

From Workshop Production to Line Production

by peter.wanner@waldner.de and horst-schierholz@t-online.de (deutsche Version siehe Seite 8)

Fundamental change at WALDNER Laboreinrichtungen: Waldner laboratory furniture will now be manufactured along a production line with the advent of production in the new manufacturing building.



Förderstrecke (links) zum Sortierpuffer (im Hintergrund).
Conveyor line (on the left) to the sorting buffer (in the background).

Since it began manufacturing laboratory furniture over 60 years ago, Waldner has structured its production around the idea of workshops and large production batches, based on a large number of similar parts – the more standardised the better. However, the buildings could no longer keep pace, with the result that Waldner could only tread the path to becoming the global market leader if its production structure was changed.

Market demands have changed significantly: customers now want to take delivery of their unique, premium quality product within the shortest time. Production must be exceptionally versatile and well-organised, from a process point of view, to meet this requirement. Some time ago we announced our objective of introducing line production with batch size 1 and the definite flexibility and variability of product associated with this. However, given our existing building and machinery, we were only able to implement this in certain sections. To date the principle of line production has been introduced into the flue cupboard manufacturing (in year 2000), cell assembly (in year 2000) and storage assembly (in year 1993) sections, where the 5S method, the Milk Run system and the Pull principle have been introduced alongside organisation changes.

Die neue Produktionshalle aus der Vogelperspektive – gut erkennbar an den 1152 blauen Solarmodulen (rechts unten).

A bird's eye view of the new production hall – easily recognisable by the 1,152 blue solar panels (bottom right).





Now the entire furniture manufacturing section is to be converted to line production. Carried along by new ideas and approaches, we carefully scrutinised the entire production workflow and submitted for discussion a completely new site concept – one that not only includes investment in buildings but also in new machinery. The owners, the advisory committee and the management are convinced that, with the new well thought-out concept, we now have the capability required to compensate for the high production costs here in Germany. In May 2009 the first sod was cut for the biggest construction project in the history of the Waldner company: 20 million Euros, spread over several phases.

A NEW ERA IN THE NEW PRODUCTION BUILDING

The new 5,000 m² building is now fully installed. Alongside efficient use of the floor space, use of the height of the building was also included in the overall plant scheme: for panel storage, new partition and edge systems and a highly-engineered body assembly line. Our plant is regarded as being globally trailblazing amongst the experts – not so much in terms of its capacity (which we have designed to meet our needs), but rather in terms of its technology, variability

and versatility. This outstanding level of interest is further underlined by the many request for visits from national and international visitors. Innovations with patent protection are concealed behind the many details, and preparations have been made that will enable any later innovations to be integrated. All of this quite simply demonstrates that our plant, in its entirety, is simply innovational.

There were specific requirements to meet in terms of control. To meet them, a so-called "manufacturing management level" was integrated that coordinates and harmonises the individual interlinked processes, organises manufacturing flow and traces workpieces, supported by a coding system, from automatic handling and machining processes, via manual work stations to despatch. This means that the degree of manufacturing and the location of the individual workpieces or furniture can be traced at all times. Manufacturing is therefore transparent, throughput times are shorter and quality is enhanced.

Of course a conversion such as this places great demands on the organisation and, in particular, on all employees involved who have been given training for their new tasks and the new processes.