

FEXIBLE MANUFACTURING SYSTEMS FOR ASSEMBLING AND FINISHING OF FOOTWEAR, CEC-MADE-SHOE

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Introduction

The One Step Production Process is new shoe production concept that integrates all production operations in just one production sequence (one step). Each production lot will flow across the entire production process, from cutting to making, according to the specific operative sequence with minimal intermediate stops and storage.

It was developed an innovative logistic system that automates the movement of the production lots along the production sequence, allowing the production control and the interface with the machines. It was also developed a simulation model that facilitates the design and the evaluation of this production system.

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Objectives

The objective of the One Step Production Process was the development of a new way of organizing the production of shoes and respective support tools that:

- Integrates all production operations in only one production sequence (one step);
- Enables the simultaneous production of very small quantities of different shoe models without output gap;
- Reduce the throughput time from several days to hours;
- No intermediate stocks; No waiting time between departments;
- More precise balancing and control production line.

Achieved Results

- ✓ A new modular and flexible logistic system, that automates the movement and storage of the production lots along the production sequence.
- ✓ A software to manage and automate the logistic system.
- ✓ A software to balancing/scheduling the production line.
- ✓ Simulation models for the concept validation.
- ✓ A real Demonstrator of the new production concept and logistic system, which enabled an important performance improvement. The Return on the Investment is expected in 18 months, based on the following improvements.