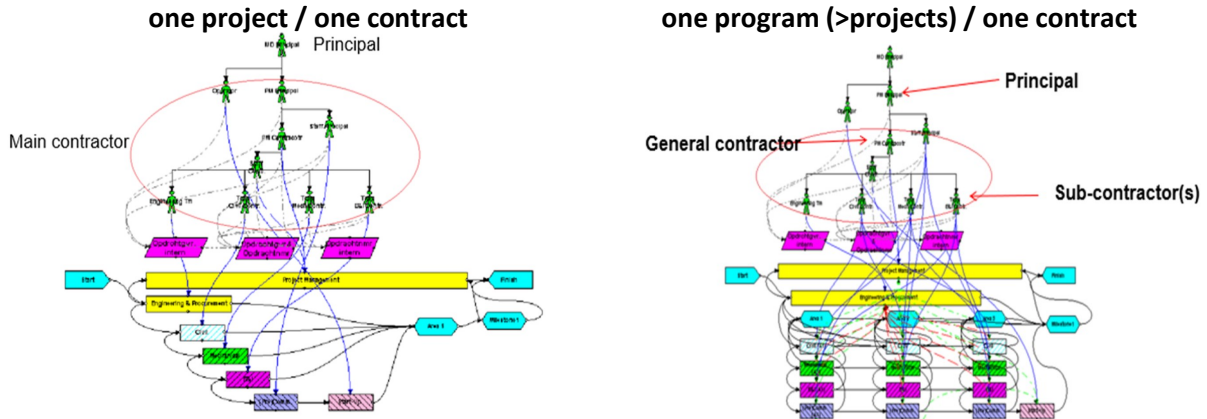


## Measure and manage execution risks

Two decades of scientific research made it possible to measure and manage execution risks, using a proprietary modelling and simulation technology, built on project dynamics and human behavior. The technology, based on the **concept of information exchange and decision making**, allows to run simulations of organizational structures and project contracting plans. It reveals and quantifies hidden project pressures on schedules, cost, quality, and personnel and enables testing various scenarios. Use and outcomes of these scenarios yield a **steep learning curve**, and **encourage cooperation** between parties with related change in organisational behavior.

### Focus

The simulation focuses on: Contract strategies, Organisational design, Investment substantiation, Tender optimization, Robustness of schedule, Acceleration of the work, Schedule recoveries, Commissioning & Start-up optimisation. Below, **examples of contract strategies** (as part of organizational design). Purple blocks indicate meetings where information is exchanged & decisions are being taken.



## Road Map (to reveal risks and related costs)

A model is compiled from various data sources: an org chart, a meeting schedule and a resource loaded schedule, or related estimate. Duration: 3-6 wks, depending on availability of data and requested deliverables, with limited time commitment of the project team.

### Deliverables

- Recommendations in applying the experiences of the current project team in response to the demands of the project.
- Simulate prospective execution scenarios and provide information, to improve project execution by reducing time and cost.

### Live testing

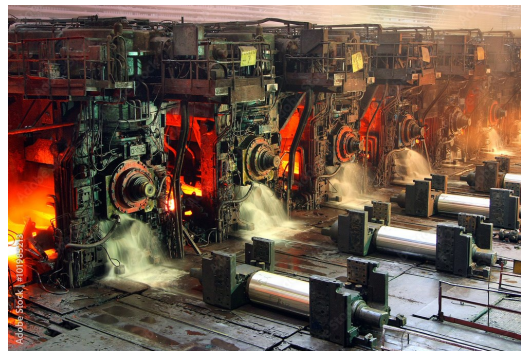
Select own variable(s) and run a scenario (s) of the model -preferable among peers- to see (live) the consequences of your choices on the project. Keep in mind that the outcomes of any model needs to be seen as a **learning machine**, not as an answering machine.

### Proven approach

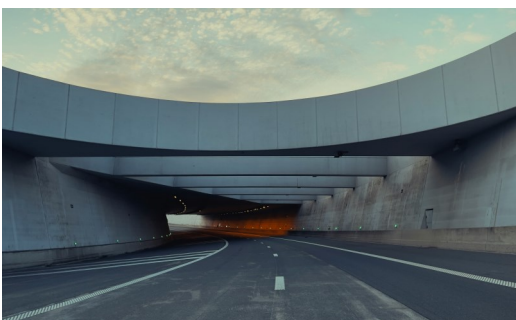
The sections elaborate on key areas of focus and the proven outcomes of this technology as applied by AMPS Delft in var. industries.



**Mining:** 7.5% Capex reduction of a \$20 bn onshore LNG project: 530 km pipelines, large process facility and extended automation.



**Heavy Industry:** over 10 times accelerated start-up time of Cold Mill, from >4 wks to <2 d. (daily prod. €0,5-1,0 mill.)



**Civil Industry:** recommended a substantiated 25% acceleration on the construction of a tunnel, budget € 0.5 bn. Recommendations were ignored, and project ended up with red colored numbers: a multi-million loss of Euros.



**Shipbuilding:** Accurate prediction, four years in advance, of a six-month delay on the sail-away date of a Floating Production Storage Offshore vessel after a \$1 bn conversion (incl. installation of large process equipment). Actual delay: 5 months 3½ wks.