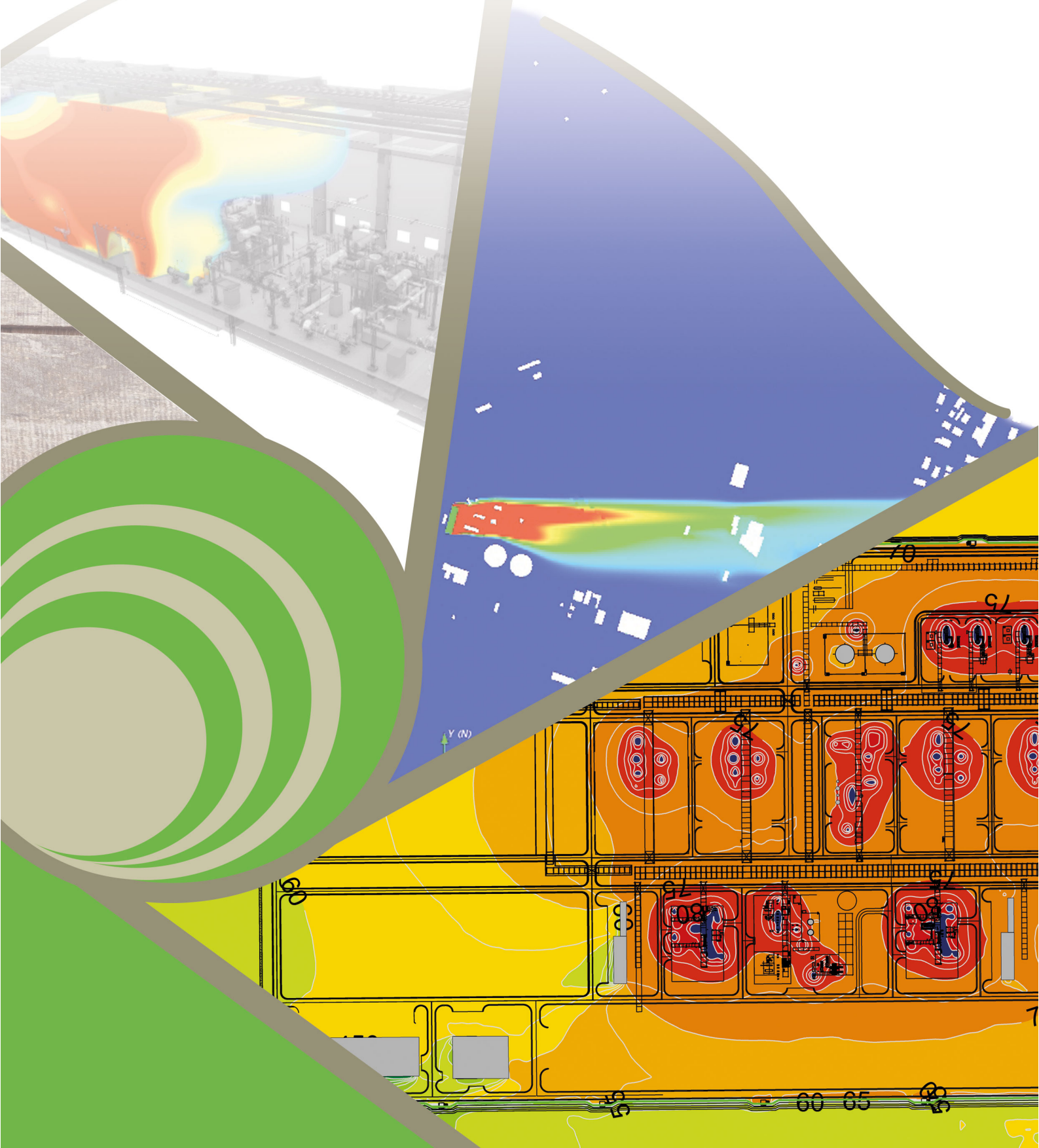


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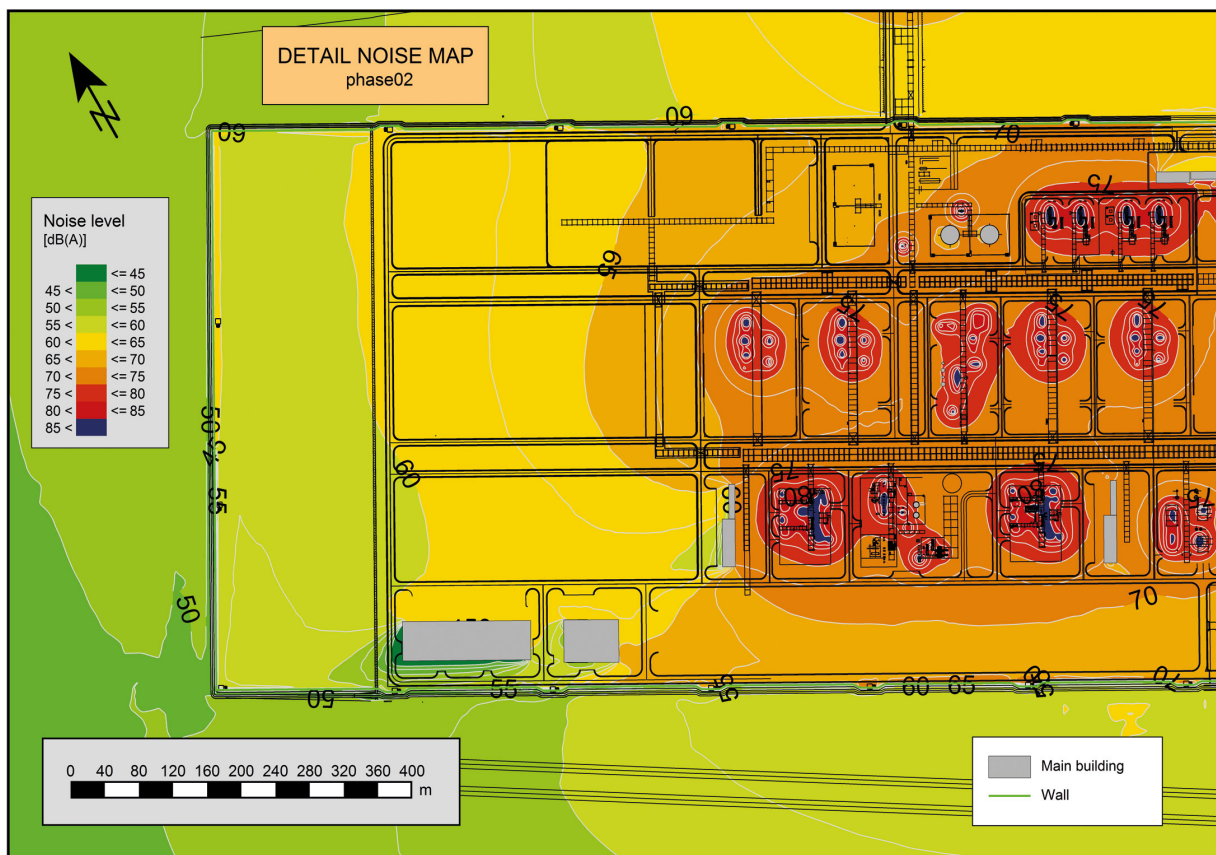
ENERGY AND ENVIRONMENT TECHNOLOGIES

## ENVIRONMENTAL IMPACT ANALYSIS



# Advanced Method in Environmental Impact Assessment

Over the past decades a broad range of environmental legislations has been put in place; as a result, air, water and soil pollution has significantly been reduced. The Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. EIA is the process by which the anticipated effects on the environment of a proposed development or project are measured. If the likely effects are unacceptable, design measures or other relevant mitigation measures can be taken to reduce or avoid those effects. Computer simulations with advanced methodologies, such as Computational Fluid Dynamics (CFD), are used for conducting Environmental Impact Assessments (EIA) in relation to flooding, pollution control, sediment erosion and deposition.



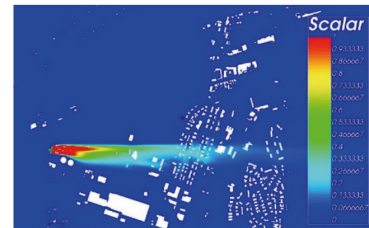
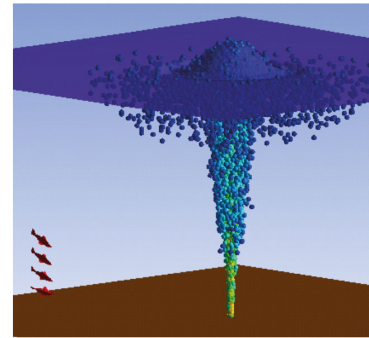
## Software

TEA Sistemi uses the best computational software available on the market in order to perform EIA activities and to meet Client's needs. Among our main tools we cite ANSYS Fluent, STAR-CCM+, OpenFOAM, SoundPLAN, MIKE, C-DOG, CALPUFF/CALMET, UTCHEM.



# Environmental noise assessment

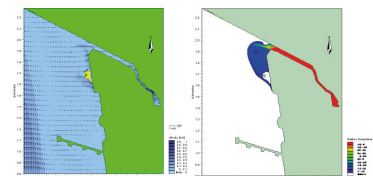
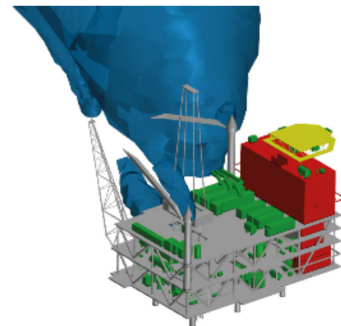
Prolonged exposure to noise can lead to serious health effects. In order to assess and mitigate this problem, environmental noise prediction tools are used in an increasing range of decision-making applications. Such tools help to optimize the noise control measures and visualize the effects of noise propagation throughout complex systems, taking into account the geometry of buildings at the site and topography. Industrial noise maps are obtained applying the calculation methods given by standards ISO 8913 for noise emissions and ISO 9613 for noise propagation.



# Air and water quality impact assessment

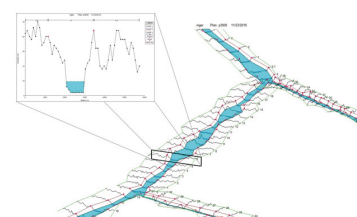
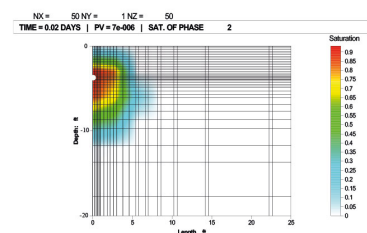
TEA Sistemi has extensive capabilities for modelling both near and far field conditions for toxic/pollutant dispersion in air or water.

CFD analysis can provide significant cost benefit when coupling engineering designs with environmental concerns. Engineers and designers can make quick and confident early decisions based on the CFD results and limit the environmental impact. Typical applications in this field concern: odour dispersion analyses in urban areas, subsea gas dispersion and dissolution analyses, oil spill contingency plans (both in river and sea environment), long term aerial dispersion of contaminants.



# Soil impact assessment

Soil contamination is caused by the presence of man-made chemicals or other alteration in the natural soil environment. This type of contamination typically arises from the rupture of underground storage tanks, pipelines, application of pesticides, percolation of contaminated surface water to subsurface strata, oil and fuel dumping, leaching of wastes from landfills or direct discharge of industrial wastes to the soil. CFD methods are used to evaluate the extension of the contaminated area and to verify and optimize leak detection and soil remediation systems.





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ENERGY AND ENVIRONMENT TECHNOLOGIES

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