

Your Success is Our Real Measure

CEMIS Solutions - Virtual and Augmented Reality Applications for Mining Industry

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 mining and cleantech sector 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. We work with the latest sensor technology and game and simulation solutions including virtual and augmented reality.

CEMIS offering for mining companies and organizations:

3D visualisation of the mine site (virtual reality (VR)).	Training scenarios for the mine sites (e.g., safety training with VR)	Visualising the mine plans and e.g., landscaping after closing	Tailored R&D projects related to visualisation and utilisation of virtual reality and augmented reality (AR).
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Advantages/benefits of VR and AR:

- VR enables inspection of complex data in a multidimensional environment, making the data easier to analyze.
- With visualization one can even produce solutions to the so-called big data problems.
- With AR these data/models can be reflected directly on site, which then can provide more direct and enhanced real time feedback.

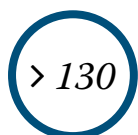
CEMIS achievements:



OVER 30 SPIN-OFF COMPANIES



OVER 20 COMMERCIAL INVENTIONS



OVER 130 REFEREED SCIENTIFIC PUBLICATIONS



OVER 200 CONFERENCE OR PROFESSIONAL PUBLICATIONS



53 MASTER DEGREE THESES



6 DOCTORAL THESES

CEMIS` Virtual Industrial Solutions (VIS)

CEMIS` Virtual Industrial Solutions (VIS) team at Kajaani University of Applied Sciences is dedicated to develop revolutionary solutions that take mining industry to next level. New ways of utilizing virtual reality and augmented reality to visualize the data captured from the mining operations will change everyday operations as well as long term planning by providing high precision optimization procedure.

Our main developments include visualizing the ore deposits with virtual and augmented reality. Our platform transforms ore deposits in a highly visualized format to be explored with virtual and augmented reality. An ore deposit under exploration can be visualized with virtual reality, and augmented reality is a viable tool for excavation purposes. There are vast amount of other data that can be integrated into the same visualization, but the most important is the

information on how the ore is distributed underneath the earth surface. With cutting-edge technologies utilizing virtual and augmented reality, the ore deposit and related big data can be effectively visualized and attributed so that the mining becomes more effective.

Our state-of-the-art solution offers superior facility for the future of mining by offering a simple yet effective visualizing practices applied for different user groups.

For more information contact:

Business development and international connections

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CEMIS employs around 100 measurement and information system experts. The centre's annual funding is over € 10 million.

CEMIS offer a wide array of services to companies and research institutions. CEMIS services include research and development services, analysis and testing services, device development services as well as business development services.

The strategic focus areas of CEMIS are:

ON-LINE
MEASUREMENTS
FOR CLEANTECH

SPORTS, WELLBEING
AND HEALTHCARE
MEASUREMENTS

INTERNATIONAL
TECHNOLOGY
BUSINESS
DEVELOPMENT

CEMIS

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