Open Innovation in Solid State Lighting

Luce in Veneto, 20 May 2016

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- Definition, benefits, challenges
- Open Innovation Toolkit and Canvas

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Discussion

Open Innovation

Definition:

Open Innovation is based on collaboration, sharing knowledge and combining resources …

… so that partners can achieve goals together, which they cannot achieve alone.

Open Innovation enables radical innovation and joint value creation.

Open Innovation

lightingforpeople
CONNECTING OPPORTUNITIES FOR INNOVATION

Benefits:

- **More effective and efficient innovation process**
- Use knowledge and resources of, e.g., experts, suppliers, customers or users (‘outside-in’)
- Use sales and distribution capabilities of others, to serve ‘new markets’ (‘inside-out’)
- Opportunities to create a ‘new market’: collaboration with suppliers and with customers

SSL-erate

Open Innovation

Challenges:

- **More complex communication and collaboration**
- Less control over the innovation process, because more parties are involved
- More complexity, e.g. regarding management, control, governance, and leadership
- Resistance… e.g., ‘Not Invented Here’ (against ‘outside-in’) or ‘Not Sold Here’ (against ‘inside-out’)

Open Innovation Toolkit

In order to help companies, we developed the **Open Innovation Toolkit**, including a **Canvas:**

- Collaboration in a project
- From idea to prototype
- Focus on customers

In the afternoon, we will do a workshop with the companies involved in Hygienizing Lamp and Lighting Surface, using this Canvas

OPEN INNOVATION PROJECT CANVAS

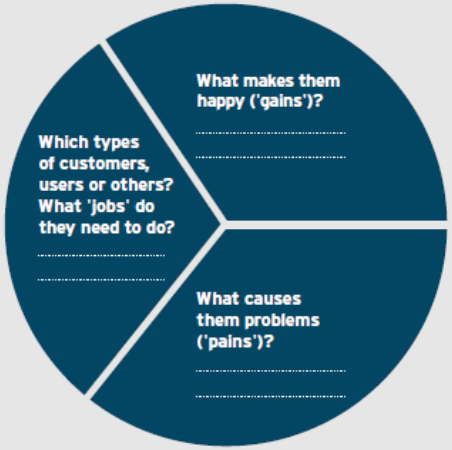
Goal and scope_
This Canvas is intended to facilitate collaboration between partners and to articulate clear project goals, as first steps in an innovation process. It supplements other Canvases, e.g., for Business Model Generation and Value Proposition Design.

A IDEA

What is the opportunity? The idea? How will it create value? For whom?

Overall vision or motivation to do this? Any longer term goals?

B MARKET / DEMAND SIDE



Identify key customers. Also identify relevant users or other stakeholders, e.g., intermediaries. You may need different value propositions for different groups of customers.

C VALUE PROPOSITION

A new product, service, process?

How does it create 'gains'?

How does it solve 'pains'?

Any current products or services?

How is this better than current ones? Unique or key elements?

Benefits for health and wellbeing?

Benefits for green business?

D INNOVATION PROJECT RESULTS (practical, short term)

E. g. prototype and implementation at launching customer

- ☐
- ☐
- ☐
- ☐

E COLLABORATION

(E. g. consortium, public-private partnership, network)

Involve different partners from the entire value chain. Some partners are critical. Others can be at a distance. Maybe you need different partners in different phases.

F ROLES OR PARTNERS

Role
Bring
Get

Role
Bring
Get

Role
Bring
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Role
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Role
Bring
Get

G

Questions about the demand side that you need to find out (a.s.a.p.), e.g., willingnesss to pay, market segments and sizes.

☐ Conduct market research

H

Ideas for marketing and sales (after the project)? E.g., build customer relationships, distribution channels, intermediaries, etc.

I

Who wants to use the project's results? This organization needs to be in the consortium. E.g., as first customer, or owner of the patent.

J

Idees for creating a profitable company (after the project)? E.g. business model, manufacturing, operations, sales, etc.

☐ Do Business Model Generation

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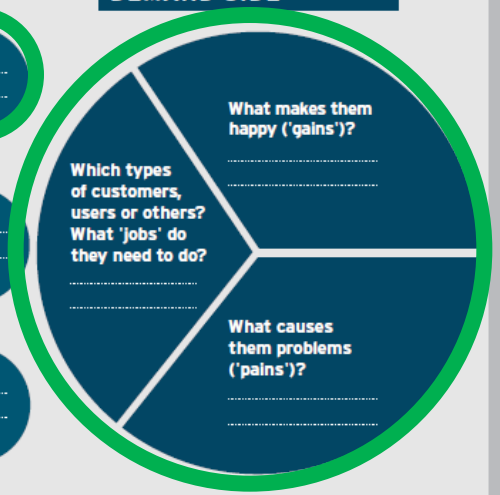

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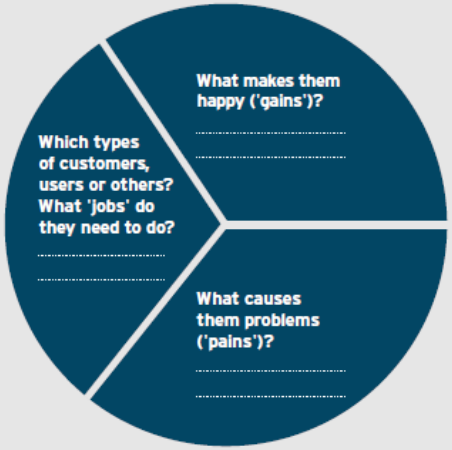

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Benefits for green b[illegible]ess?

D INNOVATION [illegible]ROJECT RESULTS (pr[illegible]ical, short term)

E. g. prototy[illegible]e and implementati[illegible]n at launching cus[illegible]mer

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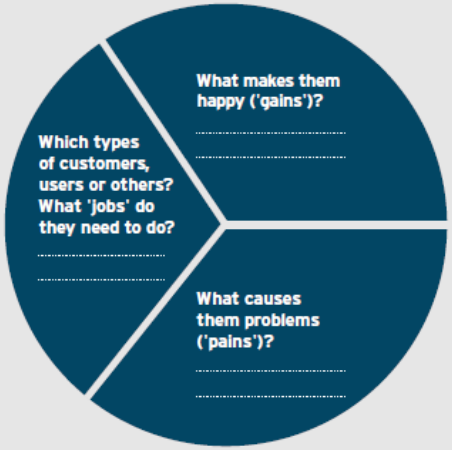

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http://lightingforpeople.eu/open-innovation/
Open Innovation – Lighting...
CONNECTING OPPORTUNITIES FOR INNOVATION
ABOUT THE PROJECT
PARTNERS
REGISTER
lightingforpeople
HOME
BACKGROUND
LIGHTING APPLICATIONS
NEWS
EVENTS
Open Innovation
Introduction
Open Innovation involves organizing collaboration between companies, across the value chain, with customers, such as municipalities, schools or hospitals, and with knowledge institutes. The goal is to jointly create generate valuable innovations: new products, services, strategic collaborations or
The need for Open Innovation
What is Open Innovation
lightingforpeople.eu
You can download the Open Innovation Toolkit, incl. the Canvas
100%
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20-5-2016

Business Development Experiments

If you want to know more… please contact the Lighting Cluster Coordinators:

In SSL-erate, Lighting Clusters organize Business Development Experiments (industry, customers and knowledge institutes):

- Danish Lighting Innovation Network (DLIN): Lene Hartmeyer
- Luce in Veneto (LiV): Antonella Venza and Alberto Sozza
- Cluster d'il Luminacio de Catalunya (CICAT): Jessica Kamps
- Groen Licht Vlaanderen (GLV/KUL), Belgium: Peter Bracke
- Cluster Lumière (CL), France: Marc Fontoynont

I will very briefly review some examples, out of 20+

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The Window (DLIN)

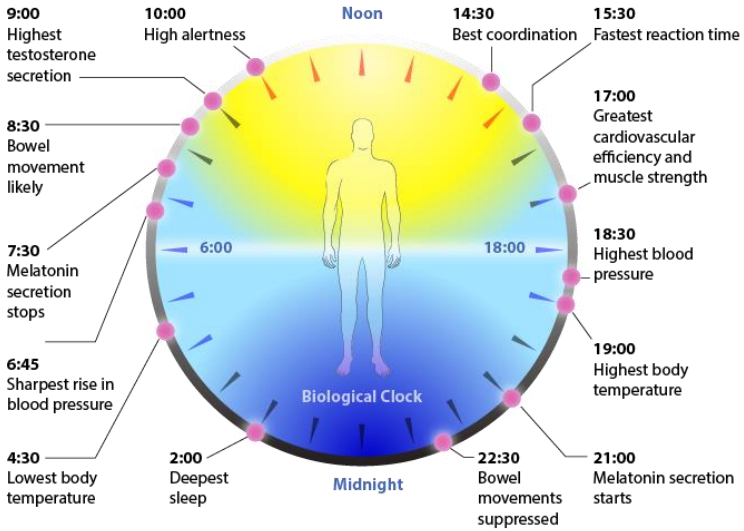
Goal: To develop a window system that **combines natural daylight and artificial light**, in order to support people's circadian rhythm over the course of the day

Partners: **Aalborg University** (daylight and circadian rhythm), **Dovista** (windows manufacturer), **Simplight** (SME), and **GXN** (SME, architect, market entry), DTU and Nordic Power Converters (SME)

Better Light,
Better Control (DLIN)

Goal: To develop an **easy-to-control human-centric lighting system** that supports circadian rhythms in people over 65 years old, in order to promote their health and wellbeing.

Partners: **University of Aalborg**, **Simplight** (SME, lighting systems), **Dansk Farveinstitut** (design), **Gladsaxe Municipality** (customer), and the **Danish Technical University**



Lighting Surface (LiV)

Goal: To develop a transparent varnish that can be printed and that **emits light when activated by a LED light source** (‘LIT’)

Partners: **Metalco** (outdoor furniture), **Hikari** (SME, lighting systems) and **Heliv** (SME, optics; patent) and the **Municipality of Bassano del Grappa** (customer)

Hygienizing Lamp (LiV)

Goal: To develop a product that produces **better quality light and better quality air**, using UV LEDs, to prevent airborne diseases.

Partners: **Fairwind** (SME, lighting), **Arte Light** (SME, prototyping), **University of Bologna** (testing), and **two customers**: an industrial food/beverage site, and a health care provider.

Edylight (LiV)

Goal: To develop a software system that allows data collection on installed LED products using QR-Code technology, e.g., for sensus of installed light points, real-time monitoring, geolocalization.

Partners: **Tre Informatica** (SME), **Tre Energia** (SME), **Fiesso d'Artico Municipality** (customer)

Street Lighting LED PC-Amber (CICAT)

Goal: To replace luminaires in the village of Santa Pau with LED lights of amber color: to save energy and to preserve the wildlife in the Natural Parc of Garrotxa.

Status: Implemented.

Partners: **Municipality of Santa Pau, Girona province** (costumer), **Sacopa IgniaLight** (manufacturer)

LED Light in Office (CICAT)

Goal: To install LED lights and automated services switching on/off lighting in an office, to provide better light for staff and to reduce energy.

Status: Implemented

Partners: **SSIE** (manufacturer), **Mercedes Benz España** offices in Azuqueca de Henares (costumer), **Plai Ingenieros, CBRE** (engineer)

Lighting for Elderly with Dementia (GLV/KUL)

Goal: Innovative lighting systems for dementia care home.

Partners: Trilux (mfr), WeThink (eng), KU Leuven (system), Emmaüs (health care group)

Lighting for Elderly with Dementia (GLV/KUL)

Goal: Innovative lighting systems for dementia care in hospital room.

Partners: Angoma (mfr), KU Leuven (dementia), Prizma (installer), Helbig (mfr), Sint-Jozefskliniek Izegem (hospital).

Higher Performance Industrial Lighting (GLV/KUL)

Goal: Make replacement with SSL-lighting more interesting (e.g., employees' wellbeing) and get interest from other influencers within the company, e.g. human resources, prevention.

Results: Specification for using 'yellow' light during night shifts

Partners: Multiple manufacturers, KU Leuven lighting lab, Lotus Bakeries (customer, end-user)

Improved Wellbeing in the Workplace (GLV/KUL)

Goal: Improve mood, comfort, alertness and night sleep quality through adapted lighting for office and factory workers.

Results: Specifications for using human-centric lighting in the company lunch room.

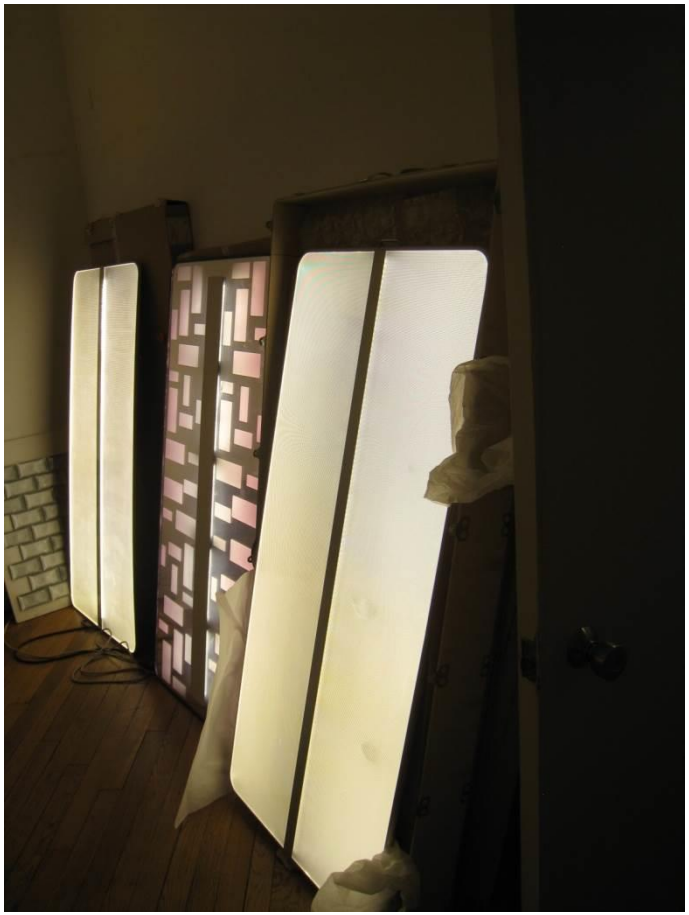
Partners: Multiple manufacturers, KU Leuven lighting lab, Lotus Bakeries (customer, end-user).

Airport Healthy Lighting (CL)

Goal: Offer lighting in lounges which reduce fatigue of travellers during their stopover in Paris airport

Flat SSL Ceiling Luminaires with Changeable Light Engines (CL)

Goal: Flat SSL ceiling luminaires with high flux and low maintenance



‘Success factors’ for Open Innovation

1. **Clear, short-term goals**, aligned with individual goals; e.g., create a prototype and test it with a client
2. **Partners have complementary skills**, e.g., for development, manufacturing and marketing (no direct competition)
3. **Small-size consortium and support from management** (in SMEs), e.g., for quick and effective decision-making
4. **Leadership and coordination** to facilitate collaboration and innovation, e.g., trust and commitment
5. **Collaboration and communication**, e.g., with customers and users, and with knowledge institutes
6. **Innovation, experimentation and learning**, e.g., early prototyping, real-world trials, etc.

Discussion

- **Which factors were critical to your success?**
  1. Clear, short-term goals
  2. Complementary skills
  3. Small-size consortium
  4. Leadership and coordination
  5. Collaboration, e.g., with customers
  6. Experimentation, e.g., prototyping

- **What are you most happy with?**
- **Your recommendations for others?**

Thank you

Open Innovation :

- **Marc Steen**, TNO, The Netherlands, marc.steen@tno.nl
- **Wim Vanhaverbeke**, professor at University of Hasselt, and visiting professor at ESADE Business School and National university of Singapore

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