21st October is the Day Of Photonics

- 21 October 2016

Photonics is the science and technology of light. It encompasses all of the products and processes around the emission, manipulation, transmission and detection of light and other electromagnetic radiation. It can carry far more information than radio frequency and microwave signals. It may not be obvious, but it underpins a large number of industries.

Athough most people are familiar with lasers, fibre optics, the optical components in mobile phones, and that light and radiations are a crucial part in the latest medical instruments, the word Photonics is still largely obscure.

Photonics is not just featuring in grand projects and big business like aerospace, homeland security or biotechnology. Photonics affects all of us in our everyday lives, improving food production with remote sensing, advancing healthcare and keeping a close eye on global warming.

Photonics really is the future. What the electron did for 20th century, with advances in electronics and electricity, so will the photon do for technology of the 21st century with photonics.

Last year it was the UNESCO International Year of Light and Light Technology, in one word of Photonics, and it was a great opportunity for Photonics to be introduced to a large pubblic.

But also this year it is time to celebrate Photonics. The 21st October is the *Day of Photonics*, marking the 33rd anniversary of our adoption of 299,792.458 km/s for the speed of light, and it will be celebrated with worldwide events

The European Commission has long recognized its potential, and has been heavily supporting photonics technology shaping the future. In 2009, the European Commission defined Photonics as one of five European Key Enabling Technologies (KET's), and invested €700 Million through the European Research & Innovation Program "Horizon 2020".

Shortly after the start of H2020, it launched Photonics Public Private Partnership (PPP), a long-term commitment between the EC and the photonics stakeholders in Europe. The aim was simple: to secure Europe's industrial leadership, economic growth and to generate new jobs.

The European photonics industry made the strongest commitment to date, by investing a staggering €5.6 billion in research, innovation and manufacturing in Europe by matching every €1 spent by the European Commission in the PPP, with €4 by industry. To compound matters, Photonics will now have a central role in the Digitising European Industry strategy.

With the global photonics market growing at twice the world economic growth rate, from €350 Billion in 2011 to €615 Billion in 2020, Photonics21 stands in a secure global market position. The production of European photonics alone accounts for €60 billion and employs over 350,000 people directly.

Photonics is providing solutions to many of the global challenges we face, like improved agriculture and farming, providing clean water and sanitisation, and developing the latest medical diagnostics

tools to tackle cancers, sepsis, and blindness. With photonics, we are striving to create a better quality of life for all.

Next time you tap on a smartphone, (a device in your pocket that holds more information than all the books in all of the libraries in the world), or watch your smart TV, if you happen to get into a self-driving car, or perhaps when you next ‘facetime’ your loved ones, think of photonics.

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