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Crusell Bridge inaugurated in Helsinki

Crusell Bridge, the most prominent bridge in Finland designed and built using building information modelling (BIM), was inaugurated today in Helsinki.

The bridge was designed by WSP Finland engineering company. It was ordered by the City of Helsinki and constructed by Skanska Infra. The landmark bridge connects Ruoholahti and Jätkäsaari office and residential areas on the western shore of the city centre. It features two vehicle lines, two light traffic routes and later a tramway connection, too.

Crusell Bridge is the most prominent and structurally challenging bridge in Finland realised using building information modelling (BIM). The designers created a building information model that includes even all construction materials and their amounts.

A global building information competition gave Crusell Bridge a special award for accuracy in reinforced concrete structures. The bridge has also been listed among the most notable building solutions in the 2nd edition of BIM Handbook (R.Sacks & Co).

”The building information modelling enabled the contractor to see the construction phases in advance and define for example reinforcements much better than by using an ordinary level drawing. Also, they could order all materials just-on-time,” says WSP Finland’s Oulu bridge unit’s manager **Antti Karjalainen**.

According to Karjalainen, building information modelling reduces the number of surprises that complicate schedules and create extra costs. “The model allows simulating all later changes to the structures. Maintenance projects during the life-cycle of the bridge will also benefit from the model”, Karjalainen concludes.

City of Helsinki organised an international design competition for the bridge in 2001–2002. WSP Finland’s winning proposal was ”Merimiekat” or “Sea Swords”, a dual-spanned, asymmetrical cable-stayed bridge with beams measuring 92.0 m and 51.5 m and with a horizontal clearance of 24.8 metres. WSP Finland’s Business Area Director **Pekka Pulkkinen** was in charge of the technical design of the bridge.

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WSP is a multi-disciplinary consultancy company that provides research, planning, consulting and design services to Finnish and international companies operating in the construction, urban development,

transport, environment, energy and industry sectors. The company employs approximately 360 experts in Helsinki, Oulu, Tampere and Jyväskylä. WSP's core competencies are sustainable urban design, traffic planning and building design. Overseas projects account for about 20 percent of WSP Finland's turnover.

WSP Finland's recent projects include "Pilke", a wooden office building for Metsähallitus (State forestry authority), Viikki low-energy house in Helsinki, a new postal hub in Oulu, the Niemenranta suburb in Tampere as well as numerous major road, rail and metro projects in the greater Helsinki area. WSP Finland is the country's leading bridge design company with recent Bridge of the Year awards for Laukonsilta bridge, Tampere (2011) and Mikkeli harbour bridge (2009), and first prizes in competitions for Penttilänranta pedestrian bridge in Joensuu (2011), Myllysilta Bridge in Turku (2010) as well as Ho Chi Minh City bridge competition (2010) and Danang bridge competition (2009, 2010) in Vietnam.

WSP Finland belongs to the international WSP Group, with 9,000 experts working in 200 permanent offices in 35 countries. Established in the 1970s, WSP Group is listed on London Stock Exchange.