BRIGHTER lasers for tomorrow's technologies

Scientists and engineers across Europe have joined forces in in the WWW.BRIGHTer.EU Integrated Project in a unique collaborative effort to develop a new generation of high-brightness lasers that will transform the fields of healthcare, communications, entertainment and security. The €16.25m project (€9.7m funded by the European Commission's Information Society Technologies Programme), which runs until September 2009, brings 22 of Europe's top research teams together from industry, research laboratories and academic institutions to achieve the next quantum leap in this multi-billion Euro field – by making lasers smaller, brighter and cheaper. This collaboration builds upon the successful WWW.BRIGHT.EU project, which was completed in 2006.

The main challenges addressed by the Consortium are to develop low-cost, high-brightness light sources for an extended range of colours (wavelengths) and to couple more light power into smaller diameter optical fibres. These improvements will, on the one hand, allow the replacement of existing cumbersome and expensive laser sources, and on the other hand facilitate the emergence of new applications. Success for the Brighter EU scientists will present opportunities for society that are simply not available today, including improved cancer treatments, new medical diagnosis techniques and state-of-the-art communications and entertainment systems. Project coordinator, Michel Krakowski of Alcatel-Thales III-V Lab in France, said: *"There are huge markets for laser diode technology. There are a lot of applications that currently are not possible to address without high-powered diode lasers, either because of cost, colour or portability. The goal of this project is to develop new lasers with increased power and brightness. It's about how tightly we can focus the beam."*

The unique pooling of resources in WWW.BRIGHTER.EU is stimulating new lines of research and, through the participation of major industry (who are contributing €6.5m of their own funding to the project), promises to deliver the benefits of improved technology to the European public first and much more quickly than would otherwise have been possible. This critical mass of expertise is also allowing the BRIGHTER consortium to remove barriers between disciplines and develop laser technologies for important new applications. As well as the technological developments, the project contributes to the structuring of the European Research Area. Professor Eric Larkins of the University of Nottingham said *"The project is actively encouraging the increased mobility of young scientists between industry and academia to provide exciting career development opportunities. We are also developing new tutorials for training in cutting-edge technologies. These are also available through the project website to students and researchers outside the consortium."*

Interested readers can find more information on the BRIGHTER project website at http://www.ist-brighter.eu, where they can download advanced technical tutorials and informative eNewsletters. They can also ask to be put on the mailing list to receive the biannual e-newsletter by emailing the editors at: eric.larkins(at)nottingham.ac.uk (replace the '(at)' with '@').

Links for more information and downloadable documents:

BRIGHTER e-Newsletters
http://www.ist-brighter.eu/news.htm

BRIGHTER Tutorials
http://www.ist-brighter.eu/more.htm

BRIGHT e-Newsletters
http://www.bright-eu.org/bright-eu/publication/work/Newsletters/index.htm

BRIGHT Tutorials
http://www.bright-eu.org/bright-eu/publication/work/info/index.htm

BRIGHT Workshop Presentations
http://www.bright-eu.org/bright-eu/publication/work/conf/index.htm