

# DJW Symposium

## “Smart Manufacturing with AI”

Düsseldorf, April 16<sup>th</sup> 2018

# A GLOBAL LEADING TECHNOLOGY SUPPLIER FOR THE AUTOMATION MARKETS



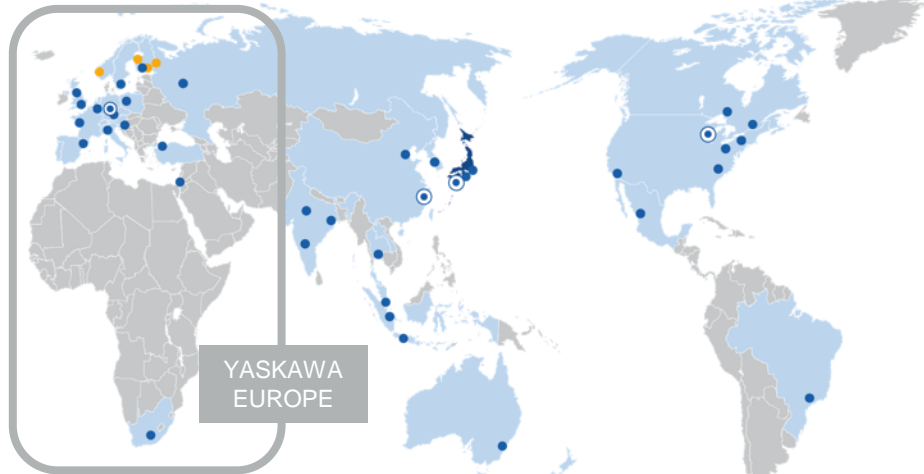
**€ 3,5 Billion**  
Sales p. a.



**> € 11 Billion**  
Market Capitalization



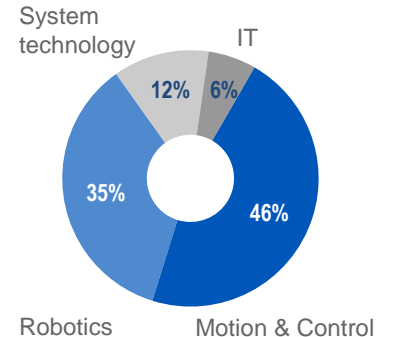
**14.500**  
Employees



## Regional presence

4 strategic business units:  
Japan, Asia (incl. China), America, Europe (EMEA)

## Split business units



3 times awarded  
**TOP 100 GLOBAL INNOVATORS**

(2015, 2016 and 2017)

**1915**

Development of motors for mining

**1950s**

Development of DC Minertia-motors

**1960s**

Launch of DC servo motors

**1970s**

Development of first MOTOMAN robot

**1990s**

Launch of frequency converters and AC servo drives & motors

**2000s**

Robot portfolio: >100 different robots

**2010s**

Introduction of dual arm robot and first matrix converter

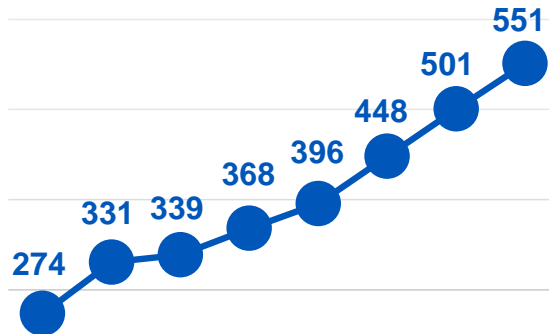
**YASKAWA**

**THE EUROPEAN  
AUTOMATION PARTNER**

# YASKAWA EUROPE (EMEA): DYNAMIC GROWTH



> € 550 Millions  
Sales p. a.



## Sales development

Fiscal year in million €  
2010 2011 2012 2013 2014 2015 2016 2017

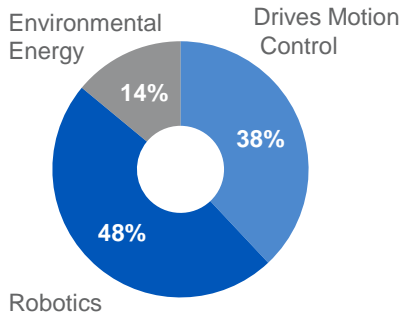


1.200  1.800  
Employee development



Development resources:  
> 350 engineers

## Split business units



Continuous sales growth:

> 10%

(CAGR)

## European development focus:



Technology

Micro chips, SoC, ASICs



Products

Inverters, Generators, Positioners, Motors



Application

Robot applications, Communication interfaces

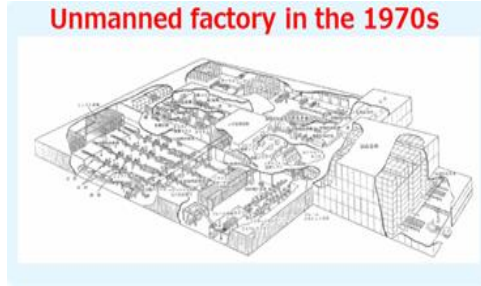
# From Mechatronics to i<sup>3</sup>-Mechatronics

**INNOVATIVE SOLUTION  
PHILOSOPHY**

Inventor of

## Mechatronics

Introduction of a  
holistic engineering philosophy  
(1969).

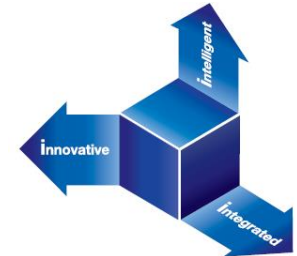


Yaskawa Electric proposed an innovative concept of “unmanned factory” back in the 1970s, where digitally controlled and digitally connected machines are working systematically. Yaskawa named the concept “**Mechatronics**”.



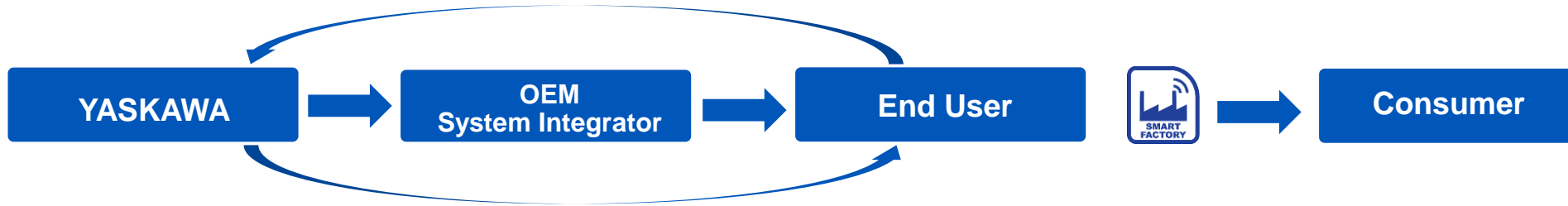
**i<sup>3</sup>-Mechatronics**

Realized in Smart Factories  
in Japan and Europe.



# NEW OPPORTUNITIES WITH DIGITALIZATION (AI)

## □ THE NEXT STEP IN PRODUCTIVITY GROWTH

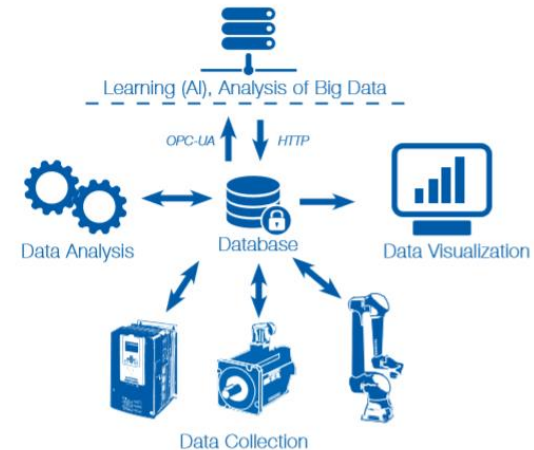


### Why I4.0 (AI):

#### Creating Values

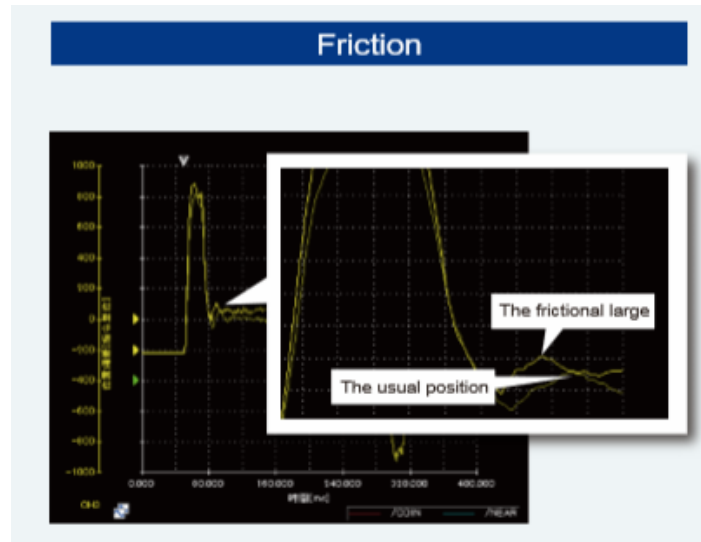
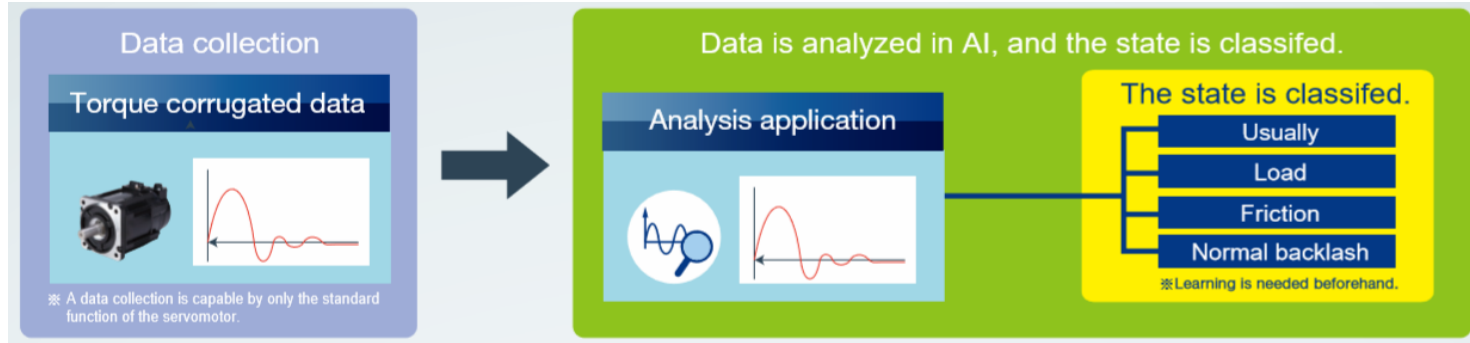
- Maximize Production Output
- BTO: Lot size 1 at mass production cost
- Reduce Changeover Time
- Improve Quality
- Increase Uptime
- Predict ...

### YASKAWA Cockpit Data Collection, Analysis and Visualisation



# NEW OPPORTUNITIES WITH DIGITALIZATION (AI)

## □ THE NEXT STEP IN PRODUCTIVITY GROWTH



**YASKAWA**

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