

# VT ElektroPlast

ONE COMPANY – INFINITE POSSIBILITIES

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Quality Management



TECHNOLOGY

DYNAMISM

PROGRESS

STABILITY

— [www.vtep.videoton.hu](http://www.vtep.videoton.hu)

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- Certified standards
- Quality staff
- Documentation system
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- Quality management system development
- Supplier evaluation, development, sourcing
- Trainings
- Measurement equipment calibration
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- Measurement lab

# CERTIFIED STANDARDS – VTEP/VTBT

## ISO 9001:2015

### Scope:

- Component assembly and injection moulding parts manufacturing



# CERTIFIED STANDARDS – VTEP/VTBT

## IATF 16949:2016

### Scope:

- component assembly and injection moulding parts manufacturing

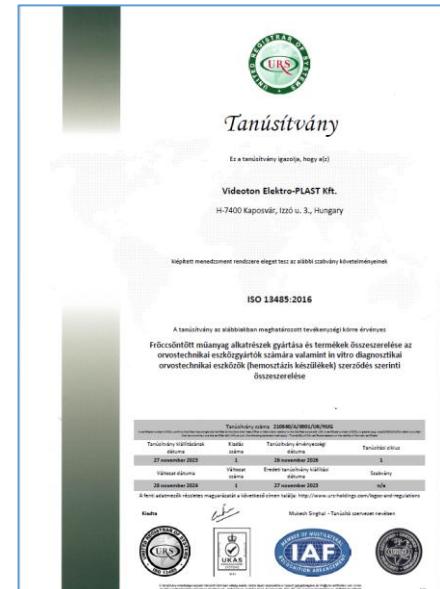


# CERTIFIED STANDARDS - VTEP

## ISO 13485:2016

### Scope:

- Manufacture of injection moulded plastic parts and assembly of products for medical device manufacturers and assembly of in vitro diagnostic medical devices (hemostasis instrument) according contract manufacturing



# QUALITY STAFF

|                               |           |
|-------------------------------|-----------|
| Workshop QA manager           | 4         |
| Quality engineer              | 15        |
| SQA engineer                  | 2         |
| Supplier development engineer | 1         |
| Supplier quality technician   | 2         |
| Quality technician            | 9         |
| Incoming inspector            | 4         |
| Quality inspector             | 26        |
| <b>Total:</b>                 | <b>63</b> |



# DOCUMENTATION SYSTEM

Electronic system on a safe intranet with authorized access

Level 1 Quality Manual

Level 2 Standard Operation Procedures

Level 3 Work Instructions

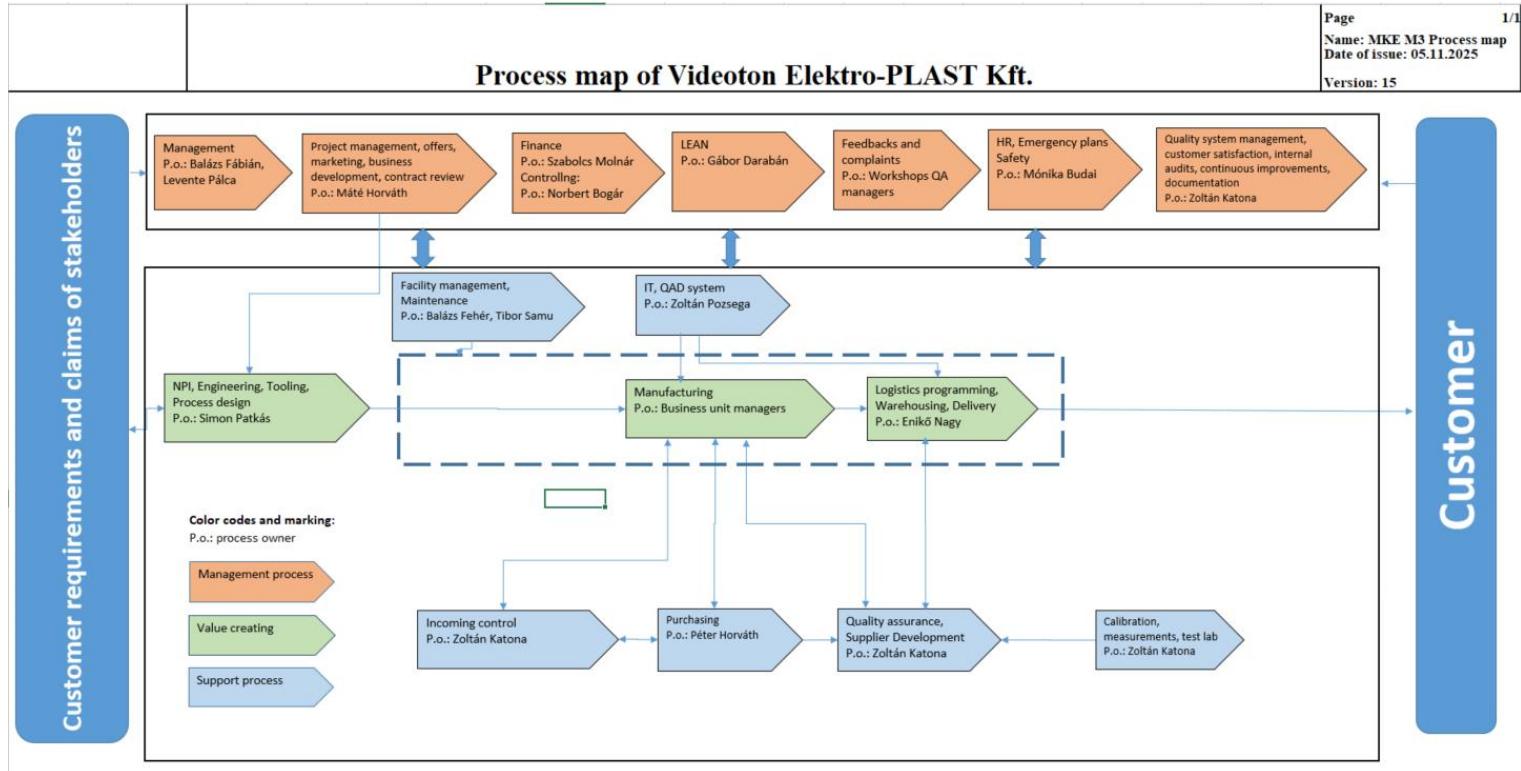
Level 4 Records

- Processed based documentation
- PPAP documents for all products and produced parts
- All the documentations are available for authorized users

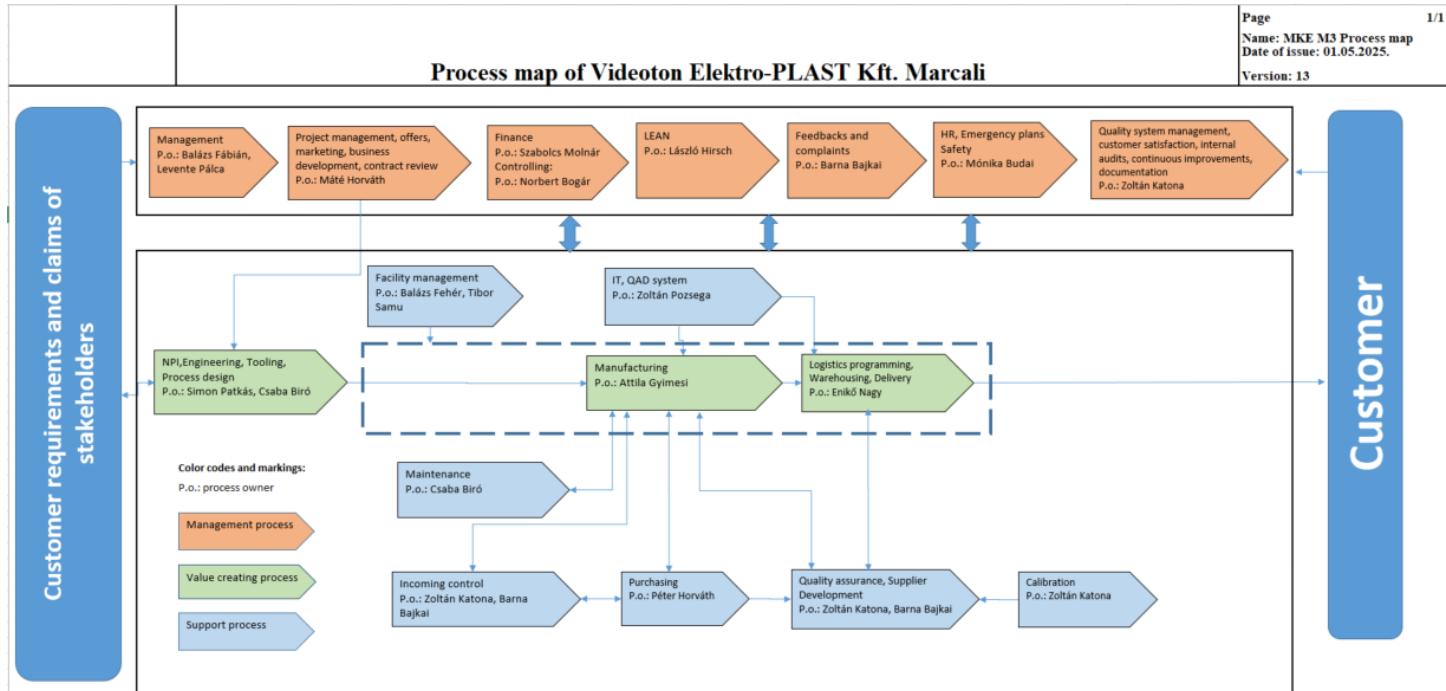


| Szám       | Cím   | Verzió | Utolsó kiadás dátuma | Utolsó felülvizsg. dátuma | Mellékletek |
|------------|---|--------|----------------------|---------------------------|-------------|
| QA 2018-01 | Kockázatértekelés és érdekeltek felek igényei                                     | 00     | 2018.01.16.          | 2019-11-13                | Mellékletek |
| QA 2015-01 | Be nem jelentett auditok és átvizsgálások   | 00     | 2015.02.15.          | 2019-12-06                | Mellékletek |
| QA 2012-02 | Vegyi anyagok kezelésének alapjai   | 02     | 2018.01.17.          | 2019-11-13                | Mellékletek |
| QA 2010-01 | Tesztállomány működési szabályzat   | 03     | 2016.08.18.          | 2019-04-10                | Mellékletek |
| QA 2006-01 | Minőség- rendszer-felügyeleti szabályzat  | 07     | 2018.10.11.          | 2019-11-13                | Mellékletek |
| QA 2008-03 | A vevőszolgálat - vevői reklamációk kezelése                                      | 12     | 2019.11.27.          | 2019-11-27                | Mellékletek |
| QA 2003-01 | Folyamatok meghatározása és mérése  | 06     | 2019.11.27.          | 2019-11-27                | Mellékletek |
| QA 2002-18 | A minőségi követelmények szabályozása kereskedelmi szerződésekben                 | 04     | 2015.06.19.          | 2019-11-13                | -----       |
| QA 2002-04 | Vezetőségi átvizsgálások  | 05     | 2019.11.29.          | 2019-11-29                | -----       |
| QA 2002-03 | SPC   | 03     | 2014.10.31.          | 2019-11-13                | -----       |
| QA 2002-02 | FMEA  | 08     | 2018.10.19.          | 2019-11-13                | Mellékletek |
| QA 2001-02 | Vevői elégedettség mérése, elemzése, intézkedések a vevői elégedettség javítására | 03     | 2014.10.31.          | 2019-11-13                | Mellékletek |
| QA 2001-01 | A minőségbiztonság gyűjtése, elemzése   | 04     | 2014.11.21.          | 2019-11-13                | Mellékletek |
| QA 2000-14 | Helyesbíró és megelőző intézkedések, folyamatos fejlesztés                        | 08     | 2019.11.25.          | 2019-11-25                | Mellékletek |
| QA 2000-13 | A nem megfelelő termékek kezelése zárolás - visszahívás                           | 08     | 2019.05.14.          | 2019-05-14                | Mellékletek |
| QA 2000-11 | Mérésiugyi szabályzat   | 07     | 2018.07.20.          | 2019-11-13                | Mellékletek |
| QA 2000-10 | Idegenáru ellenőrzési szabályzat  | 06     | 2014.03.26.          | 2019-11-13                | Mellékletek |
| QA 2000-08 | A termék azonosíthatósága és nyomon követhetősége                                 | 05     | 2012.04.15.          | 2019-11-13                | Mellékletek |
| QA 2000-07 | A minőségetől való felelősséggel szabályzata                                      | 05     | 2015.12.07.          | 2019-11-13                | -----       |

# PROCESS MAP - VTEP



# PROCESS MAP - VTBT



# QUALITY MANAGEMENT SYSTEM DEVELOPMENT

## **Regular internal audits (system and process) based on a yearly plan**

It ensures the quality system is consistently in a state of control

## **Management review**

Ensures that the Quality Management System achieves the established objectives with a successful and effective operation

## **CAPA (Corrective Action/ Preventive Action)**

Ensures that quality system issues are identified, analysed and corrected in a proactive manner to keep quality system effective

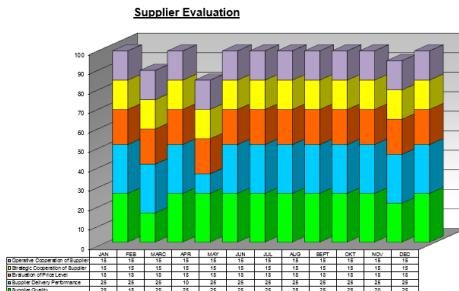
## **Quality Improvement Plan**

Determines improvement actions for all the departments on a yearly base

# SUPPLIER EVALUATION, DEVELOPMENT, SOURCING

## Monthly based evaluation on

- Quality performance
- Delivery performance



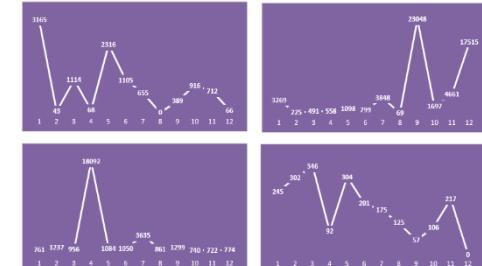
## Suppliers are ranked

A - B - C - D categories

Monthly detailed evaluation

Focus on C and D category suppliers (improvement requests)

PPM Performance monitoring



# SUPPLIER EVALUATION, DEVELOPMENT, SOURCING

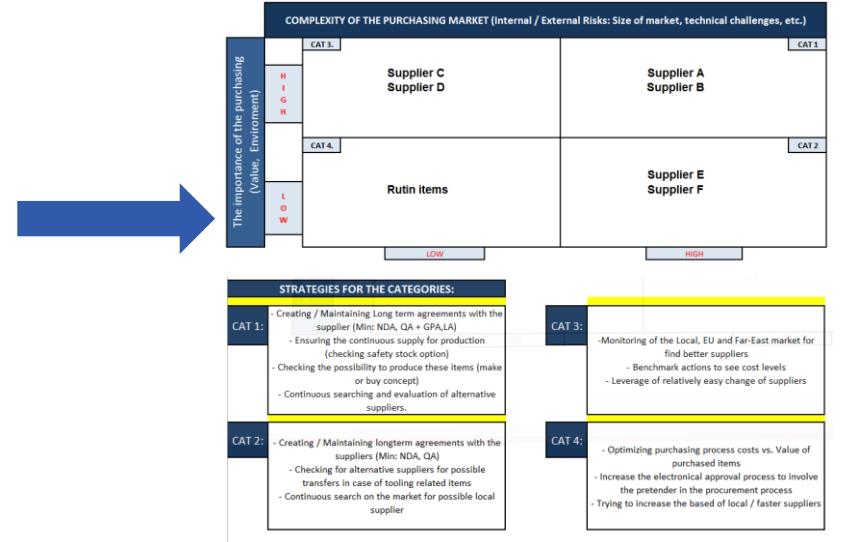
## Supplier development

- Dedicated Supplier Development Engineer
- Support in quality issues for SQA engineers in supplier related quality problems
- Visits and audits at suppliers
- Improvement of communication and co-operation
- Monitoring of Reach, RoHS, Conflict Mineral, IMDS, Food Contact, BOMcheck with declarations
- Suggestions and requirements for improvements
- Determine short- and long-term improvement actions
- Pre-qualification in the case of new suppliers

# SUPPLIER EVALUATION, DEVELOPMENT, SOURCING

## Strategic purchasing

- Commodity driven Sourcing Team
- Supplier classification based on Kraljic matrix
- Continuously updated supplier database
- Seeking and pre-qualifying of new suppliers
- Agreements with suppliers
- Optimization of commercial conditions
- Defining strategic actions toward suppliers, based on classification (Development / Hold / Phase Out / make or buy)
- Defining Road map for development of suppliers



# TRAININGS

Wide-spread trainings for all workers at entrance  
(plus half-yearly and yearly) with examination

- Quality (based on ISO 9001, IATF 16949 and ISO 13485 standards)
- Labour-safety (based on ISO 45001)
- Environment (based on ISO 14001)
- Energy management (based on EN ISO 50001–VTEP)
- Dress rules
- General (rules, ethics, culture)



# TRAININGS

Extended trainings for white-collar workers:

- according to the professional field
- further trainings for improving skills (competence, language)
- specialized trainings for management

Regular (monthly) training for blue-collar workers based on:

- operation instruction, failure cards, customer feedbacks etc.
- yearly training plan to improve worker skills



# MEASUREMENT EQUIPMENT CALIBRATION

**Internal calibration** - Mostly simpler equipment: calipers, micro meters, scales, feeler gauges, dials, simple electronic measurement equipment etc.

**External calibration** - All the special measurement equipment, which require external laboratory: coordinate measurement machine, torque meters, functional testers, complex electronic measurement equipment etc.

- More than 1500 pcs measurement equipment
- Electronic data base for proper tracing of validation deadlines
- Calibration in temperature controlled measurement lab

# SPECIAL REQUIREMENTS

## FDA (Food and Drug Administration)

At VTEP, it ensures the manufacturing of safe medical devices complying with the mandatory regulation of 21 CFR Part 820 (Quality System Regulation) for the US market. FDA currently applied at Philips medical products.



## I-Quality

Requirements for companies, who manufactures Products for P&G (Braun). Determines major principles for Quality Management System. Currently applied at Braun Shaver Cleaning Center products.

# SPECIAL REQUIREMENTS

**REACH** (Registration, Evaluation, Authorisation and Restriction of Chemicals)

Its major element is to communicate information on chemicals through the supply chain to restrict the usage of them. It covers those chemicals, that can have potential negative impacts on human, health or environment



**RoHS** (Restriction of Hazardous Substances Directive)

This directive restricts the use of six hazardous Materials of various types of electronic and electrical equipment:

Lead (Pb), Mercury (Hg), Cadmium (Cd),

Hexavalent chromium (Cr6+), Polybrominated biphenyls (PBB),

Polybrominated diphenyl ether (PBDE)



# SPECIAL REQUIREMENTS

## Food contact materials

Materials that are intended to be in contact with food. It determines strict rules for manufacturing, packaging and warehousing of parts and products contacting with food.



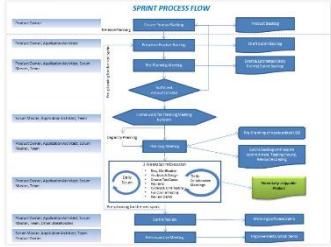
## IMDS (International Material Data System)

In the automotive products, it is a requirement to collect information about the used materials (and hazardous content), which must be declared in material data sheet into the IMDS. All supplier must submit data about the parts that sells to customer.



# APPLIED QUALITY TECHNICS

## Process flow chart



## Control Plan

The Control Plan table details inspection and monitoring activities for different process steps. It includes columns for Process Step, Inspection Type, Frequency, and Responsible Person.

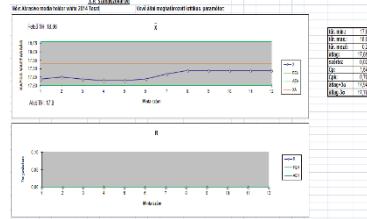
## PFMEA - DFMEA

The PFMEA and DFMEA tables provide detailed information on potential failure modes, causes, and effects for various parts, including part numbers and failure modes like 'Crack' and 'Breakage'.

## 8D report

The 8D report for complaint ID 033-14 details a customer complaint about a 'Top Steel Area' being 'not flat'. The report includes sections for problem description, root cause analysis, and corrective actions.

## SPC



## MSA Gauge R&R

The MSA Gauge R&R table provides measurement system analysis results for various gages, including Gage R&R, Linearity, and Bias. It includes columns for Gage, Measurement value, and Standard deviation.

# TEST LAB

## Test types

- Product design tests
- Product release test
- Battery tests in separated test lab
- Product functionality - related test
- Product performance - related test
- RoHS compliance
- Approbation pre-tests
- Climatic tests in temperature and humidity chambers
- Internal test for investigation of quality problems

## Measurement equipment

- Programmable AC Power Source (Chroma 6530, Chroma 63113A)
- Insulation/Current Leakage tester (GW Insteek GPI-745A)
- Power analyzer (Yokogawa WT210 + GPIB)
- Digital multimeter (Picotest M3500A, Keysight 34461A)
- Hi-pot tester (Hioki 3561-01)
- Force/torque meter (Mecmesin AFG 500)
- Static torque wrench (Mecmesin TW15)
- Contactless RPM meter



XRF TESTER  
(RoHS)



TEMPERATURE  
AND HUMIDITY  
CHAMBER

# MEASUREMENT LAB

## Major activity

Measurement in connection with:

- Initial sample approvals
- Quality problem investigation
- Tool approval, optimization or reparation
- Special demand from customer
- R&D

## Measurement equipment

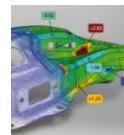
- Keyence IM-7020 image measurement system
- Atos 3D scanner
- Dea Global CMM
- Global performance cmm
- Optiv classic optical cmm
- Tesa visio optical cmm
- Tesa cmm
- Tinius Olsen tensile testing equipment
- Torque meter
- Scale
- Surface roughness meas.
- Hardness meas.



OPTICAL  
CMM



CMM



3D  
SCANNER



# THANK YOU FOR YOUR KIND ATTENTION!



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