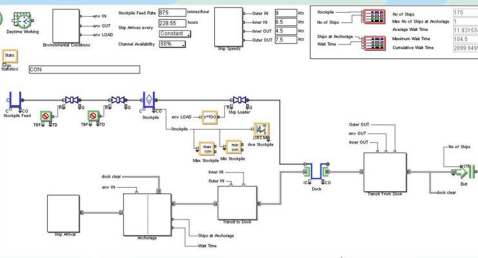
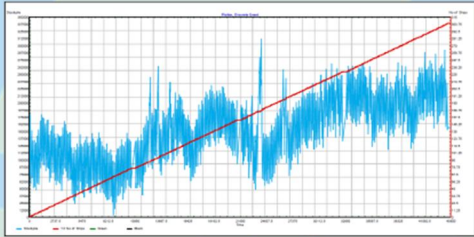


“Where will our knowledge take you?”

# General Port and Harbour Engineering

## Process and Systems Simulation Modelling



“ **Process modelling can have enormous benefit to a project and has been used by BMT JFA to assess project feasibility, identify a program’s weak points and driving factors, and identify required project plant and schedules. The flexibility of the software allows models to be useful at all stages of any large project.** ”

Many large engineering projects can be challenging to schedule or assess due to complex systems, random variables and constraints. Additionally, as an ongoing project evolves, changing operational requirements and newly identified limitations can change the outcome or efficiency of a project, which may result in increased costs. Processes which contribute to this complexity can include dredging campaigns, seawall and breakwater construction projects, and port operations and throughput.

BMT JFA offers the expertise to develop models which can simulate the key processes with accuracy and detail. By combining modelled environmental and metocean data, operational restrictions and requirements, and with the key technical and consulting expertise that BMT JFA is able to offer, models can be developed to simulate the full project cycle

under likely conditions to identify probable outcomes, opportunities, and constraints. BMT JFA uses process modelling to test sensitivity of any individual component within a project in order to identify means of improving efficiency, costs, or schedule. Process modelling can also be used to simulate existing systems to identify bottlenecks and optimise system processes. BMT JFA has applied this modelling to a wide range of complex studies, including port traffic simulation through to dredging and breakwater construction processes.

### Key Capabilities

- Port operability and ship traffic simulation
- Large dredging campaign program and scheduling
- Construction program and scheduling.

### Related Projects

- Southdown Magnetite Project/ Albany Port Berth 7 Expansion
- Oakajee Port Breakwater Construction
- Oakajee Port Capital Dredging.

### Services Offered

- Dredge campaign modelling
- Marine construction program modelling
- Modelling for port operations, ship traffic and materials storage and handling.

### Related Software

- ExtendSIM.