State-of-the-art logistics concept for the production and dispatch of high-quality solar cells



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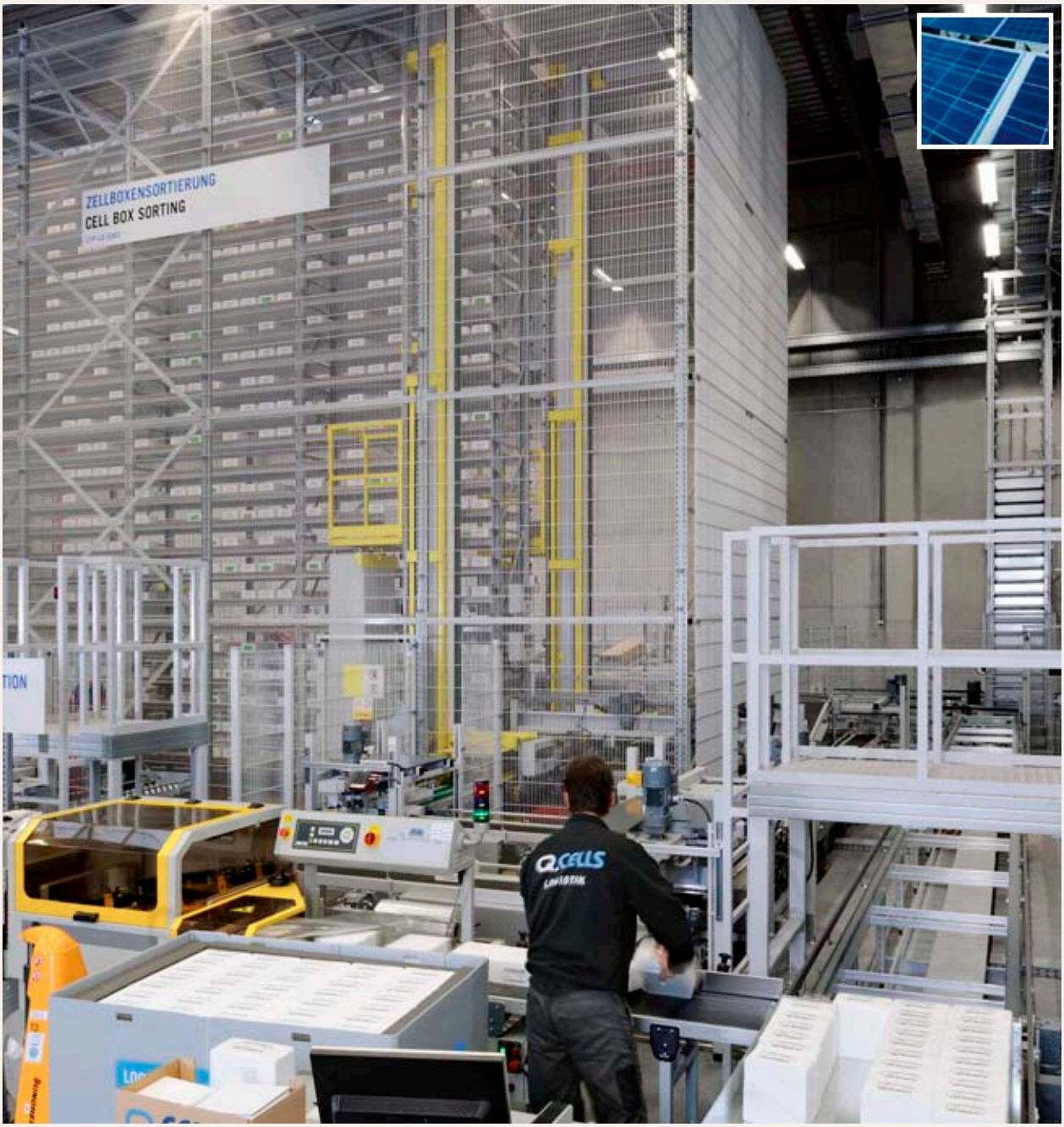

ELECTRONICS

Case Description

psb

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The core business of Q-Cells is the development, manufacture and marketing of powerful solar cells. The company is the world's biggest independent manufacturer in this industry – with a constant growth.

Design criteria

In order to meet the growing business demands, also in the future, a new production building plus adjacent warehouse, were implemented. An efficient, state-of-the-art logistics concept was required, in order to be able to carry out all transport, sortation and warehousing tasks, supported by IT and conveyor systems. Equally important was the modular structure of the system installation, aiming to avoid long downtimes in the case of future system extensions.

The solution

Tray conveyors (twin track conveyors) are connecting the warehouse with goods-in, goods-out and cell sortation.

Transport of the wafers, to and from manufacture, is realized by utilizing the psb *carobot*® AGV system (Automatic Guided Vehicle). The AGVs for this purpose are equipped with satellites; waste (on pallets and in crates) is disposed by AGV vehicles with fork lift-like attachment load units. The automated small parts warehouse (5 aisles) is operated by psb *runloader*® AS/RS miniload cranes, with a new tray-pull-technique.

All control functions are carried out by the psb *selektron*® WMS/MFC software: The management information part and the connection to SAP® are applied by the WMS; MFC is controlling the material flow (from goods-in to goods-out). The transport, to and from the manufacturing area, the warehousing strategies and the cell sortation, are controlled by the AGVs. SCADA WinCC provides for the visualization in the manufacture and in the office area, by browser access (screens) software.

Customer:	Q-Cells SE OT Thalheim 06766 Bitterfeld-Wolfen / Germany
System:	Tray conveyors, automated small parts warehouse (5 aisles) with *runloader*® AS/RS stacker cranes, sortation buffer with 2 *sprinter*® AS/RS stacker cranes with *topdrive*, *carobot*® AGV, *selektron*® WMS/MFC incl. SAP® interface, SCADA WinCC