

Unit One

Lesson Two:

Fundamentals of Applied Photonics

Reading and Vocabulary:

Applied photonics

Grammar:

The Articles

Part one: Reading & vocabulary

Read the text and answer the following question:

Societal Challenges Facing the Future of Photonics

The Photonics contribution to modern society is impressive but not always very visible. The unique properties of light (colors, speed) together with the recently developed new technologies allows the user of photonic components to bring innovative products in end markets that go beyond the national borders. Photonics is science and technology and includes the study of the generation, propagation, modulation, signal processing, switching, amplification, detection and sensing of light.

Photonics is denoted a **Key Enabling Technology (KET)** by the EU and also adopted by the Dutch top sector High Tech Systems and Materials (HTSM). Being a basic technology it provides photonic components that allow innovative solutions in a wide field of applications and contributes directly in search for solutions for the grand societal challenges of our time:

- **In healthcare** by radical new approaches moving from current, cost-intensive treatment after onset of a disease, to the detection and prevention at the earliest possible stage by new (hand held photonics based) diagnostic instruments, which allows to bring these new tools critical care as well as perform remote diagnostics.
- **In energy saving** (—green photonics) by the introduction of very efficient light sources, (O)LEDs, and energy generation by highly efficient solar cells.