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# Visteon Electronics Slovakia, s.r.o.

## Namestovo Plant interview

November 2024

visteon.com

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# SLOVAKIA – GENERAL INFORMATION

# Slovakia - Key Facts

## STRATEGIC POSITION AND EUROZONE MEMBER

**EURO €**
**since 1 January 2009**

- One of a few in CEE
- Euro implementation impact:
  - Limitation of Foreign Exchange Risk
  - Lowering Transaction Costs
  - Growth in Foreign Trade
  - Increased Economic & Financial Stability
- Favorable conditions for long-term business decisions


# Slovakia – Key Facts

The automotive industry has a strong tradition in Slovakia and became the most important sector and driving force of the Slovak economy. Over the past 30 years it has been an important source of foreign direct investment as well as industrial innovation.

**176,000** People employed directly by the 4 car producers & Tier 1 suppliers

**261,000** People employed directly & indirectly by the automotive industry

**13** Electric & Plug–in Hybrid Electric models being produced in Slovakia — 4 BEV (including planned Volvo and Porsche) & 9 PHEV*

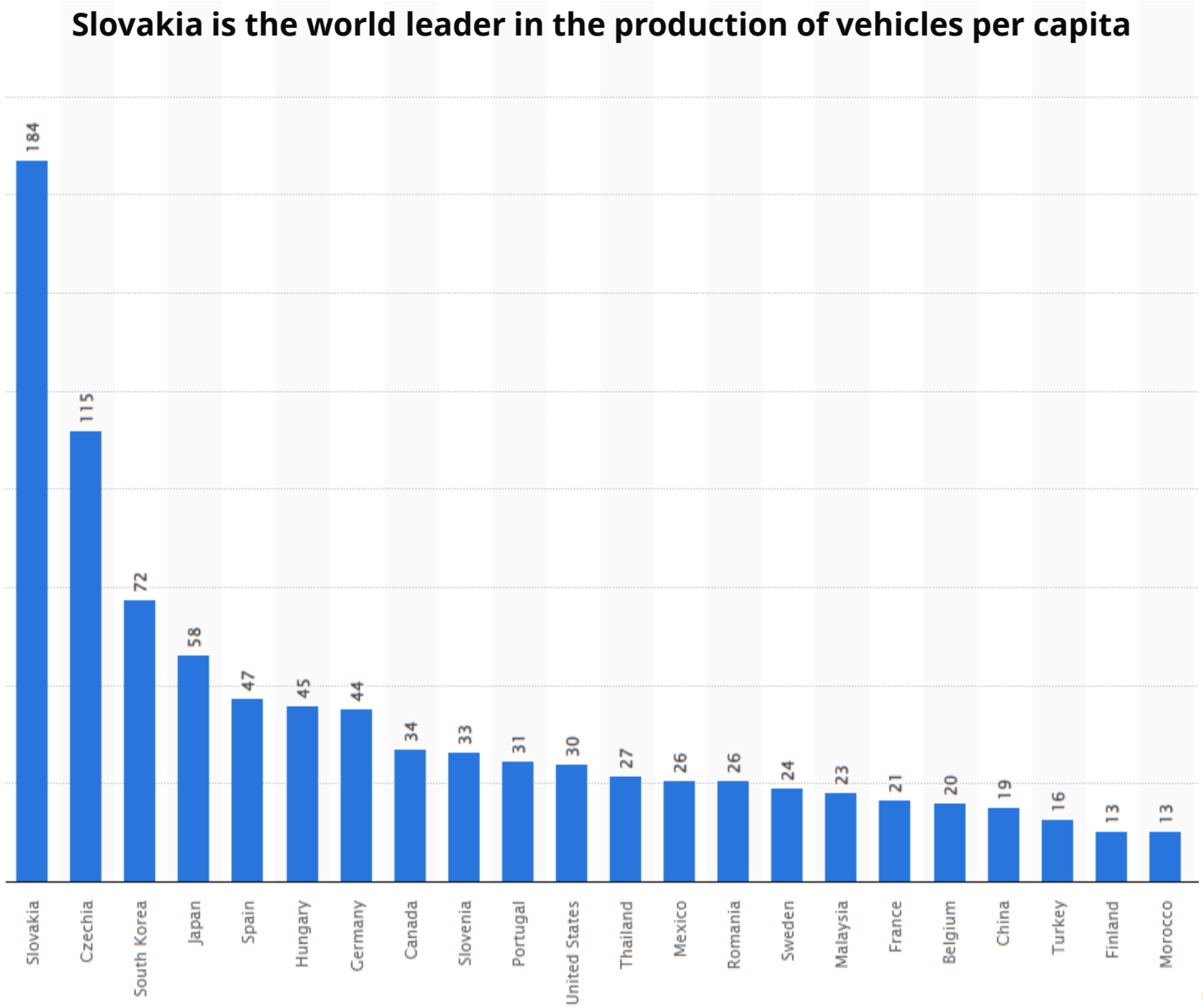
**50%** Share of the automotive industry on total industrial production

**11%** Share of the automotive industry on the GDP of Slovakia

Note: PHEV: Plug-In Hybrid Electric Vehicle, BEV: Battery Electric Vehicle;
Source: SARIO, Financial statements of the respective car producers (2022); Automotive Industry Association of the Slovak Republic ZAP SR (2022); Automobile Industry Pocket Guide 2022—2023

## Growing Car Production

**Slovakia is the world leader in the production of vehicles per capita**

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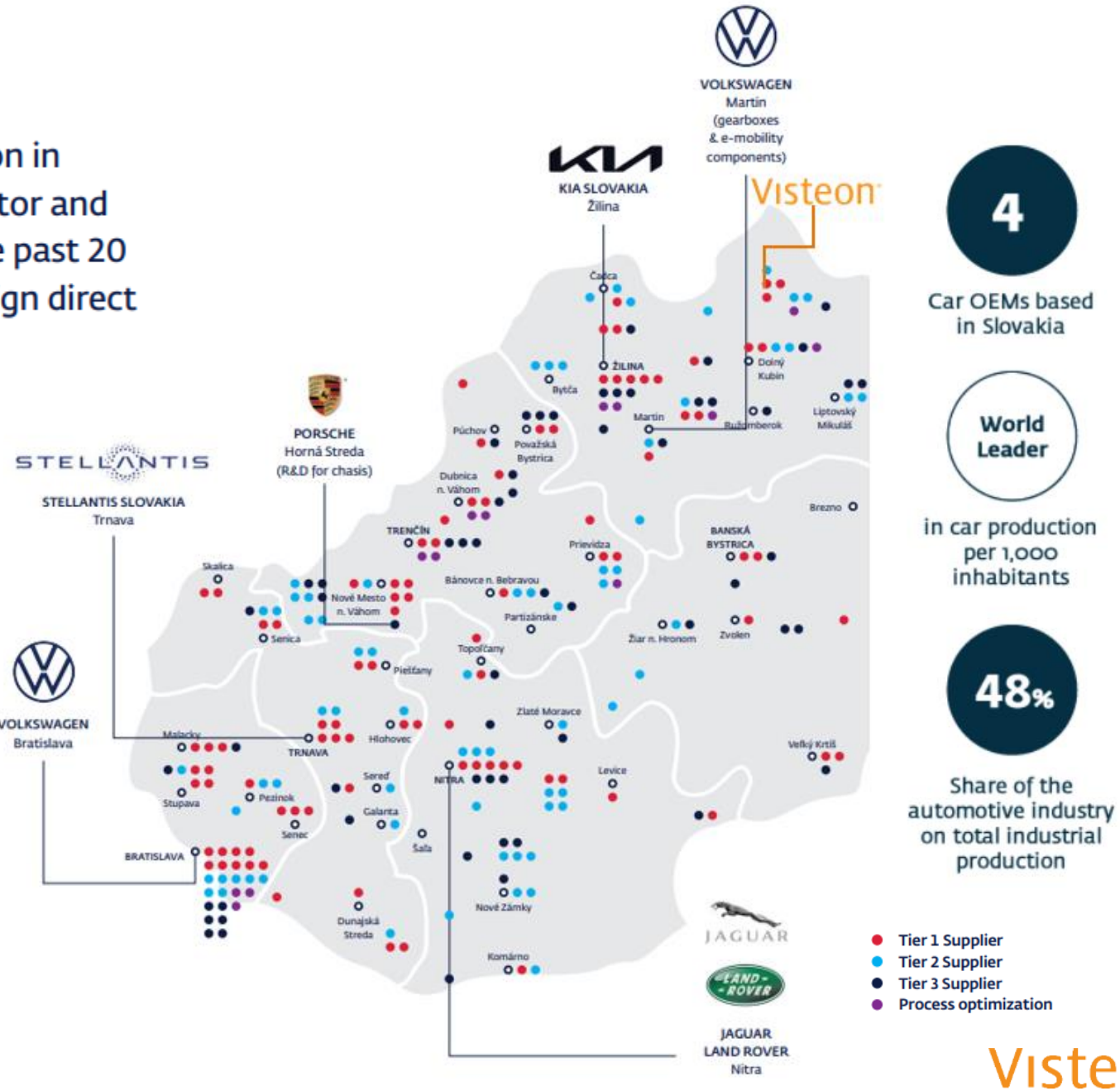
# Slovakia – Key Facts

The automotive industry has a strong tradition in Slovakia and became the most important sector and driving force of the Slovak economy. Over the past 20 years it has been an important source of foreign direct investment as well as industrial innovation.

## Automotive Suppliers in SLOVAKIA

Apart from the four operating carmakers, the Slovak automotive industry is also defined by its well developed and high quality supplier network. As Slovakia is well located within the European automotive production hub, Tier 1–2 suppliers can also benefit from a wider regional market. Given its favourable conditions, numerous companies have also chosen Slovakia for supplying overseas clients.




**4**
Car OEMs based in Slovakia

**World Leader**
in car production per 1,000 inhabitants

**48%**
Share of the automotive industry on total industrial production

- Tier 1 Supplier
- Tier 2 Supplier
- Tier 3 Supplier
- Process optimization

# Slovakia – Key Facts

## Car Producers in Slovakia

**VOLKSWAGEN SLOVAKIA**
Year of establishment: 1991
Production (2020): 309,348 vehicles
Turnover (2020): € 9.8 bn
Number of employees (2020): 11,500
Models: Škoda Karoq, Audi Q7, Audi Q8, Porsche Cayenne, Porsche Cayene Coupé, Volkswagen Touareg, Volkswagen up!, Škoda Citigo, Seat Mii, (next generation of Škoda Superb and Volkswagen Passat planned)



**KIA SLOVAKIA**
Year of establishment: 2004
Production (2020): 268,200 vehicles
Turnover (2020): € 4.6 bn
Number of employees (2020): 3,469
Models: Kia Ceed, Kia Ceed Sportswagon, Kia ProCeed, Kia XCeed, Kia Sportage

**STELLANTIS SLOVAKIA**
Year of establishment: 2003
Production (2020): 338,050 vehicles
Turnover (2020): € 3.4 bn
Number of employees (2020): 4,386
Models: Citroën C3, Peugeot 208


All 4 carmakers are planning to produce EVs at large scale in 2025


**JAGUAR LAND ROVER SLOVAKIA**
Year of establishment: 2015
Production capacity: 150,000
Turnover (2019): € 0.3 bn
Number of employees (2020): 3,393
Models: Land Rover Discovery, Land Rover Defender 90, Land Rover Defender 110, Land Rover Defender 130

**VOLVO CARS SLOVENSKO**

**… coming soon**

(2026 Košice)

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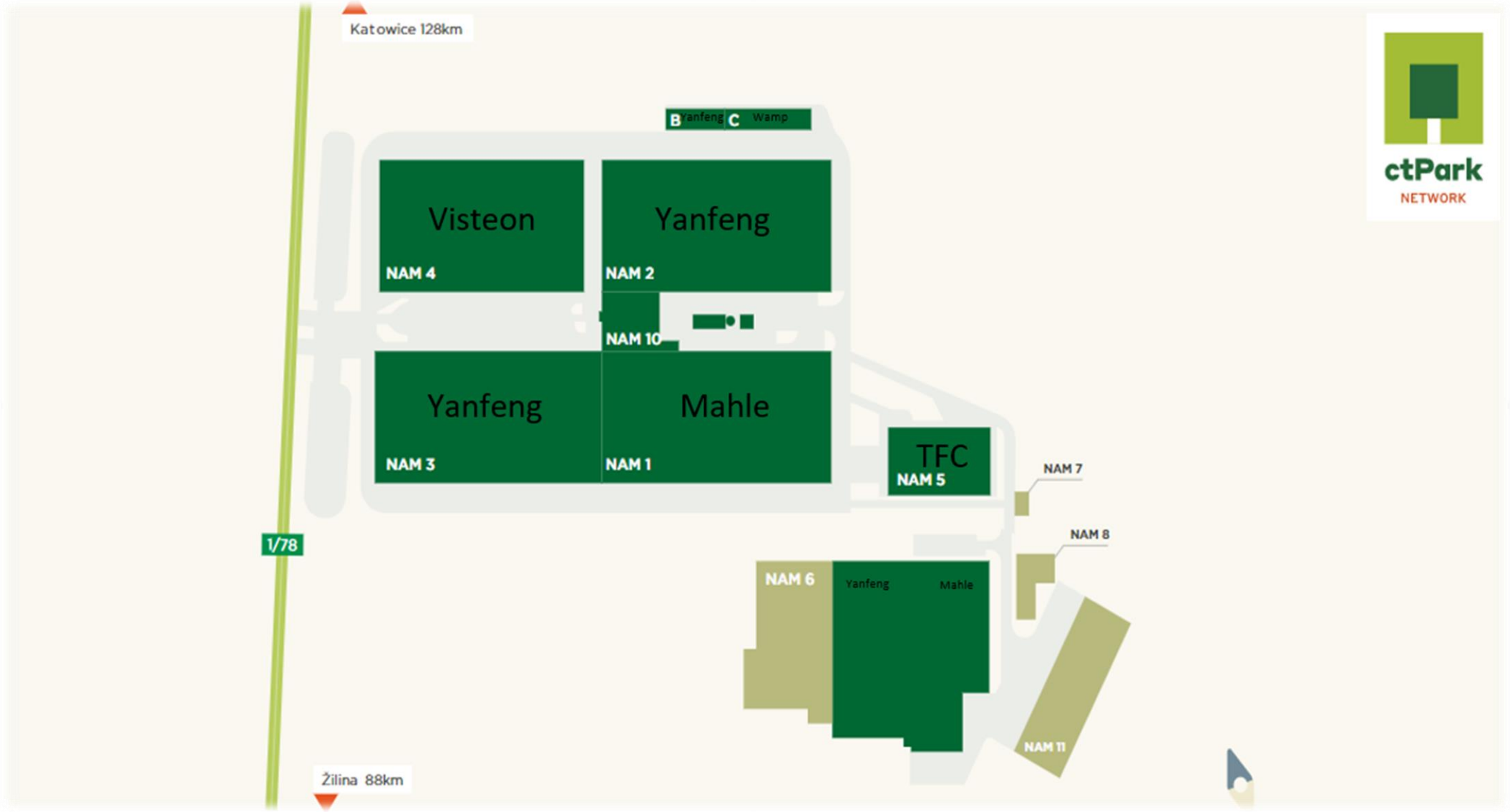
# Namestovo Plant
# Quick Facts

# Namestovo Plant – Location Detail



# Namestovo – Plant Metrics


Operating since **2007**

As Visteon since **2014**

**430**

employees

Sales per Calendar Year

**236 Mio$** (2018)
**238 Mio$** (2019)
**250 Mio$** (2020)
**257 Mio$** (2021)
**347 Mio$** (2022)
**352 Mio$** (2023)

## 22 Final Assembly Lines

Digital Cluster
Analog Clusters
Body Domain Controller

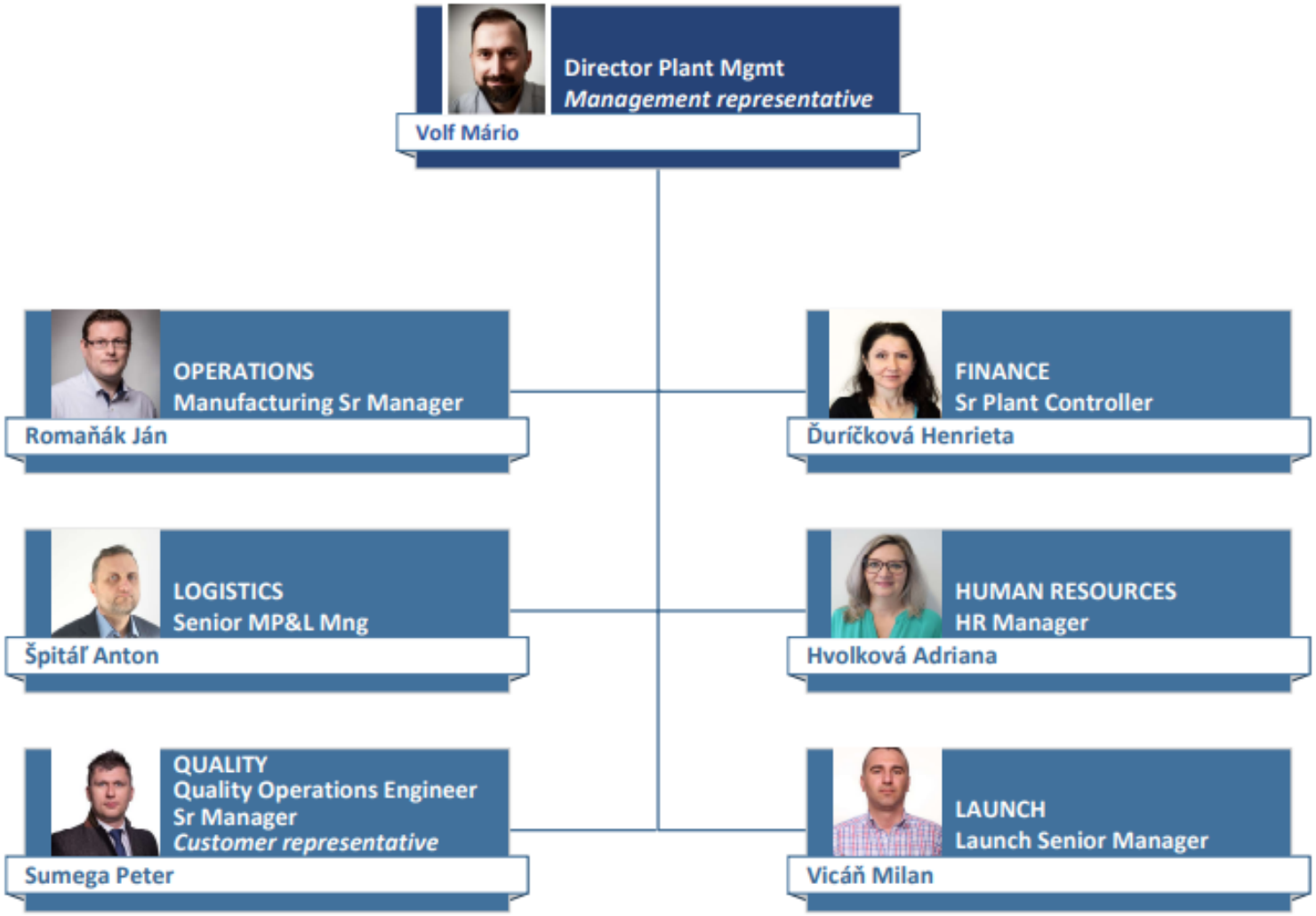
**2 HUD Line**

**2 Underfill Lines**

## 8 SMD Lines

- 7 double reflow lane
- 1 single reflow lane

# Namestovo Plant – Operating Committee



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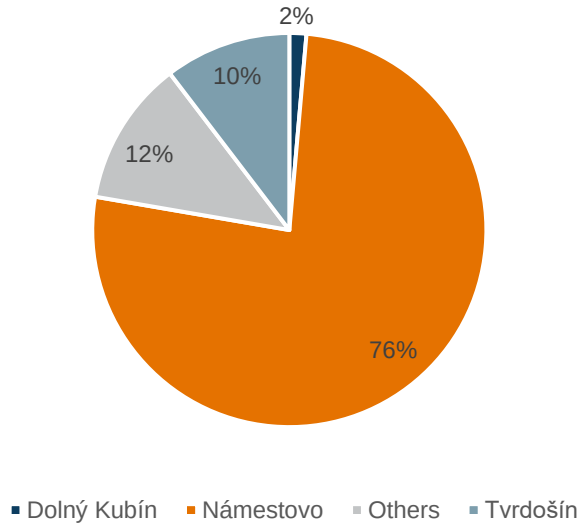
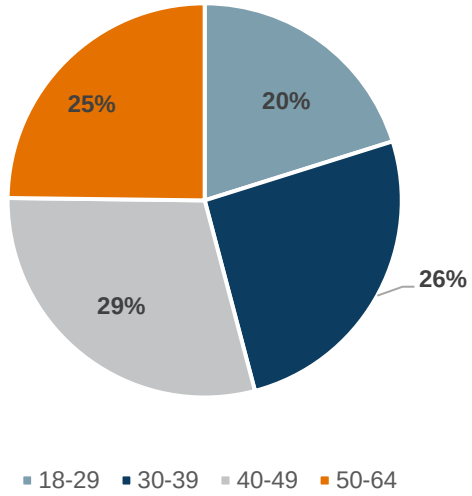
# Namestovo Plant
# Demographics & Education potential

# Namestovo Plant - Demographics

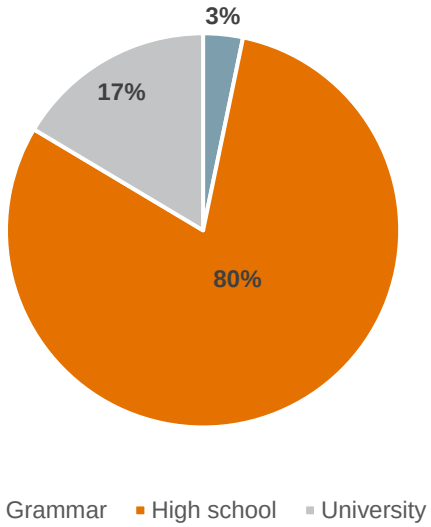
## Location: 88 % close to site



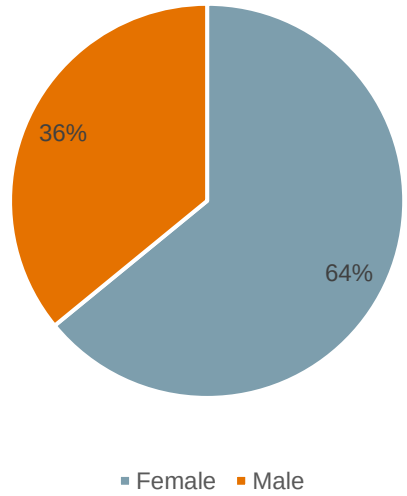

## Age: Average 40 Years




## Education




## Gender



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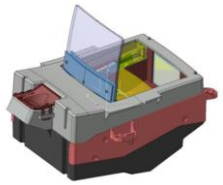
# Namestovo Plant Portfolio

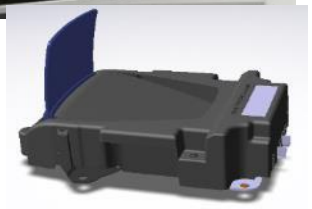
# Namestovo Plant – Product Portfolio Overview

# Namestovo Plant – Product Portfolio

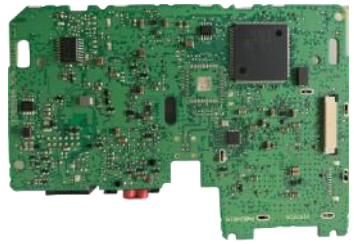
## Digital I-Clusters

## Head up displays



## PCB Assembly



## Analog I-Clusters

## Body domain controllers + Basis central platforms

# Namestovo Plant – Customer Portfolio

STELLANTIS

BMW MINI Rolls-Royce Motor Cars Limited

RENAULT NISSAN MITSUBISHI

SEAT

DAIMLER

Ford

ŠKODA

# Namestovo Plant – Product Reference

## SPARE - PARTS

PSA (C2–C3) EOP: 07/2010

PSA (C4) EOP: 10/2010

BMW (PL6) EOP: 06/2013

## SERIAL - PARTS

RSA (X61) SOP: 09/2007

DAG (NCV) SOP: 01/2008

SKODA (SK25) SOP: 10/2010

RSA (X62) SOP: 02/2010

BMW (PL7) SOP: 09/2010

RSA (W33) SOP: 04/2010

FORD (C34X) SOP: 08/2010

PEUGEOT 2008 (P2) SOP: 06/2019

PEUGEOT 208 (P2) SOP:06/2019

# G4. Global Car maker OEM business status

## SERIAL - PARTS

PSA (VTH) SOP: 01/2011

FORD (V36x) SOP: 8/2012

BMW 7 series (35Up) SOP: 08/2015

PSA (M3-M4) SOP: 8/2012

SKODA (MQB) SOP: 11/2012

VW (MQB) SOP: 5/2013

RSA (1540) SOP: 01/2015

RSA-DAG (EDISON) SOP: 5/2014

DAG (VS20) pSOP: 09/2014

OPEL CORSA (P2JO) SOP: 00/2020

GM (C-HUD) Buick Encore GX SOP

DS3 Crossback (D3) SOP 04/2029

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# Namestovo Plant
# Quality – Laboratory Focus

# Namestovo Plant – Quality Laboratory Equipment Capabilities

**Thermal Shock Chamber**

Type: Weiss TS130
Range: -50°C / 160°C

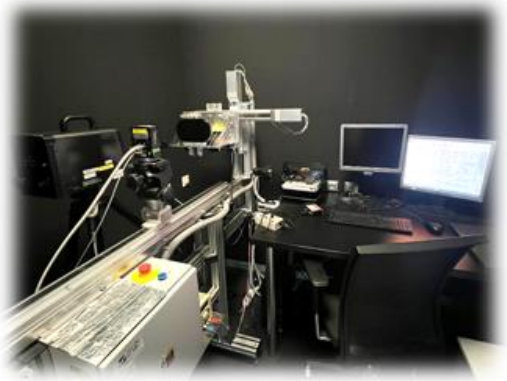
**Diagnostic Workplace**

Analysis of FG returned from customers

**Vibration Test Chamber**

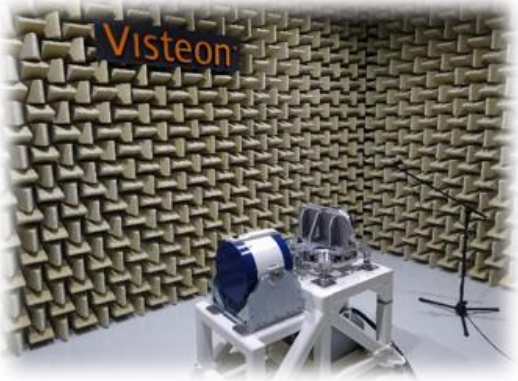
Type: LE-616
Range: 20Hz – 20000Hz

**Optical Measurement Room**



Measurement of homogenity, contrast, color and luminance

**NOISE Test Room**




Measurement of interfering noise

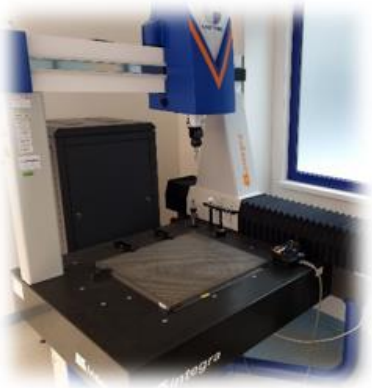
**STRAIN Measurement**

Type: Vishay 7000
Range: ± 500 µm

**2D Measurement system**

Type: CNC500
Range: 500x450x100 mm

**3D Measurement system**



Type: Tactile method
Range: 800x700x600 mm

**Cross-section Analyze**

Validation of component soldering

**Analysis by Test Benches**

Electronic analysis of suspect parts using Software

**Humidity & Endurance Chamber**

Type: Vötsch VC³ 4060
Range: -60°C / 190°C

# Certification of Namestovo plant

UTAC

CERTIFICATE
SQ/2395G-2

COMPANY : Visteon Corporation

REGISTRATION LIMITS : Visteon Electronics Slovakia s.r.o.
Namestovo 1088
029 01 Námestovo
Slovak Republic

STANDARD : IATF 16949 (2016 Edition)

REGISTRATION SCOPE : Design and production of electronic components.

CERTIFICATION VALIDITY : from 24 November 2021 to 23 November 2024

N° IATF: 0435744

Emmanuel HEQUET
Certification, Audits & Inspections
Department

IATF 16949

Bureau Veritas Certification

VISTEON CORPORATION

Bureau Veritas Certification Holding SAS - UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 14001:2015

Scope of certification

The following site is part of the Management System of the above organisation:

Visteaon Electronics Slovakia, s.r.o.

Q/2395G Namestovo 1088 02901 Namestovo, 02901 SLOVAKIA

Final Assembly, Printed Circuit Boards, Injection Molding, Quality, Logistics, Engineering, IT, HR

Certificate No.: US018702-002 Version: 2 Issue date: 08-March-2024

The validity of this certificate depends on the validity of the main certificate, which expires on: 11-March-2027

Signed on behalf of BVCH SAS UK Branch

Certification Body Address: 5th Floor, 66 Prescot Street, London, E1 8HG, United Kingdom

Local Office: 16800 Greenspoint Park Drive Suite 300S Houston, TX 77060, USA

UKAS Certificate Template Multi Site Rev.4.1 28 Aug 2023

ISO 14001

Bureau Veritas Certification

VISTEON CORPORATION

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ISO 45001:2018

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Local Office: 16800 Greenspoint Park Drive Suite 300S Houston, TX 77060, USA

UKAS Certificate Template Multi Site Rev.4.1 28 Aug 2023

ISO 45001

Real Time Technologies

Certificate of conformity

for ESD control program for the protection of electronic devices against electrostatic discharge.

Visteon Electronics

(at the location: Namestovo, Slovakia)

meets the requirements for electrostatic protection according

IEC 61340-5-1:2016

The proof of compliance level is evidenced by the initial audit, including additions, performed on

July 26, 2024

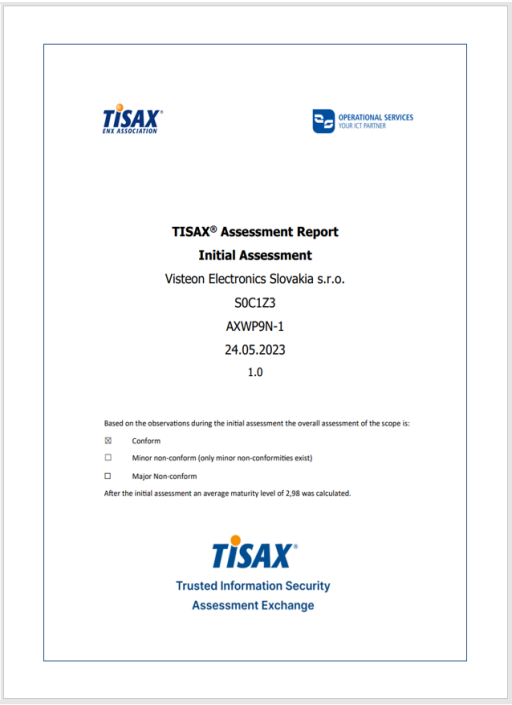
July, 2025
Certification Expiration Month/Year

Michal Raus
Realtime ESD Trainer

A610T-20091123509
IPC serial number

IPC Training Center

ESD



TISAX® Assessment Report

Initial Assessment

Visteon Electronics Slovakia s.r.o.

S0C1Z3

AXWP9N-1

24.05.2023

1.0

Based on the observations during the initial assessment the overall assessment of the scope is:

☒ Conform

☐ Minor non-conform (only minor non-conformities exist)

☐ Major Non-conform

After the initial assessment an average maturity level of 2,98 was calculated.

TISAX

Trusted Information Security Assessment Exchange

TISAX

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# Namestovo Plant
# Operations Excellence Overview

# Namestovo Manufacturing Processes

## 8 SMT lines

- 20.1 mil components placement / day
- Optimal automation
- High standardization

## Cluster Assembly

- 17 F-assy (Clusters) lines
- Semi automation
- Medium standardization

## V-rack lines

- 5 lines
- Robotic lines
- 3000 pcs / day

## Head up display assembly

- 2 lines
- Product customized
- Noise measurement customization
- 150 pcs / day

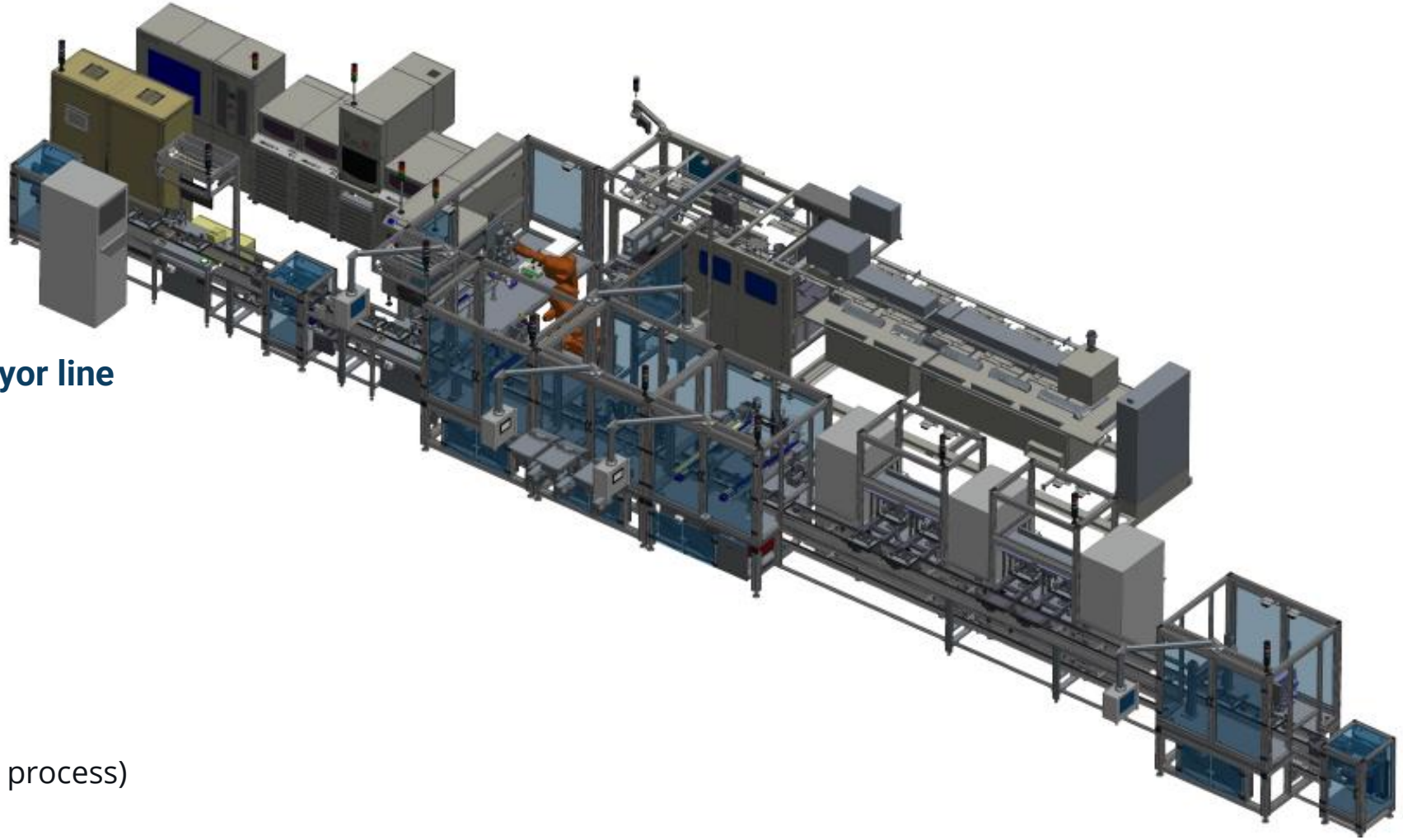
## BDC lines

- 3 lines
- State of the art automation
- Product customized
- 3600 pcs / day

## Underfill lines

- 2 lines
- Product customized
- 3600 pcs / day

# Reference on Assembly and Test Automation experience:



**Final Assembly - palletized conveyor line**

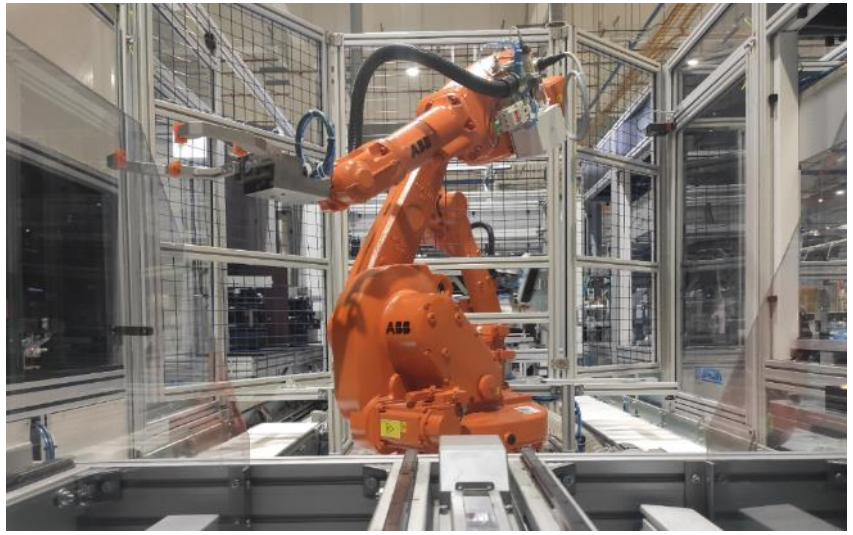
**for Body control module**

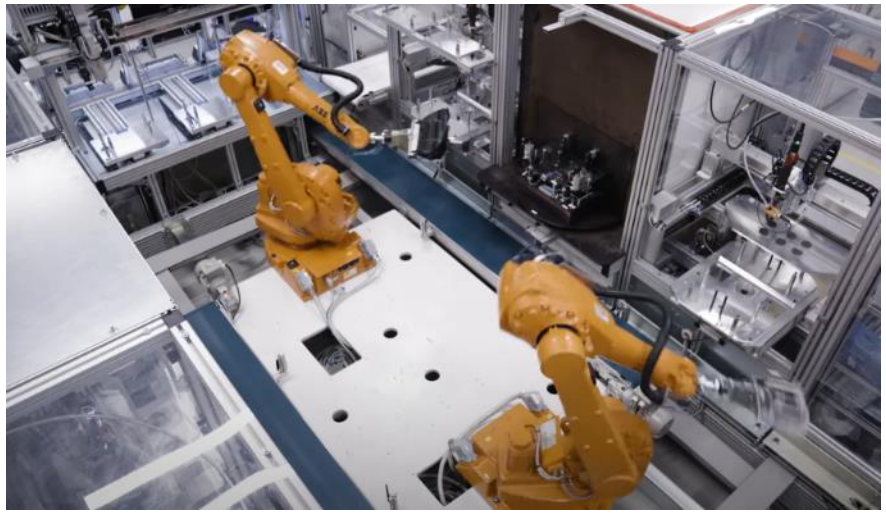
- 1 Operator
- No manual handling with PCBA
- Cycle time 25s/part
- High standardization
- Inline Functional Test FCT
- Inline Conformal Coating (dipping process)
- Automatic Fuses Insertion
- 3D PIN check

# High level of experience with special process:

**Automation capability:**

- PLC Beckhoff, Siemens,..
- ABB Robots, XYZ Motions systems



# High level of experience with special process:

**DataIO: chip level SW flashing**

- High speed flashing of the different chips
- MCU, EEPROM, NAND, ….

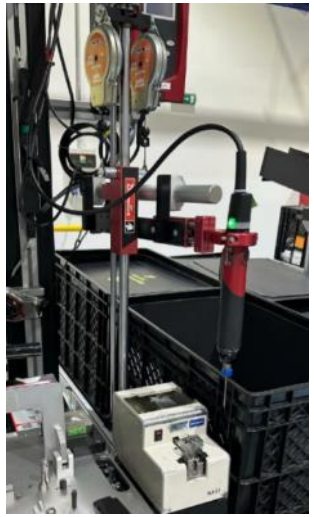

**Coating process:**

- Inline Dipping process

# High level of experience with assembly systems:

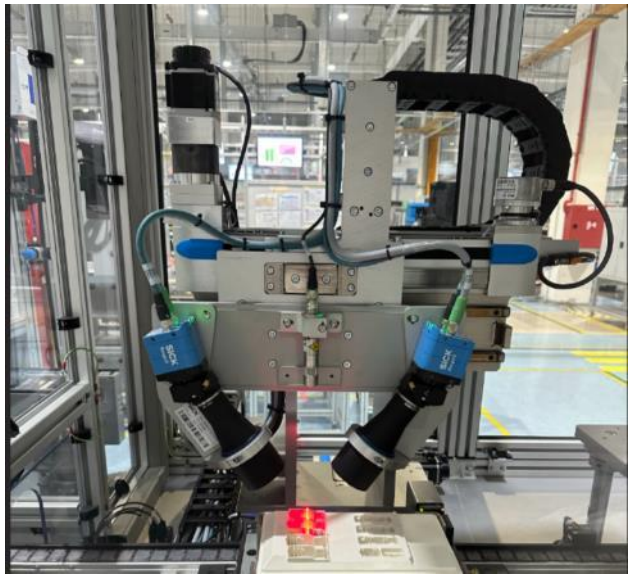
**Screwing:**

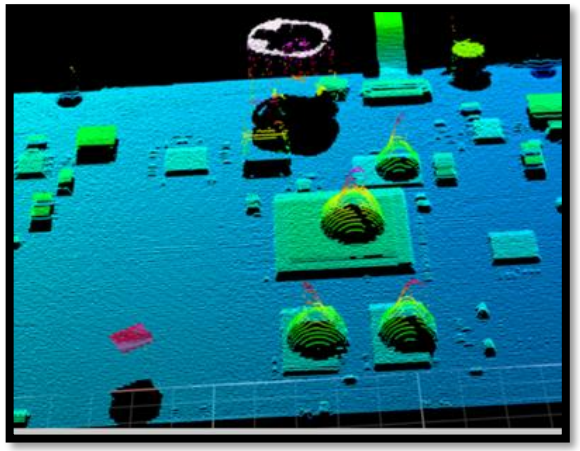
- Manual or Automatic



**Vision testing:**

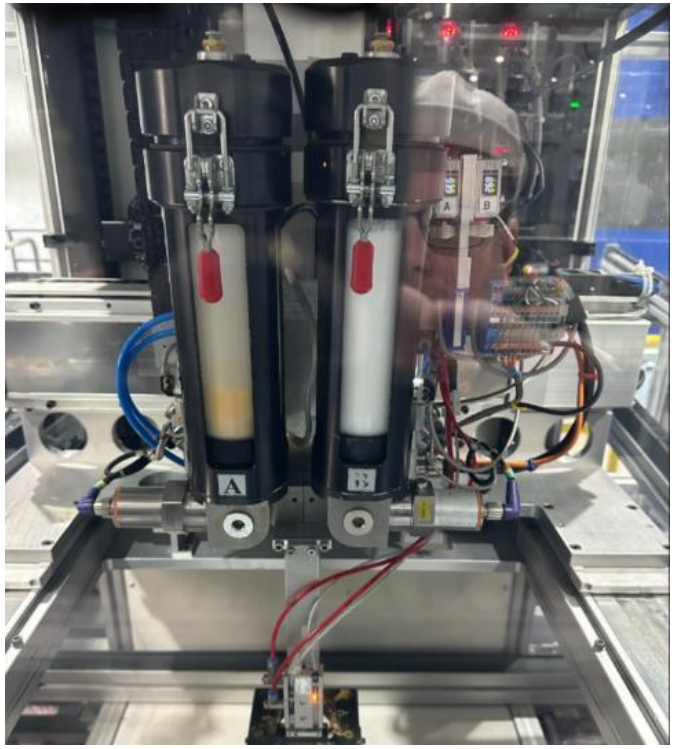
- 3D scan, camera recognition



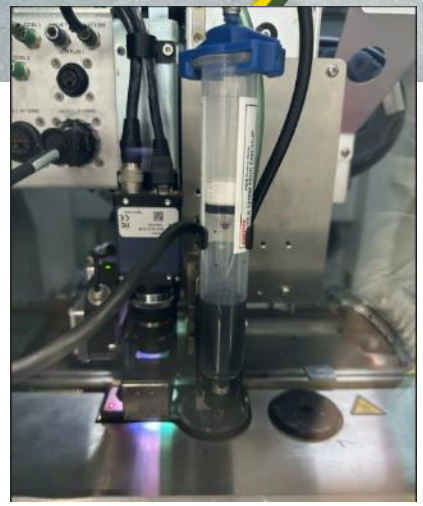


# High level of experience with dispensing systems:

**Material dispensing:**
- Thermal paste



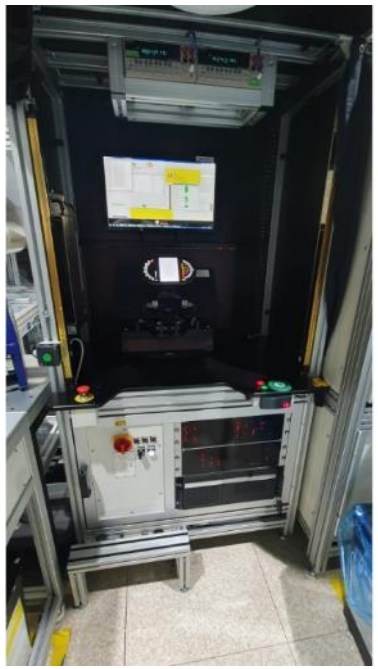
**Material dispensing:**
- Underfill material

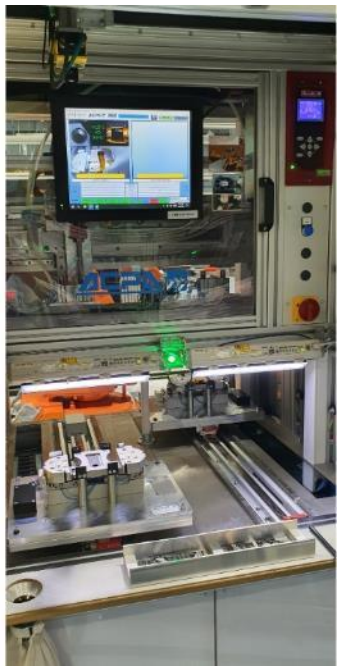



# High level of experience with test systems:

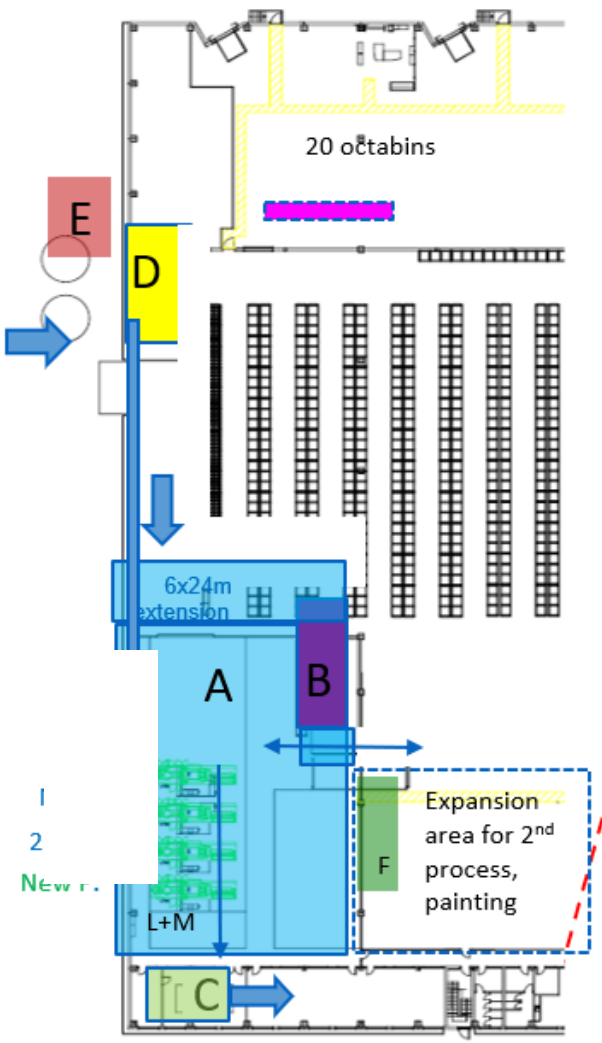
**Testing:**

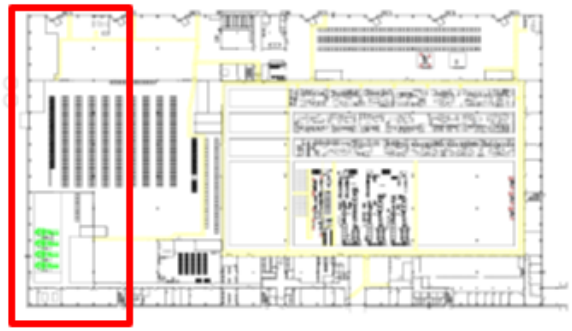
- CAN, LIN, FLEXRAY, Ethernet communications
- Vision testing pin check, fuse color, TFT check …
- Voltage , Current measurements
- DI , DOUT testing
- Analog input, output with loads simulation





# Namestovo Plastic Injection Molding Area



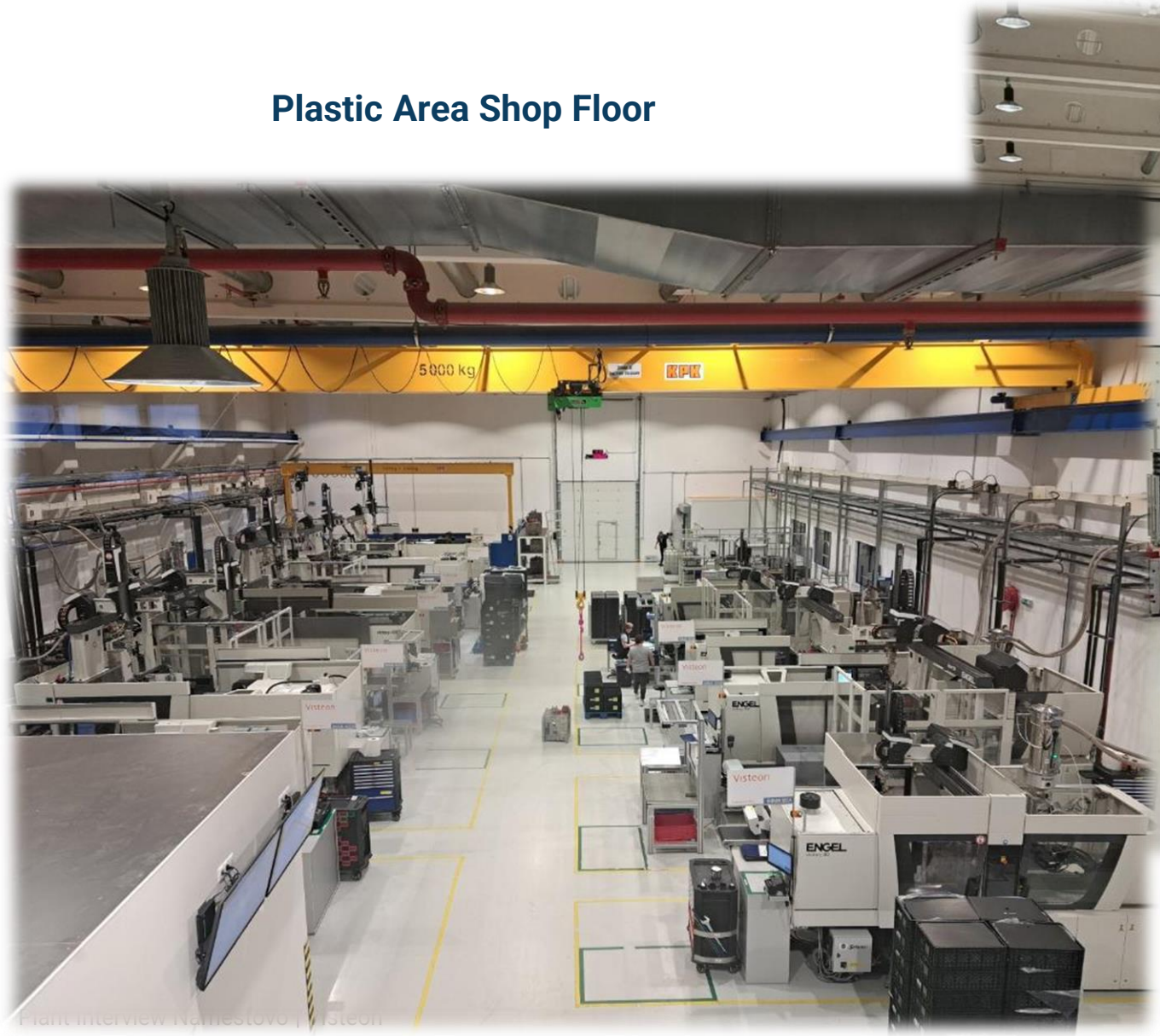



## Main Project Charecteristics:

- Closed Environment (**984 m²**) with double door access for AGV's movement
- Room Capacity for 10 IM machines (Future expansion up to 14 IM machines)
- 3 Engel 400T (1 Hybrid for lenses + 2 Hydraulic)
- Lenses + Masks Welding
- Small tool room for mould maintenance (+ Rack for moulds)
- Plastics assembly, 1 vibration welder (with expansion space to 5 welders)
- Remote Material feeding system 4 octabins & dryers - No Material on shop floor
- Place for Raw Material Silos
- Market place in Warehouse
- Crane 24m **+12m extension** (on existing pillars) for safe moulds handling
- IM machines Chillers and electric power installation

# Namestovo Plastics Injection Molding Area

**Plastic Area Shop Floor**

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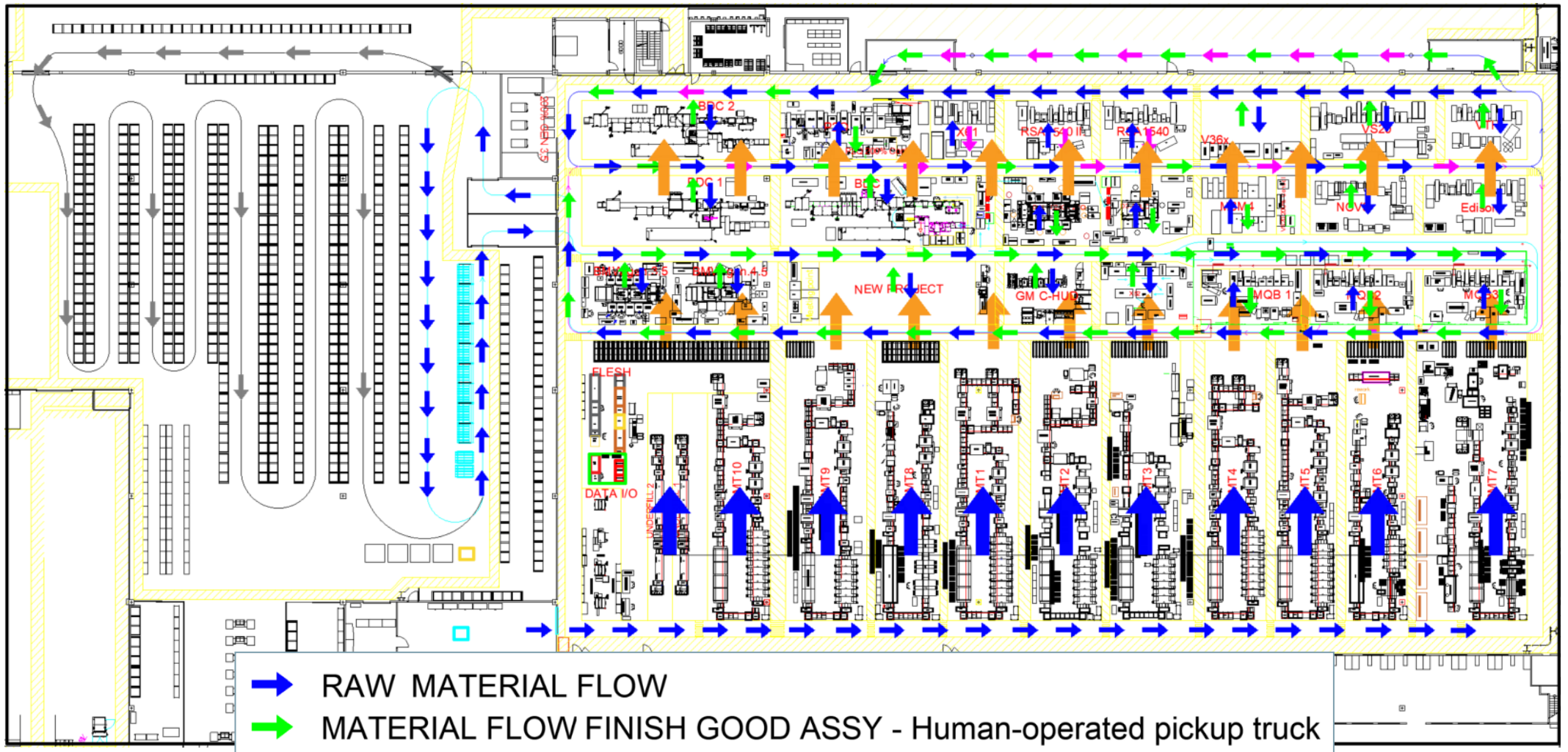
# Namestovo Plant – Supply Chain

# Supply Plant Level



# Supply SMT to Assembly

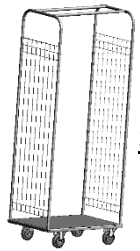
PCB Supply process

1. OK PCB

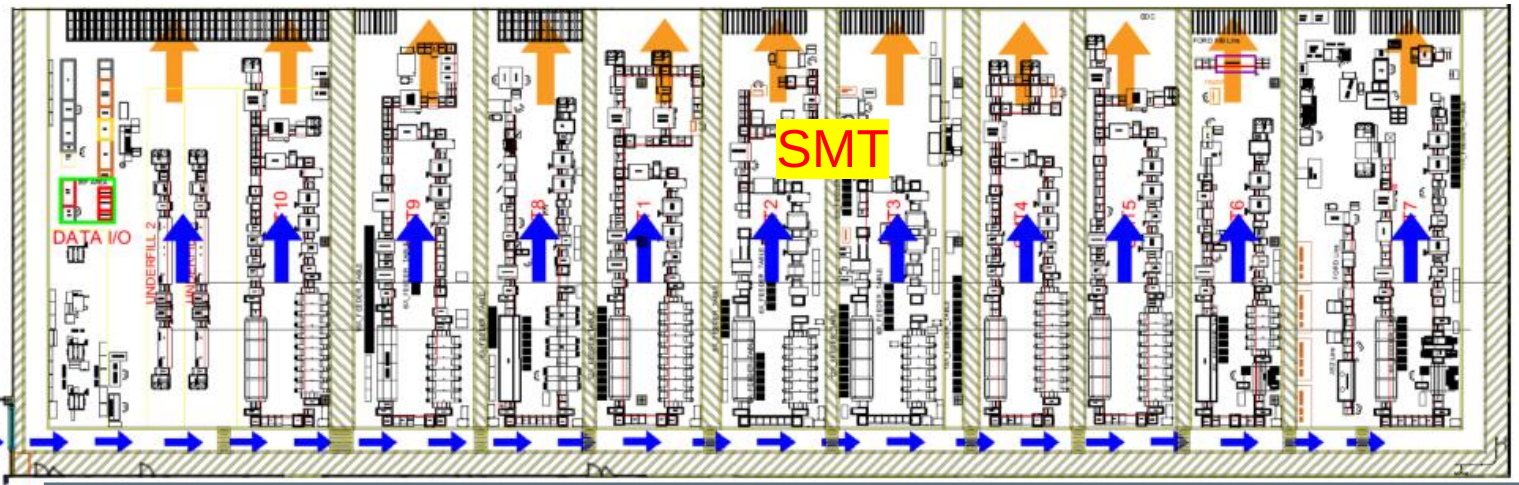
Manual transfer

2.Storage in a rack

Manual transfer



3.Moving the PCBs by trolley to the assy



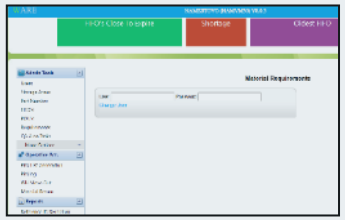


ILLUSTRATIVE PHOTO

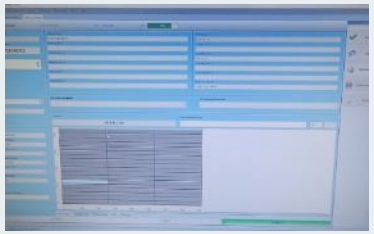
## SMT LINE SUPPLY PROCESS – RAW MATERIAL

The loop is in 50min intervals

LINE



REQUEST FOR MATERIAL -WARE

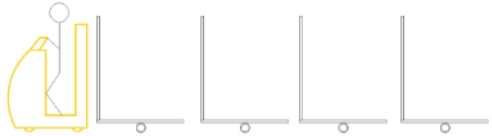


PICK LIST GENERATION

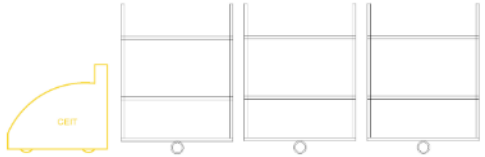
# Supply Final Assembly

## VARIANTS PICKUP OF FINISHED PRODUCTS

- The loop is in 30min intervals



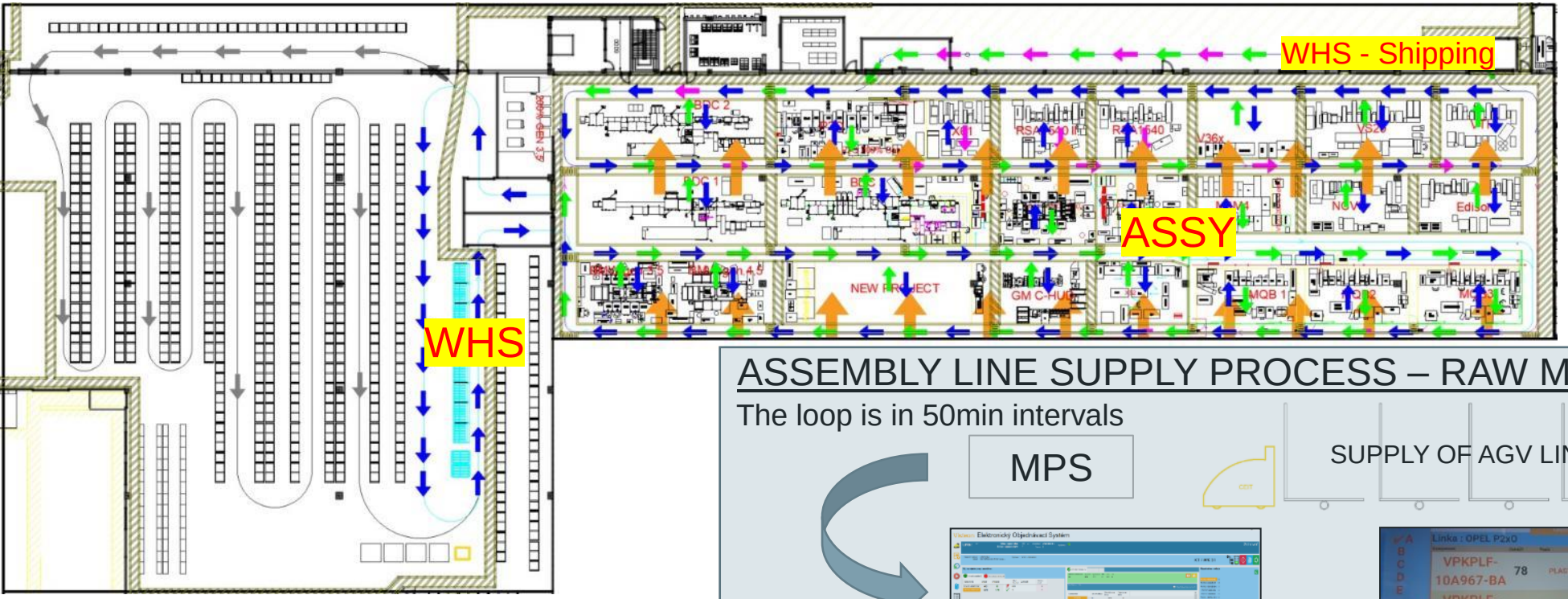
Manual



Automatic

ILLUSTRATIVE PHOTO

SUPPLY OF AGV LINES



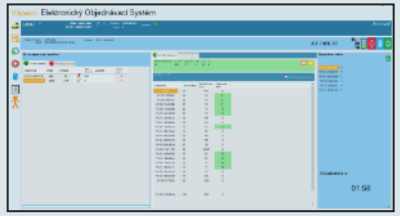

## ASSEMBLY LINE SUPPLY PROCESS – RAW MATERIAL

The loop is in 50min intervals

MPS



SUPPLY OF AGV LINES



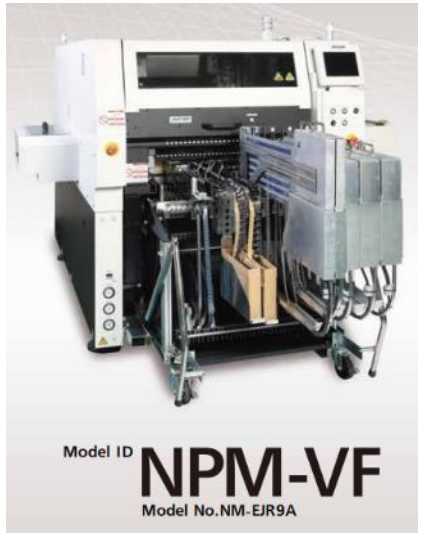
AUTOMATIC ELEKT. KANBAN SYSTEM


DISPLAY OF ORDERS IN WHS

Visteon®

# Global technology experience

# Visteon PCB Assembly – Odd Shape Placers

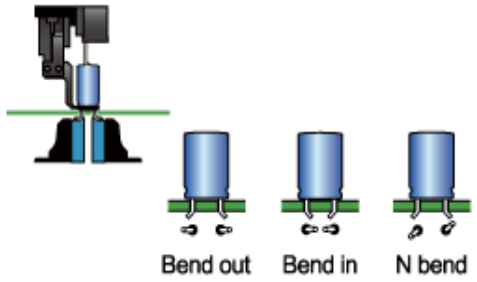




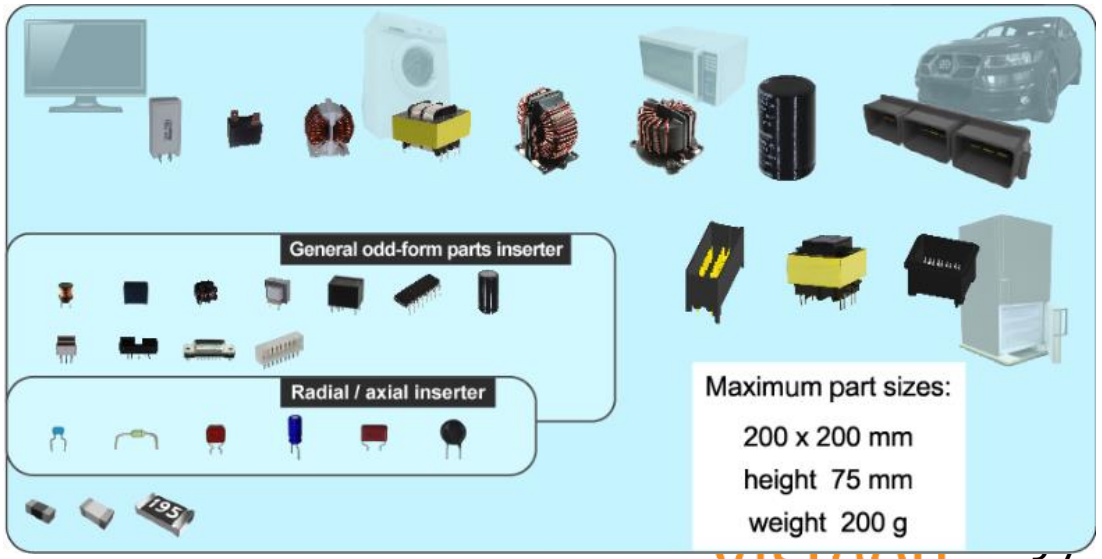


4 Brands with similar insertion Capability

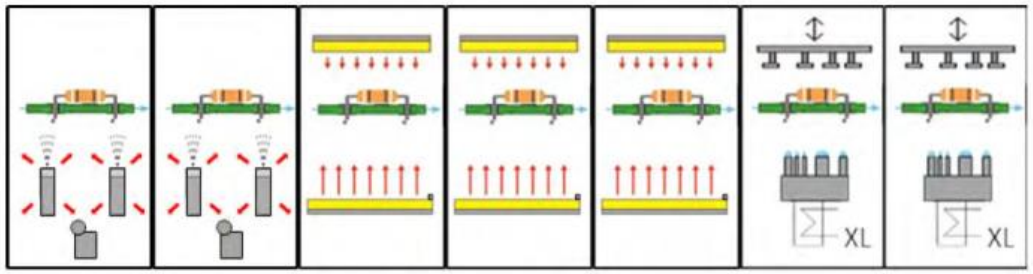

Various feeder types




Cut and clinch Capability

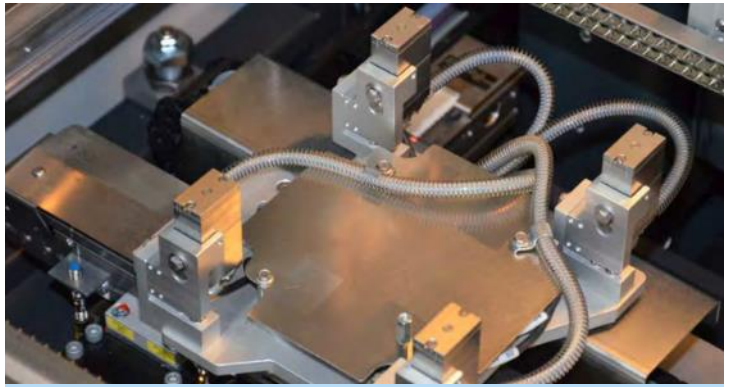


# Visteon PCB Assembly – Inline Selective Solder System

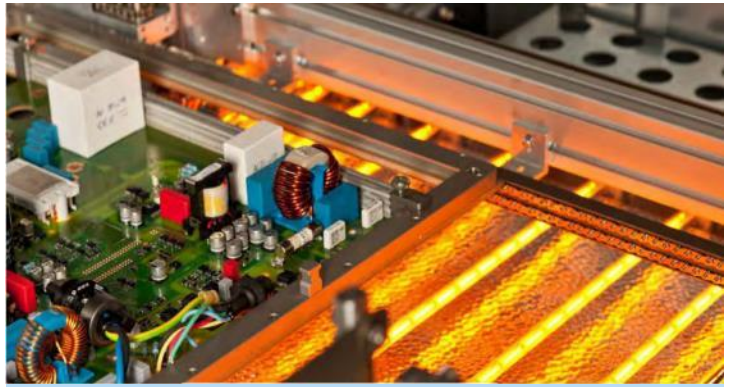





3 Brands with similar Selective Soldering Capabilities



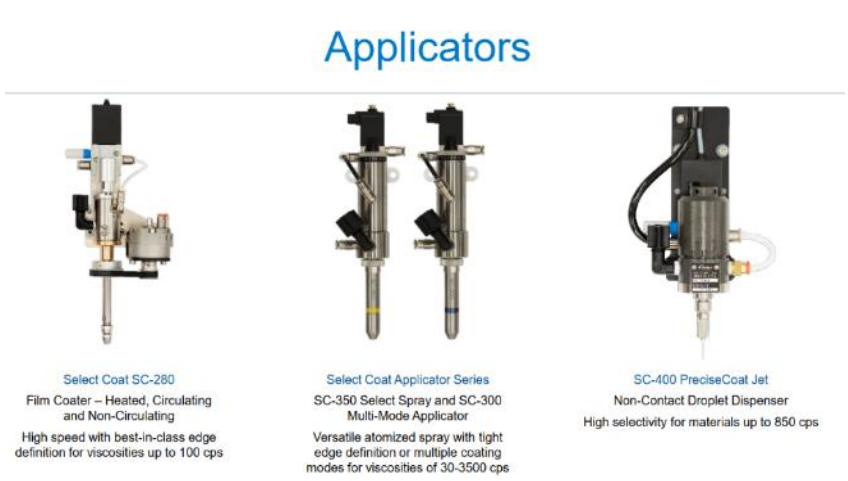
Multiple Flux Heads



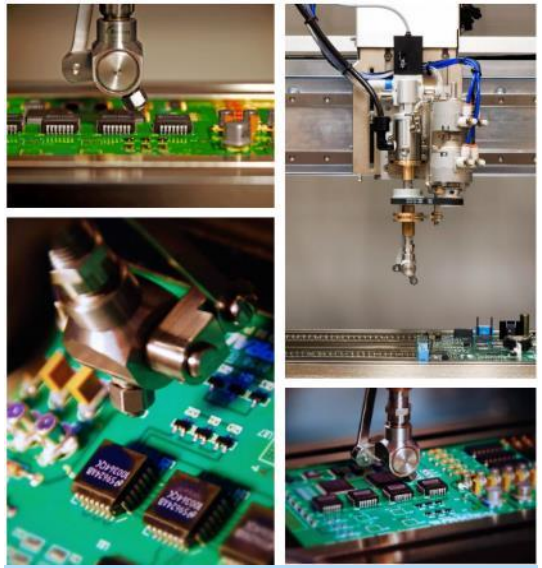
PCB & Comp.'s Pre-Heating

Multi Wave Nozzle

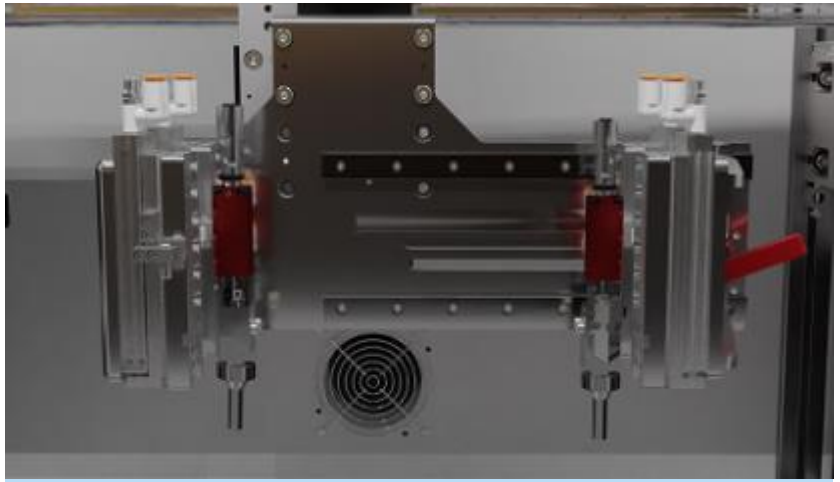
# Visteon PCB Assembly – Inline Conformal Coating Process


High Speed Film or Precise Dispensers



Tilt Axis Capability

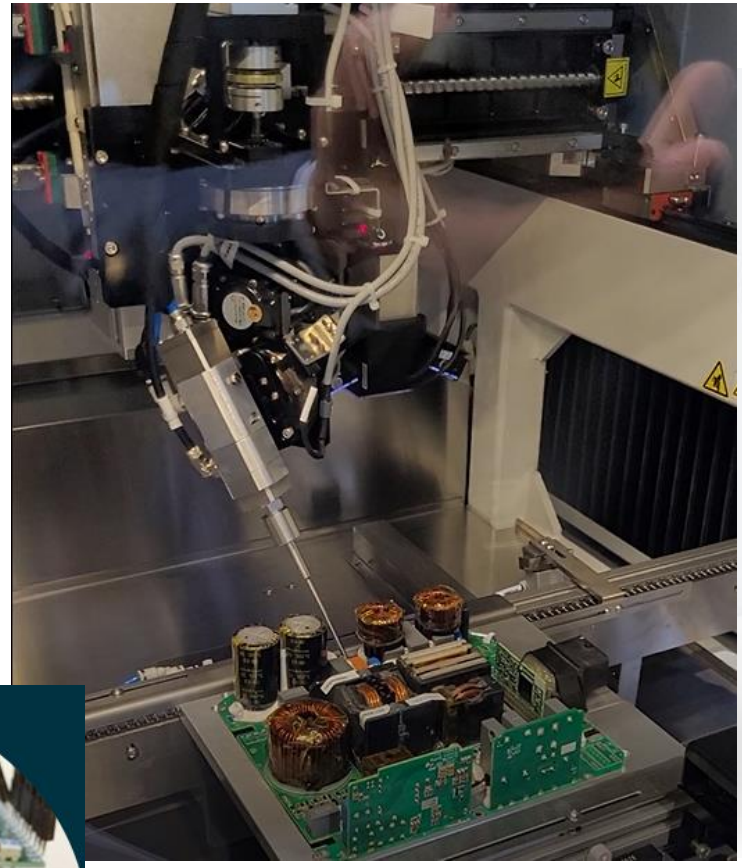


Simultaneous Dispensing Valves

# Visteon PCB Assembly – RTV glue application process

## RTV glue application

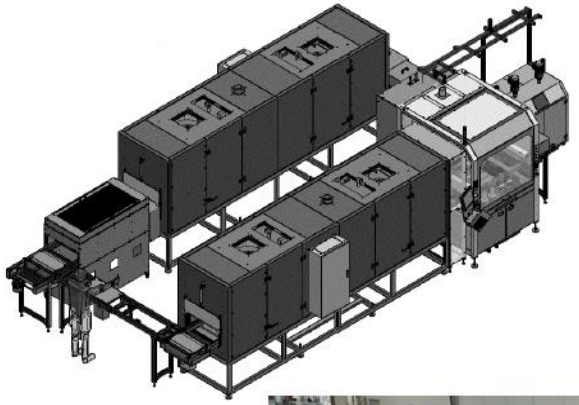
- THT components vulnerable to shocks and vibrations bonded with even the most complex geometries with a wide range of 1K and 2K materials
- Material supply with seamless changeover of the materials during continuous production
- Integrated camera verification
- Room Temperature Vulcanising adhesive
- Considered suppliers Axxon Mycronic / Atlas Copco



# Visteon Final Assembly – Potting process

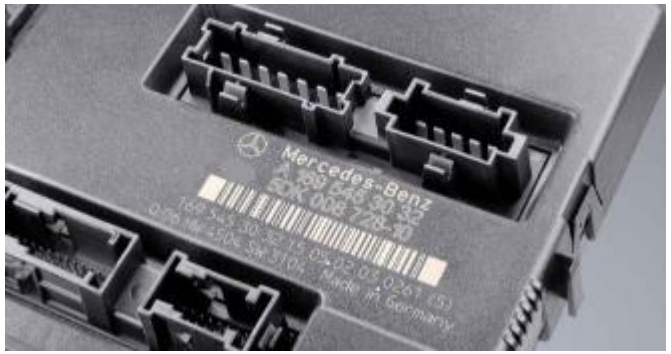
## Vacuum potting solution

- 3-Vacuum chamber system for shortcycle time
- Dispensing, Degassing, Recirculation, Heating, Cooling and Refill of the materials during continuous production, 24/7
- 2-Component dispensing set-up - dynamic mixing head
- Curing oven integrated in production line
- Temperature range: 40°C -80 °C (100°C)
- Suppliers considered bdtronic / Rampf / Demak



# Visteon Final Assembly & Test

Label application or laser marking


## Laser marking / labeling

- Purpose: Part identification according customer requirement, traceability information, certification label
- Inline automated laser marking or label application
- 100% inspection of readability
- Traceability and key parameters log in MES system



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# Visteon Final Assembly & Test

Robotized packaging


## Packaging

- Purpose: Special care due to big size and heavy sensitive parts to be handled with robotized high accuracy operations
- Inline packaging
- Traceability and key parameters log in MES system



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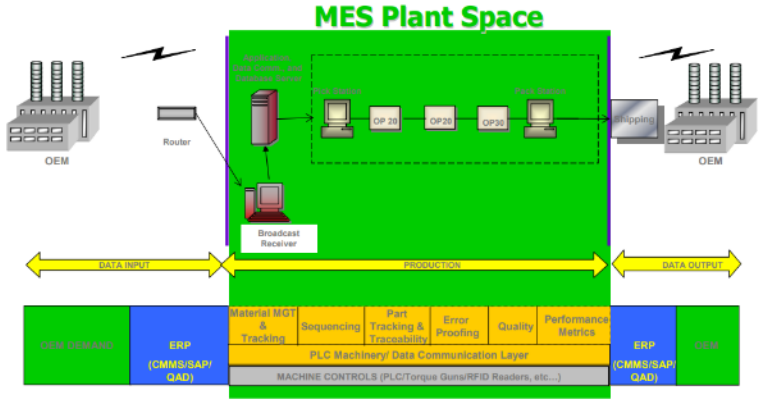
# How will a successful localization be measured? How will production be steered and monitored? What KPIs are tracked and how?

- FTT, First Time Through is captured in MES system (CIMple) and visualized in QlikView
- All over traceability concept (CIMple) including photo documentation of relevant process results
- Customer KPI‘s in Global Quality Portal (PPM, 8D, daily TDY, WC, etc.)
- Performance KPI‘s (Launch cost, BWS, Cycle time, Scrap rate, FTT) captured in QAD and PLRC Plant Launch Readiness Application. Further captured are performance efficiency (PE), Build to Plan (BTP) and Changeover Time (COT)
- Production steering by QAD ERP Management System
- MTBF (Mean Time Between Failure) and MTTR (Mean Time To Repair) and maintenance plan execution performance in monthly meeting and maintenance application

Manufacturing Execution System




Global Quality Dashboard


Global Plant Launch Readiness Dashboard

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