

**Keywords:** Shock, Crash, Seism, Collision, Finite elements, Analytical formulations

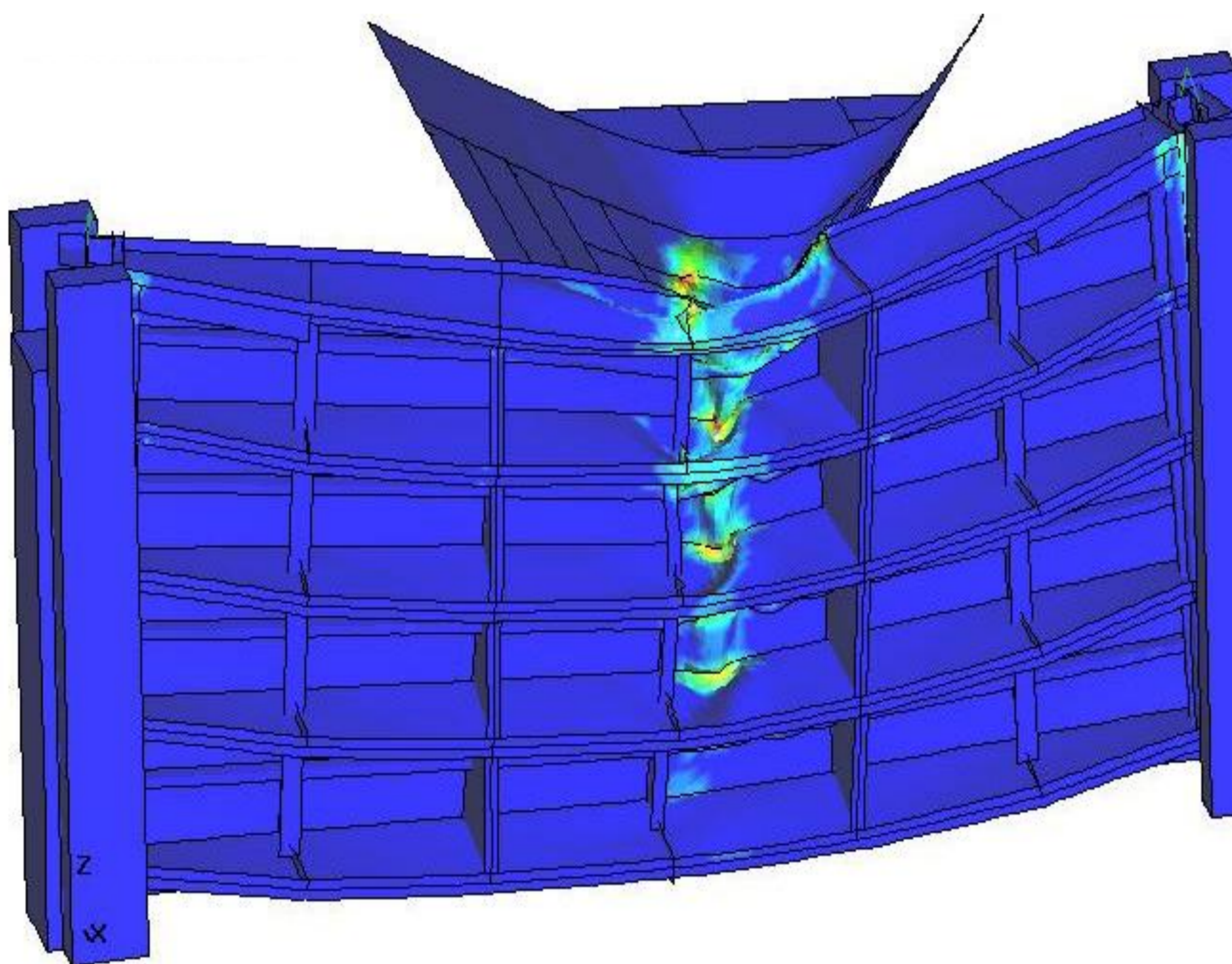
## Contact

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*Ship submitted to underwater explosion*



*Numerical modelling of lock gate impact*

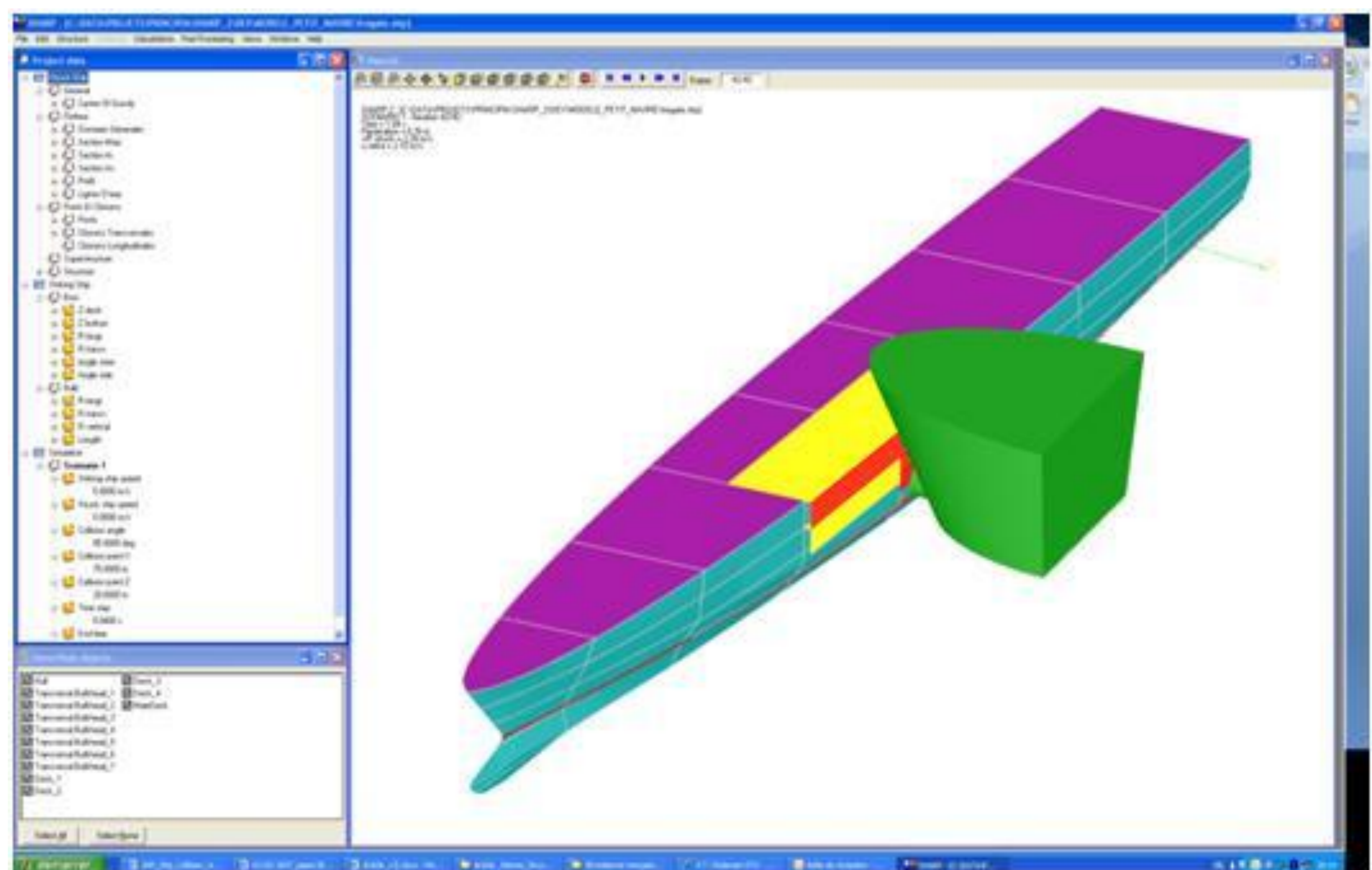
## Applied Research Purpose

Numerical and analytical modelling of dynamic coupled problems like:

- Ship Collisions
- Submarine response to underwater explosions
- Composite structures shock behaviour
- Lock gates seismic response
- Shock and vibrating response of resilient mounts

## Skills applied

- Non linear FE dynamic simulations including fluid structure interactions
- Development of analytical formulations based on limit analysis (super-elements)
- Dynamic of materials and impacts
- Shock experiments
- Computational engineering
- Numerical analysis



*Analytical tool for ship collision analysis*