

Simatic controls logistics and production for UML

Your favorite CD within 24 hours

You have almost certainly experienced it at one time or another: You ask for a CD or DVD that the store no longer has in stock – and of course you expect that they will be able to get it for you in two or three days. And you don't give a second thought to the logistics behind all of this. This is for the specialists – for instance Universal Manufacturing & Logistics (UML). This company, based in Langenhagen close to Hanover specializes in producing small batches. UML ships these small batches within 24 hours to customers in 80 countries around the world from its own distribution center controlled by Simatic.



Universal Music Group (UMG) is one of the leading music companies in the world. An uncountable number of artists are under contract with UMG – including big names such as Luciano Pavarotti and Elton John – but also many others that are only known within small groups. Approximately 1100 employees of Universal Manufacturing & Logistics GmbH (UML) produce UMG-productions (music CDs and DVDs). Universal Manufacturing & Logistics GmbH (UML) is the German production center of the Vivendi-Universal Corporation. However, other companies such as Philips and Blaupunkt also get their data media from UML.

For its CD production, UML has 22 state-of-the-art carousel systems, type „Skyline“. In an injection molding machine the master information is first transferred to a 1.2 millimeter thin plastic disk. This procedure (replication) takes a whole 3 seconds. The rotary table then takes the CD to the next station – the sputter system

– where it receives an extremely thin coating of aluminum on the structured side. A layer of paint is then applied to protect the reflective coating. To produce DVDs (Digital Versatile Discs) two data mediums just 0.6 thick are injection moulded that are then subsequently glued together. The following steps are similar to those for a CD.

Printed and packaged using Simatic

Up until then, the blank CDs are completely identical from an optical perspective. However, they still require the final touch in the form of an individual label to transform them into a marketable product - and which the consumer can clearly identify it. This process is done in a screen printing machine. Controlled from a Simatic S7-300, up to six colors are applied and immediately dried under UV light. This allows short process times to be achieved and the following process steps can keep

up with the rate of replication. The fastest printing machine requires less than 1 second for each CD. The CDs are then collected on spindles and are transported to the packaging area.

A Simatic S7-300 is also used to control the complex sequences of over nine packaging lines. The machines are driven by Simover Masterdrives drive converters and just like the ET 200 I/O modules are connected to the control via Profibus DP.

The sound and data mediums are either packaged in jewel cases (CDs) or amaray boxes (DVDs). They are also provided with a protective envelope and a label specified by the customer. The CDs and DVDs are then individually wrapped in cellophane, stacked in boxes and a barcode label applied. The CDs and DVDs are then either directly shipped or go into the warehouse.

Efficient shipping administration and stock inventory

The warehouse comprises several sub-warehouses: High-bay racking, a pallet warehouse and a picking warehouse. UML has a total warehouse capacity of a maximum of 28 million items. Up until now, the highest number of items shipped in any one day was 2,240,000. The individual sub-warehouses are all automated and networked with one another using Siemens technology (Simatic, Profibus, AS-Interface). The warehouse management system - developed by UML - always has a complete overview of the situation. This warehouse management system is directly connected to SAP R/3 and is therefore directly linked to production. The material flow systems below the warehouse ma-

agement system ensure the correct movement of product within and between the individual sub-warehouses.

With this equipment and supported by around 50 shipping companies, as central European logistics facility of the Universal Music Group, UML can supply domestic or international music CDs within 24 hours to European countries - that represent their main market. Further, UML markets products from Universal Pictures and Vivendi Universal Games Deutschland. The fact that production and distribution are located in one and the same facility represents a huge advantage. This means that 95% of the products listed in the catalog can be supplied directly from their stock inventory. Not only this, fast post production and shipping are guaranteed. The especially high logistical perfor-

mance can be clearly shown using just a few facts: For 80% of the approximately 500 production orders that are received every day, the quantity ordered is less than 1000 items. Up to 33,000 catalog numbers have to be handled by scheduling – and between 7000 and 8000 new titles are added every year. Every day, up to 90,000 orders are handled by the distribution system. The fact that you get your required CD or DVD by noon the next day under these conditions is thanks to the sophisticated production and warehouse technology of UML. And here, Simatic technology also plays an essential role.

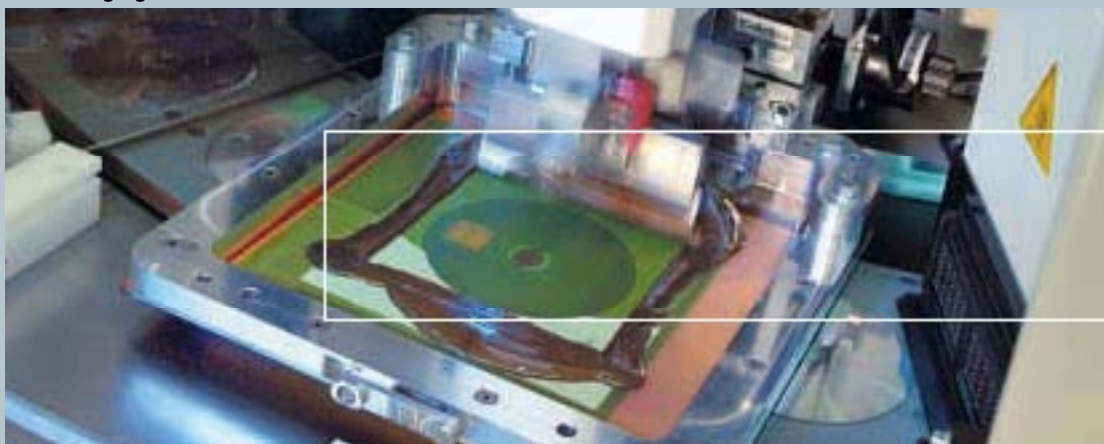
More on this subject:
www.siemens.de/simatic
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Packaging the CDs/DVDs



UML high-bay warehouse



The screen printing system: The CD or DVD gets its own personal look here