

Solution
Partner

Digital Industries
Software

SIEMENS

Technology
Partner

Digital Industries
Software

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FEAC

ENGINEERING | REALIZE YOUR DIGITAL TWIN

Greece@CERN

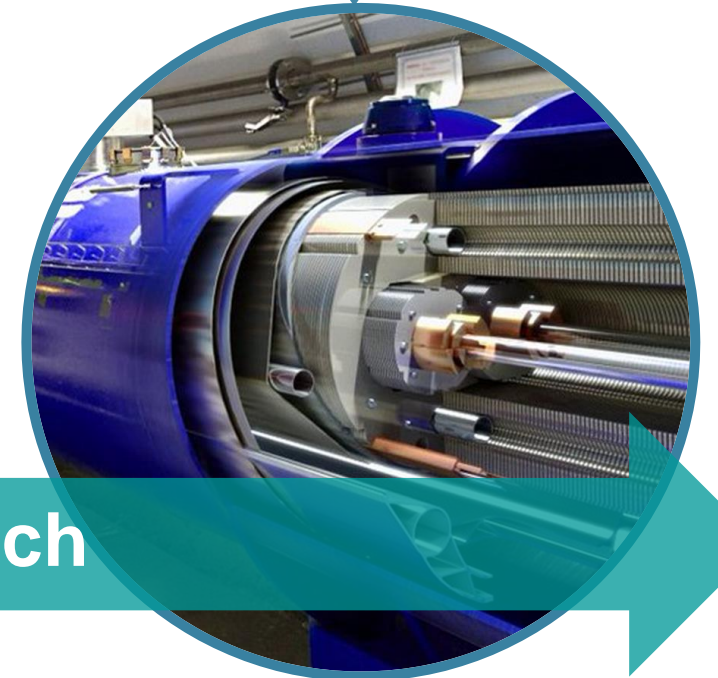
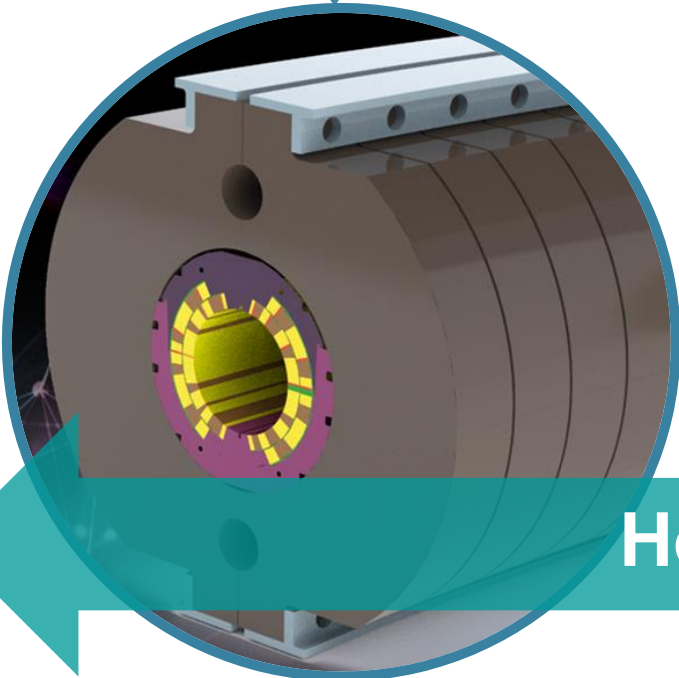
Haris Kokkinos, Technical Manager

FEAC: Your partner for your digital engineering journey

Ideation

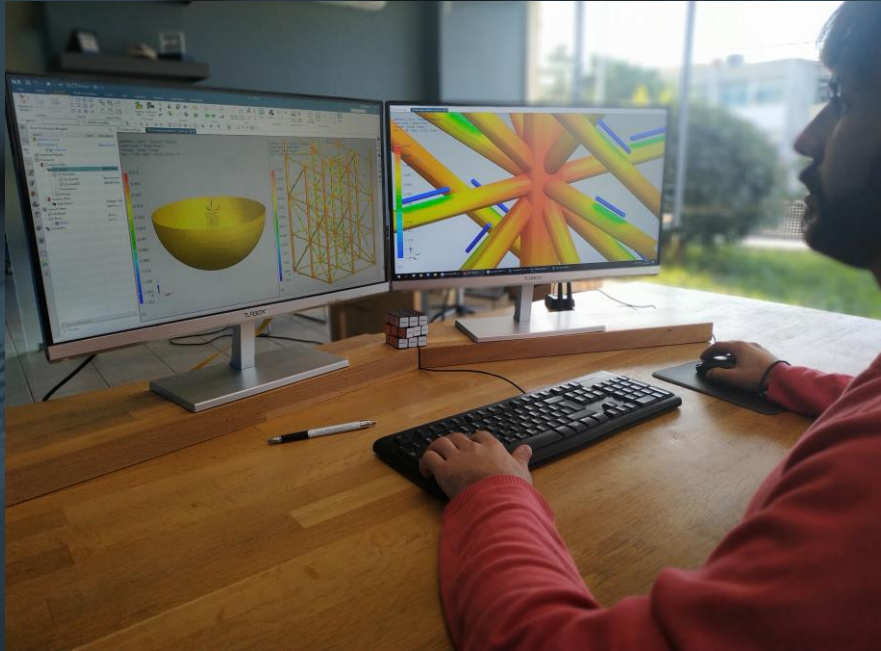
Realization

Utilization



Holistic Digital Twin Approach

At a glance...



FEAC's Team: Ph.D. & M.Sc. Engineers & Physicists



Broad Portfolio of Engineering Services including Structural, CFD, Thermal, Electromagnetics analysis

Numerous Scientific Publications

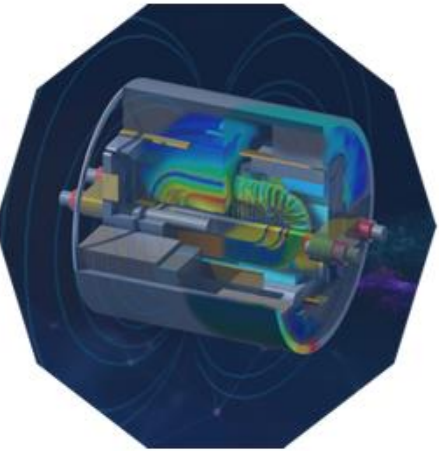


Globally recognized in the technical and scientific community

One Global Award - Two National Awards



Product Certification & Innovation



Multi-physics FEA

(Finite Element Analysis)

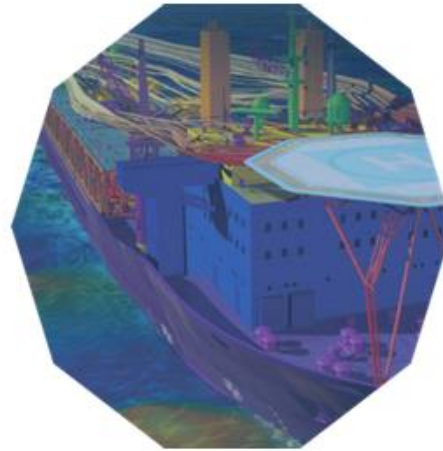
- Static/Transient Structural,
- Electromagnetics
- Thermal analysis
- Modal & Buckling Analysis
- Explicit Dynamics (Impact & Crash analysis)
- Fatigue Analysis
- Advanced Material (i.e. composites, superconductors)



BEM

(Boundary Element Method)

- Cathodic Protection (SACP/ICCP)
- Underwater acoustics
- Acoustic Radiation & Scattering
- Ground Vibrations & Isolation
- Soil Structure Interaction



CFD

(Computational Fluid Dynamics)

- Heat transfer
- Turbulent & Laminar flows
- Fluid Structure Interactions (FSI)
- Multiphase flows



Real-time Digital Twin & Structural-Health Monitoring

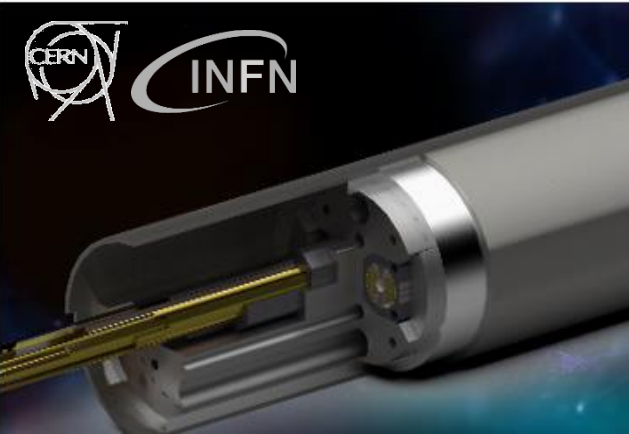
- Reduced-Order Models (ROMs)
- AI
- Neural Networks
- Machine Learning



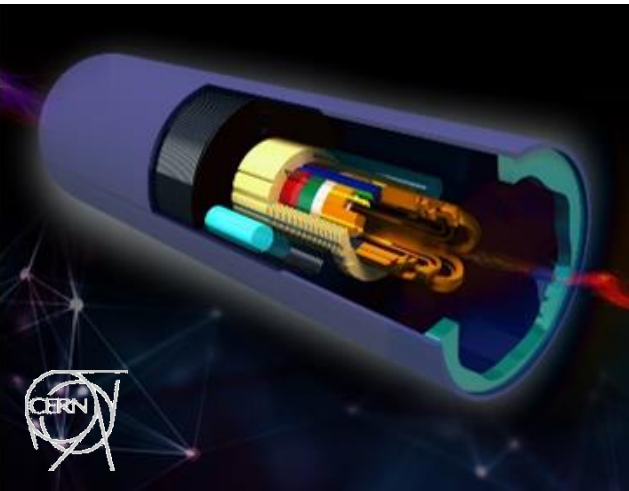
System Simulation

(1D Analysis)

- Mechatronic systems
- System verification in real-time
- Pre-design
- Systems sizing and integration
- Performance balancing
- 1D-3D co-simulation



FCC's 16T Main Dipole
[\(link\)](#)



MKQXF Quadrupole
[\(link\)](#)

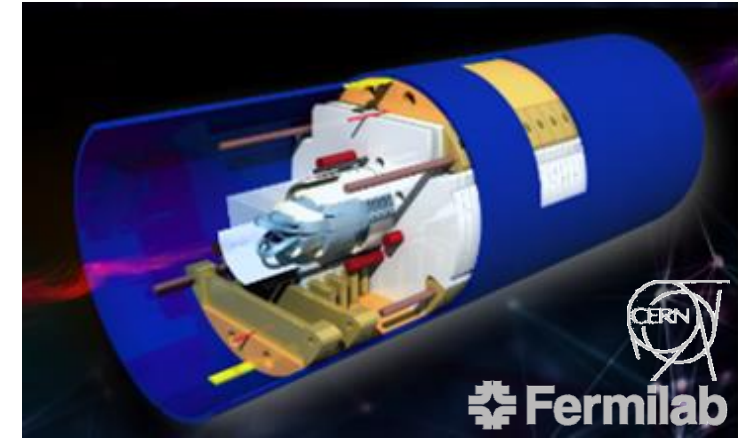
FEAC's contribution in the development of Superconducting Magnets



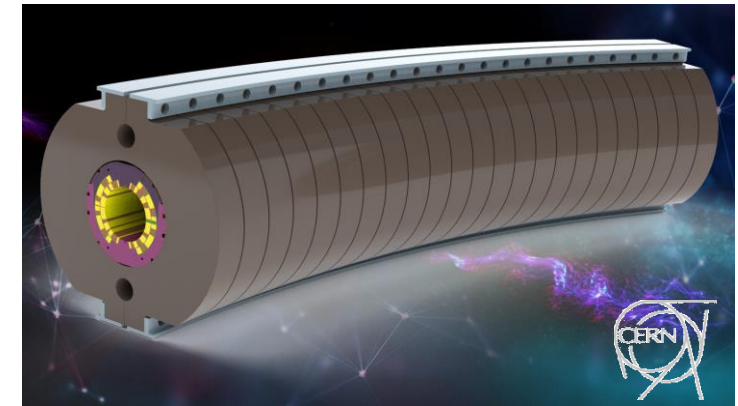
An article about FEAC in the acclaimed International Journal of High-Energy Physics "CERN Courier".

www.feacomp.com

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15T Dipole
[\(link\)](#)



SIGRUM
[\(link\)](#)



FEAC's contribution in
the development of
auxiliary machinery

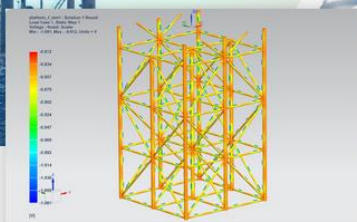
News alert: Manufacturing capabilities!!!



Lifting Platforms

PITHIA Software

Collaboration with CERN's Knowledge Transfer Group



PITHIA-CP

Anti-Corrosion Design via Cathodic Protection



PITHIA-EM

Superconducting Magnets



PITHIA-FSI

Vibro-acoustic Wave Propagation

PITHIA's 3 modules



European Organization for Nuclear Research
Organisation européenne pour la recherche nucléaire

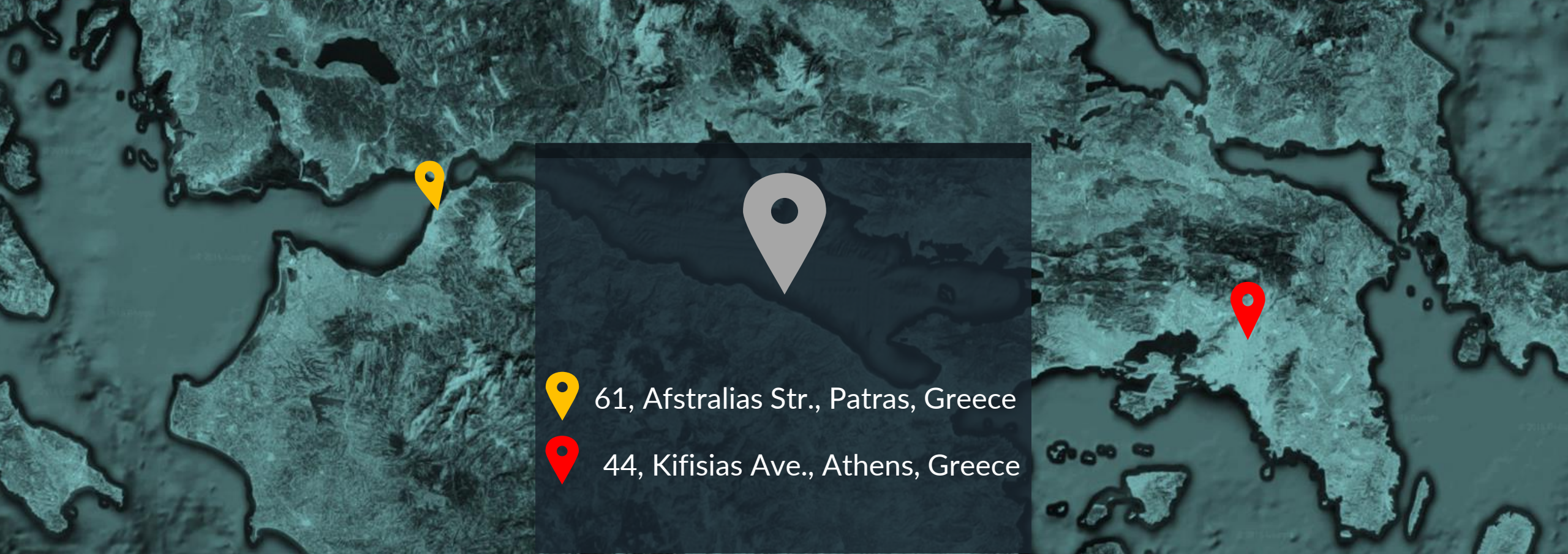
AGREEMENT KR3870/KT/IT/018L

KNOW HOW LICENCE & CONSULTANCY AGREEMENT

In relation to Accelerated Boundary Element Method, Finite Element Method and Edge Element Formulations

Company: FEAC Engineering P.C.

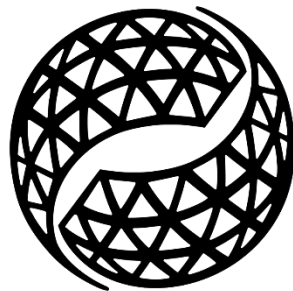




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