

**Engineering**

Profiles required: Civil Engineers, Mechanical, Aeronautical, ...  
 Ideally so with Finite Element Simulation courses and/or Eurocodes background.  
 Needed skills depend on the available topic (to be discussed case by case).

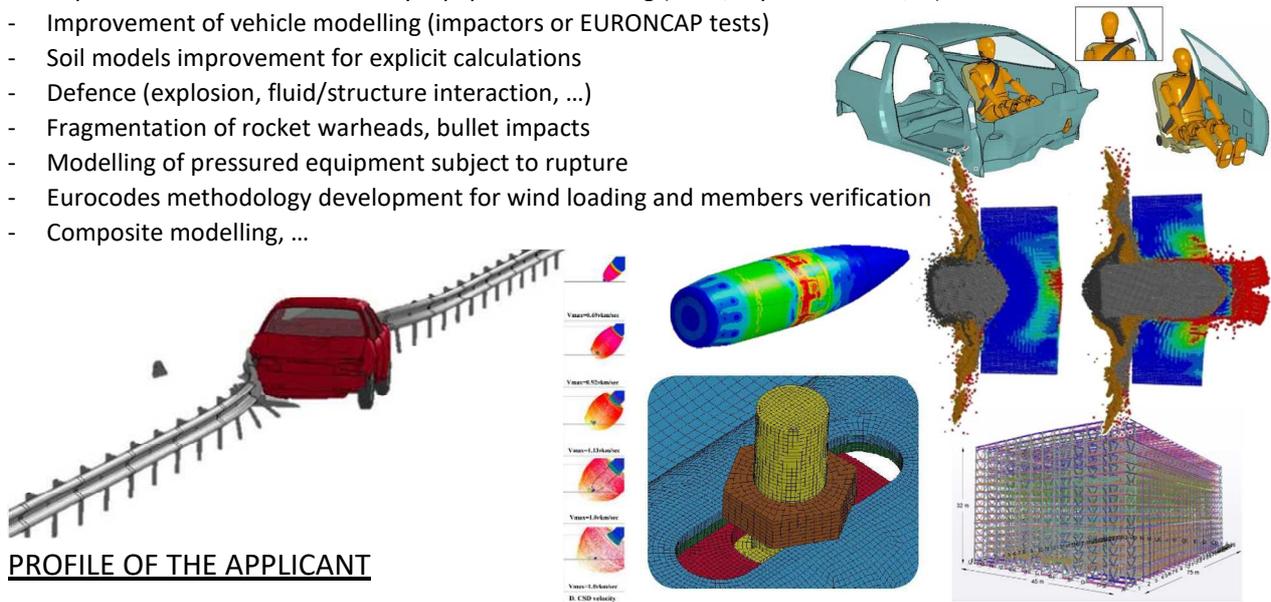
**CONTEXT**

Finite Element Simulation or calculations in general (Eurocodes, ...) is a useful cost-effective tool to help manufacturers to design and pre-validate products during their development phases. It can also be used to validate solutions when confidence is such that experimental validation is not required. GDTEch is providing a service of calculation using Finite Element simulations (but not only) and aims to be able to predict product behaviours with the maximum level of reliability. Some topics such as crash, explosion, impact simulations are difficult and require some fundamental investigations and possibly experimental results to progress. GDTEch, with its collaboration with different universities, is proposing internship topics in line with its wish to acquire more advanced knowledge in those fields. Topics are also available in other fields such as Construction (large or complex metallic structures, ...) where development / interpretation / validation of methodologies based on Eurocodes are required.

**TOPICS TO BE DEVELOPED**

Several end applications could be mentioned for the use of the more advanced modelling technique that would be proposed/studied by the student such as crash of vehicles, of roadside equipment, impact of bullets, fragmentation of rocket warheads, validation of self-supporting warehouses, structures subjected to wind or pressure loads, ... The possible modelling technique that would be proposed to the applying student could be:

- Improvement of a roadside safety equipment modelling (bolts, rupture criteria, ...)
- Improvement of vehicle modelling (impactors or EURONCAP tests)
- Soil models improvement for explicit calculations
- Defence (explosion, fluid/structure interaction, ...)
- Fragmentation of rocket warheads, bullet impacts
- Modelling of pressured equipment subject to rupture
- Eurocodes methodology development for wind loading and members verification
- Composite modelling, ...



**PROFILE OF THE APPLICANT**

We are looking for an engineering student, with a specialization in mechanics, aeronautics...(depending on the subject), with a good knowledge of finite element simulations and, ideally, LS-DYNA. A good knowledge of the Eurocodes can also be an asset. Proficiency in english is also required. This internship being part of an R&D process, the intern will show strong analytical skills, be practical and will be prompted to build a work plan allowing him to reach the requested goals.

**CONTACTS**

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