



Industrial Strategy

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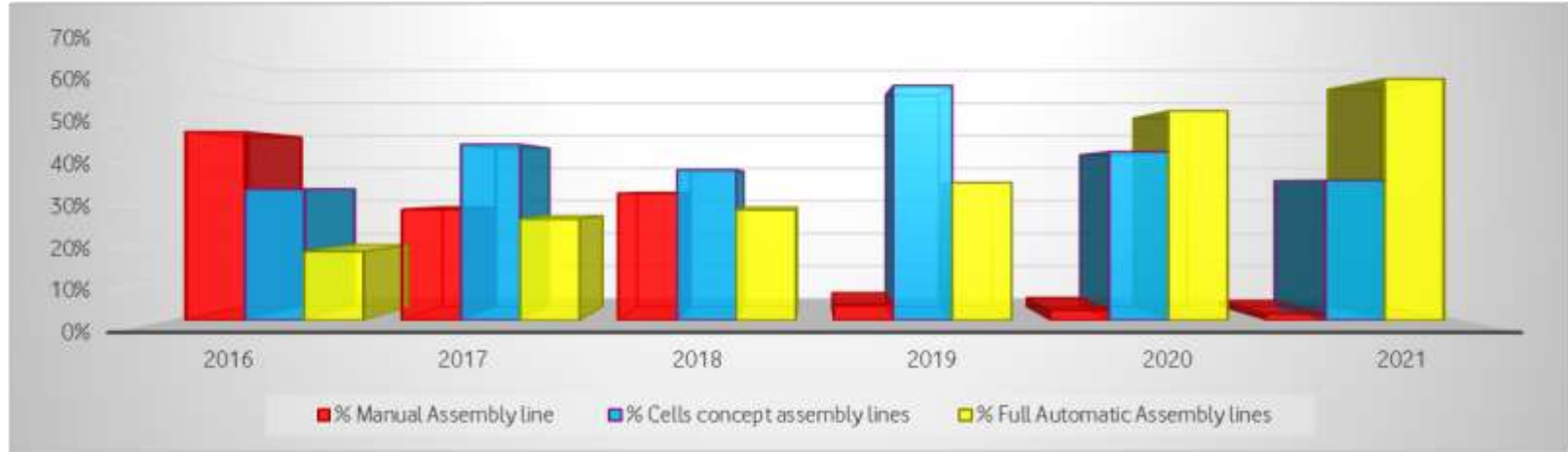
28 February 2018





Industrial foot print Road Map

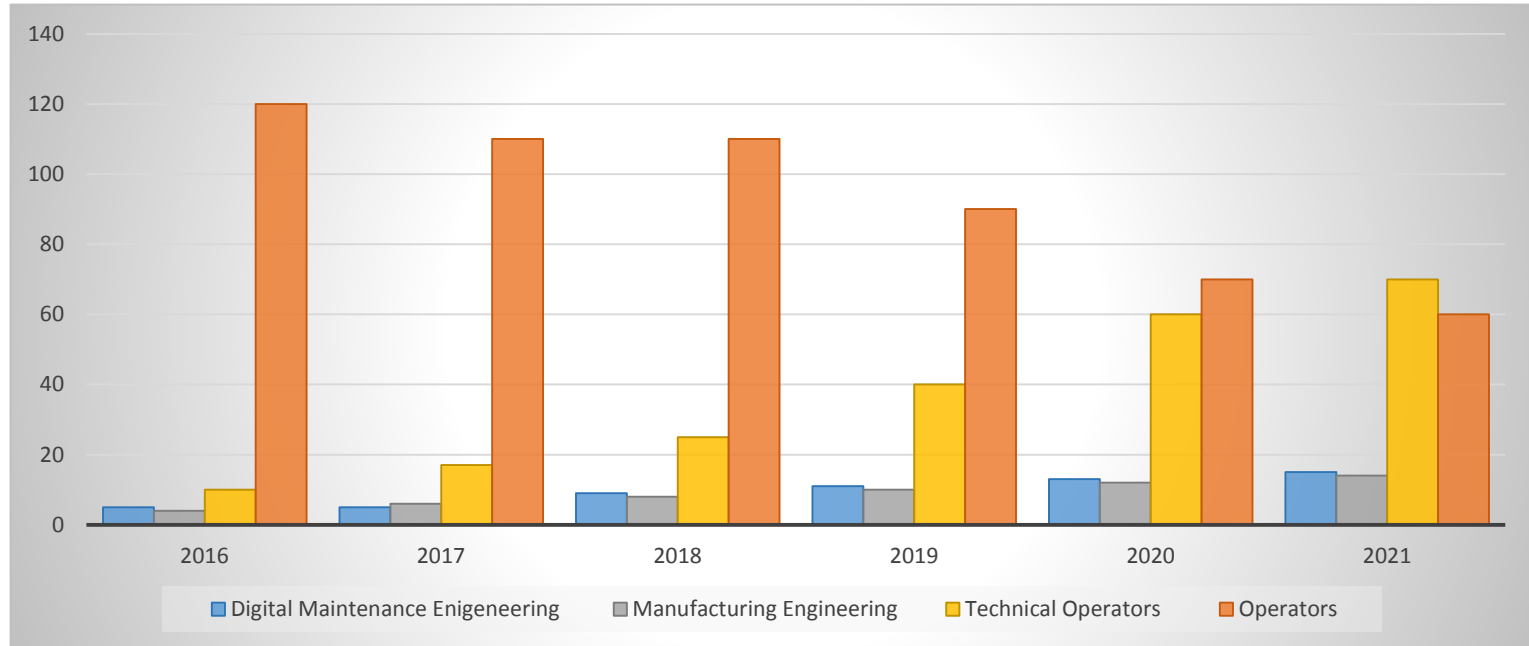
Industrial Foot Print – Road Map



Lean Manufacturing Methods: 5S and layout redesign (spaghetti chart, Etc..), one piece flow (Cell ASM),
New Maintenance approach applying the TPM and Product and ASM process have been Redesigned for Manufacturing and Automation



New Manufacturing Skill required



Main Changing to be managed:

Manufacturing Organization must be able to manager the new Production Capability to add and/or changing the current skills into Industrial technical Skills (Industrial School background).





Integrated Manufacturing Project

The 5 pillars to delivery Industrial 4.0



Equipment and Process Connectivity

New Equipment Generation

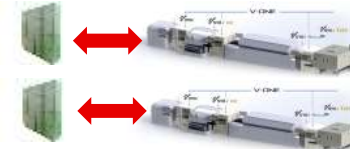
On Going

1 - Equipment Process Connectivity

1 Qrt 2018

2 - Equipment Process Connectivity

1 Qrt 2018



Automation and Robotics

Equipment and Processes Connectivity

Scope

- Implemented new equipment generation industrial 4.0 compliance started on 2016 after Vodafone acquisition of Cobra (2015)

Goals

- Production output: **+ 10%**
- Maintenance reduction Task **- 40%**
- Energy saving: **- 10%**

Scope

- Automatic quality closed loop with Digital Intelligence embedded
- First ASM line installed in Italy designed on Automotive specification (Project Started on 2016 jointly with Supplier)

Goals

- Quality yield improvement: - 50%) (from **60 ppm** to **30 ppm**)
- Reject parts due to Soldering: **Zero Defects**

Scope

- Electronics Components storages automatic linked with SMT Assembly line.
- First Automatic Storages designed on Vodafone Automotive Specification

Goals

- Removed the manual operation storage management
- Quality improvement: **Zero** defects due to human error
- SMT Operating Cost reduction: **-2%**



...To Integrated Manufacturing



**People Skills/
competences**

**Digital KPIs
Management**

People & Skill Competences

2 Qrt 2018



Scope

- On daily Kaizen process
- Digital KPIs directly from the production lines
- Skills and Competence assessment Vs "Impresa 4.0"

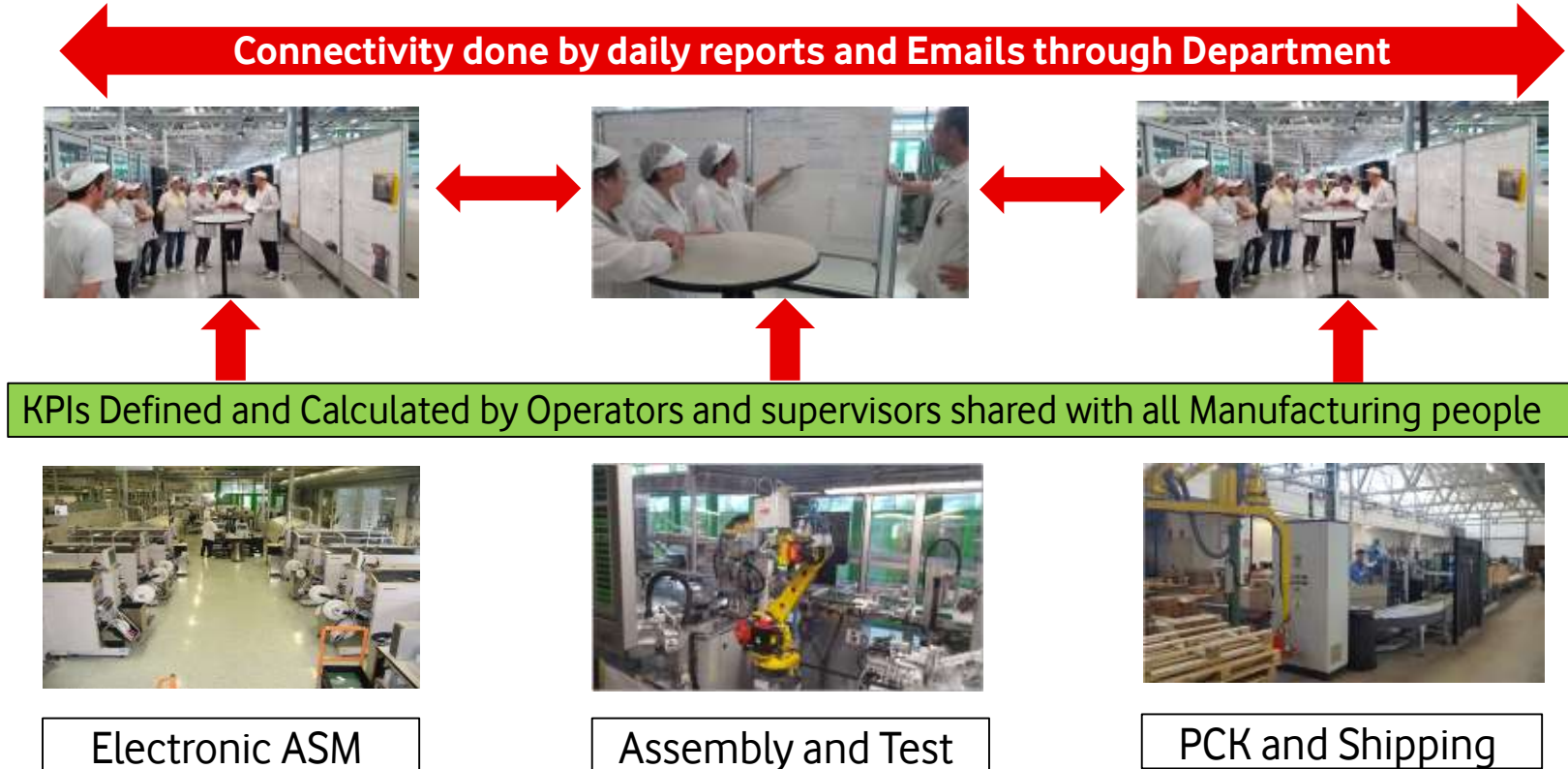
Goals

- People Engagement
- Productivity improvement
- Reviewed Organization and Skills "Impresa 4.0" Compliance



Horizontal connectivity Managed by operators as team leaders

STEP 1 - Kaizen KPIs approach since 2016



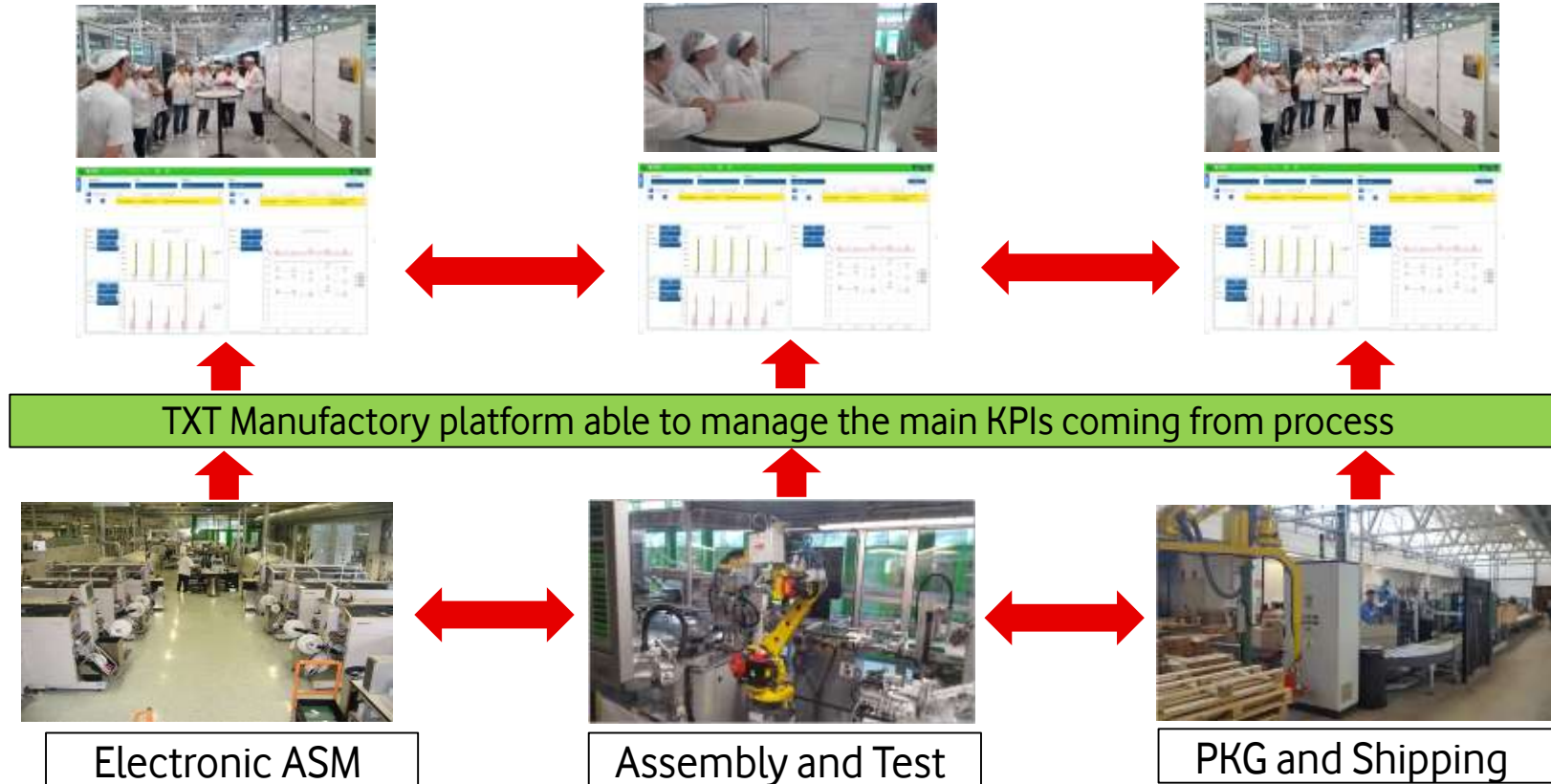
Benefits Step 1

- ❑ High level of KPIs knowledge by the Operators and supervisor
- ❑ High level of people engagements reached (Top ranking in Vodafone – 2017 Survey Results)
- ❑ To have the all operators people «on board» on the everyday Manufacturing facts...



Horizontal connectivity Managed by operators as team leaders

STEP 2 – Kaizen Approach by Digital KPI



Benefits Step 2

- ☐ High level of KPIs knowledge by the Operators and supervisor
- ☐ High level of people engagements reached (Top ranking in Vodafone – 2017 Survey Results)
- ☐ To have the all operators people «on board» on the everyday Manufacturing facts...
- ☐ Automatic Kips coming directly from the main process/equipment in real time
- ☐ Dashboard customized with possibility to create analysis by themselves
- ☐ Responsive application available for whiteboard, desktop, tables and mobile platform
- ☐ Real Time Issues and Warning Management

Manufacturing people remain the main actors of the process using the digital connectivity



...To Integrated Manufacturing



**Digital Product
& Industrial
Development
Process**

**Integrated
Manufacturing**

People & Skill Competences

2 Qrt 2018



Scope

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- Digital KPIs directly from the production lines
- Skills and Competence assessment Vs "Impresa 4.0"

Goals

- People Engagement
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Smart Factory

1 Qrt 2019



Scope

- Shop Floor Control Implementation MES (Manufacturing Execution System) industry 4.0 compliance
- WMS shop floor integration

Goals

- Full Horizontal Connectivity
- Digital Equipment Maintenance
- Improve Efficiency and productivity

Integrated Manufacturing

2020/21



Scope

- Digital Product and Process Development
- PLM (Product Lifecycle Management) implementation
- Supply Chain Web Portal

Goals

- Time to Market Improvement
- Product and Industrial Competitiveness
- Cost Reduction





Thank you