

ISO 9001:2008 Registered Firm



DYNAMIQ
Engineering

Finite Element
Analysis

Mechanical
Design

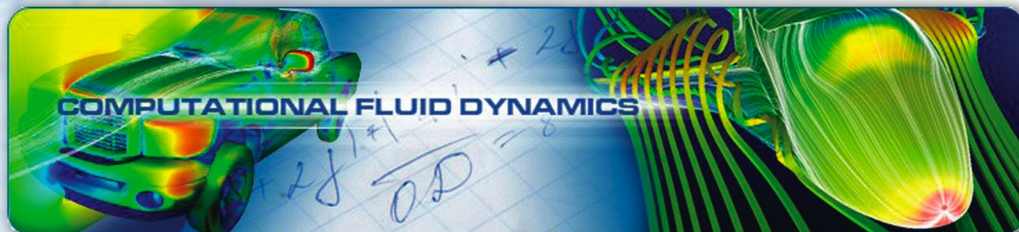
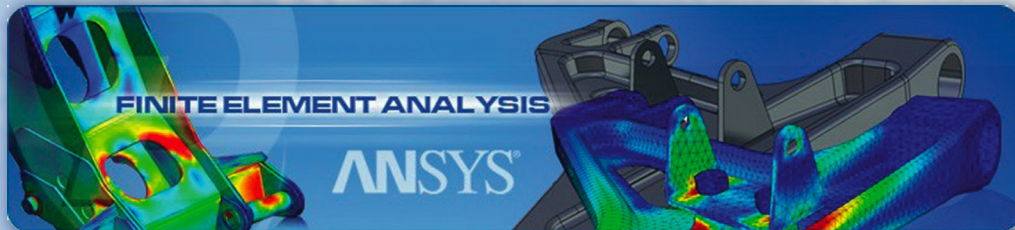
Computational
Fluid Dynamics

INTRODUCTION

Dynamiq Engineering is a specialist engineering consultancy providing advanced **engineering analysis, design and product development.**

Dynamiq provides access to **world-class** mechanical, structural and fluid engineering expertise to companies of all sizes in any sector of industry.

EXPERTISE OVERVIEW



www.dynamiq-eng.co.uk

FINITE ELEMENT ANALYSIS

Dynamiq Engineering offers the full range of high-level FEA services, using the world-class solver **ANSYS**. Our services include: **structural, thermal, vibration, seismic, impact and non-linear.**

Benefits of FEA:

- ✓ Ability to accurately assess the performance & safety of any design prior to manufacture.
- ✓ Identify and resolve design faults early on.
- ✓ Minimise cost of materials & maximise product performance.
- ✓ Speed up time to market.

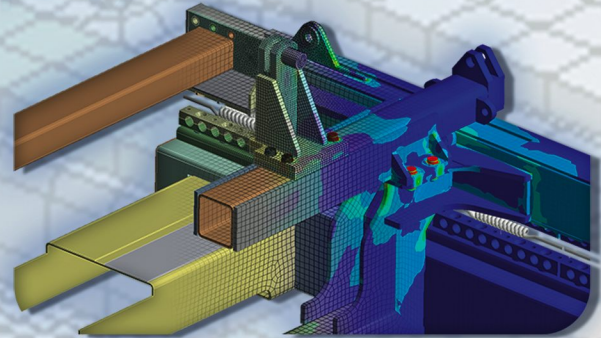
www.dynamiq-eng.co.uk/FEA



CASE STUDY: FEA

Case 1: Structural

Dynamiq Engineering provides over 150 structural analyses per year on fabricated structures ranging from **linear analysis** to **advanced non-linear** contact problems. Dynamiq specialises in providing analysis reports for high integrity systems such as lifting systems and aerospace equipment.

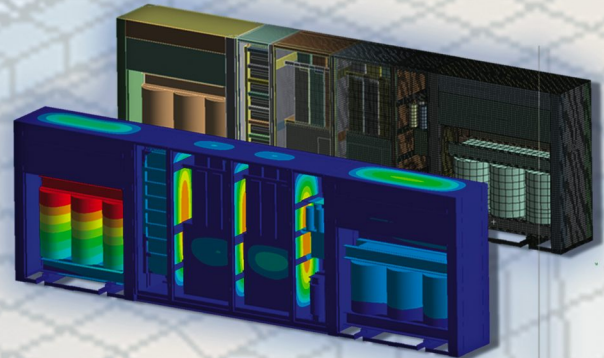


Static stress analysis of gas turbine transportation stand

Case 2: Seismic

Dynamiq is one of the few organisations in the UK capable of offering **full vibration** analysis including seismic analysis. Dynamiq performs full seismic qualifications to British Nuclear Safety Standards, ASCE 7 or applicable Euro-zone codes.

We employ the full suite of analysis techniques from **equivalent static** methods up to full **transient dynamic** simulations.



Response Spectrum Analysis of Gas Cooled Reactor Transformer System

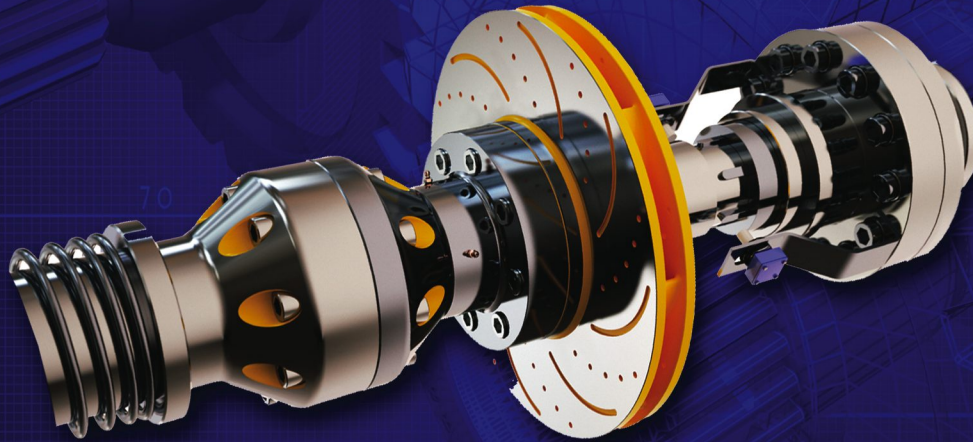
For further information:
www.dynamiq-eng.co.uk/news



MECHANICAL DESIGN

Dynamiq Engineering provides comprehensive and fully supported product and technology development services. From **preliminary research** through to **detailed design, prototype manufacture, testing, production** and **patenting**.

Dynamiq has the expertise, and network of contacts to develop world-class products. Our services are available on flexible terms, from a simple **subcontract** basis through to **shared equity** arrangements.



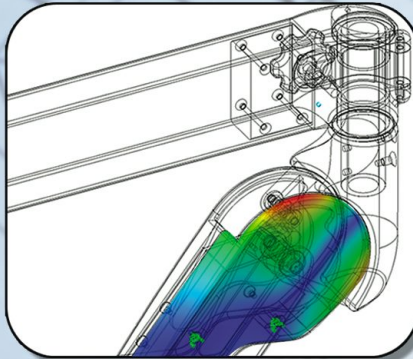
www.dynamiq-eng.co.uk/mechanicaldesign



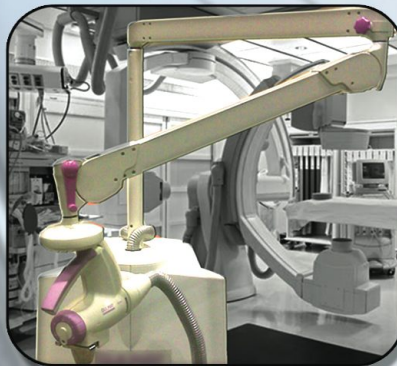
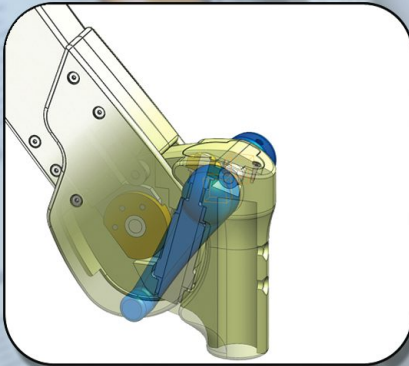
CASE STUDY: MECH

Brief/Specifications

- 175 Kg payload / 55° Sweep
- Manual/Electric retention
- Self-locking
- Weight < 50 Kg
- Critically damped response
- Operational noise level < 65 dB



Dynamiq Engineering **designed and manufactured** a precision positioning system for use with an X-ray therapy system. The system was required to move the X-ray emitter with millimetre precision, and then rigidly lock into place.



Dynamiq used its vast product development expertise and network of trusted agile manufacturing partners to deliver a careful balance between **mechanics, function and aesthetics** in under three weeks.

For further information:
www.dynamiq-eng.co.uk/news

COMPUTATIONAL FLUID DYNAMICS

Dynamiq provides comprehensive fluid dynamics analysis and design capability, from **wind loading** calculations to the fluid dynamic design of **industrial equipment, wings and impellers**.

Employing world-leading analysis software such as **Fluent, CFX** and **OpenFOAM**, Dynamiq offers innovative engineering insight, seldom matched elsewhere in the industry.



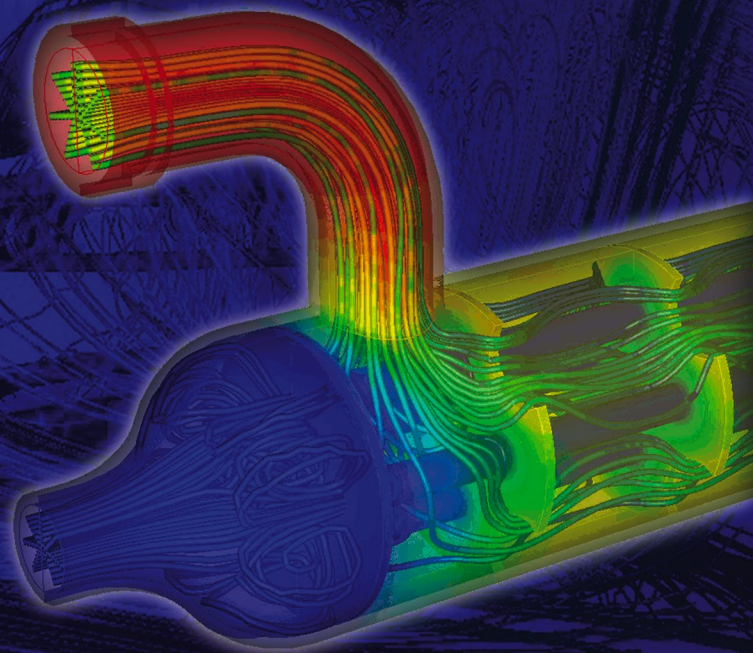
External Aero/Fluid Dynamics



Internal Flows & Heat Transfer



Mixing, Combustion & Fluid-Structure Interaction



FLUENT

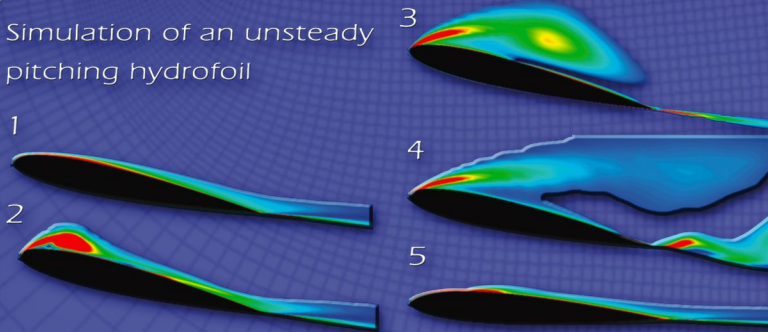
www.dynamiq-eng.co.uk/CFD

CASE STUDY: CFD

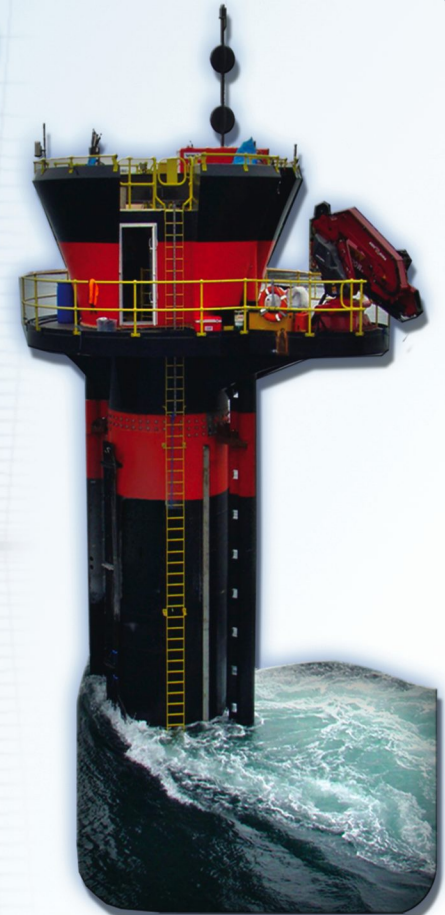
Dynamiq recently completed the **hydrodynamic design** and optimisation of an advanced oscillating blade **tidal power system**.

Using our extensive expertise in the design of hydrofoils, wings and rotors, Dynamiq was able to provide the detailed design of a family of hydrofoils including novel truncated sections offering an unprecedented lift coefficient increase of 30% above conventional designs.

Simulation of an unsteady pitching hydrofoil



For further information:
www.dynamiq-eng.co.uk/news



Tidal Power System



DYNAMIQ
Engineering

OUR GUARANTEE

Dynamiq provides **world-class** technical solutions with outstanding ongoing customer support. Without exception, Dynamiq is viewed by its clients as a **partner** rather than a stereotypical '**fire-and-forget**' consultancy.



Guaranteed Outcome



Fixed Price



**Free Ongoing
Customer Support**

CONTACT DETAILS



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