ABB helps automate global furniture industry

The flat-pack furniture industry is entering a new era of robotized flexible manufacturing and ABB Robotics is helping world leaders like IKEA create new fully automated production lines and reap a rapid return on investment.

By Bengt Stom, Wood Industries Segment Manager, ABB Robotics

IKEA, consistently ranked the world’s top home furnishings brand, is leading the way in automated furniture manufacturing, much as it did with the concept of flat pack or ready-to-assemble furniture which it launched in the 1960s.

The company is enjoying strong and sustained growth, selling Scandinavian-style home furnishings and house wares in more than 270 stores in 36 countries across Europe, Asia, the Middle East and North America, and opening dozens of new stores each year.

To cut transportation costs, it uses flat packaging for many products which customers assemble themselves at home. The company also designs its own furniture, which is made by about 1,300 suppliers in more than 50 countries.

To meet this boom in growth, IKEA – via its wholly owned subsidiary Swedwood International - is planning to double its manufacturing capacity within the next five years and has signed a frame agreement with ABB for robotics solutions that will enable it to produce flat-pack furniture speedily, flexibly and efficiently at low cost.
ABB has already supplied Swedwood International’s existing 35 factories with robotics solutions and a variety of power and automation products and systems, from complete factory electrification solutions to distributed control systems and factory automation platforms.

The new frame agreement covers a broad sweep of robotics products for painting, packing and palletizing applications, as well as IRC5 controllers, PickMaster software and advanced vision-guided technologies.

Two of the most widely employed applications in “flat pack” are the automatic palletizing of the packs, using ABB’s dedicated 4 axis palletizing robots, and the polishing and coating of the edges of wooden panels.

The robotic edge coating facilities uses large 6 axis robots to polish the edges of the panels using large brushes to smooth the surface and remove dust. Following this dedicated painting robots coat the stacks of panels with a finishing laquer.

Another flat-pack furniture manufacturer that has reaped the benefits of ABB robotics solutions is Sweden-based, Svedplan.

The company recently automated half its manual picking line by installing eight ABB robots in three
palletizing and packing stations.

The result was an increase in productivity of 45 percent and a return on investment of between two to three years.

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For more information please contact:

ABB Robotics:
Bengt Stom
Wood Industries Segment Manager:
Tel: +46 31 3392108
bengt.stom@sk.abb.com