

Research, Education and Innovation

Research

The key areas of importance for our global society in the 21st century, in which the IDEA League partners share excellence and in which we are developing strategic collaborations, are:

- *Energy* – to meet the increasing demands of the developed and developing nations;
- *Environment* – to develop sustainable modes of existence and industrial processing, and better understand the complex mechanisms that support us;
- *Healthcare* – to address the new demands that the demographic shift brings;
- *ICT* – to provide world-wide information with the help of reliable complex computer networks and information databases
- *Mobility* – to ensure sustainable solutions of transport for our global society

Using our collaborative research workshop programme, we are currently identifying key research themes within these areas to define a 10-15 year science and technology road-map; as part of this we will identify and involve potential partners to help us realise this ambition.

In these key areas, the IDEA League partners have academic partnerships with a number of other world-class academic institutions, and strategic collaborations with a large number of leading partners in key industries. The joint commitment within the IDEA League to share large scale research facilities will further strengthen our ability to achieve our goals.

Education

Our educational portfolio is focussed on our science and technology strengths with training at bachelors, masters and doctoral levels; our graduates are highly sought after in academic, industrial, commercial and governmental sectors. Collectively, the IDEA League has more than 60,000 students of whom well over 10,000 are registered on doctoral programmes.

In addition to the intrinsic high quality of the academic and technical aspects of the training, membership of the IDEA League provides students at all levels with the

opportunity to interact with their counterparts throughout the IDEA League – enhancing both academic and social mobility, and encouraging interdisciplinarity. We have jointly developed and implemented a number of quality standards and academic activities including:

- a set of *common education quality management principles*;
- *academic profiles* for graduates;
- *mutual recognition of degrees* (1st, 2nd and 3rd cycle);
- *student interchange via IDEA League scholarships*, whereby students can attend a partner institution for several months to study or undertake research in a partner institution during the course of their bachelors, masters or doctoral studies;
- *joint masters* both within the IDEA League and through the Erasmus Mundus scheme;
- *joint Summer Schools* for doctoral students.

Pan-European integration is additionally enhanced by *student-led* summer schools, and sporting and social events.

Innovation

In keeping with the Lisbon Agenda, all of the IDEA League partners give great emphasis to the importance of knowledge and technology transfer. The success of university-led innovation depends on effective interactions within the context of society. New ideas from academia can lead to totally new capabilities in key areas, such as energy, environment, healthcare, ICT and mobility. Similarly, implicit and explicit needs of commerce, manufacturing industry or the healthcare sector can lead to productive new avenues of research. Hence, relationships between universities and their commercial partners need to be ever closer if needs and possibilities are to be effectively exploited.

All of the IDEA universities are committed to a research agenda that emphasises the application of research in industry, commerce and healthcare. Our technology transfer programmes are an essential part of this mission, and our success is illustrated by the high level of our industrial research funding (up to 30%) and the number of spin-out companies we have established (a total of about 60 per year). Collectively, we have links to more than three quarters of the European Round Table of Industrialists, and with many more industries beyond this organisation. We also have close links with governmental organisations, such as our national health services. To further our ambitions and effectiveness in this area we have established a Technology Transfer Group within the IDEA League, and knowledge and technology transfer form an integral part of our collaborative doctoral and early researcher training programmes.

IDEA League in the European Arena

The IDEA League, with its shared vision and integrated approach to research, education and innovation, is a unique network. With its excellence in science and technology and its longstanding record of working together, the IDEA League presents an ideal nucleus for forming larger communities with additional partners to help finding solutions for the significant problems we are facing in the 21st century. We recognise that success will depend upon our engagement and collaboration with other leading scientific and technological partners, according to the specific research area. To this end, we are reviewing and formulating proposals for collaborative research and education programmes in the areas of Energy, Environment, Healthcare, ICT and Mobility.

Together we will make a difference.