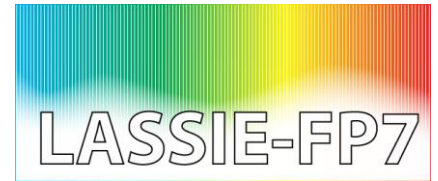


FP7 project fact sheet:

Large Area Solid State Intelligent Efficient luminaires

LASSIE-FP7



Introduction:

In 2009, in an effort to reduce global energy consumption, the EU Commission decided to move toward a complete ban of incandescent light sources by 2020. Their progressive replacement by highly efficient light sources is expected to reduce energy consumption for lighting by 30%.

Among all existing technologies, solid-state lighting (SSL) represents the solution of the future, however, according to a recent study, many SSL products do not fulfill the claimed specifications and a deep market penetration of LED modules is at risk. The main problems are decreasing light intensity and varying light chromaticity due to aging and temperature, as well as poor uniformity of large-area luminaires and poor lighting quality.

Project description:

The main objective of the LASSIE-FP7 consortium is to implement **large-area and low-cost intelligent SSL modules with high efficiency and high lighting quality**, while assessing their environmental footprint. The project targets in particular the professional and architectural lighting sectors.



Example of a current SSL luminaire: the fixture "Nuance" by Regent Lighting
© Regent Lighting

LED-based point source luminaires have been already investigated, but market requirements for intelligent, large-area solid-state light sources have not been met yet. In order to achieve luminaires with high intensity, good uniformity and high color rendering performance, significant intelligence has to be added to the LEDs.

Project facts:

Start date: 01/01/2014
End date: 31/12/2016

Duration in months: 36

Project cost: € 4.37 M
Project EU funding: € 3.15 M

FP7 Collaborative Project
Grant Agreement no.: 619556

Call (part) identifier:
FP7-ICT-2013-11

Topic:
ICT-2013.3.2 Photonics
Challenge 3: Alternative Paths
to Components and Systems

Keywords:
light management;
light coupling;
light waveguide;
hybrid light sources;
colour-changing coatings;
organic fluorescent dyes;
intelligent lighting;
large area luminaires;
LEDs

The LASSIE-FP7 project aims to achieve progress beyond the state-of-the-art in terms of size, flexibility, efficiency, lighting quality and beam-shaping, lifetime, added intelligence for light out-put control, and production costs. It will do so by **integrating light-management** structures and **new color-changing coatings** with heat-management solutions by means of an innovative **roll-to-roll** production technology compatible with flexible substrates.

Outcome of the project will be a unique integrated SSL module that will represent a break-through in the professional and architectural lighting sectors and an **alternative to the OLED** technology.

Expected impact:

LASSIE-FP7 addresses all the limitations of today's SSL modules. The properties of a new product will create conditions favourable for the fast adoption of LED light applications and deployment of LED technology.

The project will be targeting the standard sizes for the professional lighting segment. This compatibility will ensure a fast deployment of intelligent LED luminaires.

The project is focusing on the planar lighting as a primary target. By 2011 analysis, this is expected to be 0.8 - 1.2 mld. € market in 2017 (end of the project) and the developed know-how would be applicable to all of them, with the business focus on Professional and Architectural lighting sectors.

The secondary target would be expanding to other segments of planar lighting segments - Retail and Residential (additional 0.3 mld. €) and to flexible luminaires (originally reachable only for OLEDs). The flexible luminaires will find its way in designer lighting where aesthetic plays predominant role.

Consortium:

| | |
|-----------------------|----|
| CSEM | CH |
| Fraunhofer IIS + IISB | DE |
| VTT | FI |
| Regent Lighting | CH |
| BASF Schweiz | CH |
| Fundacion GAIKER | ES |
| LFoundry S.r.l. | IT |
| AMIRES | CZ |

Contacts:

Project Coordinator:

Dr. Rolando FERRINI
CSEM (Switzerland)
rolando.ferrini@csem.ch

Project Manager:

Anežka PALKOVÁ
AMIRES s.r.o. (Czech Republic)
palkova@amires.eu

Website:

www.lassie-fp7.eu



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