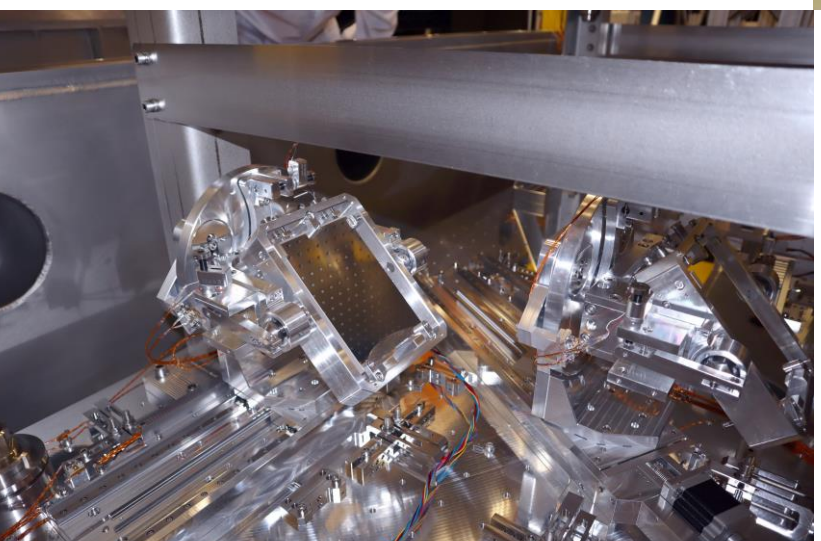
C3D Engineering Consultant Ltd

C3D's vision for the future is shaped by our R&D division, which is involved in the development of the technical achievements of our time and in high-tech research, and is assisting from the very beginning a major international international R&D project – the experimental fusion power plant (ITER).

Research and Development

Collaboration at the cutting edge research projects

Our Company's R&D division is successfully involved together with industry and research institutions in a number of internationally prominent research projects. Our company is dedicated to keeping specialised knowledge up to date to effectively support domestic and international research and development projects. We are constantly working to develop our competences to expand our expertise to new fields in new areas of today's cutting-edge research.



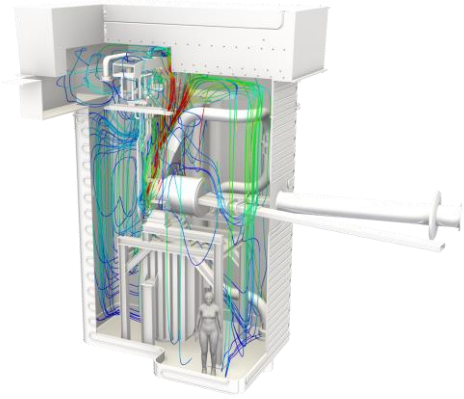
Our competences

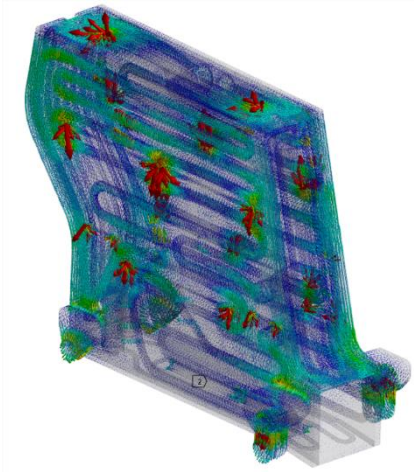
C3D maintains high level of expertise in both simulation and mechanical engineering. Some of the most prominent are, such as coupled simulations and structural evaluations in special environments (mechanical, thermal, CFD, electromagnetic), design and interface management in UHV environments, and complex project management in the field of R&D.

C3D Engineering Consultant Ltd

Simulations

A significant part of C3D's research and development projects involves simulations, which are a cost-effective and reliable way to analyse the operation of machines and systems. Our computer-based tests are also officially approved and can be used to replace or validate physical tests. Our highly qualified and recognised simulation engineers provide our partners with mechanical, thermal, dynamic and CFD simulations.

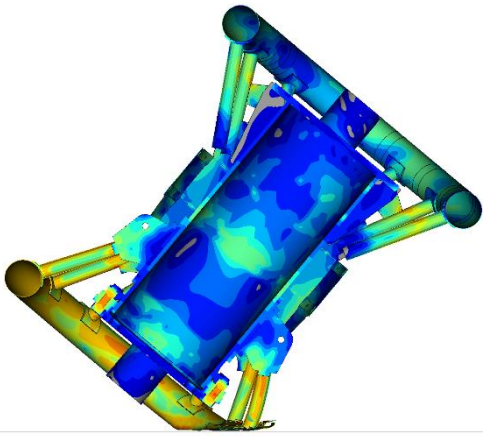




3D printing

Years ago, our business introduced 3D printing on an experimental basis in order to help solving engineering problems in projects faster and more efficient. Today, our printers are based on two technologies (FDM and SLA) and are mainly used for the following tasks: prototyping, mock-ups optimisation (thickness, function, profile, etc.)

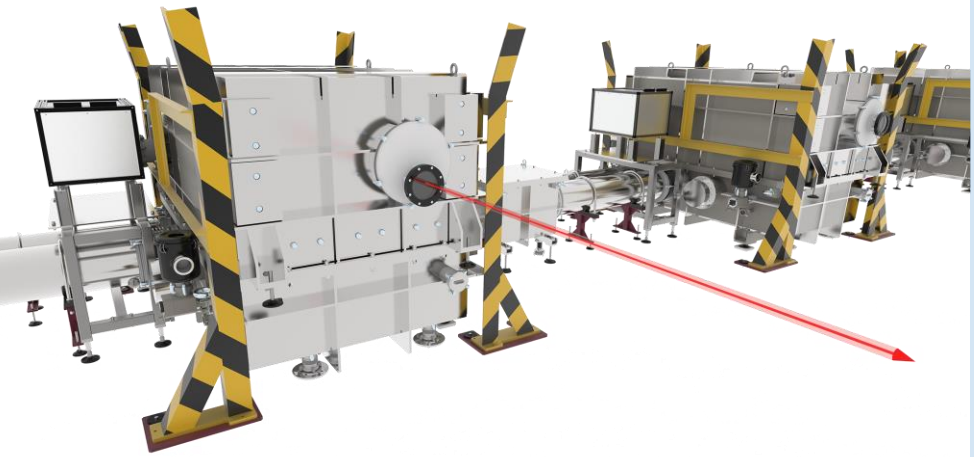
- ☐ prototyping, mock-ups
- ☐ optimisation (thickness, function, profile etc.)
- ☐ reverse engineering



Research and Development

Laser technology

We designed, manufactured and installed a beamline system for the Laser Centre of Szeged. Our division was also responsible for the overall management of the project and the supervision of the supply chain. The trouble-free operation of the equipment in the past 3 years have contributed significantly to the success of the research.



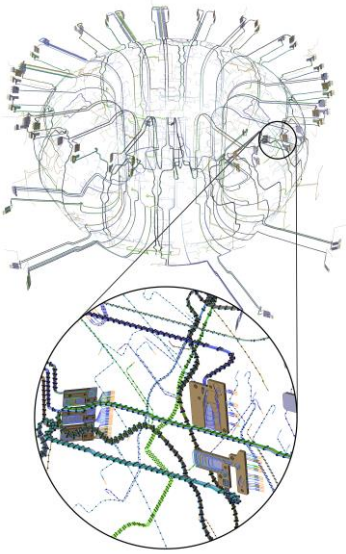
Neutron research

The European Spallation Source (ESS) is dedicated to research new ways of producing energy. Our team performs a variety of tasks from scheduling, cash flow analysis to day-to-day operational project management. We are also involved in the development of monolith maintenance hoists and design of dummy test components.

Our reference works in the field of fusion technology

As proof of our engineers' competence, we have been involved in the design and construction of the experimental fusion power plant (ITER) in France since our very first R&D project, and we are still involved, partly on site, in the construction of the plant. The objective of this international R&D project is to develop a power generation technology that can provide energy for future generations in an environmentally friendly and safe way.

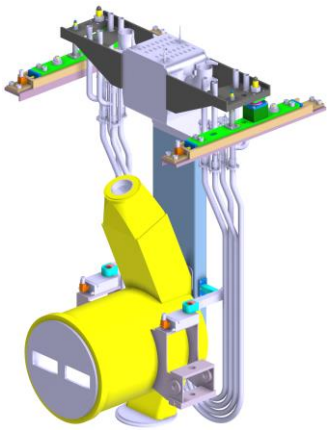
In-vessel Electrical Services



We are supporting the complex design of diagnostic wiring in the Tokamak vacuum vessel for nearly 10 years.

The IFMIF-DONES project is dedicated to research and test of materials used in fusion technology. Here too, we have several references.

Positioning system of HFTM



We designed the fixtures needed to precisely position the High Flux Test Module in the IFMIF-DONES test cell..

Our references

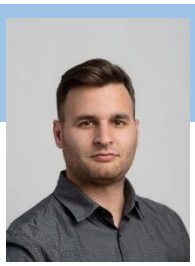
In the past years we have mainly worked in stable, long-term cooperation with Hungarian and international research institutes, as well as with R&D organisations, but also our simulation group is in contact with a broader group of companies. Without wishing to be overly presumptuous, these have been our most important partners in recent years:

ESS EUROPEAN SPALLATION SOURCE
KUKA
Centre for Energy Research
iter
eli
IFMIF DONES GRANADA
BOSCH
Tokamak Energy
OXFORD SIGMA
RADCHEM SOLUTION FOR ISOTOPE APPLICATIONS

Teamwork and development

We give priority to supporting the professional development of talented young mechanical engineers and are committed to developing the engineers of the future in all areas of mechanical engineering to the satisfaction of our customers. Under guidance of our senior engineers the most talented engineers of the future can get a taste of the complexities of our work on international projects. Our longstanding team consists of:

- ☐ 3 senior engineers
- ☐ 6 experienced design and simulation engineers



Research and Development

András KOROSSY-KHAYLL, Head of Division

I am proud that our division has been involved in a number of internationally recognised research projects and has continuously demonstrated the excellent skills and competitive knowledge of Hungarian engineers in increasingly challenging projects.

For more information, please contact
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