

## Innovative lighting systems

To save electricity costs every homeowner tries in his own way. As regards cost savings on the light housing there is the most common option is simply not to turn on the light in the room if no one is there and use the bulb consumes a minimum of energy at maximum efficiency. In turn, the engineers offer innovative lighting system enabling efficient use of natural resources. We present you three recent developments in this area. 1. Light rooms including no Windows with direct sunlight. The project was developed by scientists from the Anton Harfmann and Jason Heikenfeld from the University of Cincinnati. Their SmartLight system based on the use of miniature electro-fluidic chambers the size of which does not exceed a few millimeters. Chamber filled with a transparent liquid which is known to have optical properties similar to the properties of glass lenses. Controlling the system using the remote control unit the flow of light can be redirected in the desired direction. A separate camera connected to a thin mesh which is installed at the top of the window. Getting the capsule with the liquid, the sun's rays are redirected onto the ceiling and from there are redistributed throughout the room. If you wish to install a mesh in the doorway and direct the light from the window in the other room. The SmartLight system power is provided by ultra-low-cost photovoltaic cells. The authors of the project continue to improve his invention and is currently working on creating automatic on and off system depending on whether there is someone in the room or not. Accumulated in the battery solar energy can be used at night or in cloudy weather to power air conditioning and space heating as well as to redirect to some other buildings. 2. Installation on the roof special skylights. This option economical lighting system proposed by the American company SunCentral Inc. The project is called SunBeamer. The idea of a skylight on the roof will have to direct the flow of light on a certain object inside the premises. Hatches to equip a compact mechanism which allows to track the movement of the sun so that its rays are all the time fell on the mirror reflective blinds. 3. Something similar was created by the scientists of the Belgian company EcoNation. Their invention of the dome LightCatcher is equipped with a mirror captures and redirects sunlight onto special light shaft. There the sunlight is amplified and sent into the room. Power this mirror dome enough to illuminate the room area

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