

Factory Process & Digital Solutions Map – Big Picture

Factory Production Process Flow

Cutting Area – Production



Cutting Flow:

Spreading →
Fixation →
Cutting →
Sorting & Collection

Splice

Automatic Bumper

Cut Collect

Cutting Area – QM



Verification, accuracy,
and process
standardization
before assembly

PLT Viewer

Sewing Area – Production



Preventing defects
at source and
eliminating the need
for downstream
manual inspections

Thread Detection System

SRS (Supplemental Restraint System)

ISOFIX Detection System



Safety Inspection

ISOFIX Detection System

Solution Descriptions

Hardware and Software Solutions	Description
Splice	Splicing automation, roll traceability, and machine synchronization
Automatic Bumper	Automated material holding and fixation (pre-cut stability)
Cut Collect	Automated sorting and collection of cut parts (post-cut process)
PLT Viewer	1:1 PLT file preview and verification for cut parts accuracy and tolerance control
Thread Detection System	Automated verification of sewing threads to ensure correct usage and traceability
SRS (Supplemental Restraint System)	Automated label verification and traceability, integrated on sewing machines
ISOFIX Detection System	Inspection of safety-critical ISOFIX components

PROJECT BRIEF

Project Name: Splice - Digital Optimization of Textile Spreading & Cutting

SUMMARY

By automating splicing operations, defect management, and machine synchronization, the solution significantly reduces setup times and material consumption, while providing real-time production control, full roll traceability, and automated efficiency reporting.

Application Area

The solution is used in the textile industry, in material spreading and cutting departments, for both apparel and automotive textile component production.

Problems Solved

- ✓ Long setup times during spreading and cutting operations
- ✓ Material waste caused by incorrect splicing and untracked fabric defects
- ✓ Limited visibility over material consumption
- ✓ Lack of synchronization between spreading and cutting machines

Implemented Machines

✓ Bullmer ✓ Gerber ✓ Lectra

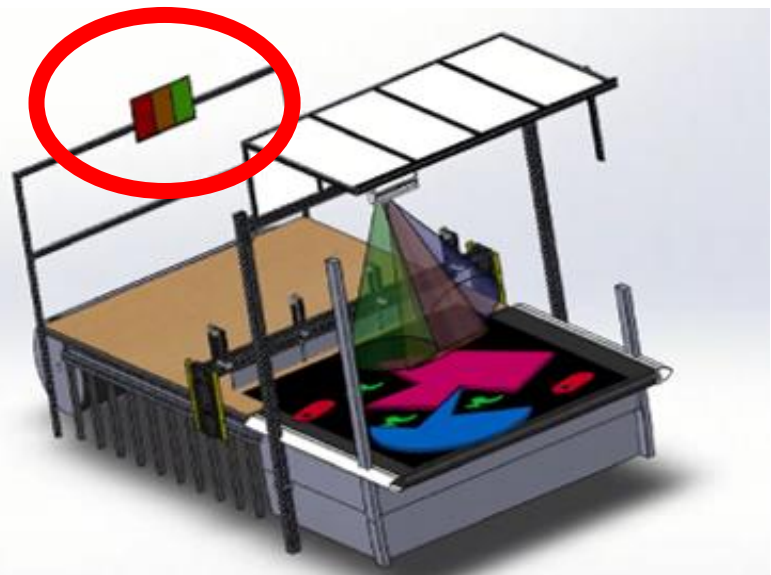
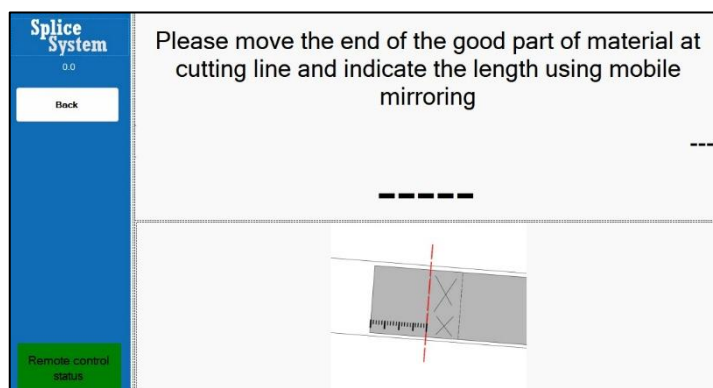
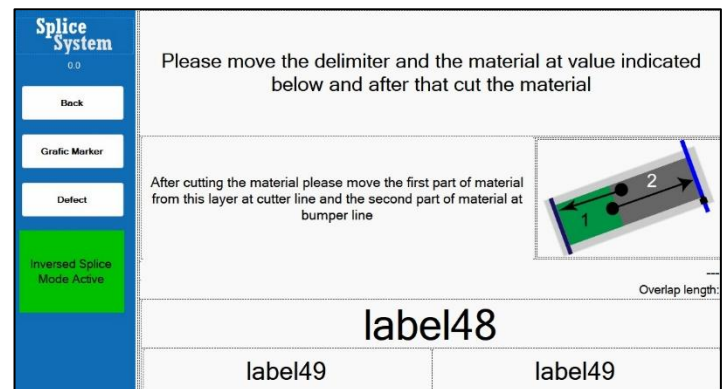
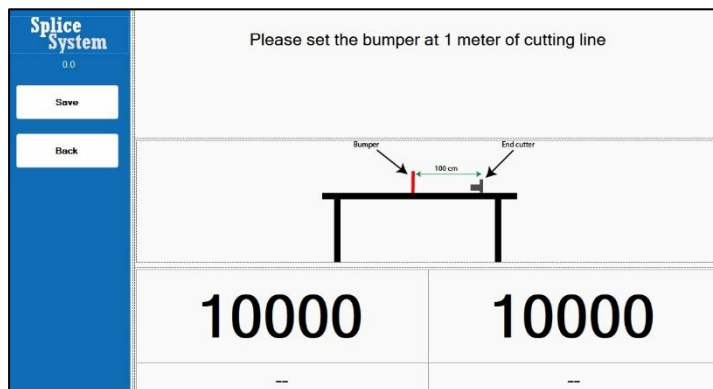
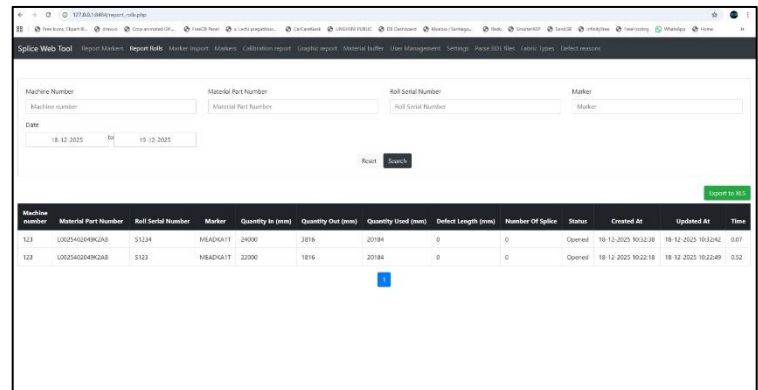
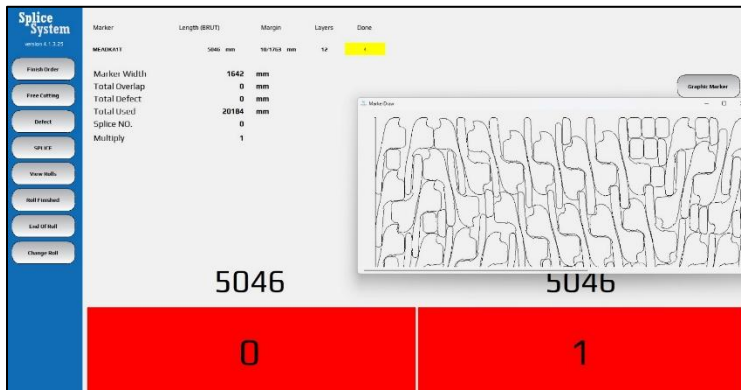
Pictures



PROJECT BRIEF

Project Name: Splice - Digital Optimization of Textile Spreading & Cutting

Pictures



PROJECT BRIEF

Project Name: Automatic Bumper - Automated material fixation module integrated with the Splice System

SUMMARY

Automatic Bumper is a project designed to automate the material holding and fixation phase preceding the cutting process in textile and flexible material production, through an integrated hardware–software system based on the Splice System solution. By ensuring stable and precise material positioning and enabling digital process control, the solution reduces material waste, shortens processing times, and ensures consistent cutting quality, independent of operator intervention.

Application Area

The project is applied in the textile industry, particularly in garment manufacturing factories, within material spreading and cutting departments, for both apparel and automotive textile component production.

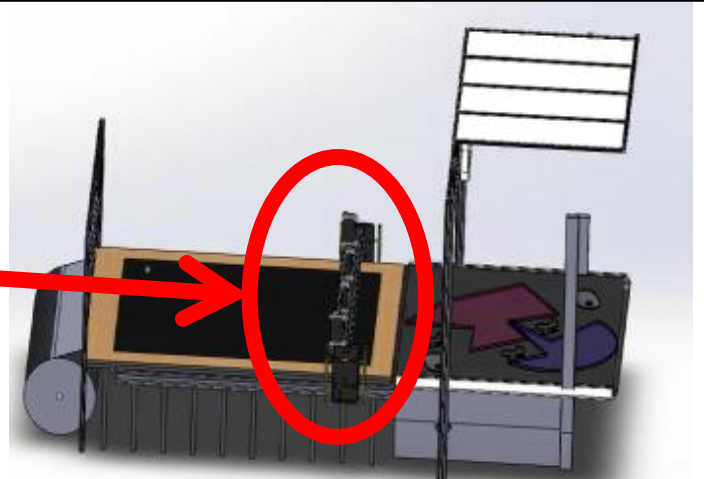
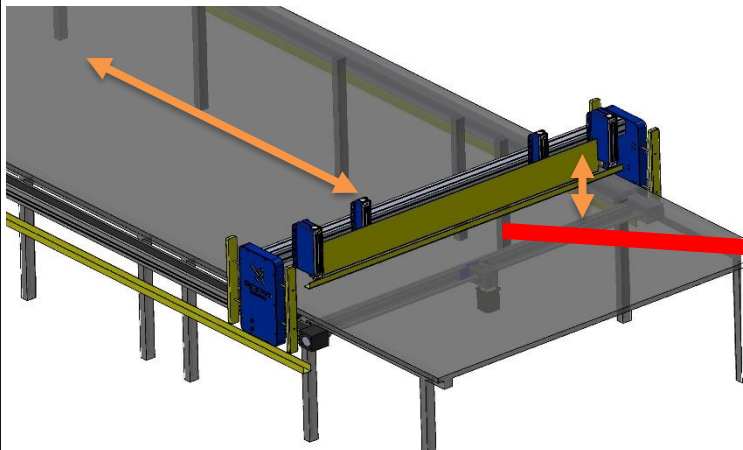
Problems Solved

- ✓ Material waste caused by improper or unstable material fixation
- ✓ Processing delays due to manual material handling
- ✓ Variations in cutting quality depending on operator experience
- ✓ Lack of repeatability and process standardization

Implemented Machines

- ✓ Bullmer
- ✓ Gerber
- ✓ Lectra

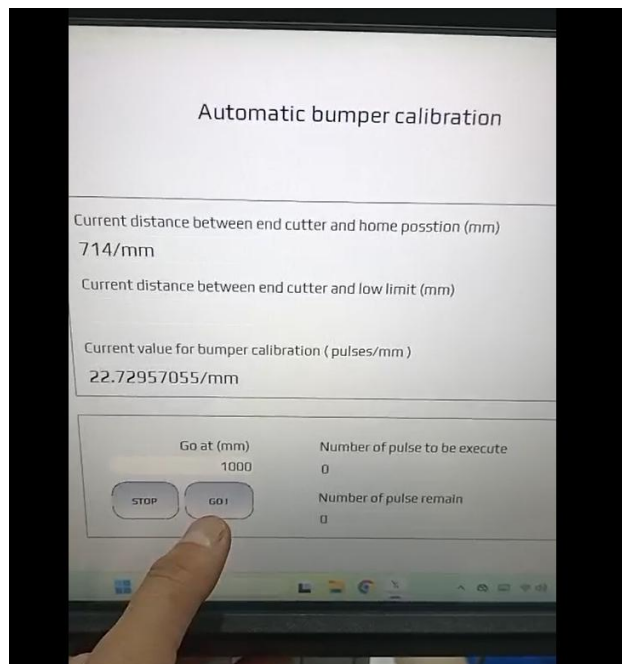
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PROJECT BRIEF

Project Name: Automatic Bumper - Automated material fixation module integrated with the Splice System

Pictures



PROJECT BRIEF

Project Name: Cut Collect - sorting and collection process of cut textile and flexible material components

SUMMARY

Cut Collect is a project designed to digitalize and standardize the sorting and collection process of cut textile and flexible material components. The solution eliminates sorting errors, reduces material waste and handling time, and ensures fully standardized and traceable processes, independent of operator experience.

Application Area

The project is applied in the automotive and textile industries, particularly in manufacturing factories, within material cutting and sorting departments, where precision, efficiency, and traceability are critical.

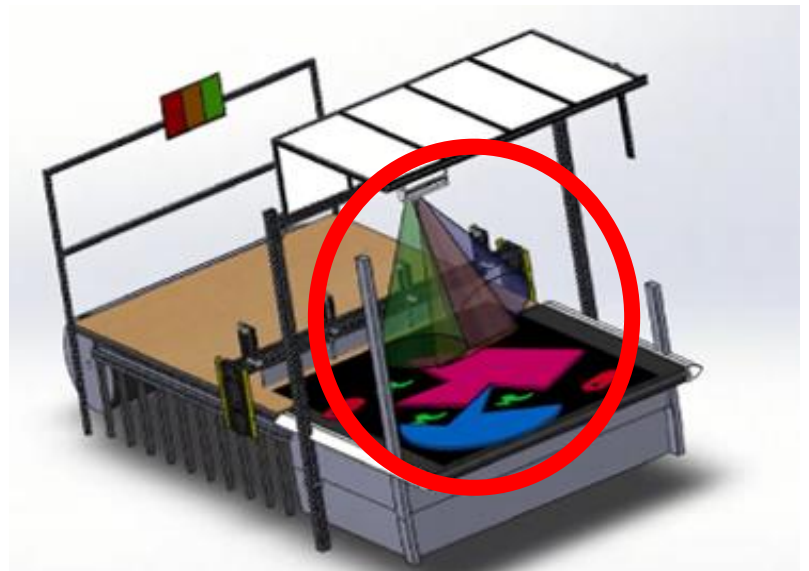
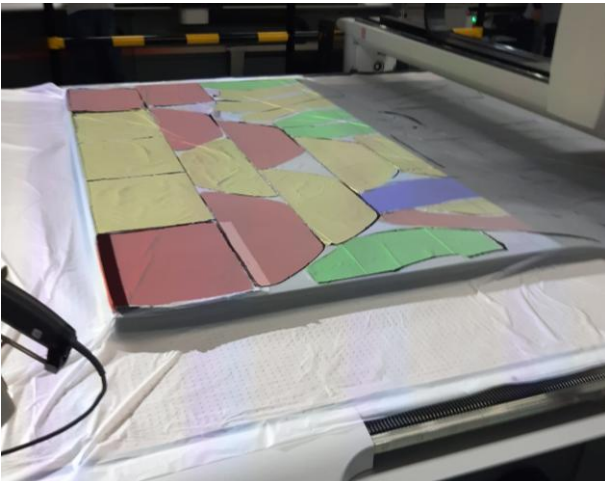
Problems Solved

- ✓ Sorting errors of cut parts
- ✓ Material waste caused by incorrect or missing sorting
- ✓ Excessive handling time and manual rework
- ✓ Lack of process standardization and traceability
- ✓ Dependence on operator experience

Implemented Machines

- ✓ Bullmer
- ✓ Gerber
- ✓ Lectra

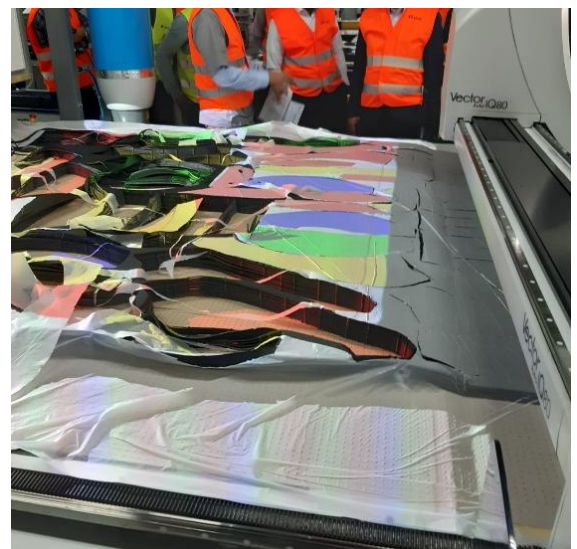
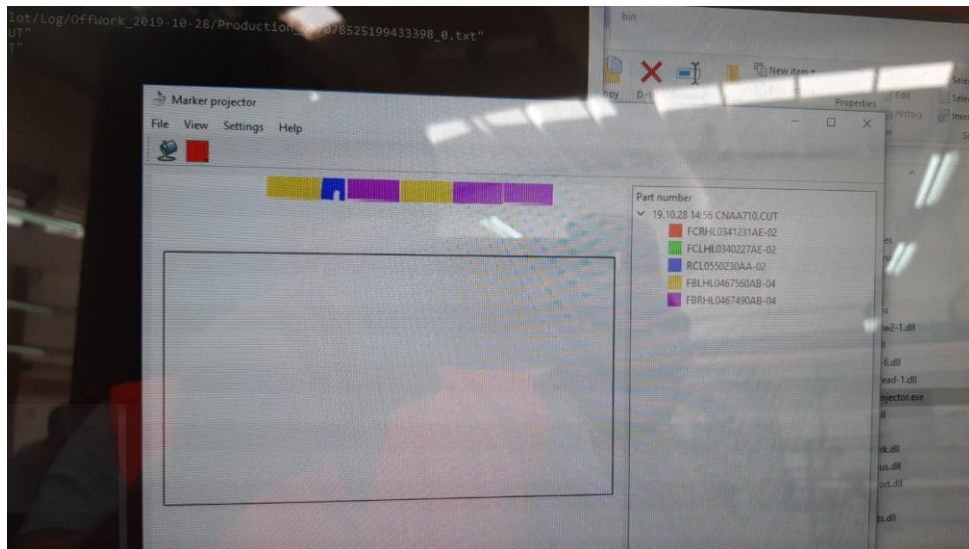
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PROJECT BRIEF

Project Name: Cut Collect - sorting and collection process of cut textile and flexible material components

Pictures



PROJECT BRIEF

Project Name: PLT Viewer - 1:1 preview and verification of PLT (plotter) files

SUMMARY

PLT Viewer is a specialized software application for the manufacturing industry that enables 1:1 preview and verification of PLT (plotter) files prior to cutting or assembly. The solution ensures high precision and accuracy of cut parts and optimizes the cutting verification process through tolerance adjustment, color customization, additional information layers, and user management.

Application Area

The solution is applied in the textile, garment, and material processing industries, particularly in cutting and verification departments, where precision, accuracy, and quality control are critical.

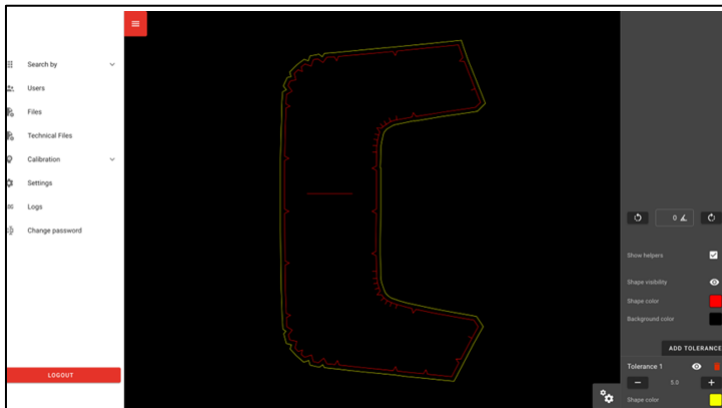
Problems Solved

- ✓ Misalignment and interpretation errors between digital files and physical cut parts
- ✓ Reduced cutting accuracy caused by missing or unclear verification steps
- ✓ Inefficient and manual cut verification workflows
- ✓ Lack of standardized verification processes and traceability

Implemented Machines

- ✓ The software is used in conjunction with **plotters and cutting machines** for textile and flexible materials, allowing operators to **verify cut pieces before assembly**, independently of the production machinery.

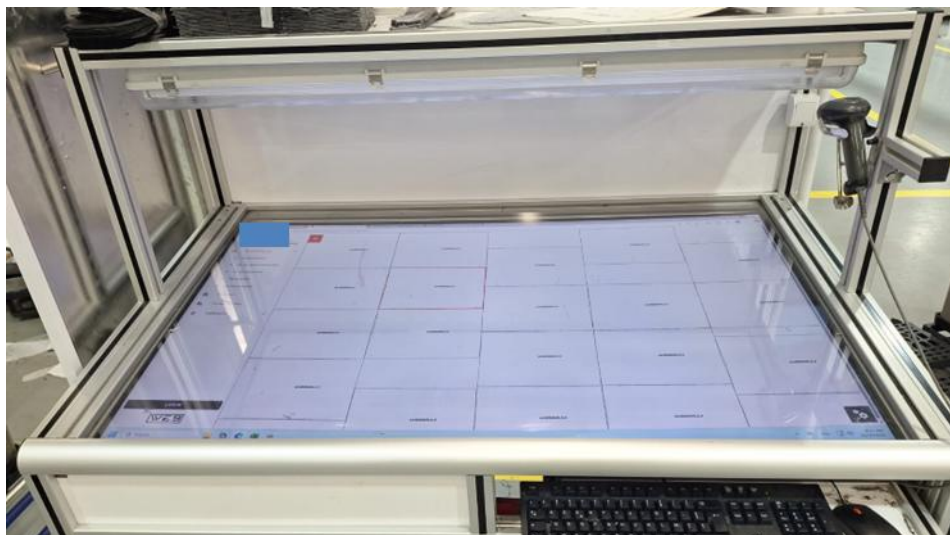
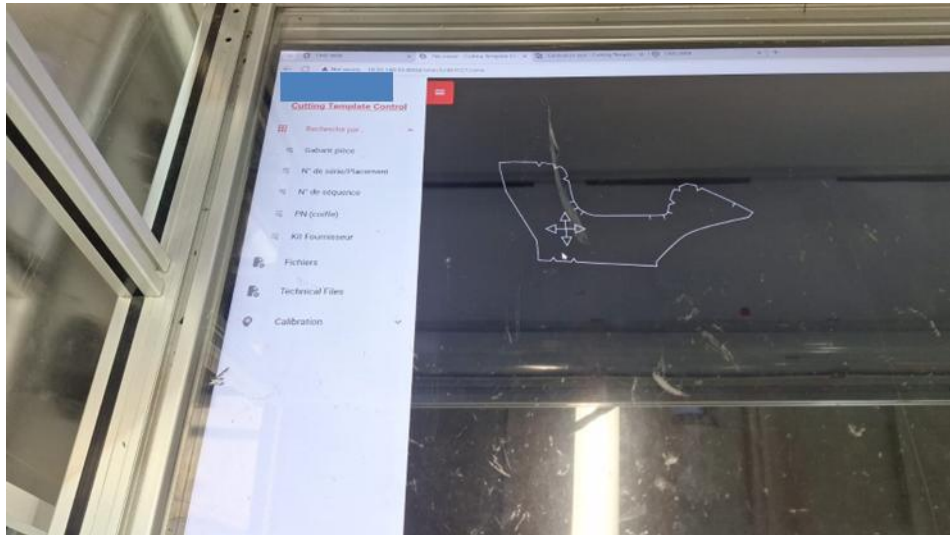
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PROJECT BRIEF

Project Name: PLT Viewer - 1:1 preview and verification of PLT (plotter) files

Pictures



PROJECT BRIEF

Project Name: Thread Detection System - validate sewing threads on industrial sewing machines

SUMMARY

The Thread Detection System is an automated verification solution that combines software and hardware components to digitally validate sewing threads on industrial sewing machines. The system ensures correct thread usage, eliminates process errors, and provides full traceability, while supporting a stable and optimized production workflow.

Application Area

The solution is applied in the textile industry, directly on industrial sewing machines, within production processes where accurate thread verification and quality control are required.

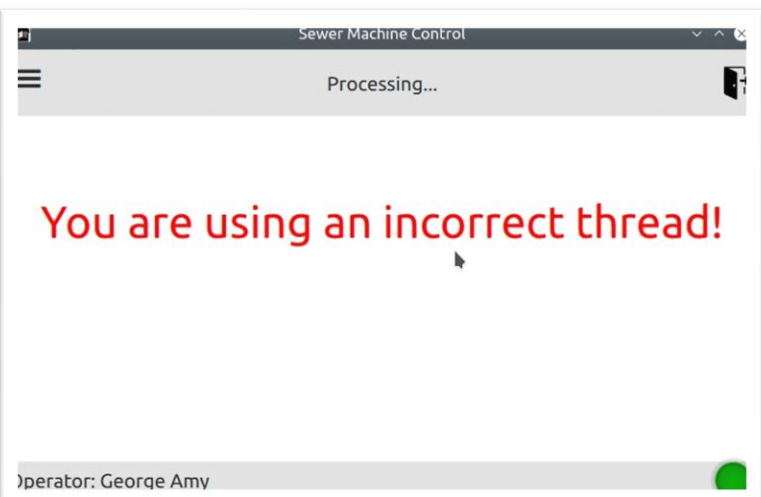
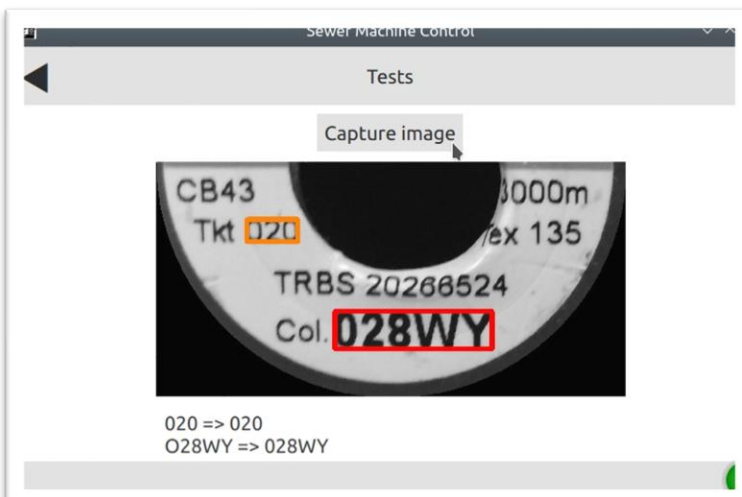
Problems Solved

- ✓ Errors caused by incorrect, missing, or unvalidated threads
- ✓ Material waste and rework due to thread-related defects
- ✓ Lack of reliable thread-level traceability
- ✓ Inconsistent sewing quality across operators and shifts

Implemented Machines

- ✓ JUKI
- ✓ Dürkopp Adler

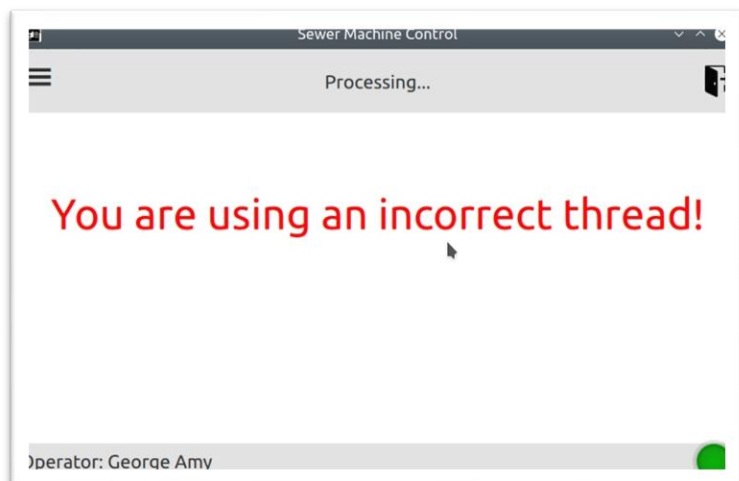
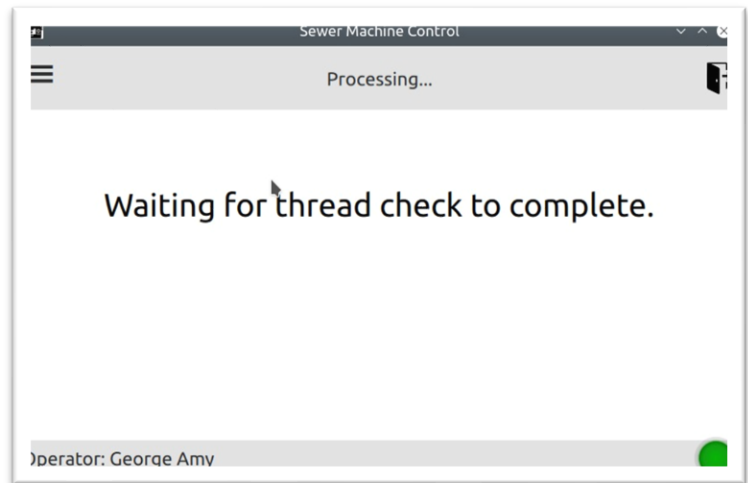
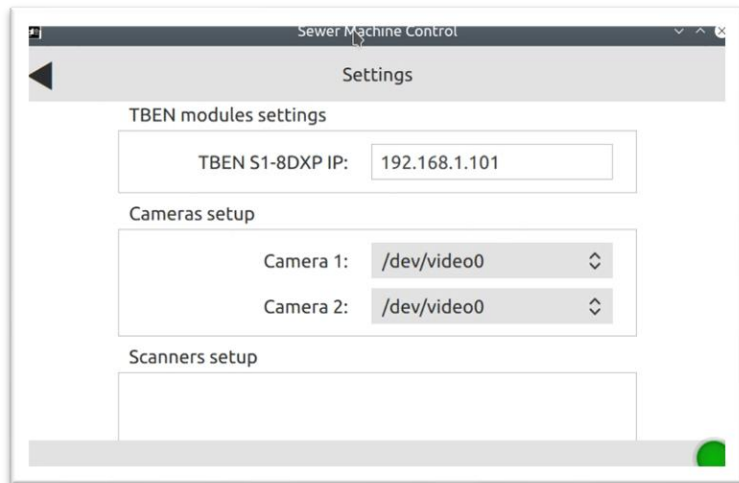
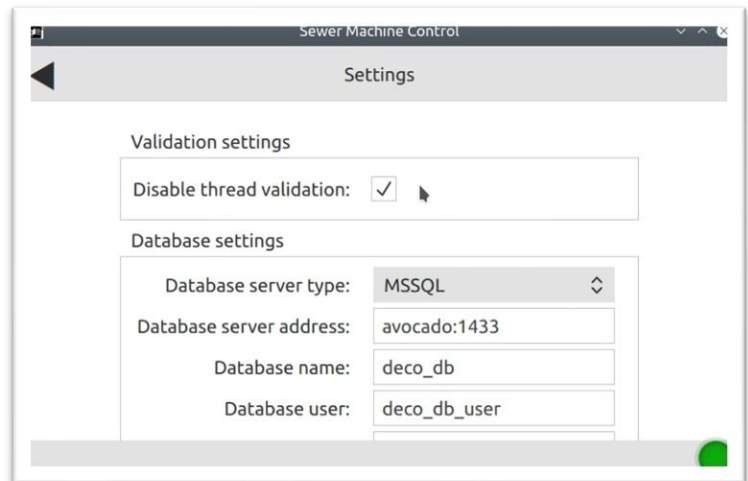
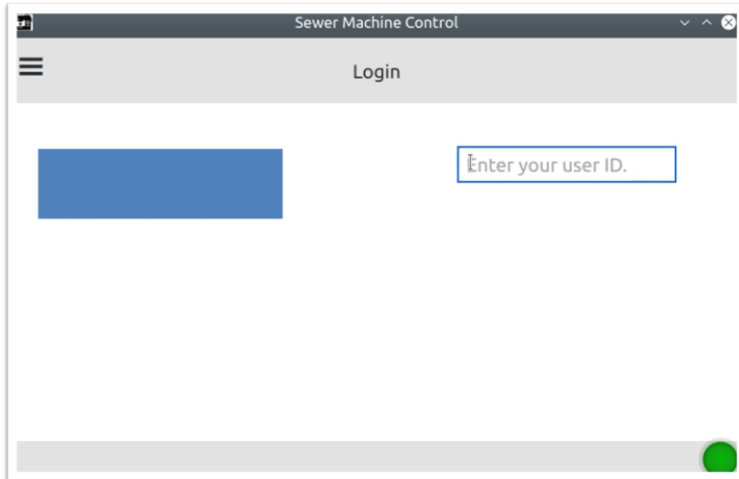
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PROJECT BRIEF

Project Name: Thread Detection System - validate sewing threads on industrial sewing machines

Pictures



PROJECT BRIEF

Project Name: SRS - Supplemental Restraint System - label verification and traceability system

SUMMARY

SRS is an automated label verification and traceability system based on smart camera technology, integrated directly on industrial sewing machines. The system automatically verifies SRS labels during the sewing process, ensuring correct identification, traceability, and compliance, while eliminating reliance on manual inspection.

Application Area

The solution is applied in the automotive industry, within production lines, integrated directly onto industrial sewing machines, where automated verification and component traceability are critical.

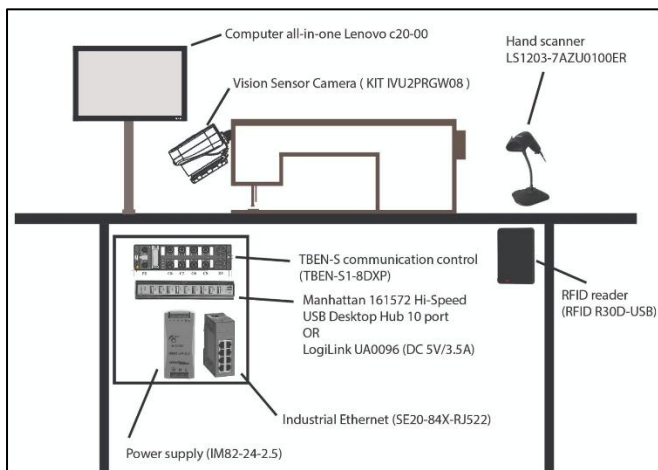
Problems Solved

- ✓ Errors and uncertainty caused by manual label inspection
- ✓ Missing or incorrect labels entering downstream processes
- ✓ Lack of reliable, automated traceability at sewing stations
- ✓ Risk of non-compliance due to undetected defects

Implemented Machines

- ✓ JUKI
- ✓ Dürkopp Adler

Pictures



PROJECT BRIEF

Project Name:	SRS - Supplemental Restraint System - label verification and traceability system
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PROJECT BRIEF

Project Name: ISOFIX Detection System - automated visual inspection solution of ISOFIX components

SUMMARY

The ISOFIX Detection System is an automated visual inspection solution that validates the presence, position, and orientation of ISOFIX components. The system ensures product compliance, eliminates assembly errors, and provides full component traceability within automotive interior production processes.

Application Area

The solution is applied in the automotive industry, within automotive interior manufacturing facilities, at dedicated assembly and inspection stations for ISOFIX components.

Problems Solved

- ✓ Risk of incorrect or incomplete assembly of ISOFIX components
- ✓ Delivery of non-conforming products to downstream processes or customers
- ✓ Lack of standardized quality control for safety-critical components
- ✓ Limited traceability across the production flow

Implemented Machines

- ✓ The ISOFIX system is implemented on a standalone inspection station, equipped with cameras and sensors, which verifies parts before or after assembly, independently of the production machinery.

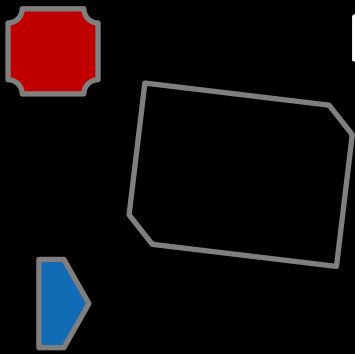
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Top 3 Large-Scale Implementations

	Automatic Bumper	Splice	Smart Cut & Collect
No. of Companies Implemented:	7	8	2
Countries of Clients:	7 (Europe and Africa)	8 (Europe and Africa)	2 (Europe and Africa)
Implementation Duration:	3–5 days per equipment (including installation, testing & operator training)	2–4 weeks per equipment (including installation, testing & operator training)	3 months (including installation, testing & operator training)
Machines Used:	Bullmer Cutter Gerber Cutter Lectra Cutter	Bullmer Cutter Gerber Cutter Lectra Cutter	Bullmer Cutter Gerber Cutter Lectra Cutter
No. of Machines Implemented:	85	86	6
Estimated Saving / Year / Company:	~15,000 EUR / year / machine	~ 15,000 – 50,000 EUR / year / machine	Information not available

Real Results in Textile Cutting Automation: Faster Setups, Lower Material Waste, Smarter Logistics with Automated CNC Cutting Systems



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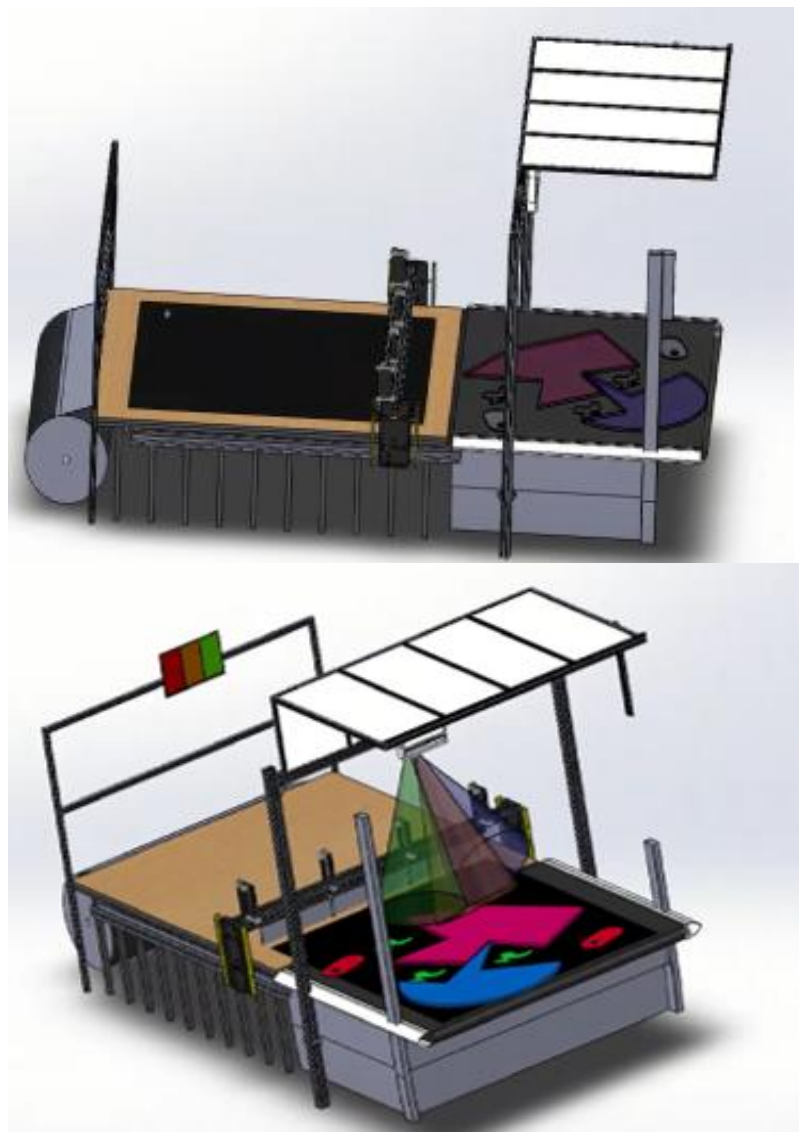
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