Power Online SM
A VertMarkets Marketplace for Industry Professionals

VPE: 200,00
Difusión: 00.000
Audiencia: 00.000
Documento: 1/1
Archivo: 000000LD

Fecha: 17/11/10

Autor: **REDACCION** Sección: Articles

COSMOS Project To Increase Productivity In Aeronautics And Wind Generator Sector By 20%

November 17, 2010

Ibermática is leading a European project which aims to increase the manufacturing productivity by 20% in sectors such as aeronautics and wind generation of energy. Thanks to COSMOS, this industry will undergo a boost in terms of productivity, costs of quality and manufacturing times, mainly due to advances in automation of assembly lines and the assembly of large-sized parts, one of the activities that generates most problems during manufacturing processes. Also taking part in the project consortium are firms such as Gamesa and Tekniker.

Currently, Europe leads the world in the aeronautics and wind generation of energy sectors and, in order to guarantee this leadership for the future, manufacturing processes should continue to be improved throughout the production chain. In wind generation manufacturing in concrete, assembly is one of the weightiest processes, and also the one with the greatest margin for improvement.

Most assembly operations are carried out by hand with the help of various tools and machines, the main disadvantage of this sector being its relatively high degree of variability, the low stability of the processes, and the need to repeat certain tasks difficult to undertake correctly the first time – with the concomitant loss of time invested in reworking. Despite the difficulties of implementing a Lean Manufacturing model in this kind of industry, it brings with it enormous potential for improvement in terms of productivity, quality costs and manufacturing times.

Thus, the principal objective of the COSMOS (COSt-driven adaptive factory based on MOdular Self-contained factory units) project is the design, development and implementation of a system of control for the management of a factory based on flexible, modular and updateable manufacturing. With this it is hoped to increase the productivity of a factory by 20%, without affecting the flexibility required in these sectors.

One of the main factors in increasing productivity is precisely introducing Lean principles into assembly processes, integrating the strategy that supports these principles. The immediate impact of this approach is the reduction of reworking, higher performance, less waiting times (for finished products also) and level of inventories. In addition, the project will define a costing model on the basis of an economic perspective and with adaptive considerations that take future scenarios into account.

The technical objectives linked to the principal aim of the project are as follows:

- To create a new concept in the organisation of a factory, based on intelligent units and auto-adaptable to eventual changes in the production of the product, based on modular and flexible settings of automation.
- To design and develop distributed control architecture that is capable of synchronising the work of various units.
- To design and develop service infrastructure between the system of control and the devices and equipment involved in the production processes.
- To define the previously mentioned costing model.

COSMOS has also introduced the concept of factory organisation known as Self-Contained Factory Units (SCFU). The SCFU is a unit of production that incorporates all the resources, the management skills and the responsibilities necessary for producing an overall set of products. The factory will be made up of a determined number of SCFUs. The SCFU concept will have to be generic and consequently applicable to the organisation of any factory where assembly is the largest part of the operations.