Flexible and Autonomous Manufacturing Systems for Custom-Designed Products

FASTEN

FASTEN: EU-Brazil cooperation in IoT for manufacturing. Embraer use case
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9th EASN
3th September 2019

EMBRAER
FASTEN
FASTEN USE CASE
FINAL REMARKS
Missing people????
RICARDO JOSE NUNES DOS REIS; 26/08/2019
This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement Nº 777096

EMBRAER: A GLOBAL COMPANY

Production Of Large, Critical and/or Complex Parts

Wings And Empennage Assembly

High Automation And Digitalization

What is FASTEN?

Foster digital manufacturing sustainability and enable technology development between Brazil and Europe

Provide a multi-disciplinary decision support tool to improve trade-off analysis

Contribute to the competitiveness of Brazil and Europe
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Partners from Europe and Brasil

Two pilot demonstrations

Design of an Additive Manufacturing Supply chain in Brazil

Automatic Pick’n’Place at Embraer Portugal
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Goals

Generic Solution
Adaptable & Self-Learning
Service Oriented Architecture
Skills based approach

Self-evolving with real data
Support Plant Management
Manage disruption
Load balancing for new or improved products

Prognostics & Prescription
Towards CBM

Main expected results

1. Intelligent handling of custom objects
2. Full connectivity among all hardware and software components
3. Improve accuracy and provide better insights regarding the near-future
4. Solid understanding of the system’s behaviour and its sensitivity to different parameters
This project has received funding from SEPIN/MCTI under the 4th Coordinated Call BR-EU in CIT and from the European Union’s Horizon 2020 research and innovation programme under the Grant Agreement Nº 777096.
Results – Open Industrial IoT Platform for custom designed products – *Reference architecture and system specification*

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**APACHE implementation and learnings**

APACHE - Huge tool box, maintained tools, easy to use and easy to configure, in combination with docker running on a variety of platforms, high performance, robustness, cascadable, ...
Review meeting

Next activities

1. Final technology demonstration 2020
2. Exploitation and way forward: Brasil-EU Industrial Lab?
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Thank you Questions?

www.fastenmanufacturing.eu

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