ARTICLE

HOW DIGITAL PLATFORM VALIA POWERS THE INTELLIGENCE OF ALL-NEW FURNITURE ON DEMAND

TODAY'S FURNITURE INDUSTRY CONTINUES TO SEE DEMAND FOR CUSTOMIZED ORDERS TO SUIT CONSUMERS' INDIVIDUAL TASTES. ADOPTION OF INDUSTRY 4.0 TECHNOLOGIES AND DATA FLOW IN THE CUTTING ROOM CAN HELP FURNITURE COMPANIES OVERCOME INCREASING MANUFACTURING COMPLEXITY AND IMPROVE OPERATIONAL EFFICIENCY.

Growing consumer demand for furniture customization has made pull-mode production the most widespread production model in the industry. This is because the majority of furniture orders are prepaid and personalized with individual style, color and fabric preferences. The resulting complexity of manufacturing processes compounds the operational challenges of an industry that is already grappling with labor shortages and workforce skills gaps.

To meet this multi-pronged challenge, furniture manufacturers must produce items on-demand quickly, cost-effectively and sustainably. **The automation and intelligence of Industry 4.0 manufacturing enable the most efficient resource allocation to satisfy market demand faster and more sustainably, without reliance on key talent.**

A rapidly expanding market worth
$87.64 billion
by 2031

Rising disposable income and improvement in living standards are fueling demand for personalized furnishings. The global customized furniture market is expected to reach USD 87.64 billion by 2031, growing at a

CAGR of 12.05%.

Source : straitsresearch.com

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The need for greater flexibility to optimize on-demand production

Today's consumers want functional, stylish, customizable furniture that suits their personal taste and lifestyle. To produce these pieces with the quality and turnaround time expected by the most demanding customer demographics, furniture manufacturers must contend with a high degree of complexity and continual changes in requirements.

Although growing price pressures attributable to persistent inflation and supply chain issues compound these ongoing manufacturing difficulties, workforce management is the most long-term challenge facing the furniture industry.

The widening skills gap in furniture manufacturing is attributable to an aging workforce on the one hand, and the working conditions expected by their younger counterparts on the other. As highly skilled workers enter retirement, the knowledge and hands-on experience gained throughout their careers disappears with them.

At any given time in the process—from manufacturing run preparation to cutting line production—furniture companies have little visibility of the advancement of individual steps in the end-to-end process. What is most lacking is flexibility—to optimize production, improve processes and accelerate lead-time.

> *To optimize production, improve processes and accelerate lead-time.*

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Valia, **at the heart of all-new**
Furniture On Demand

To help furniture makers simplify cutting preparation and reduce key-person dependency, Lectra has launched an all-new version of cutting room solution Furniture On Demand. **At the heart of the solution lies digital platform Valia, which powers Furniture On Demand's Industry 4.0 connectivity and data-driven workflow**.

The Valia digital platform connects cutting room components and orchestrates the secure, resilient data exchange between machines to drive automated workflow. Valia's automated control and decision support enable efficient planning, cutting and optimization processes to face an unpredictable business environment with agility.

THE COMPLETE FURNITURE ON DEMAND
CONNECTED CUTTING ROOM

Break-down of parts by fabric and component

Application of grouping options

Apply nesting and supply constraints to create work orders

Components selection for product creation

VALIA
Digital platform

Apply pre-set cutting parameters and create jobs

AUTOMATIC ORDER PROCESSING

VIRGA
Single-ply fabric cutting line

VECTOR
Low and high-ply fabric cutting line

Cut parts

ORDER INPUT
Automatic (ERP integration) or manual (Order Form)
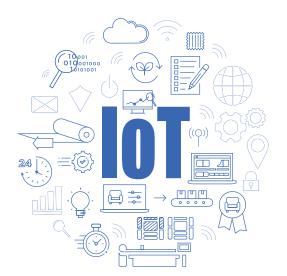
ORDER CUTTING

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Lectra Edge IoT – the core technology of the Valia platform

The basis of Industry 4.0 technology is the interconnectivity of machines, devices, and systems, made possible by the Internet of Things (IoT) and enabling cloud-based machine-to-machine communication. Lectra's 4.0-enabled cutting room solutions comprise workflow management to monitor tasks and achieve continuous improvement through incremental adjustments.

Lectra's digital platform Valia enables the flow of data throughout cutting preparation, planning, production and analysis. **The customer ERP and CAD library are connected to Furniture On Demand by the Lectra Edge IoT, ensuring the most secure data exchange possible**. Automated control of cutting room processes makes it possible to drive an end-to-end workflow that can be monitored and optimized in real time. Workflow monitoring enables real-time adjustment of tasks by Lectra Edge IoT, which remains continually in communication with cutting room components.

> *Lectra's 4.0-enabled cutting room solutions comprise workflow management to monitor tasks and achieve continuous improvement through incremental adjustments.*

How Valia helps furniture makers overcome complexity

Valia digital platform connects simultaneously to the customer ERP and Lectra equipment in the cutting room to automate orders and send them to the cutting room, without human intervention. **Using real-time data, this digitalized process automates and simplifies every stage of the fabric cutting process, from preparation to planning and execution**.

Standardization

Valia can apply production rules known by only a handful of experts in the cutting room, standardizing best practices for a more uniform level of quality.

Cutting asset management

The digital platform performs automatic sorting, optimizing material savings by allocating cutting orders to available cutting equipment, accelerating production while ensuring accuracy.

Visual management

Valia's automated management provides manufacturers with the ability to visualize cutting room processes in order to identify necessary adjustments, act on alerts and improve overall cutting room performance and efficiency.

Sustainable productivity

Valia drives the end-to-end workflow that commands the ergonomically designed cutting equipment contributing to employee well-being while at the same time optimizing material consumption.

> *Valia digital platform connects simultaneously to the customer ERP and Lectra equipment in the cutting room to automate orders and send them to the cutting room, without human intervention.*

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Expanding the possibilities of cutting room performance

The automation and intelligence of Lectra's Furniture On Demand can help companies turn customization and small series into growth drivers. By harnessing the insight of order and production datasets, they can evolve toward Industry 4.0 to gain flexibility and achieve operational efficiency in the cutting room.

To run leaner, more profitable operations, manufacturers can achieve consistent quality—from order management to cut pieces. **Furniture On Demand places sustainability at the heart of cutting processes by optimizing material usage and significantly reducing scrap and waste**.

Crucially, Furniture On Demand can help close the widening skills gap, through cutting room automation that eliminates repetitive tasks with little or no added value while improving quality by uniformly applying production rules. With data-driven decision-making, companies can ensure a seamless user experience and secure dataflow throughout every step of production preparation and fabric cutting.

Visibility and flexibility to achieve better business outcomes

The all-new Furniture On Demand is designed to help furniture makers satisfy the highest consumer expectations by harnessing the power of production data to quickly meet changing requirements, boost profitability and maximize returns. Furniture On Demand's cloud-driven automation—from order management to fabric cutting—optimizes material use and productivity, while digital upskilling future-proofs the workforce through user-centered workstations offering better working conditions. Companies can improve employee engagement through a more stimulating work environment that fosters stability and productivity.

Aided by the automated control and decision support of the powerful Valia online platform, furniture companies can gain the visibility and flexibility they need to achieve better business incomes.

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