

CEMIS

Centre for Measurement and Information Systems

Your Success is Our Real Measure

CEMIS - the Centre for Measurement and Information Systems is a contract-based joint centre of the Universities of Oulu and Jyväskylä, Kajaani University of Applied Sciences, VTT Technical Research Centre of Finland and CSC - IT Centre for Science. CEMIS specialises in research and training in the field of measurement and information systems.

Our focus is to develop measurement and IT solutions for cleantech sector and for sports, wellbeing and healthcare, and to support the development of new international business based on our innovations and expertise with our partner companies. In cleantech, we have a strong expertise in on-line measurements for process industry, especially for bioeconomy and mining sector and in environmental monitoring. In sports, wellbeing and healthcare we work with the latest sensor technology and game and simulation solutions including virtual and augmented reality (VR/AR).

Examples of the developed measurement and information solutions include:

- ✓ On-line sensors and novel analysers for monitoring of toxic metals and other inorganic substances in process and waste waters
- ✓ On-line sensors for monitoring of organic compounds in biofuel production
- ✓ Novel analysers for bacteria counting and characterisation
- ✓ Solutions for fouling-free measurement chambers and full-automated measurement stations
- ✓ Non-invasive sensors for human physiological measurements
- ✓ Measurement technology for testing and performance optimization of athletes and sports equipment
- ✓ Wireless and self-powered sensor network for industrial applications
- ✓ VR/AR applications utilising advanced IoT solutions for e.g. car mechanics training, nurse education and industrial process and machinery simulations
- ✓ Data-analytics based on real-time measurements
- ✓ High-precision test and calibration facilities for force and torque sensors and liquid flow meters

CEMIS achievements:

> 30

OVER 30 SPIN-OFF
COMPANIES

> 30

OVER 30 COMMERCIAL
INVENTIONS

> 180

OVER 180 PEER REVIEWED
ACADEMIC PUBLICATIONS

> 240

OVER 240 CONFERENCE
OR PROFESSIONAL
PUBLICATIONS

68

68 MASTER'S
DEGREES

9

9 DOCTORAL
DEGREES

Join CEMIS

For researchers, professionals and experts, we offer innovative and international working environment with active collaboration between research groups and industry. We offer also positions for postgraduate studies.

For students, we offer motivating and practical educational environment with numerous programmes and courses in engineering, IT, business and healthcare - also in English. Our cooperation with industry offers excellent possibilities for practical training and project or research work with companies.

CEMIS sites are located in the Kainuu region, Finland, in the town of Kajaani and Vuokatti leisure centre. We are far away from hectic city life, but instead we have a safe and clean living

environment supported by the 4 seasons of northern Finland. We offer excellent possibilities for recreational sports in winter and summer.

If you are interested in working or studying in CEMIS, do not hesitate to contact us at info@cemis.fi.

For general information on studying in Finland and the Kainuu region please visit:

- www.studyinfinland.fi
- www.kajaani.fi/en/services/kajaani-info
- www.vuokatti.fi/en

CEMIS offering for Companies and Research Organisations

We offer reliable measurement and information system solutions for demanding operating conditions via:

- Top-level research and development services
- Extensive testing and calibration services, including special analytical services
- Specialised training and consultation
- International business development services

Our main target sectors are:



Our key technologies are:

- Optical spectroscopy
- Imaging technologies
- Bioanalytics and biosensors
- Biomechanical and physiological measurements
- Force and torque sensors
- IoT - wireless, embedded sensor networks
- Data-analytics and machine learning
- Computer games and simulators
- Virtual and augmented reality

CEMIS - Centre for Measurement and Information Systems

CEMIS is a contract-based joint research and higher education centre of the Universities of Oulu and Jyväskylä, Kajaani University of Applied Sciences, VTT Technical Research Centre of Finland Ltd. and CSC - IT Centre for Science Ltd. The centre specialises in research and training in the field of measurement and information systems.

CEMIS employs around 100 measurement and information system experts. The centre's annual funding is over € 11 million.

CEMIS offers a wide range of services to companies and research institutes, including research and development, analysis and testing, device development and business development.

The strategic focus areas of CEMIS are:



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