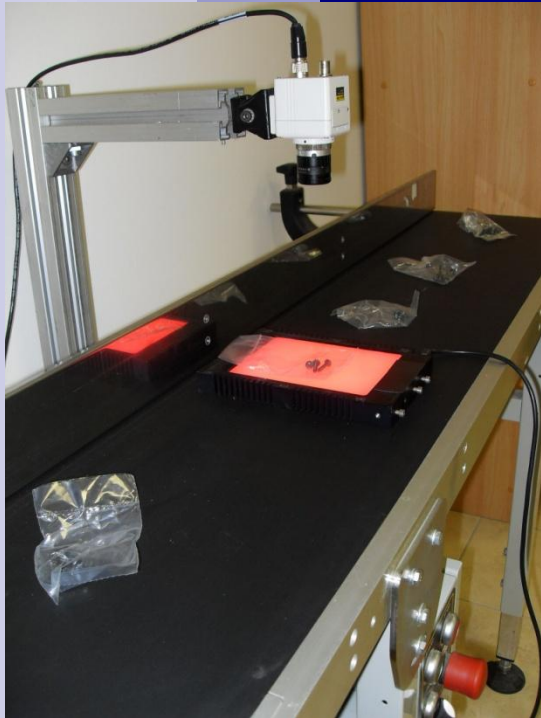# Technical developments
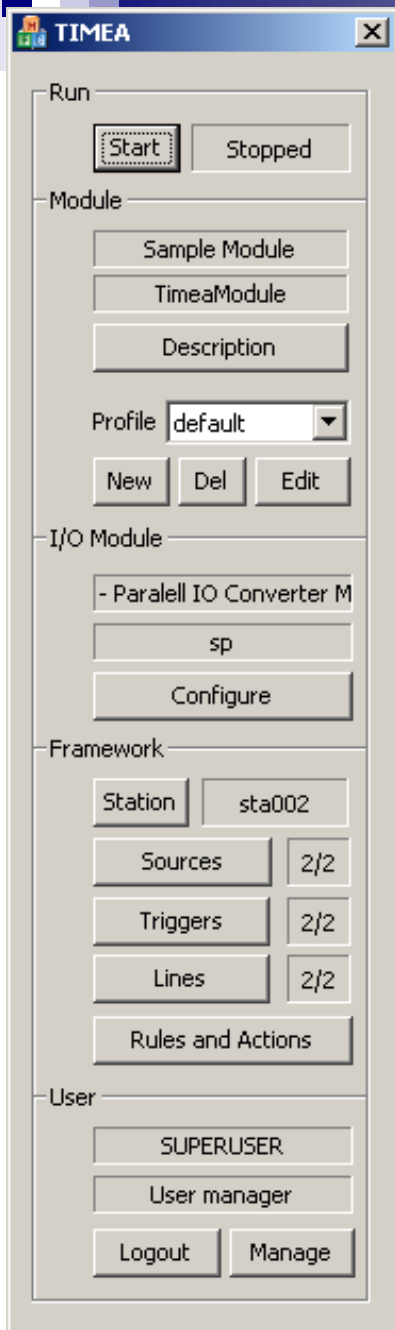
BAROSS_KD07-KD_INTEG_07-2008-0061

Participants

- Modus Számítástechnikai Kft.
- Pannon Egyetem
- CENTRAL EURO-VIDICON Informatikai Kft.
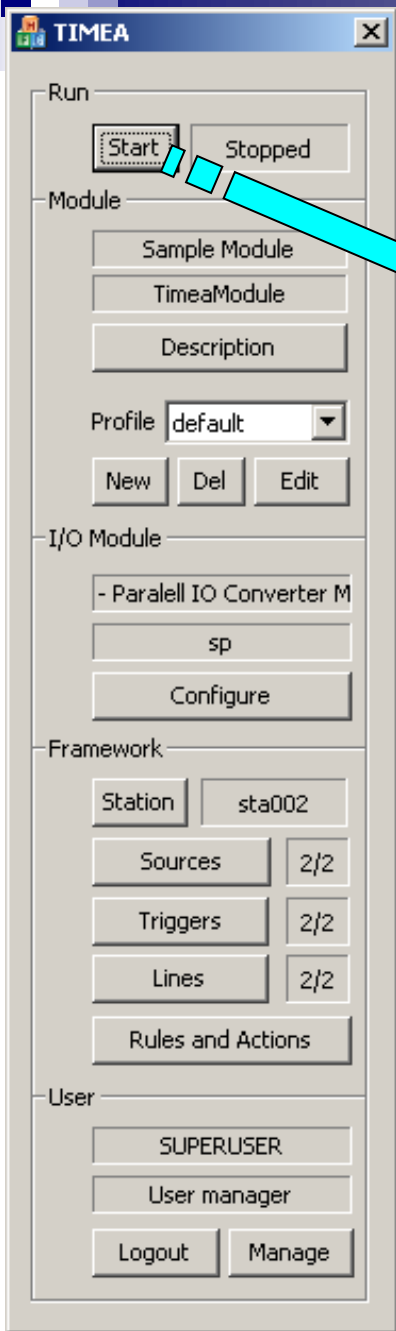- Sárkány Informatikai Zrt.
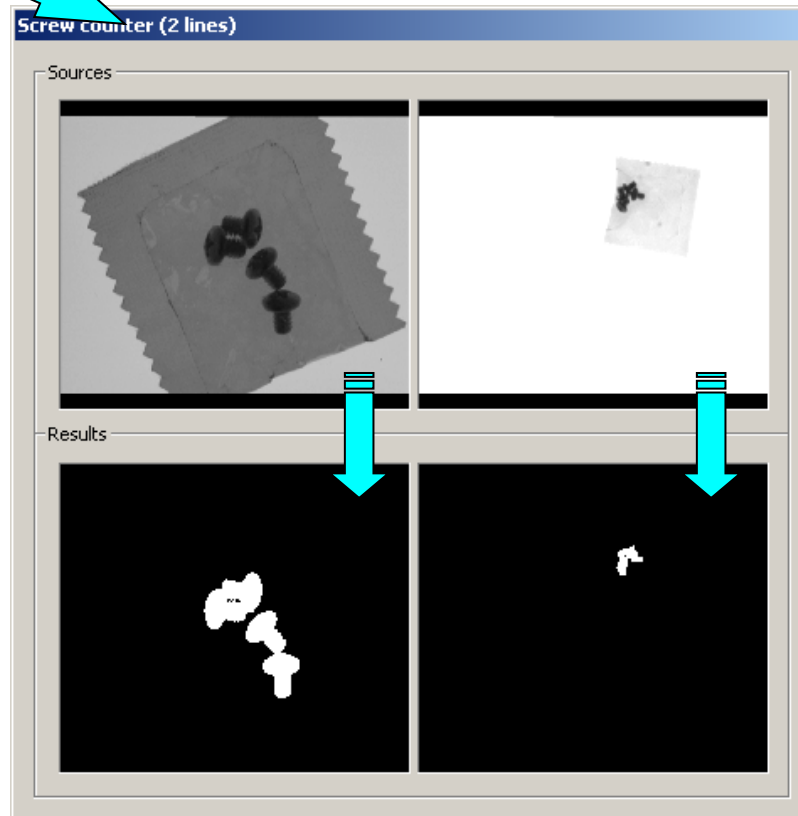
The Framework Software

General purpose framework software to handle common tasks in video inspection scenarios.

Main features:

- ✓ **Measuring module as a plug-in library (dll)**

- ✓ **I/O control module as a plug-in library (dll)**

- ✓ **Multiple processing lines**

- ✓ **Multiple video sources**

- ✓ **Configuration profiles for the measuring module**

- ✓ **User management**

- ✓ **Configurable hardware/software triggers**

- ✓ **Configurable output actions**

- ✓ **Detailed data logging**

Example module: Screw Counter

Operator GUI

✓ **Visible to all users in batch mode.**

✓ **Input images.**

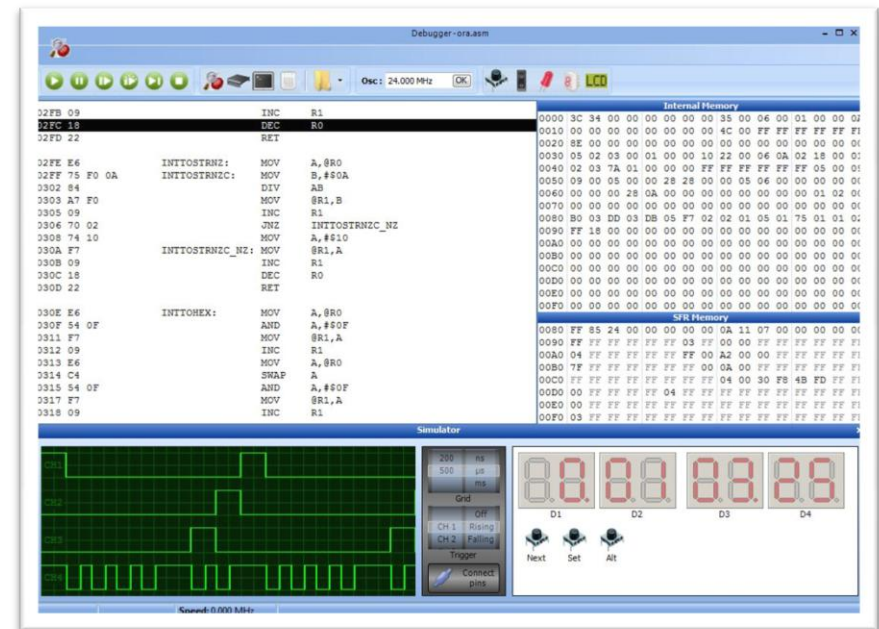✓ **Segmented images (detected screws with white).**

Note the different lighting conditions – the segmentation algorithm can handle the variation as long as some basic criteria are satisfied.

Microcontroller emulator

The developed emulator is designed for the Atmel 89x series.
Its main componenst:

- editor,

- compiler,

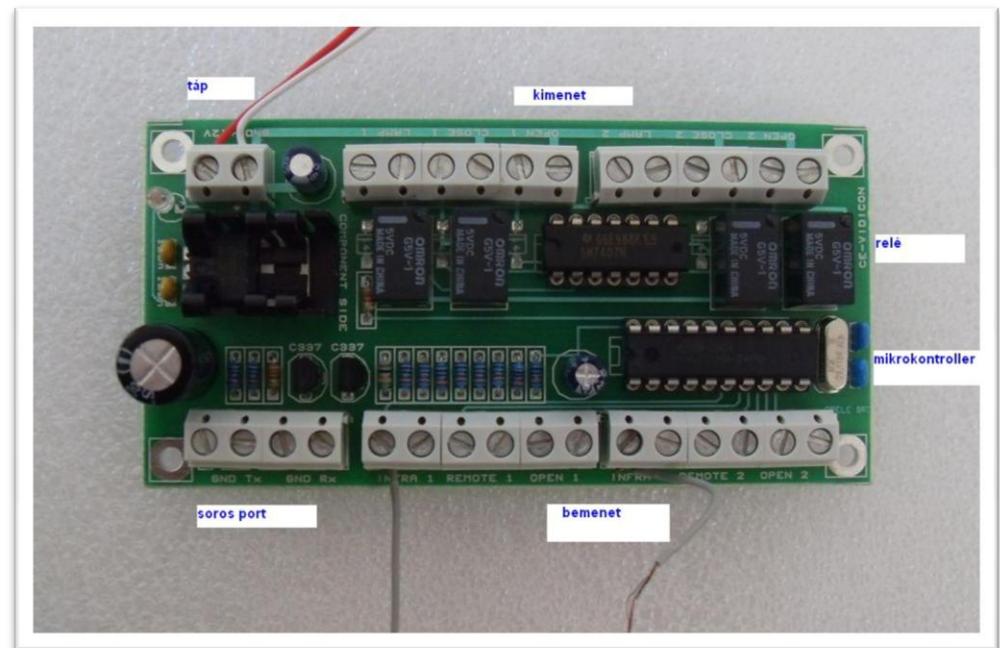- error locator,

- simulator.

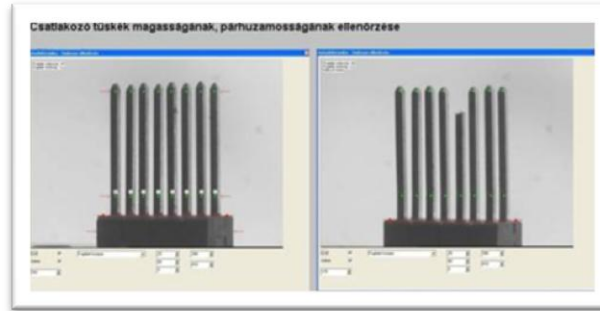The application of the emulator reduces development time and cost.

Interface card for peripherial devices

- The interface card connects to the serial port of the PC and is able to communicate with different controlling hardware.
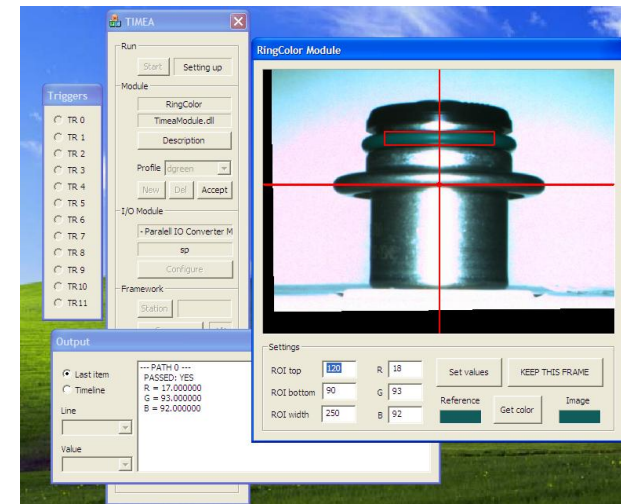It has 8 output and 8 input channels.

Quality measurements methods

- Object shape recognition

- Color based recognition
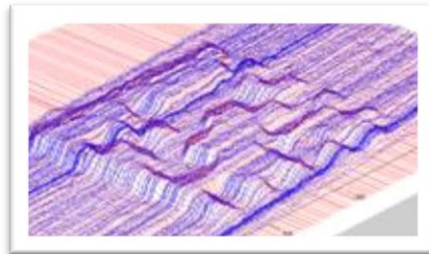
- Checking of perforation
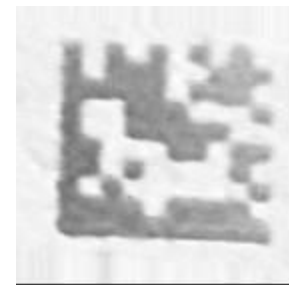
Laser surface-scanning

- Object surface may have quality defects.

- 2D cameras are unable to monitor several kinds of 3D surface errors, shape deformations, scratches.

- Laser scanning can give 3D information about scratches or shape defects.

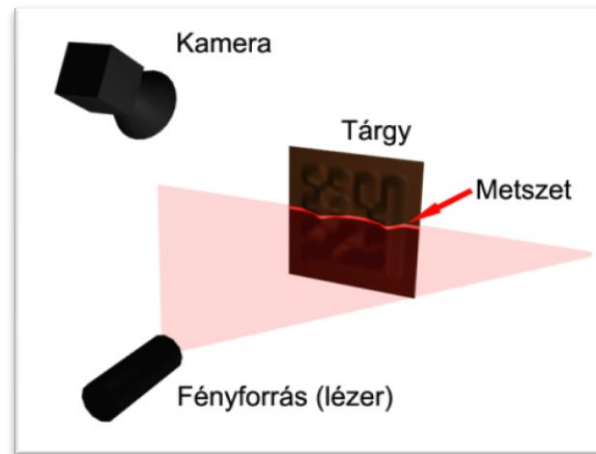Laser scanning with lines   3D model   Reconstructed 2D MatrixCode pattern

Laser surface-scanning

- Overview

- Animation