CassaMobile a factory on the go: flexible mini-factory for local and customised production in a container

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Flexible mini-factory for local and customised production in a container


A.Johnson@lboro.ac.uk, H.Zarezadeh@lboro.ac.uk

Increasing costs for global transportation and mass production, coupled with an increasing demand for customised products makes the requirement for local fabrication solutions increasingly important. The CassaMobile concept aims to provide the local, flexible and environmentally friendly production of highly customised parts. The production system is based on a truly modular architecture allowing rapid adaptation to new requirements. A comprehensive pool of interchangeable process modules provides free configuration of the process chain to suit specific product requirements. The CassaMobile concept is supported by an easy-to-use HMI and software for the direct manufacturing of custom designed product, therefore making the system cost-effective for end-users. All of these components are designed to be embedded within a shipping container which can be easily transported and deployed wherever required.

Loughborough University’s task within the CassaMobile project is to focus on adapting and optimising the selected AM process for integration within the CassaMobile environment, including hardware adaptation and in-process inspection.

CassaMobile Process Overview

- All components will be embedded in a transportable container environment
- A pool of interchangeable process modules enables many different configurations.
- Modules include Additive Manufacturing, CNC-milling, automated assembly and cleaning.
- The CassaMobile will feature an easy-to-use HMI and software for the direct manufacturing of custom designed products.

CassaMobile Container Overview

A.Johnson@lboro.ac.uk, H.Zarezadeh@lboro.ac.uk

Local production of bone drill guides

The delivery time of a bone drilling guide takes normally up to 30% of the total time of the processes leading from data capture to surgery. This important bottleneck can be tackled by having local, faster and flexible production facilities, which allows fast but high quality production.

Local production of individual grippers

With mobile production available, even for clean-room environments, CassaMobile will allow fast and customised production of individual grippers directly at the point of need, taking advantage of new technological advances such as Additive Manufacturing and CNC-milling.

Local production of orthotics

The distance between clinics and the orthotics fabrication site generates waiting times and multiple patient visits. CassaMobile aims to reduce production time allowing the patient to attend the hospital only once and be supplied within a matter of hours of the original assessment.

Use Case Demonstration Products

CassaMobile will demonstrate a generic mini-factory prototype capable of fulfilling three use cases.

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