



DIGITAL SERVICES 4D-5D-6D-7D

Ramboll uses 3D models to optimise communication, coordination and planning. The following is a description of Activity Planning in 4D, Project Management in 5D, Operations and Maintenance in 6D and Sustainability in 7D.

Activity planning in 4D

When integrating 3D models within a time schedule, a 4D (3D + time) simulation of the project can be created. A 4D view of the schedule provides an overview of locations where work is ongoing at any given moment. Activity planning in 4D minimises the risk of conflicts and delays.

Ramboll is also able to document for clients that ongoing works are on target and at the same time ensure optimisation of work processes. Contractors benefit from the ability to carry out more efficient resource planning.

In addition, 4D simulations can be used to visualise dependencies

between trades and explain the construction sequencing to project participants.

Project controlling in 5D

In 5D schedules and costs are linked to the 3D models. Then costing of the building will be based on quantities from the most recent design. In this way, Ramboll can reduce the financial risk for the client and ensure competitive pricing in the tender phase.

Operation and maintenance in 6D

As a next level, plans for operation and maintenance can be linked to the 3D models to allow for 6D simulations of the operation phase of the building. By combining the schedule, construction cost and operation cost in one simulation linked to the design model, even a complex project can now be viewed with simple visualisations.

Sustainability in 7D

In Ramboll we develop our projects to limit negative impact on society

and environment, right from the early project phases. We achieve this by linking 3D models with advanced simulations and analyses of energy performance, indoor environment, daylight etc. The lifecycle of raw materials and building components can also be simulated, which makes it possible to visualise solutions with least negative environmental impact.

Simulation tools

To develop the simulations described, Ramboll uses a number of tools including Synchro, Navisworks & Vico Office.

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