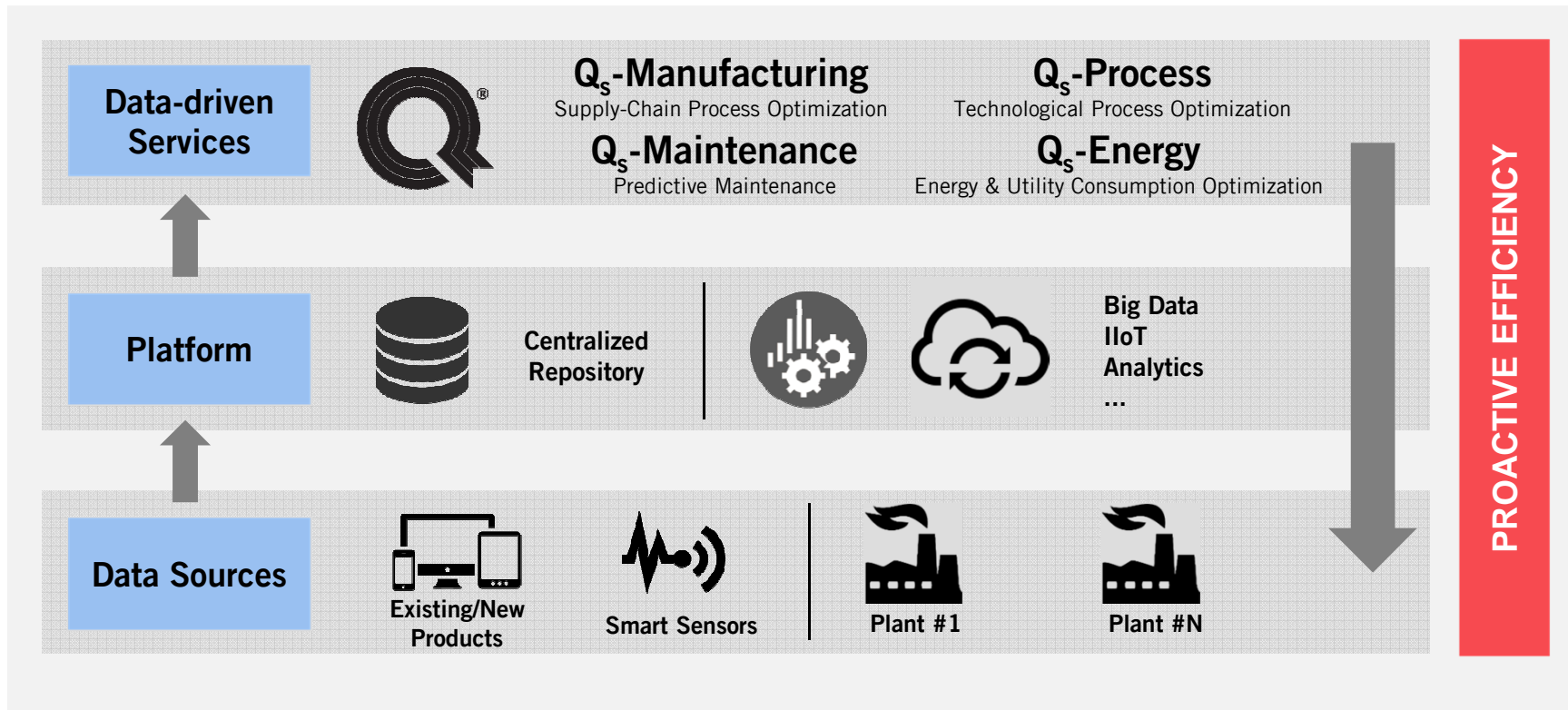
- > Easy process behavior understanding
- > Easy maintenance behavior understanding
- > Easy energy & utilities behavior understanding
- > Easy scenario analysis and understanding













Warren Weaver

“...the future of the world....requires science to make a third great advance, an advance that must be even greater than the nineteenth century conquest of problems of simplicity or the twentieth century victory over problem of disorganized complexity.

Science must, over the next 50 years,
learn to deal with these problems of organized complexity.”

...announced in **1948**

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FUTURE STEEL FORUM
WARSAW
14 – 15 JUNE 2017

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