CASE STUDY
RAIL VEHICLE SYSTEMS FACTORY
BUILDING TYPE: KNORR-BREMSE PRODUCTION FACILITY
CLIENT: KNORR-BREMSE GROUP
INVESTOR: KNORR-BREMSE GROUP
ARCHITECT: TUS
LOCATION: BUDAPEST, HUNGARY
Knorr-Bremse is the world’s leading manufacturer of braking systems for rail and commercial vehicles. The new development in Budapest replaces the company’s old factory, increasing capacity and allowing the company to utilize the modern production and logistics concept based on the company’s standardized global Knorr-Bremse Production System. The new facility will produce bogie equipment for rail vehicles such as brake caliper units and block brake as well as brake control components.
FORM, FUNCTION AND ARCHITECTURE – THE CHALLENGE

The challenge here, as with most industrial projects in the current economic climate, was to design an industrial building that could deliver all in terms of functionality yet also be architecturally stimulating within the defined budget. The use of design elements in an ‘art for art’s sake’-way was out of the question; however an internationally renowned company requires high quality architecture and should reflect and embody the same high level of quality and accuracy the company is identified with.

CHOOSING THE RIGHT COLOUR

Colour choice was also important and Knorr-Bremse chose a simple shade of white taking design hints from design icons such as the iPod. Joining is at least as important as the colour of the facade elements, and the special material used here between the elements, was applied with equal accuracy. The factory was not designed to be an exhibitionist accomplishment or showcase, but it exceeds all expectations as a complete and total solution.
SIMPLISTIC ELEGANCE – THE ARCHITECTURAL SOLUTION

Knorr-Bremse acknowledged the close relationship that exists between functionality and architecture and chose an interesting solution for the space arrangement of the factory and adjoining offices. Specifically, the solution chose not to use unusual design elements favouring instead discrete and elegant touches. The most eye-catching structural elements were the large ‘boxes’ fitted on the body of the building, which each had a specific function such as employee changing room, canteen, staircase and the building’s energy centre. The facade system Qbiss One was particularly important and its role is more than just a decoration to cover the bare frame of the building. With its mineral wool core Qbiss One delivers a more equilibrated climate without heat bridges reducing the cost of heating and air conditioning. For the 32,000 m² this building occupies, the savings will be very significant.

"It is important to highlight the role of the Qbiss One facade system as it is not merely a decoration to cover the bare frame of the building."