

## **SCM Group at Möbeltage: providing innovative answers to the challenges of the European furniture market**

*11th Möbeltage International Conference  
Dresden – 16 and 17 March 2017*

The European furniture market is going through a period of profound and fascinating changes. **SCM Group** is to participate in the **Dresden Möbeltage** Conference to illustrate the technological and methodological innovations that are now required in order to meet the changing needs of consumers. The speaker representing **SCM Group** will be **Christian Terfruechte**, a process manager who will present an overview of the strengths and critical issues of the European furniture market as well as describe a number of new production and business models developed and implemented by SCM Group.

A close analysis of the European furniture market reveals an impressive picture: **The number of industry players totals one million, with 130,000 companies and 96 billion euro in revenues. This, then, is one of the most important sectors of European manufacturing, with a large export volume.** The crisis that hit the Western world in the first decade of the new century has a considerable impact also on the furniture industry. **But in recent years there have been signs of great recovery that is now being consolidated. Indeed this crisis posed a great challenge for the industry, which accepted it and faced it with extraordinary determination on several fronts: production, trade and the environment.**

### **PRODUCTION TRENDS IN THE FURNITURE INDUSTRY**

Consumer needs have grown, and as a result companies now need to offer customised and sustainable products in terms of both price and environmental quality. These needs can not be met by returning to the artisan model. **The proposed model is that of a customised mass production which provides customised safe products that fully respect environmental sustainability standards.**

To follow the customised mass production model one would need to use **flexible systems that are highly integrated with complex computer systems and that can truly manage Batch-One production processes.**

This production model can provide answers to **changing habits of consumers, who rely increasingly on e-commerce for their purchases. E-commerce, with constantly improved services, grows steadily at a 16% annual rate, and 66% of consumers choose their furniture online.** Beside the classical methods of selling online, a new model has been embraced by the industry, based on a decentralised distributed production logic, that is, decentralised production materials and equipment distributed in smaller production departments that are more flexible and closer to the end customer.

These new production methods are made possible thanks to the great developments in **information and communications technology (ICT) and the wide use of cloud computing.** Implementing these models requires digital manufacturing, which is most commonly used in **computer numerically control machines (wood), 3D printers (metal and plastic) and laser**

**cutters (wood and other materials).** The qualifying aspects of these production methods are: **machine operations are programmed reliably, products match the digital design, minor need for operator intervention.**

A concept that has gained popularity in Europe is that of **"Industry 4.0", which is based on Cyber Physical Systems (CPS), computer systems that can constantly interact with physical systems.** The goal of this integration of smart management systems at all levels, with computers that have self-learning capabilities, is to create smart factories that are highly automated and can run production processes that are closely monitored and interrelated, with benefits that are not limited to production costs but include injury prevention and optimised use of resources.

### **A NEW POSSIBLE ANSWER: THE CLOSE-TO-CUSTOMER PROJECT**

**SCM Group has always excelled in its pursuit of product and process innovation, and it can thus formulate, test and implement business methodologies that provide solutions to the challenges posed by a changing market.**

A concrete example is the **Close to Customer (CTC) project. It is a practical example of flexible and local production of custom and "green" furniture.** The project was conceived and implemented in 2016, coordinated by SCM Group with the collaboration of 10 technological and industrial partners from various European countries. The project is based on a new business model which calls for the production of custom furniture directly in shopping malls, where the concentration of consumers is largest.

**In practice, the CTC system goes into action when a customer enters the shopping mall. Here, with the support of an operator using an intuitive product configurator, consumers can select and customise the furniture they wish to buy. Once an order has been generated, it is sent to a mini-workshop located inside the mall, for production. Upon product completion it is collected by local carriers for fast delivery to the customer.** It is a system that sounds very simple but that has required a lot of work in terms of innovation and research, to allow software applications and machines to interact in a precise and flexible manner. The "heart" of this project is a production cell where a machining centre interacts with a robot which, without requiring any human intervention, can perform all machining operations (loading and unloading workpieces, nesting, cutting, drilling, routing and edging). The machining centre developed for this project can run – on the same bars worktable with special patented locking suction cups – nesting and edgebanding operations, thanks to the use of a "smart worktable", consisting of 12 bars and 48 suction cups and providing a solution to problems related mainly to edging operations.

By pursuing this project, SCM Group succeeded in putting into practice a production process for highly-flexible and highly-automated manufacturing of customised products in single batches run by a single operator.

A successful project, judging by the very positive comments from consumers who have benefited from it. **The CTC concept was rated innovative and interesting, the configuration simple and intuitive, production and delivery times acceptable when not exceeding a week, and prices moderate for a custom product.**

## **LIGNA 2017: INTEGRATED CELL FOR CUSTOM MANUFACTURING**

Another example that addresses the needs of custom industrial manufacturing and meets the Industry 4.0 requirements, will be shown by SCM Group at **Ligna 2017**. It is a robot-run cell for producing furniture components. The system's capacity is approximately 8-10 sets per shift. It is an automated system, where control over the entire process – from standard panels to finished pieces – is absolute. It is a **solution that stands out for its low operational costs, as it requires only a single operator**; its minimum need for human intervention, and consequently an assurance of delivering the highest quality; and its **"lean" flow**, with no interruptions, bottlenecks and extraordinary maintenance.

This entire process is run by the **Maestro Watch software system**, which oversees all production phases from the issuing of the order to distributing the proper programmes to the machines. The Watch supervision system, a typical Industry 4.0 element, is designed to be "open" to customers' **ERP (Enterprise Resource Planning)** data systems.

This is a simple and functional solution made possible thanks to the use of an high-tech application that allows you to calculate exact flows and processing times, ensuring a fast and reliable return on investment. This cell system fully satisfies the **OEE** and **MES** specifications.

**SCM Group** is a world leading producer of machinery for processing wood and other materials as well as of industrial components. SCM Group's revenues in 2016 totaled nearly 600 million euro, up from 513 million in 2015 and 466 million in 2014. The Group has a widespread network of subsidiaries and distributors that covers the entire world. The company has a total production floor area of over **300,000 square meters and employs some 3,300 workers**.

**High resolution photos are available at the following link:**  
[www.scmgroup.com/press/ligna](http://www.scmgroup.com/press/ligna)

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