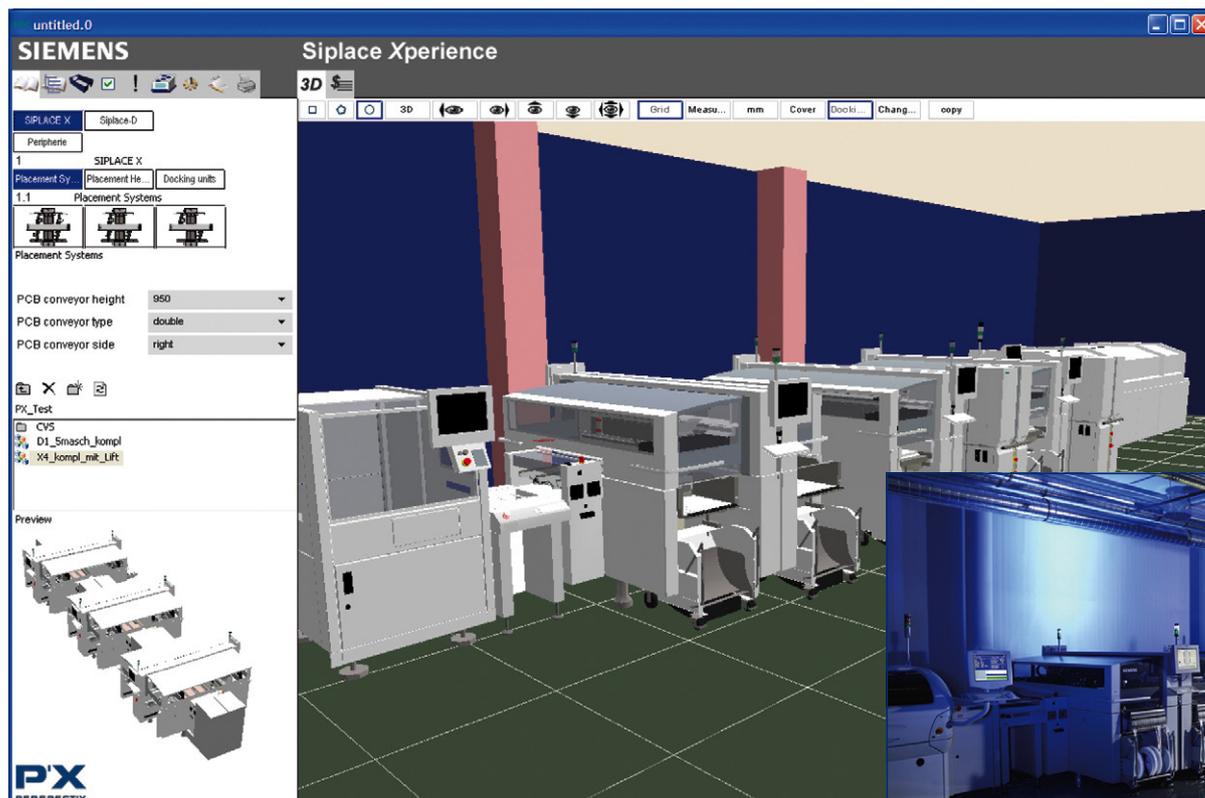


# “With P’X5™ we win over Key Decision Makers.”



In the project acquisition phase, machine and plant configuration of custom-specific SIPLACE solutions are carried out efficiently in Perspectix P’X5

Thanks to convincing communication in 3D and interactive collaboration within P’X5, customers receive their individual solution effectively



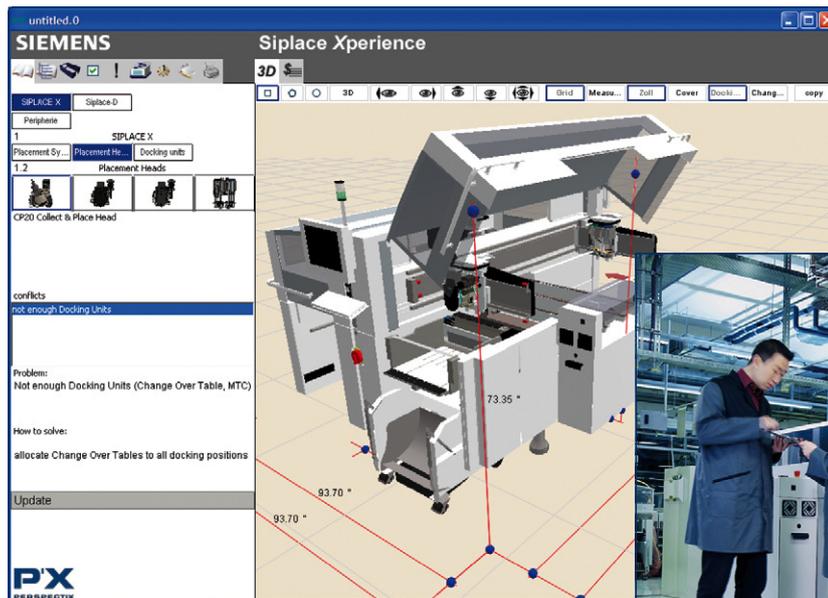
Especially within the business of high tech plants for electronics manufacturing – a worldwide operations area of the Electronics Assembly Division of Siemens A&D (Automation & Drives) – customers in a procurement process want to know what they get from their capital investment. With the P’X5 product configurator from Perspectix AG, the world-wide sales organization now receives valuable support – from the configuration of machines and plants, through the automatic generation of offers, to the layout planning of a customer’s factory.

Between loading stations and screen printing units on the one hand, soldering furnaces, unloading stations, quality inspection, and packing modules on the other hand, placement machines of the SIPLACE product line form concatenated production lines for printed circuit boards – the basis of nearly all

electronic products, including mobile phones, entertainment electronics, and automobile control systems. The modular machine platform can be adapted to different products very flexibly and offers scalable production capacities, factors that are often purchase-crucial for suppliers. In order to ensure these advantages for clients and prospective customers, Heinz Nehrenheim, project manager at strategic marketing, started the evaluation for a 3D product configurator two years ago: “Today, even if you plan to buy a kitchen or a shelf system, you will be supported with a 3D plan. It is obvious that a 3D visualization is a must if a business client procures a capital investment like our SIPLACE machines and lines”, said the marketing employee. “In addition, our customers increasingly requested 3D data for their factory planning, which required a lot of work in the past.”

# «With P`X5™, procurement specialists and plant managers present our placement machines more successfully to their top management.»

Heinz Nehrenheim, Project Manager of Siemens A&D EA



The animation of movable parts such as the dust cover brings the functional mode of a plant to life

The handling of a machine can be virtually simulated in order to accelerate the commissioning of a real plant



## Global challenge

The requirements for the new software solution were various. The products should not simply be drawn, but should be configurable in 3D through rules. Geometric, logical, and commercial checks should validate the results. More important however was the possibility of a direct connection to SAP for the transfer of master data and for the upload of order data, so that maintenance effort for the solution would be marginal. IT integration with the NX CAD system from UGS used in engineering, and with the Siebel CRM system used in sales was likewise demanded. The high user friendliness of P`X5 and effective support for a customer-oriented sales process, initially in German and English, ensured a successful implementation. "The Perspectix solution was convincing in many areas and achieved the greatest compatibility with SAP standards", summarized Heinz Nehrenheim the decision to go with P`X5.

## Short pilot phase

The new partner Perspectix was charged in summer 2005 with a collaborative implementation of a prototype that should be evaluated by the world-wide sales organization before a final decision would be taken. In autumn a first version of the new

plant configurator was already available. Positive signals from the test users at the beginning of 2006 triggered the decision for a full version that would fulfill all current requirements. Due to time and cost restrictions, two product lines – SIPLACE X and SIPLACE D3/D4 with the most common placement machines – were considered first. About half a year later the solution was distributed to a selected group of sales representatives world-wide. The web-based architecture of P`X5 facilitated the deployment and installation: "Some Siemens divisions do not permit modifications of the setup of a computer installation. P`X5 was able to handle this", said a pleased Heinz Nehrenheim.

## Intelligent module and line composition

During the consulting process the most suitable placement machines are determined according to the requirements of the customer. Within P`X5, placement machines are graphically specified with just a few mouse clicks, while user interaction is supported intuitively by the configuration logic. After selecting a basic machine type, the necessary placement heads are attached to the designated gantry. Only heads that technically fit this machine may be assembled at given posi-

tions. To gain access to the gantry, the mobile hood of the machine can be interactively opened or hidden with a click of a button. The feeder modules – containers for electronic components supplied on rolls – allow interconnection at different supply slots. The ground floor grid can also be switched on and off as can the machine dimensioning which displays imperial or metric units depending on the chosen language. The three-dimensional machine can be viewed, moved, turned, and copied.

These intelligent functions are also available during the line configuration: Not only can additional placement machines be interconnected, but the usual components of whole production lines, such as supply units, furnaces for hardening the soldered connections, quality inspection and marking stations, and unloading stations can be attached. All elements are available within the catalog as 3D models in the JT visualisation format.

### Layout planning made easy

Additionally, the P\*X5 product configurator offers the possibility to import existing ground floor plans in DXF or DWG formats and to place the complete configured production plant in the scene at the right scale. "We have learned, through many inquiries from the field, that floor space in a manufacturing hall is an important factor in plant procurement", said Heinz Nehrenheim. "Our tool gives customers the possibility to manage that factor". This includes the possibility to virtually install walls, columns, doors, windows, and the usual supply installations such as compressed air and power. With these options, factory floors can be reverse engineered if plans are only available as a plot. Collision tests, e.g. by pulling the feeder modules out or by opening the hoods, reveal possible weak points in the planning at an early stage and increase the planning quality.

## THE CLIENT

### Siemens A&D EA

Siemens Automation and Drives (A&D), located in Nurnberg/Germany, is the world-wide leader in automation, drive, and electricity installation technology. The product portfolio includes standard solutions for the manufacturing and process industry, for building engineering, and for system solutions in different industrial sectors. Siemens A&D has 60,800 employees world-wide and in the financial year 2005 (until 30.09.2006) had revenues of EUR 1,210 million with a turnover of EUR 9,844 million, and incoming orders of EUR 10,910 million. The business unit Electronics Assembly Systems in Munich is considered world-wide as the third biggest manufacturer of placement machines for Surface Mount Technology in electronics manufacturing. Further information can be found on the Internet at [www.siemens.com/automation](http://www.siemens.com/automation).

## PROJECT OVERVIEW

### Industry sector

- plant engineering for electronics manufacturing

### Target

- optimise sales organisation world wide, support customers during the factory planning process

### Most important results

- 3D configuration avoids design errors, convinces key decision makers and fulfills customer requests for 3D data effectively. Support during the factory planning process and higher consulting quality provides competitive edge.

### Project & -team

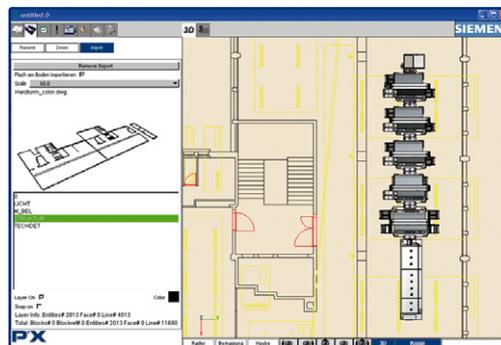
- 8 months from prototype until the release for key users within the sales organisation
- 1 employee Siemens, 1 employee Hick (CAD data preparation), 1 employee Perspectix

### Users

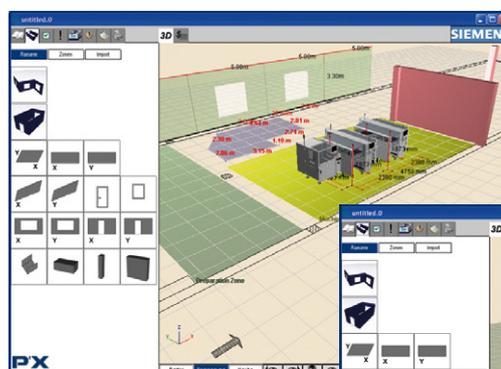
- sales staff and account managers world-wide at Siemens A&D EA

### IT Infrastructure

CAD: Unigraphics NX, ERP: SAP, CRM: Siebel



Determining the locations of architectural obstacles in time prevents nasty surprises later on



The exact segmentation in zones and dimensions ensures optimal usage of space

