

2. COIN-Ausschreibung „Kooperation und Netzwerke“



Projekt: New LED-Lighting for exterior application

Förderungsnehmer: Bartenbach LichtLabor GmbH, 6071 Aldrans Innsbruck

Kurzfassung

The project aims to establish a long-term cooperation between 3 Austrian companies (Bartenbach LichtLabor GmbH (BLL), Digital Elektronik GmbH (DE), Schorm (SCH)), 2 Turkish companies (Heper Industrial Research (HPR) and Heper+Moonlight (ML) and 1 company Mreza-Network (MN) from Bosnia and Herzegovina in the field of outdoor lighting.

BLL (coordinator) will act as R&D provider for the lighting parts, DE will develop the electronic and mechanical LED driver parts, and SCH will develop the injection molding tools and components for the optics (lenses). DE and SCH will supply these high tech parts after the project. MN will assembly electromechanical core-components delivered by DE, provide electrical wiring and connectors and produce LED-Light-Moduls to be integrated in the luminaire casing. HPR will develop the mechanical tooling and construction of the luminaires (casing, power supply, poles, etc.), whereas ML will prepare the manufacturing and distribution of the products.

After the 1+1/2 year project BLL will assign a license to ML and continue its consultancy service (further coaching of products and new developments), DE will supply MN and ML with the LED core components (LED, platine, driver), and Schorm will supply MN with the optical parts (e.g. lenses). ML will deliver a new generation of LED street lights for the Turkish and adjacent region (South-East Europe, Middle East, Russia).

The LED (Light Emitting Diode) is the most promising light source for the future, it is developing very fast and offers unique features (lifetime > 50.000h, efficacy > 100lm/W, point source with L > 20 Mio cd/sqm, dimmable). But it is also a challenge for the conventional lighting industry, because LEDs require electronics rather than sheet metal bending and profiling.

LEDs are now entering the indoor lighting market, and they will enter the outdoor lighting market in the next years. Up to now ML and HPR only deliver conventional outdoor luminaires equipped with Sodium or Metal Halide lamps, to start these new products they need assistance (LED choose and logistics, luminaire design, optical and electronical parts), which can be given by the Austrian partners.

The new LED-luminaires to be developed are

- composed of a multitude of High-Power-LEDs with
- optimized complex surface optics (preferable lenses)
- equipped with intelligent drivers and cooling devices.

To make the LED lighting economical the high investment costs have to be compensated by low maintenance costs. This can be achieved by intelligent lighting concepts and by optimized system technologies (e.g. modularity regarding lighting application and components replacement, special maintenance concept to consider the extremely high lifetime and short life cycles of LEDs, etc.).