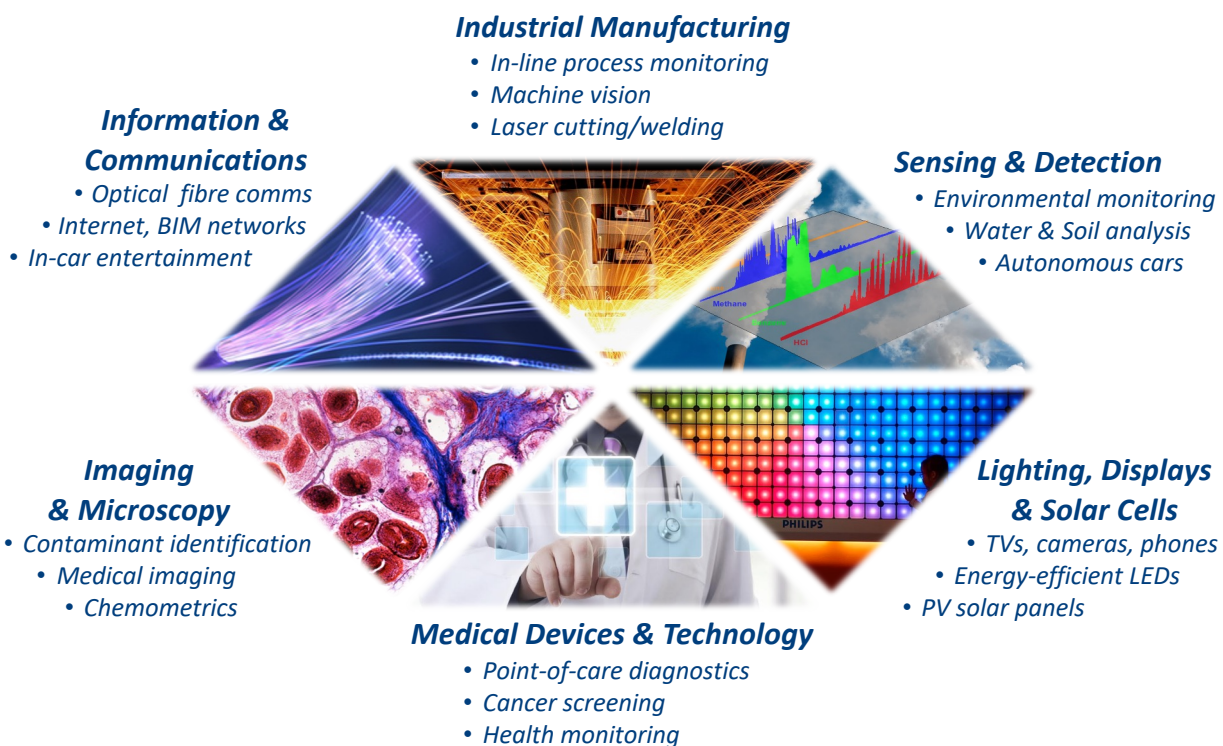




# What is Photonics?

**Photonics: the science of generating, controlling and manipulation light**

The global market for photonics products is €654 billion, of which €103 billion is produced in Europe. The European photonics industry employs 390,000 people directly, and involves over 5,000 SMEs. Photonics is a **Key Enabling Technology** for a wide range of application areas:



The field of photonics is at the cross-roads of several disciplines including physics, electronics, mathematics and chemistry. It has revolutionised telecommunications and the internet through the development of fibre-optic networks, but is also hugely important in a diverse range of other fields. Almost all materials have a spectral response, and optical technologies have the advantages that they can be **cheap** and **compact**, usually have a small footprint so can be **integrated at-/in-line**, and are typically **non-invasive** and **non-destructive**. This makes photonics an ideal solution in industries such as **food, pharmaceutical, bio-medical** and **agriculture**.

