

# TRAMES

By LOTRIČ Metrology



# THE FUTURE

DEMANDS COSTUMISED SOLUTIONS

# PROCESS AUTOMATION FOR ZERO-DEFECT STRATEGY

**The quality and safety of products or facilities is not self-evident. It is the result of strict quality control throughout the entire chain, from raw materials to the user.**

**Automation of measuring and control processes allows you to keep up with requirements and improve process efficiency and product quality**

A Zero-defect strategy represents the highest possible quality control throughout the entire production process.

Today, use of the science of metrology - computer vision, big data, automated to create artificial intelligence - can ensure that this process runs like an exact science.

With more than 30 years of experience in the field of metrology, and with a young team of engineers, we develop and manufacture for you fully customized product quality control systems throughout the production process.

**We recommend our clients to implement metrology in three vital areas:**

- **income quality control;**
- **in-line/on line quality control;**
- **and final quality control.**

# FROM A METROLOGICAL CHALLENGE TO AN ADVANCED SOLUTION

**The need to develop fully customised measurement and control systems is growing in all industries.**

There are seldom generic products on the market which can be directly put in place.

The questions of metrology are complex – and that is why you need an original solution!

*In the LOTRIČ Metrology Group, development takes place according to a predetermined process.*

## 1. DETERMINATION OF INPUT PARAMETERS

After a detailed overview of your measurement challenge, we determine key requirements such as measurement parameters, metrological performance, degree of automation, environmental conditions, specific requirements of standards and other requirements.

- Optional: Issuance of DQ (design qualification) documentation.

## 3. DEVELOPMENT AND MANUFACTURE

When the modelling and programming of mechanical, electronic and software components is complete, the device is manufactured and tested. The whole process can take from a few weeks to a few months, depending on the complexity of the solution.

## 5. CALIBRATION, TRAINING, PROFESSIONAL AND TECHNICAL SUPPORT

We only complete and hand over the project when your team is able to operate the system on its own, and when we have completed the on-site calibration. We provide technical assistance, regular maintenance and calibrations throughout the operational life of the device.

## 5 STEPS TO DEVELOPING A SOLUTION

### 2. CONCEPTUAL DESIGN AND FEASIBILITY STUDY

Based on the input parameters, we develop the concept idea and perform a feasibility study. We adapt the conceptual design to the point where all your requirements are met. Studies are conducted in our laboratories on real samples.

### 4. PREPARATION OF DOCUMENTATION AND PRODUCT COMPLIANCE

After the completion of the development phase, we prepare the technical and technological documentation, which ensures that the TRAMES systems are in accordance with good metrological practice:

- IQ – Installation Qualification
- OQ – Operational Qualification



## MEASURING MACHINES, SYSTEMS AND DEVICES: **TRAMES UNIQUE**

**Fully customized measuring systems for complex metrological challenges in all industries.**

TRAMES Unique are machines for measuring product dimensions which are fully tailored to the client's needs.

If you cannot find a suitable measuring machine, system or device on the market, we design and manufacture the TRAMES Unique measuring machine based on 30 years of experience in metrology.

This can be a stand-alone device or a unit that is part of the production line or other devices.

### **TRAMES Unique enables:**

- Measurement of dimensions in 1D, 2D and 3D space
- Measurement using contact and non-contact sensors
- Different levels of automation and metrological capabilities
- A wide range of upgrades
- Operation in the most demanding production conditions

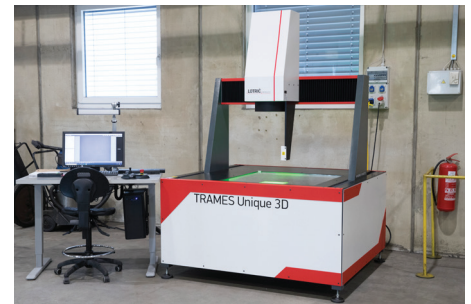


»In order to maintain a high level of quality, we pay special attention to dimensional accuracy. The LOTRIČ Metrology Group has provided us with a metrology solution that is fully adapted to the measurement of aluminium extrusion tools, while the M3 software ensures the traceability of all our tools before and after use.«

**Boštjan Tomažič u.d.i.s.**

**Head of Tool Technology**

PCP d.o.o., Impol group



## CONTROL AND INSPECTION SYSTEMS:

# TRAMES INSPECTION

**By using machine vision and advanced algorithms it improves the stability and repeatability of the production process.**

TRAMES Inspection is an Inline or Offline system which is developed according to your specific requirements.

By using machine vision, it enables complete control based on advanced algorithms, and improves the stability and repeatability of the production process.

### TRAMES Inspection enables:

- Detection of defects and damage
- Identification and classification of products
- Surface scanning
- Detection of geometric irregularities
- Assembly control



# gorenje

a **Hisense** company

At Gorenje, the quality of our products and the resulting satisfaction of our customers are our top priority.

The financial aspect is also important, because in the event of an error on the production line, raw materials may be lost. It is therefore crucial that we already detect any errors during the production process.

LOTRIČ Metrology has set up checkpoints on the production line for washing machine drums and automated the control of rib pins in grooves using machine vision. This prevented later, very demanding production repairs and assembly stoppages and avoided subsequent service and consequent costs and customer dissatisfaction.

**Zoran Uršič, Quality Assurance Manager,  
PSA Programme**

Gorenje home appliances

# LOTRIČ

METROLOGY

WE MEASURE. YOU GROW.



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*Quality solutions for all your metrological challenges.*