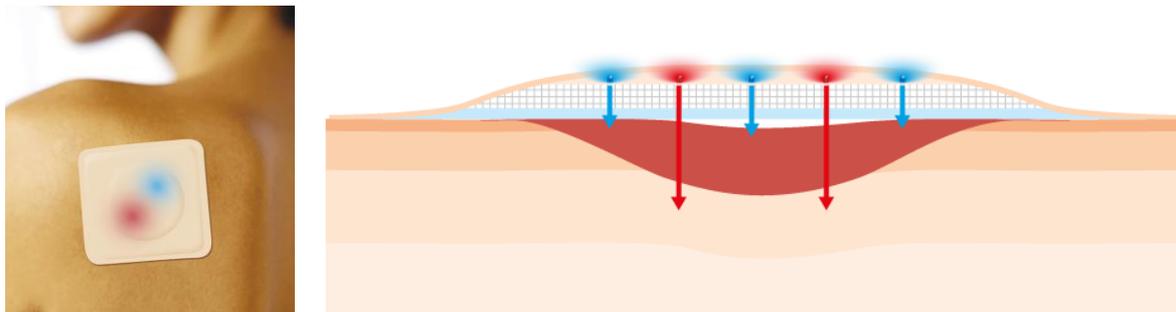


Press Release

MEDILIGHT: Miniaturized smart system for light stimulation and monitoring of wound healing

Berlin, April 2015 — A new European consortium was formed within MEDILIGHT project to develop a smart, self-adaptable system, which will provide personalized light therapy to patients with chronic wounds. This research collaborative project is co-funded by the European Union's Horizon 2020 research and innovation programme and coordinated by the Technical University of Berlin (TUB). The project has started in February 2015 and will be conducted over a period of 36 months with an EU contribution of € 3.2 M.

Chronic wounds represent a significant burden to patients, health care professionals, and health care systems, affecting over 40 million patients and creating costs of approximately 40 billion € annually. Goal of the project is the fabrication of a **medical device for professional wound care**. The device will use recently proven **therapeutic effects of visible light** to enhance the self-healing process and monitor the status and history of the wound during therapy. Light exposure in the red part of the spectrum (620-750nm) induces growth of keratinocytes and fibroblasts in deeper layers of the skin. The blue part of the spectrum (450–495nm) is known to have antibacterial effects predominantly at the surface layers of the skin.



A simplified picture of MEDILIGHT device. © MEDILIGHT

In order to be compliant with hygiene requirements the system will consist of two parts: 1. a **disposable wound dressing** with embedded optical waveguides and integrated sensors for the delivery of light and monitoring (temperature and blood oxygen) at the wound; 2. a soft and compliant **electronic module** for multiple use containing LEDs, a photodiode, a controller, analog data acquisition, a rechargeable battery, and a data transmission unit. Both parts of the device will be interconnected by a mechanically robust plug. The detailed effects of light-exposure schemes will be investigated and backed by **in-vitro and in-vivo studies**.

MEDILIGHT builds on the competencies of the following **seven partners**: Technische Universitaet Berlin (TUB), Germany; Laboratoires URGO, France; Ruprecht-Karls-Universitaet Heidelberg, Germany; Centre Suisse d'Electronique et de Microtechnique SA (CSEM), Switzerland; SignalGeneriX Ltd, Cyprus; Microsemi Semiconductor Limited, United Kingdom; and AMIRES s.r.o., Czech Republic.

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