



DATALOGIC

THE VISION IS YOURS

Industrie 4.0 and "Mark & Read" la generazione del dato dal Manufacturing al Retail

Revisione 3

6 Settembre 2016

Chi è Datalogic

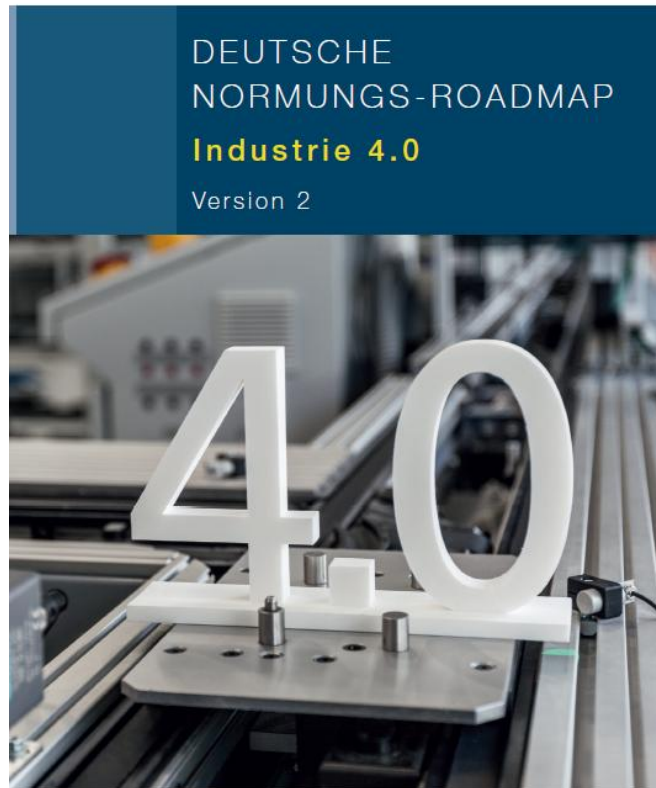


- Fondata nel 1972 a Bologna da Romano Volta
- Leader globale nell'Acquisizione Automatica dei Dati (ADC) e nell'Automazione Industriale (IA)
- Tra i maggiori produttori di lettori di codici a barre, computer manuali, sensori per la rilevazione, misura e sicurezza, sistemi di visione e marcatura Laser
- Focalizzata nell'industria manifatturiera, trasporto e logistica, nella distribuzione *retail* e nel medicale
- Fatturato 2015 di 535,1 M€ (73% ADC e 27% IA) in crescita del 15,2% sull'anno precedente
- 2500 dipendenti nel mondo, di cui 400 in R&S con un portafoglio di oltre 1100 brevetti internazionali
- Una presenza globale con sedi proprie in 30 paesi
- Quotata presso il segmento STAR di Borsa Italiana dal 2001, con il simbolo DAL.MI. e ha sede centrale a Lippo di Calderara di Reno (Bologna)

<http://www.datalogic.com/>

Industrie 4.0 = Standardizzazione dell'innovazione

DIN/DKE – Roadmap



DIN

DKE

VDE

*The aim of the initiative **Industrie 4.0** is to exploit the potential resulting from:*

- *the extensive use of the internet,*
- *the integration of technical processes and business processes,*
- *the digital mapping and virtualization of the real world, and*
- *the opportunity to create “smart” products*

*In order to address the **standardization** issues at an early stage, a roadmap has been compiled by the WG “Standardization Concept for Industrie 4.0” of the DKE**

*The future project Industrie 4.0 presented by the German Federal Government is intended to reflect the importance of **manufacturing** technology and the **ICT** sector which supports it [...] transforming mechatronic systems into **Cyber-Physical Systems (CPS)**.*

<http://www.din.de/blob/95954/42935f7a165f16e341967b8a9f91c026/aktualisierte-roadmap-i40-data.pdf>

Industry 4.0 — and What Exactly Is New?



In a statement for AICHEM worldwide News, Dr. Eberhard Veit, Chairman of Festo (till 2016) and Managing Partner of 4.0-Veit; Head of Advisory Board “Plattform Industrie 4.0 der Bundesrepublik Deutschland”, looks into what exactly is new with Industry 4.0 in a special way.

“Not long ago I met four children (one girl and three boys) aged 6–7 that showed great interest in technology. After exchanging a few words we also touched the subject what “Industry 4.0” actually is.

I quickly explained the topics around digitization, networking, new interaction with machines (man-machine interface), the possibility of worldwide 24/7 remote access for better business deals and also new business models — at this point I was interrupted by the four children that had listened carefully up till then.

So, what exactly is new with Industry 4.0?

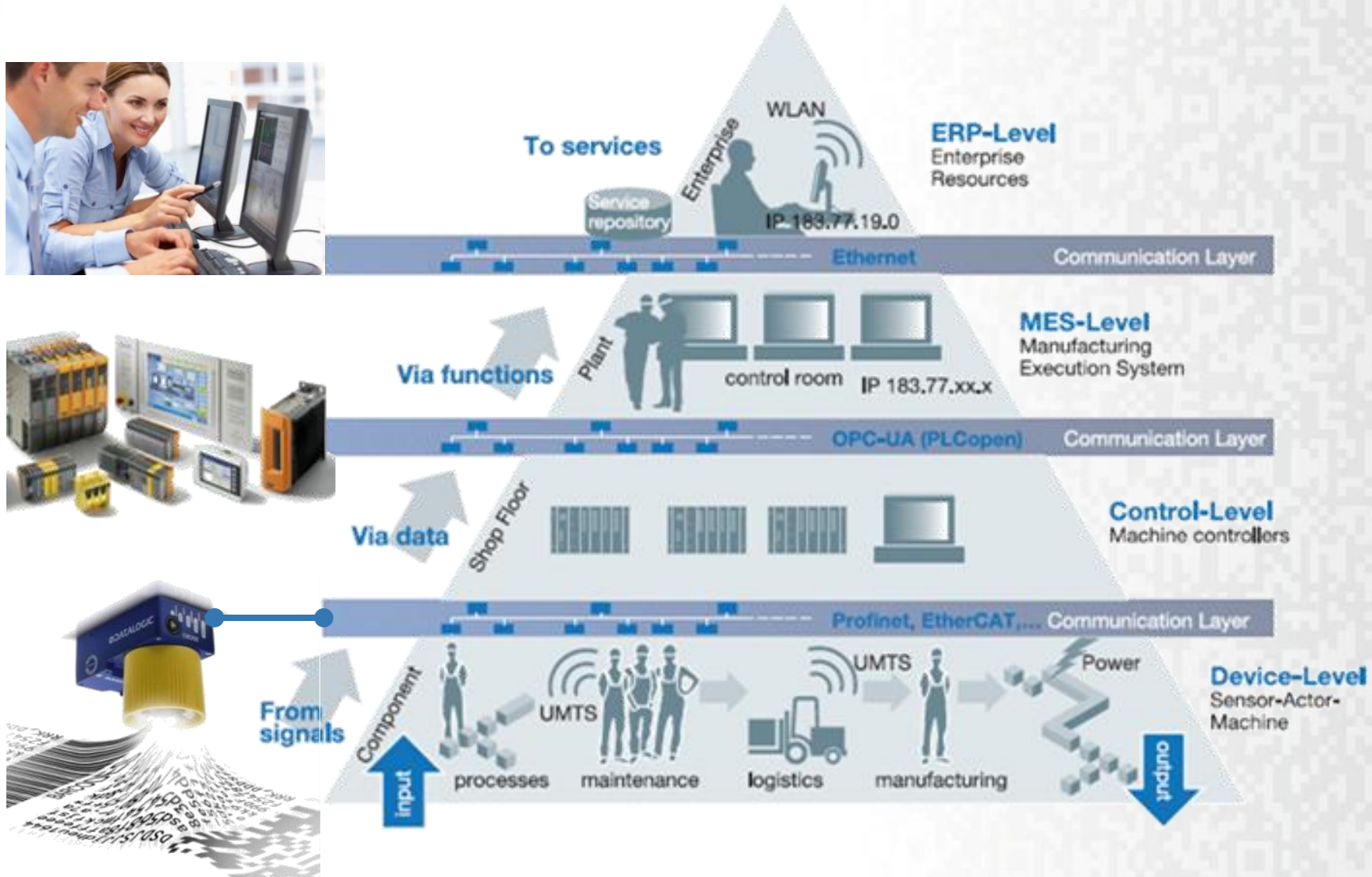
As member of the advisory board of the platform Industry 4.0 I had a hard time with argumentation which techniques are actually new, or if they simply had to be transferred to industrial production.

And now what!? — Are we really in the midst of a revolution or evolution with Industry 4.0 or are we, as the children concluded, just in a catch-up or transfer process of well-known modules?

[...] Swabian saying “*don’t just talk, act*”, and maybe answers to these questions then will pass my lips easier in two years’ time!”

<http://www.process-worldwide.com/industry-40-and-what-exactly-is-new-a-52376>

Livelli di integrazione e strati di comunicazione



<http://machinedesign.com/sensors/plcopen-opc-ua-function-blocks-simplify-packaging-machine-communications>

Tecnologie Datalogic per la generazione del dato

Tipologia e funzione del dato	Prodotto e tecnologia		Interface/protocol Industrial Ethernet
Marcatura dati di prodotto o processo produttivo	Marcatori Laser 		Ethernet TCP/IP EtherNet IP Profinet
Rilevazione dati di prodotto o processo produttivo	Lettori di barcode, Terminali Portatili, Sistemi di visione 		Ethernet TCP/IP EtherNet IP Profinet
Scrittura e lettura dati di prodotto o processo produttivo	Lettori e TAG RFID 		Ethernet TCP/IP
Rilevazione di presenza oggetti e anti-infortunistica	Sensori fotoelettrici Sensori di visione Barriere di sicurezza 		EtherNet/IP IO-Link to Profinet Powerlink
Rilevazione di caratteristiche fisiche	Sensori di colore Sensori dimensionali Sensori di visione 		EtherNet/IP EtherCAT IO-Link to Profinet

Esempi pratici di soluzioni per la Manifattura 4.0



Dieci cose da fare a SPS Italia 2016

Fare un giro nell'Area demo Know How 4.0, Pad. 4, dopo l'ingresso in Fiera, dove le idee prendono forma e si potranno vedere 'dal vivo' alcuni progetti in atto e possibili soluzioni operative legate ai temi della 'Manifattura 4.0'.

Nell'area dimostrativa **Know how 4.0** innovazione e tradizione si legano per creare una visione 4.0 dell'automazione. Il progetto è stato curato da [Giambattista Grosso](#), Dipartimento di Elettronica Informazione e Bioingegneria del Politecnico di Milano e vuole offrire lo spunto di riflessione e aprire un dibattito sulle potenzialità del 4.0. **Un esempio?**

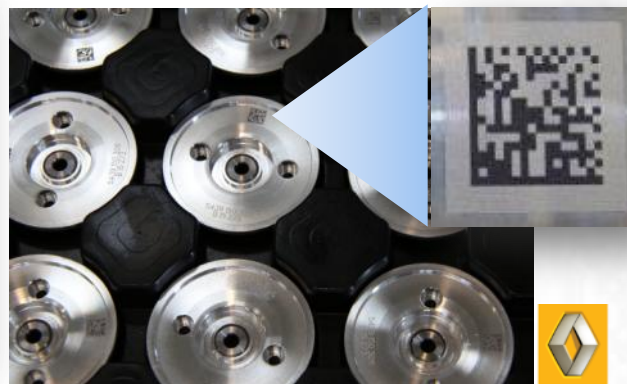
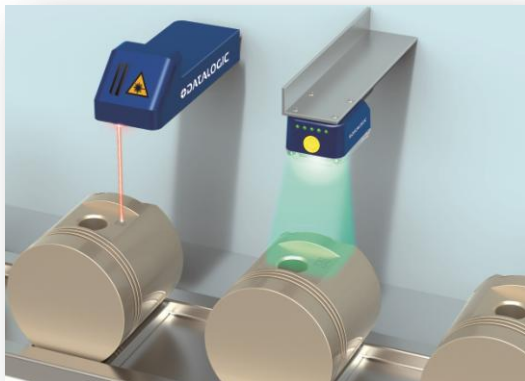
Comau, B&R e Datalogic hanno unito le rispettive competenze e mostrano in fiera una [soluzione sotto il segno di Industria 4.0](#), che sfrutta le informazioni disponibili dai sempre più numerosi dispositivi intelligenti in campo, integrando tutte le parti dell'automazione tramite uno standard di comunicazione aperto come **Ethernet Powerlink**.

http://automazione-plus.it/dieci-cose-da-fare-a-sps-italia-2016_83960/

Mark & Read

Generazione e integrazione dei dati nel Manufacturing

- **Direct Part Marking** (DPM) is a process for imprinting a data on an item, replacing ink printing, labels or other less durable technologies
- **2D codes** (Datamatrix) are used in most of DPM applications and industries, such as Automotive parts manufacturing, assembling and post-sales service
- Datalogic's **AREX** compact pulsed fiber laser marking system is used to **“WRITE”** the 2D code on any plastic or metal mechanical part
- Datalogic's **T47** Smart Cameras or **Matrix 300** Imager are used to **“READ”** the Datamatrix code and transmit the information on an Ethernet port



OCR, Barcode e QRcode

Tracciabilità alimentare dal produttore al consumatore

- **Food safety** directives require a full **traceability** from the manufacturer to the consumer and Datalogic is the global leader for automated data capture
- **Optical Character Recognition (OCR)** has been used for human readable information of Expiry date (i.e. best before), Lot number, Production Plant
- **1D Barcode** is still the most diffused carrier for product information when it is necessary for automated data capture in manufacturing and logistics
- **Quick Response Code (QRcode)** is being more and more adopted to store information for smartphones and **JOYA** Datalogic pod for self-shopping



ESSELUNGA

Pharmacode Datamatrix

Aggregazione, serializzazione e tracciabilità del farmaco

- **Pharma** industry requires strict quality control, serialization, track and trace along the supply chain, where Datalogic is present with many applications
- One of main requirements in manufacturing control is the **Aggregation** of pharmaceutical product - instruction sheet - packaging - bundling – packing
- Many countries are adopting **Pharma Traceability** measures according to local regulations; Italy is adopting the Italian “bollino” 9 digits AIC code
- European directives about **Serialization** are driving, by 2016, Pharmacode 1D evolution to GS1 2D Datamatrix **Serial Global Traded Item No. (SGTIN)**



Thank You!

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