

## Your material specialist for Electro-Magnetic applications

OCAS has vast experience in soft-magnetic materials and magnetic circuit design, using a unique multidisciplinary material-oriented approach:

- Design of electro-magnetic systems
- Rapid prototyping
- Modelling and problem-solving for existing equipment
- Optimised material selection
- Advanced material characterisation techniques
- Tailor-made magnetic measurement tools for laboratory and production line quality control

## Our Modelling and Design services

Electro-magnetic equipment is designed for increasingly demanding applications, often with a large speed range, under high mechanical and thermal stresses or submerged in an aggressive environment. Appropriate material selection is essential for design optimisation at reasonable cost. Thanks to its vast experience and know-how in materials, OCAS is uniquely placed to solve all your issues, focusing not only on magnetics but on all aspects that matter.

### Our Modelling tools

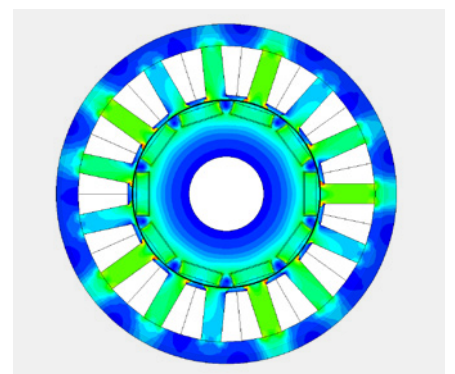
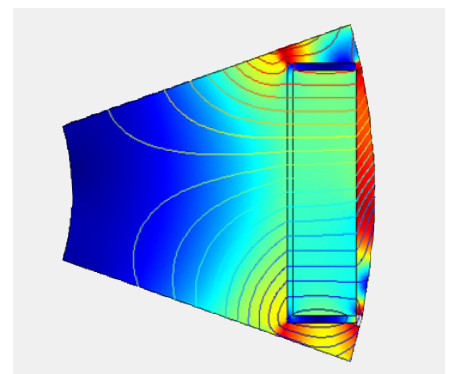
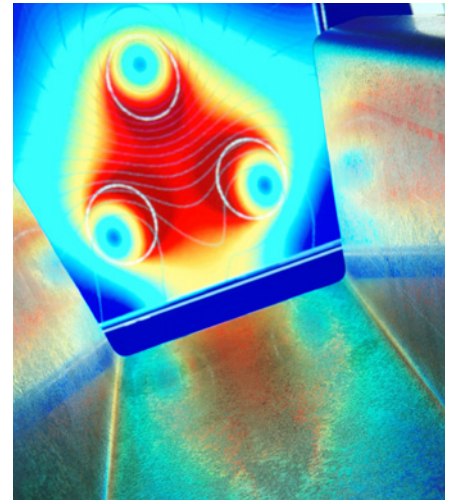
- State-of-the-art software with improved formulations for loss calculations
- Models to include the effects of punching, cutting, stresses, temperature, etc.
- Large materials database on electrical steels, amorphous materials and magnetic stainless steels
- Highly coupled multi-physics analysis
- Sophisticated, in-house models of superconducting wire to predict AC-losses and quenching behaviour

### Our Design services

Starting from your specifications, OCAS advises on the optimal technology for your system, aiming to fit in as much as possible with your existing capabilities.

We can deliver customised designs of:

- Electrical motors and generators
- Linear actuators
- Transformers
- Inductors and chokes for power quality
- Magnetic sensors
- Superconducting equipment
- EM shielding



# Measurement systems

OCAS can perform tests at its facilities, according to international standards, to aid the customer's design process or assist with quality control. Also, OCAS designs and builds standard and specific magnetic measurement set-ups, both for laboratory use and for in-line quality control of continuous production processes. OCAS' systems come with software and on-site training.

## Our test capabilities for all soft-magnetic materials

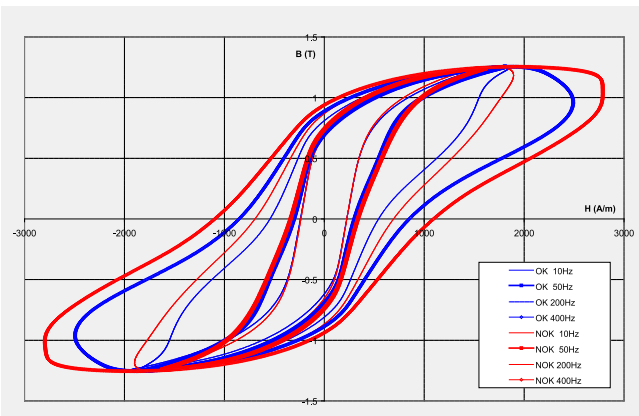
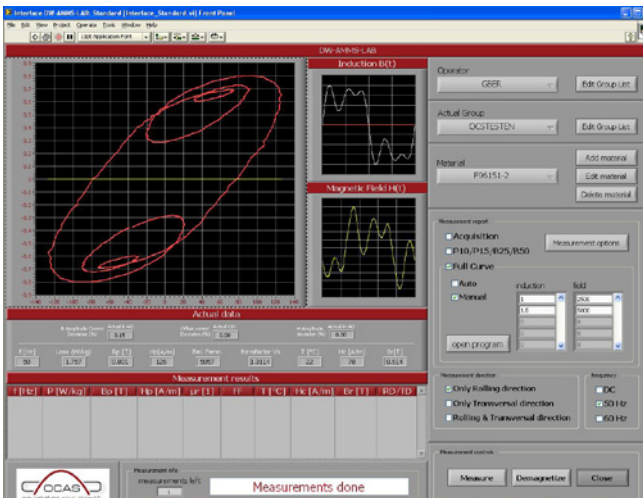
- Standard and non-standard electro-magnetic tests
- Metallurgic, chemical and structural analysis
- Mechanical strength, hardness and fatigue tests
- Coating design and analysis
- Corrosion tests

## Design and supply of customised magnetic measurement tools

- Complete laboratory systems for magnetic measurements
- Specialist equipment to measure effects of mechanical stress, temperature, punching and cutting, rotational flux, high frequencies, harmonics, etc.
- In-line measurements for continuous production lines
- Our in-house developed software for accurate synchronised measurements can easily be adapted to suit specific customer requirements

# R&D partnerships

In addition to our consultancy services, OCAS has a long history of successful R&D partnerships with companies and research institutes. We are open to any kind of collaboration, and are interested to hear about original ideas or exciting running projects where we could provide technical support leading to the development of novel electro-magnetic equipment.



# Contact Us



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