Measurable Competitiveness

The Sports Technology Unit, situated in Vuokatti, is an education and research unit of Jyväskylä University’s Department of Biology of Physical Activity. The unit delivers Masters and Doctoral programmes in sports technology and carries out scientific, basic and applied research. The unit operates in the premises of Snowpolis Oy in Vuokatti.

The role of sports technology is to find solutions to combine technological expertise with exercise and health promotion. Areas of applications in sports technology are analytical programmes, ancillary equipment technology, exercise for groups with special needs, clinical biomechanics, competitive sports, fitness and health promoting exercise, rehabilitation, stress physiology and monitoring technology.

A unique research and development environment
CEMIS’ operations in the Vuokatti unit focus on measurement technology for sports and wellbeing applications. An additional area of expertise is validation research. An example sports application is the ongoing cross-country skiing development scheme in cooperation with Oulu University (CEMIS-OULU), in which force and muscle activity, equipment and athlete’s physiology measurement approaches and ski slide and friction property analysis approaches are being developed. In ski jumping a coach feedback system has been developed together with the Vuokatti Sports Institute, which in the future may also be used in cross-country skiing. An excellent outcome of successful cooperation and sports technology expertise is the ski moving device (ski tester). Device is developed in cooperation with Oulu University and used also in international research cooperation and for testing equipment on behalf of the Finnish Skiing and Biathlon Association. In the future the unit also wants to be involved in the development of research, testing approaches and ancillary equipment for disability sports.

We offer for measurement and information system oriented companies
- scientific and applied sports technology research
- testing and product development services
- new innovations
- consultancy

experts
- an innovative and international working environment

future experts (students)
- Masters and Doctoral studies in sports technology
- a unique education environment
Become a professional

Masters degree in Sports Technology (300 cr)

Entry requirements: a background of studies in the fields of engineering or information technology either at university or university of applied sciences with 180 credits accomplished. The studies are carried out during intensive study weeks lasting about one week, once per month. Those who graduate from this programme will possess the knowledge and skills to establish well-being and health promoting technology and service companies and to work in already established businesses as experts. For more information see: www.jyu.fi

Research operations

One focus of the sports technology unit, which emphasises approach, business-orientation and international connections, is the research of different forms of skiing carried out for many years in intensive cooperation with Oulu University, Vuokatti Sports Institute and Snowpolis Oy. The area of Vuokatti and the Sports Institute environment provide excellent facilities for this unique type research, e.g. the ski tunnel. The research projects carried out by the unit are strongly entwined with the benefits of technology as a tool to promote wellbeing and sports. Research commissioned by businesses is also a powerful part of the Vuokatti unit’s operations with more than 20 companies involved in the implementation of schemes.

One of the most important objectives of the unit is to produce internationally recognized scientific results and a lot of work is done to advance international cooperation. Such cooperation has gained new impetus with the confirmation of cooperation with Salzburg and Mid-Sweden (Östersund) Universities related to skiing research. In total, the unit has close cooperation with five international universities and research institutes. It also actively organises international congresses in Vuokatti.

CEMIS Centre for Measurement and Information Systems

is a community of 120 measurement and information system experts combined with excellent research and training environments. The combined annual funding of the various units is approx. € 10 million.

Competence focuses:
• Process and environmental measurements
• Sports, exercise and wellbeing measurements
• Vehicle information and measurement systems
• Computer games and simulators

Our aim is to be Finland’s leading research and training centre specialising in measurement and information systems within our selected top fields by the year 2015. With the support of our committed partners, we will create leading experts, new technology and new business operations in an innovative and international environment.

> www.cemis.fi