

# INDUSTRY 4.0 101

## AND 4 BENEFITS OF INDUSTRY 4.0-READY COMPRESSED AIR TECHNOLOGY

### The evolution of **INDUSTRY 4.0**

#### INDUSTRY 2.0

20<sup>th</sup> Century; the electricity powered era of mass production based on the division of labour

#### INDUSTRY 1.0

18<sup>th</sup> Century; the industrial revolution characterised by water and steam powered mechanical manufacturing

#### INDUSTRY 3.0

1970's; the further automation of mass production using industrial robots, electronics and IT

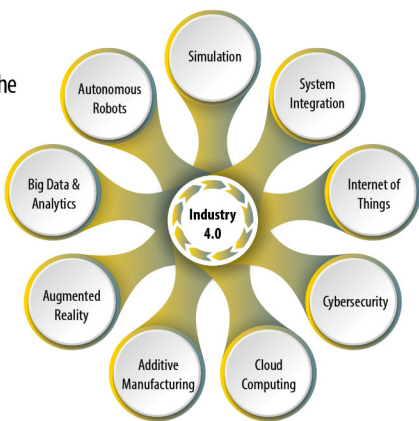
#### INDUSTRY 4.0

21<sup>st</sup> Century; smart manufacturing where all data and product flows are fully integrated through cyber-physical systems and the Internet of Things (IoT)

**DEFINITION:** Industry 4.0 is where "industrial production machinery no longer simply 'processes' the product, but that the product communicates with the machinery to tell it exactly what to do."<sup>1</sup>

### The **9 TECHNOLOGICAL ADVANCES** that form the building blocks of Industry 4.0<sup>2</sup>

Industry 4.0 will see the integration of all 9 technological advances with all areas of production



In the ultra-flexible Industry 4.0 production environment, intelligently networked compressed air systems provide the optimal compressed air power and quality required

### **4 KEY BENEFITS** of an Industry 4.0-ready compressed air system

**Exceptional efficiency through continuous real-time monitoring and optimisation;** which allows continuous energy efficiency optimisation of the entire compressed air supply

**Maximum availability through remote diagnostics, predictive maintenance and avoidance of critical situations;** as a result of networked predictive maintenance systems

**Real-time variable adjustment of compressed air control for individualised series production;** is possible with advanced and Industry 4.0-ready compressed air technologies

**Compressed air system management anywhere anytime;** thanks to the networking and connectivity of advanced compressed air systems

### What does **INDUSTRY 4.0-READY COMPRESSED AIR TECHNOLOGY** look like?

#### **SIGMA AIR MANAGER 2**

The central mastermind that controls the entire compressed air supply system

#### **KAESER DATA CENTER**

Via KAESER IoT (Internet of Things), data is streamed to the KAESER SIGMA SMART AIR application, where warning, maintenance, alarm & operational messages, as well as energy management, analyses and reports for optimised system performance are processed



#### **SIGMA NETWORK**

Fast, secure and future-proof, providing optimal monitoring & efficient control of the compressed air station



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References: <sup>1</sup>Germany Trade & Invest: Smart Products: Industry 4.0

<sup>2</sup>BCG: Industry 4.0: The future of productivity and growth in manufacturing industries

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