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Build a Link - Goals, principles, strategies and results

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Abstract

The decision to build the Øresund Fixed Link was taken by the Danish and Swedish governments in 1991. Some time elapsed, however, before the detailed planning, let alone the construction phase, could commence. These debates did not deter Øresundskonsortiet. The time was spent laying down the strategy. The dual-nationality of the project, for instance, necessitated a detailed examination of the different legislation in the two countries.

In March 1995, the Danish Minister of Transport approved the Øresund project's environmental quality objectives as well as the criteria and requirements for the control and monitoring programme. And in a verdict in July 1995, the Swedish Water Court gave permission to construct the Fixed Link.

In the light of the political requirements from the two countries, Øresundskonsortiet adjusted the original alignment as well as the link's technical design. The objective was to optimise the link in order to reduce any harmful effects on the environment.

In 1994, Øresundskonsortiet invited tenders for the link's main contracts. The tender process itself did not follow traditional methods. Due to the dual-national aspect, Øresundskonsortiet was able to lay down its own tendering strategy.

In a traditional tendering process, the client undertakes the detailed planning and then opens up for a number of contracts for international tendering. Øresundskonsortiet wished to handle the process differently.

For instance, the consortium wanted to avoid the discussions, confrontations and arbitrations which are often inherent in conventional client-contractor relationships. The aim, of course, was to build the facility at the agreed price and at the agreed time – and also to create a working relationship which ensured fair and constructive collaboration.



The basic concept was "partnership". One consequence of this was the introduction of the Design+Construct philosophy which provided the contractors with strong draft proposals – and, not least, a free hand to improve the project.

The concept is that responsibility for detailed planning and execution should be clearly assigned. This limits the conventional working relationship's potential for confrontation and provides the individual contractor with greater opportunity for solving his task efficiently. This again creates committed contractors who become involved in the detailed planning, initiate improvements and who feel total responsibility for the execution.

The basic premise for Design+Construct is the illustrative design where the client has developed one or more designs which meet all specifications set out by, for instance, the authorities and the client. Since, however, the contractor possesses considerable knowledge, the project will inevitably be improved once the contractors have examined it.

The Design+Construct working relationship also reduces the number of potential conflicts compared to conventional methods. By establishing a Dispute Review Board, Øresundskonsortiet has further reduced the likelihood of a dispute.

The principle is that a Dispute Review Board – a panel of three experienced, independent and internationally respected engineers – is set up for all contracts. In the event of a dispute, the Dispute Review Board functions as chief arbiter.

The Environment

The governments of the two countries and their environmental authorities have laid down rigorous regulations for the acceptable environmental impact of the link. In many areas, Øresundskonsortiet has, therefore, had to develop new strategies and methods in order to limit the effects on the marine environment in Øresund and the Baltic Sea. The fact that the project extends across national borders has played a special role, too. In many instances, the project has had to obtain double approval from the authorities.

The Experiences

The Øresund Fixed Link must be ready by the summer of the year 2000. This is the overall objective which Øresundskonsortiet and the contractors are working towards. The secret behind the new time schedule is a "parallel works" approach. The purpose of "parallel works" is improved utilization of time. Thus, any surplus time on one project is transferred to another contractor who lacks time. It's obvious, for instance, that the bridge has to be welded together before rail tracks are laid. But the rail contractor can begin preparations before the high bridge is ready.

Øresundskonsortiet could not have operated the Parallel Works method over the last two years unless co-operation procedures had allowed for planning across the contracts. With the parallel works method, we created a common understanding of the project's time schedule – and an openness and knowledge of time schedules etc., which has made it possible for everyone to pull together in the final months.