alpiscan
machine vision solutions

STIRLING GROUP

MERLIN QP
Quality scanner for profiles

Innovative solution for quality inspection of coated profiles

Merlin QP is the world's first scanning system for fully automated measurement and quality inspection of coated profiles – regardless of shape, color, or coating type. Whether MDF, PVC, or real wood profiles with color coatings or lacquers, Merlin QP automatically detects any profile geometry, distinguishes between intended milling features and actual defects. The system sorts the profiles based on quality and dimensional accuracy – even at speeds of up to 300 m/min in longitudinal transport.

Key Benefits

- **World's first scanner of its kind**
- **AI-powered** quality inspection with self-learning capabilities
- **Full flexibility** in shape, color, material, and coating type
- **Maximum precision** at extremely high processing speeds
- Ideal for **Industry 4.0** environments – fully integrable
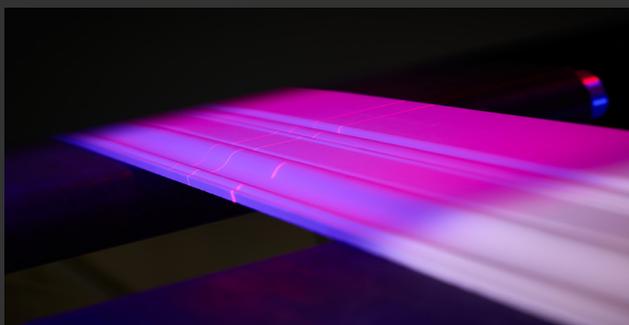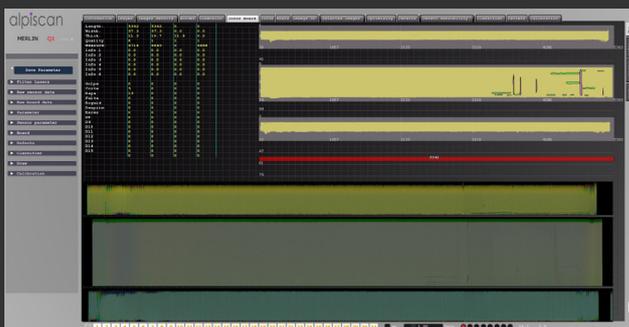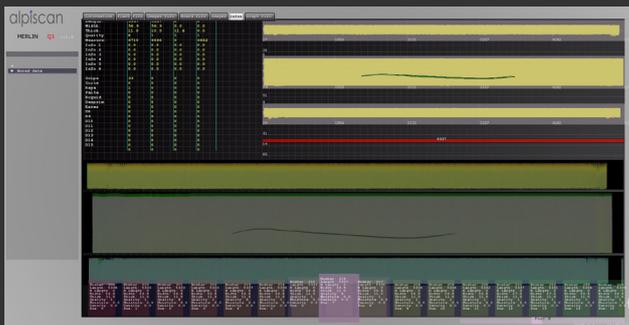
Specifications

Information	Specification
Transport	longitudinal
Max. speed	up to 300 m/min
Profile shapes	any – no limitations
Material	MDF, PVC, real wood
Color	any color possible
Inspection	real-time grading and sorting
Software	AI-based defect detection, automatic profile recognition, configurable sorting logic

Key Features

- **6-side scan:**
  Measurement of all four profile sides plus front and back
- **Automatic profile learning:**
  No reference profiles required – the system automatically detects and learns new profile shapes
- **AI-based defect detection:**
  Integrated artificial intelligence reliably identifies a wide range of defect types – independent of shape, coating, or surface texture
- **User-trainable defects:**
  Users can define new defect types and train the system accordingly
- **Distinction between intended and actual milling:**
  Precise separation of design features and real defects
- **Defect detection & grading:**
  Automatic identification of surface and structural defects (see defect list below)
- **Sorting** by quality and dimensional deviation
- **Independent** of coating color or surface finish
- **Any color** supported

Defects

- Cracks
- Coating voids
- Milling defects
- Edge breakages
- Inclusions
- Foreign particles
- Pressure marks
- Scratches
- Roughness
- Insufficient color
- Incorrect tonal value