VISION FOR INDUSTRIAL IOT

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1) McKinsey & Company, The Internet Of Things: Mapping The Value Beyond The Hype. Link

INDUSTRIAL REVOLUTION 4.0

1ST

1760'S

Steam, Water Mechanized Production

2ND

1860'S

Electrification, Oil, Mass Production

3RD

LATE 1900'S

Invention of the Electronic Systems

4TH

NOW

Invention of the computerized network

INTEL TECHNOLOGY FOR INDUSTRIAL IOT/INDUSTRY 4.0

Open Platform

built with interfaces and APIs that enable integration with legacy systems and devices and with platforms from multiple vendors.

Interoperability

is designed into IA CPUs to offer backward compatibility to help SW and application reuse thus reducing development time and resources.

Performance at the Edge

that enables near-real-time analytics, local decision making, and tighter process controls.

Advanced Security

for trusted data from edge to cloud and protection from costly attacks.

Scalability

for varying levels of gateway performance, with a broad range of support from Intel® Quark™, Intel® Atom™, Intel® Core™ and Intel® Xeon® processor D and E families.

Manageability

for secure remote upgrades and services.

Faster, More Flexible Deployment

with a platform that supports your choice of operating systems and ecosystem applications.

INTEL IS PARTNERING WITH THE ECOSYSTEM

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MANUFACTURING'S NATURE IS CHANGING




ANALOG OPERATED INDUSTRY

INSTRUCTION OPERATED INDUSTRY

SOFTWARE OPERATED INDUSTRY

DATA OPERATED INDUSTRY

WHAT IS AN INDUSTRIAL PC?

RUGGEDIZED DESIGN
WIDER OPERATING TEMPERATURE
EXPANSION OPTIONS
DUST/WATER /IMMERSION-PROOF
ENHANCED EMI FILTERING
INDUSTRIAL GRADE COMPONENTS

TYPICALLY LASTS 7-10 YEARS
PURPOSE BUILT FOR A FACTORY

Photo source: Intel® IoT Solutions Alliance Solution Directory

INDUSTRIAL MANUFACTURERS REQUIRE INDUSTRIAL COMPUTE TODAY

The plant floor is a source of, and is powered by, data

Optimized Production

An oil & gas refiner utilizes data collected through IPCs in the refinery & commodity market prices to now create a daily refining plan (was weekly)

Factories function more efficiently to reduce costs

Product Defect Detection

A manufacturer is using an IPC to detect product quality issues immediately – at the machine!

Manufacturing flexibility matches consumer demands

On-Demand Manufacturing

A FMCG company adjusts its mass-market production to switch products without line switching to match its digital strategy & grow revenue

Equipment management to improve quality

Predictive Maintenance

Semiconductor maker monitors vibrations on equipment fans to predict fan failures – realizes higher equipment reliability & higher product yield

CASE STUDY:
REPLACING LEGACY FACTORY IPC

A beverage company upgraded to Microsoft® Windows 10, maintaining its existing I/O cards and completing the transition in less than half the time estimated to create a custom solution.

A manufacturing company migrated its operations to a new, more reliable SCADA system while retaining their existing application software.

INDUSTRIAL EDGE COMPUTE IS TRANSFORMING

FROM THIS...

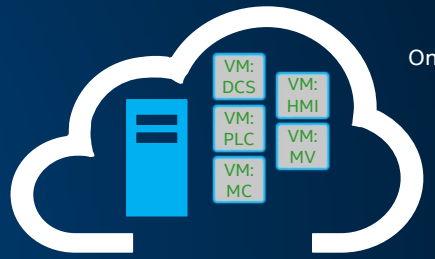
PROPRIETARY, SPECIALIZED, MONOLITHIC

TO THIS...

VIRTUALIZED, OPEN, INTEROPERABLE

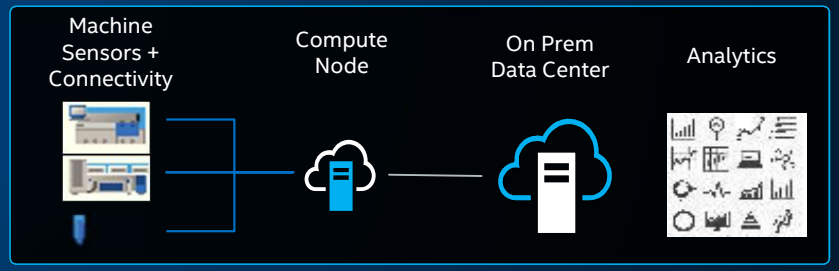
Control

DCS | PLC | HMI | Robotics | MV



On Prem Compute (Edge to Fog)

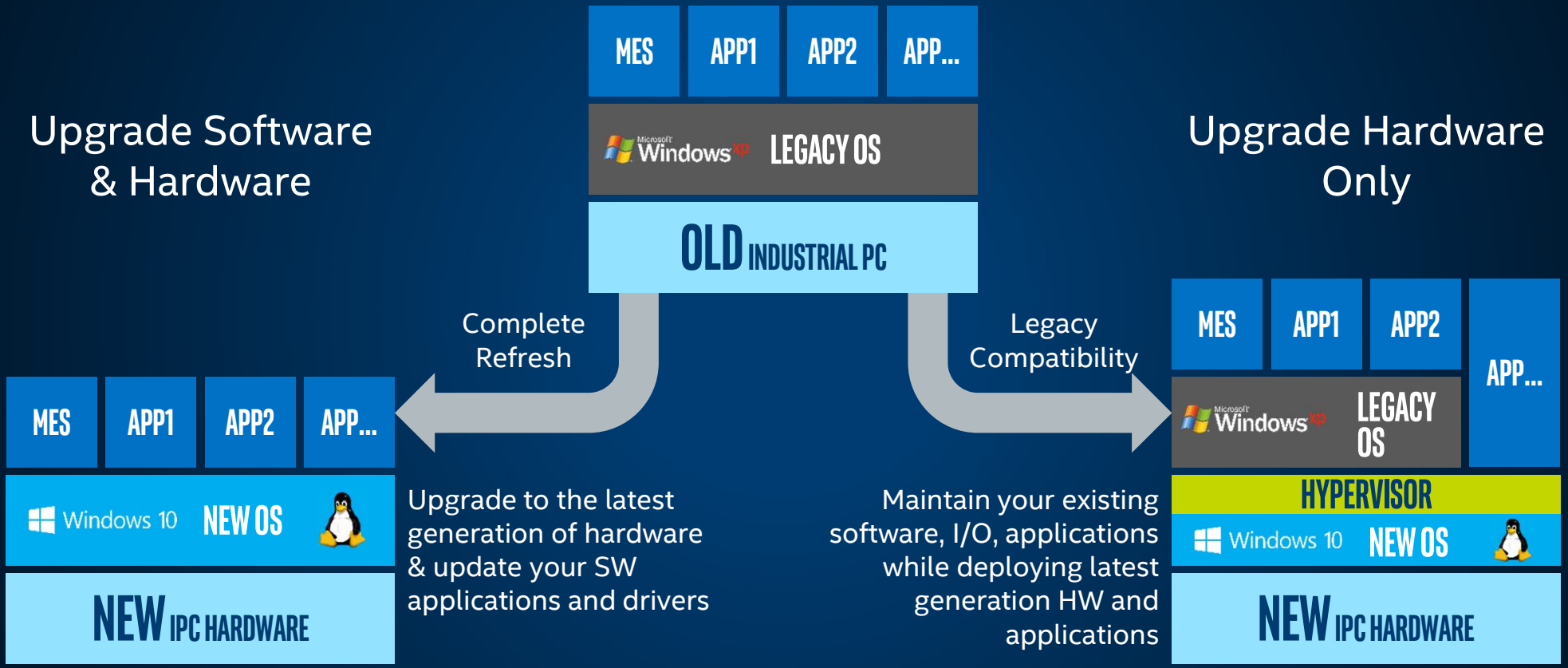
Analytics



ENABLED BY TECHNICAL PILLARS OF TRANSFORMATION

VIRTUALIZATION | SECURITY | SAFETY | ANALYTICS (AI) | MACHINE VISION | REAL TIME

TWO PATHS TO UPGRADE YOUR INDUSTRIAL PC



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PRODUCTION

Control & Automation

Improve Yield

Reduce Downtime

Optimization

QUALITY

Quality Management

Process Control

INVENTORY

Supply Chain Tracking

Location Sensors

MAINTENANCE

Scheduled Downtime Augmented by Sensor-based Monitoring

SAFETY

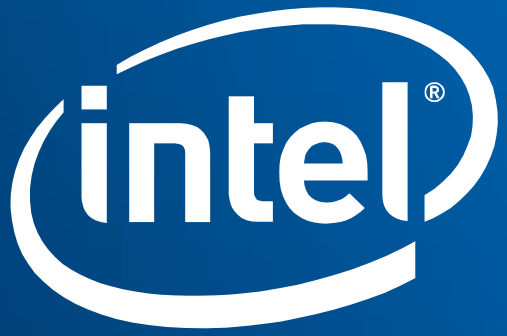
Worker Safety Program

Safety Tracked Offline

REGULATORY

System Compliance

Operational Conditions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