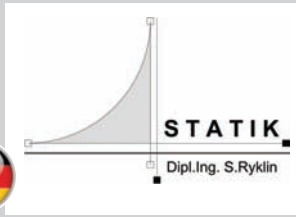


Dipl.-Ing. S.Ryklin STATIK

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Personal Information

Sergej Ryklin
Born in 1963 Moscow

1981-1985: Diploma Study of Civil Engineering at the Automobile and –Road Institute, Moscow; speciality "Bridges & Tunnels".

1985-1991: Repair and maintenance of automobile bridges in Moscow.

Since 1993: Structural designer and verifier by "Römhild & Hecker" Consulting Engineers in Landau, Germany.

Since 1997: Currently self-employed Structural designer.

Specialization

- Planning and optimisation of Steel-, Aluminium-, Solid-, Timber- and Membrane Structures;

- Project consultancy;
- Building physics calculations;
- Dynamics calculations.

Philosophy

Flexibility in planning due to an integrated 3D-Design and the ability to find feasible and low-cost solutions already in the draft stage.

Experience

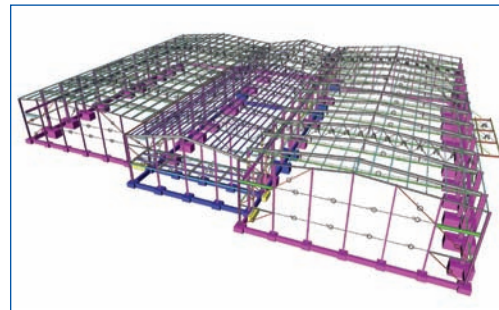
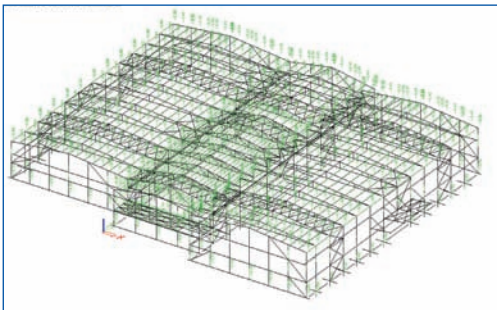
About 800 different projects processed - a.o. residential- and industrial buildings, park decks, pedestrian bridges, swimming pools, silos, membranes...

References

Daimler AG, John Deere AG, SAP AG, DB AG, Siemens AG, Henkel AG, Formel 1...

Equipment

2 Workstations, 2 Notebooks with following software: Scia Engineer, Nemetschek, Autocad, Dcad, Prosteel 3D, Kretz, LSS, Pcae, ForTen, Adobe.



Short Description

Extension of storage area for the Steel Trade Company Sachs&Weber

In order to extend the production and storage capacity of the SW-Steel Trade in Edenkoben (Germany), the existing steel hall had to be enlarged and two new side steel halls had to be erected. It was to be kept in consideration that the production activity had to carry on during the structural alterations, that there were six independently working crane systems operating and that the old block foundation had to be re-used for the extension. The new dimensions were to be 61.5x67.2 m. The height of the extended and left side part is 11.0 m. The height of the right side part is 15.0 m.

For the calculation the programme 3D-Model of Scia Engineer was chosen. About 40 drawings with views, elevations and details were derived from the 3D-Model for the further production steps.

Project Information

Owner: Sach&Weber Edenkoben Germany
Architect: Dipl.-Eng. Volker Lamotte, Landau, Germany
General Contractor: Dipl.-Eng. Michael Riedel, Landau/ESBEE Steel & Industrie GmbH

Engineering Office: Dipl.-Ing. Sergej Ryklin STATIK
Construction Start: 01/09/2008
Construction End: n/a
Location: Edenkoben, Germany



Client

Since its foundation in 1985, the company SW- Steel Trade stands for a modern and reliable service of steel products in full assortment. They have a wide range of clients from the industry, processed steel crafts, mechanical engineering and constructional trade.

The supply program includes steel beams and bars, tubes, plates, high-grade steel, reinforcement- steel and meshes and others.

Order

In order to extend the production and storage capacity of the SW-Steel Trade in Edenkoben Germany, an extension of the existing steel hall and two new side steel halls had to be erected in 2008. The production activity had to be maintained during the building time. To lower the investment costs and to gain more storage space the existing structure and its foundation had to be used also for bearing the new parts.

Due to the many planned passage ways across the halls, many bearing points were dropped and the structure required needle shoring at those points. Six independently working crane systems had to be taken in account.

Technical data

The existing building consists of steel frame-work beams and full restrained columns with horizontal and vertical bracing. Its former dimensions were 21.50x40.2x11.0 m.

The new main structure was chosen as a trussed beam with fixed supports. The additional roof- and side bracing provides the whole structure with stability in space. The new dimensions will be 61.5x67.2 m. The height of the extended and left side parts is 11.0 m. The height of the right side part is 15.0 m. The block foundation was used for the old as well as for the new parts.

Software and model

In order to minimize the horizontal deflection of the six parallel working cranes, to have the opportunity of variable optimisation, for overviews, for plan views with foundation, elevations of each axis, for constructions details, for cost estimation: for all these reasons 3D-model calculation with Scia Engineer was chosen.

Because a lot of structural elements with different parameters such as location in the hall, parts, types of material and types of usage... had to be modelled, it was important to create previously a

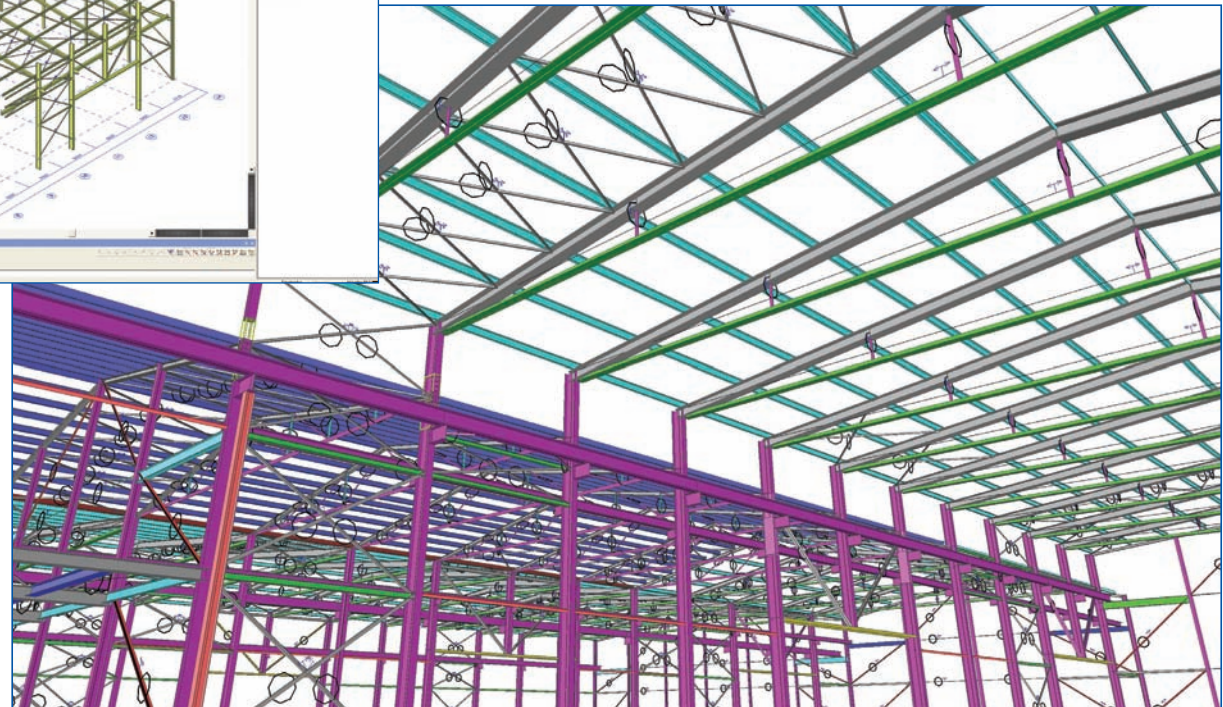
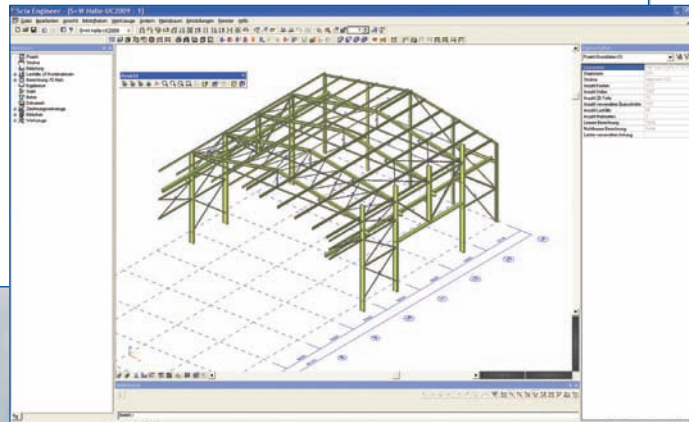
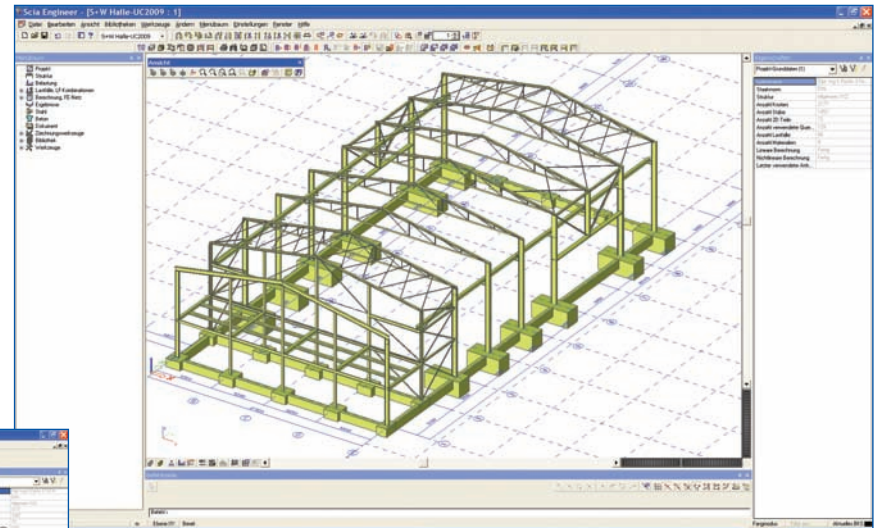
certain assignment to the layers; this helps to choose or combine the elements according to their properties or user needs.
 For the elevations of the building, an exact grid mesh according to the architectural drawings had to be created too.

Calculation steps

- Design and optimisation of steel structure with verification according to the 1st order theory.
- Design of the new foundation and verification of the existing foundation.
- Design of the connection points between old and new column parts.
- For the third calculation further detail modelling with plates was needed.

Presentation

Four document parts (Scia files) had to be defined for the output to surpass the Scia Engineer document capacity.
 About 40 drawings with views, elevations and details were derived from the 3D-Model.



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