**Photovoltaics** (PV) is a field of science and technology that deals with converting sunlight into electrical energy, or in other words, generating electricity from solar radiation using the photovoltaic effect.

Photovoltaics is currently being applied for two main reasons, despite relatively high costs (although these are decreasing, and cheaper technologies are being developed, such as those based on perovskites) compared to conventional sources: ecological (where ecology is more important than economics), and practical (solar radiation is practically available everywhere).

The main raw material for the production of photovoltaic cells is silicon wafers, but not amorphous, but crystalline. Thin-film panels (CIGS) are created by depositing a thin layer of copper, indium, gallium, and selenium onto the surface of glass or plastic and adding electrodes. A single cell is capable of generating a current with a power of 1-6.97 W. To maximize the effects obtained, cells are connected into photovoltaic modules (groups of cells in a device). Cells are most commonly produced in panels with an area of 0.2 – 1.0 m². These cells are primarily used in space technology. Their advantages include maintenance-free operation and long lifespan, guaranteed for 25 years. In Germany, we find photovoltaic installations operating for 35 years. In addition to this, they are used as a power source for standalone devices, such as signal beacons, traffic lights, etc. They are also beginning to penetrate buildings and structures, especially those located far from power grids.