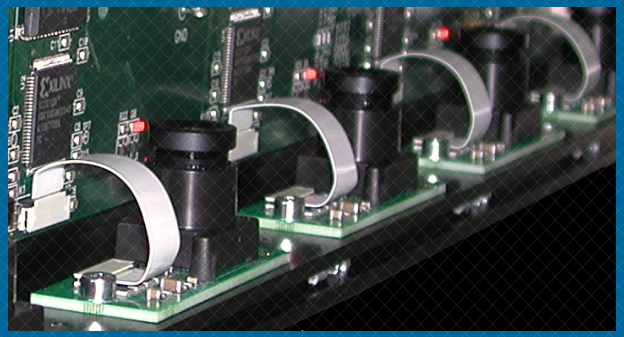
Multi Array Scanner (MAS)

High resolution line scanner

The MAS (multi array scanner) is Matrix´ unique scanner; it consists of multiple 2D cameras (up to 64) that are combined to get a single scan-line or image. As it is a modular system of sections of 320mm the MAS can be ordered in lengths ranging from 320 mm to more than 5 meter.

The scanner features high accuracy (up to 0.125mm/pix), low noise and optimal viewing angle even for low mounting heights (as low as 195mm)



Our History

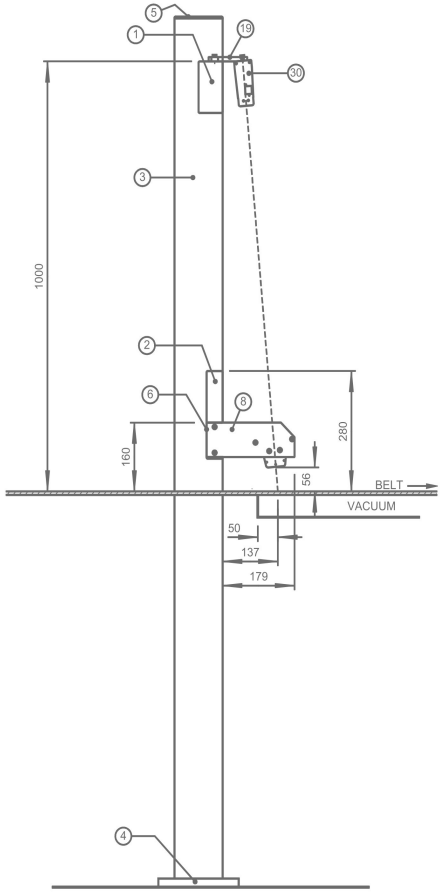
Vision automation since 1982

Ingenieursbureau Matrix began in 1978 as a micro-electronic development- and production company. Since 1985 it is located at the Business & Science park in Enschede, The Netherlands; close to the university of Twente. After years of developing and producing products for third parties, Matrix also started to develop it´s own products.

In 1982 Matrix developed it´s first camera and vision applications.

Hardware

ITypical hardware setup for a conveyorized cutter



Scanner(30) and LED bars (8) set up above a cutter

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MATRIX

MatrixVision software

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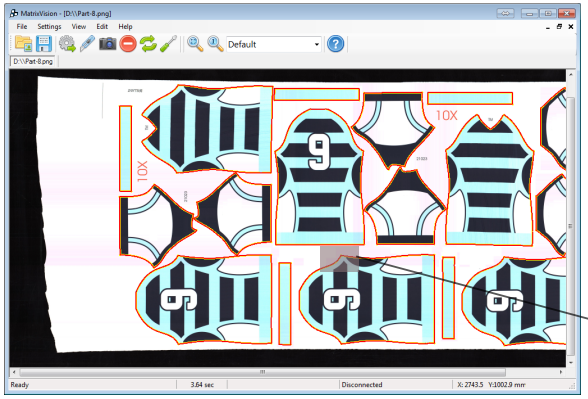
MatrixVision

Object detection software

MatrixVision is an image processing software package that is designed to be used in combination with Matrix´ Multi Array Scanner and a single-ply cutting machine.

The software contains a wide range of modules that can be used for different applications.

Typically the scanner is installed above the conveyor belt of the cutter and scans the material during the belt movement. The scanned image then will be processed by the selected module that sends a DXF or NC file to the cutter.
Allmost all modules generate a cut-file on the fly, no pre-processed DXF or NC files are needed.



One of the featured modules is the **contour-cutting** module that can be used to cut printed sportswear. The software will automatically detect the printed borders and fit fluent lines around the detected parts.The output is a DXF file.

It will automatically detect corners and notches.

Applications

Contour-cutting. The contour-cutting module is designed to detect printed contour lines and generate a cut-file on the fly. Typical product is custom printed sportswear

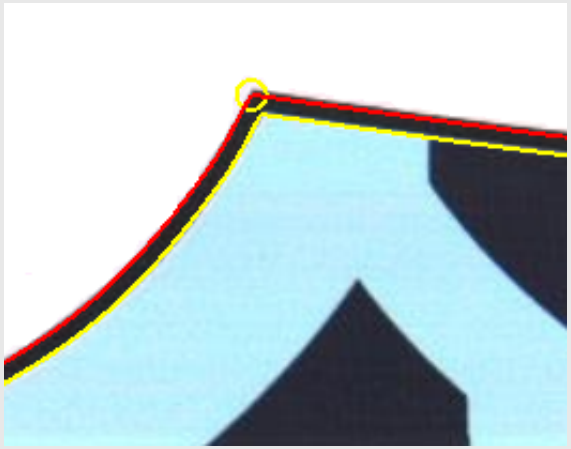
Mat-cutting. This module automatically detects the borders of walk-off mats and generates a cut-file on the fly to trim the borders of the vinyl or rubber backing.

Leather hides. Features automatic hide border and flaw detection for automatic nesting software.

Skew and bow detection. Designed to detect repeats in fabrics and automatically adjust the cutlines to the bow and skew of the material.

OPW airbag cutting. Detects features in OPW material and automatically fits a DXF file on the features

Pattern Matching. Detects repeats in printed carpets. and generates cutlines on the fly.



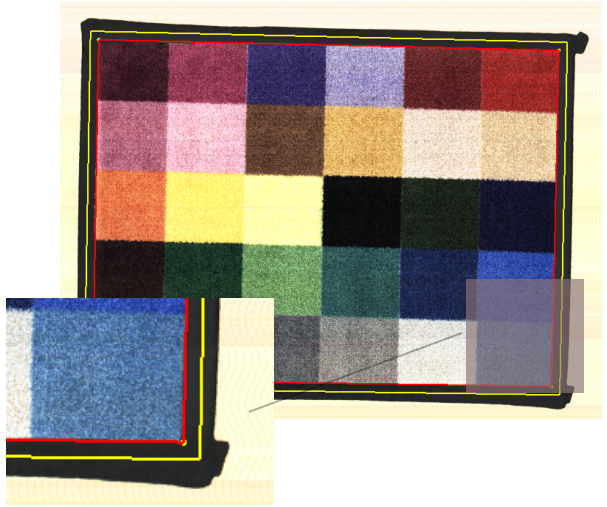
Automatic border detection in printed fabrics. Red: detected contour lines, Yellow: cut-lines, Circle; detected corner

1200 Mats per hour

High speed image processing

The **Mat-cutting** module detects the borders of walk-off mats on the fly. The user can set the offsets for the cuts around the border.

Because the scanner scans the material during the belt movement of the cutter there is almost no time loss to generate the cut lines. This results on high production rates up to 1200 mats/hour.



Custom applications

All Matrix products (hardware and software) are developed in-house. This gives us full control on all specifications. On request we can deliver custom software or make changes to existing hardware.