

# Metropolis: *by* **LIGHT**

## *Biological Lighting*

*- Effects on health and well being*

### **CASE 4:**

*Lightel - Effects of biological lighting in eldercare*

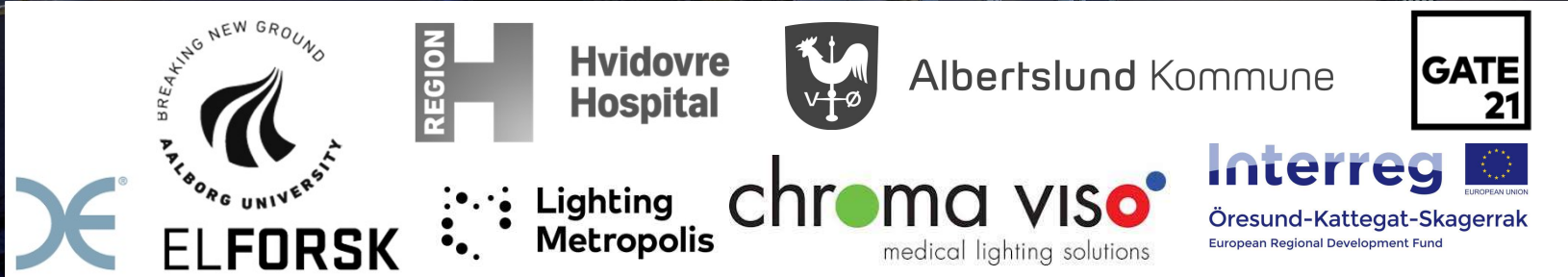


# Metropolis: *by* LIGHT

## *Lightel* – Effects of biological lighting in eldercare

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Health and Care – City of Albertslund*

*Metropolis: by LIGHT – Malmø, September 13<sup>th</sup> 2018*



# Elderly people and disturbances in the Circadian Rhythm

**Scientists:**  
40% of elderly people  
over the age of 65  
have problems  
sleeping





# Disturbance in the Circadian Rhythm

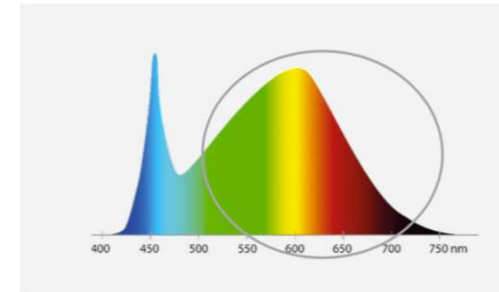


# Consequences of disturbance in the Circadian Rhythm

- *Sleep disorder, lack of a good night's sleep*
- *Fatigue and feeling tired during the day time*
- *Disoriented*
- *Lack of appetite*
- *Increase in the use of sleep medication*
- *Increased aggression and depression*
- *Decrease in the function of the Immune system*




# Light is one of the strongest influencers of the Circadian Rhythm














# *Lightel project goal*

*Create clinical evidence regarding the effects of circadian Light in frail elderly people and people with dementia*



 **REGION H**  **Hvidovre Hospital**  **Albertslund Kommune**  **ELFORSK**

 **chroma viso**  **GATE 21**  **Lighting Metropolis**  **Interreg**  **Öresund-Kattegat-Skagerrak**  
European Regional Development Fund



## *Lightel – Facts*

- **Installation** of Circadian Lighting throughout the 5<sup>th</sup> floor in the Nursing home – “Albertshøj” (30 homes)
  - Homes, Common areas, Hallways and Facility areas
- **Participants:** 24 participants (9 with dementia) and 15 controls
- **Periods** of both Circadian Lighting and “ordinary” light
- **Data Collection**
  - Clinical Data
  - Anthropological data
  - Sensor data
- **Project duration** January 2016 – December 2018

**chroma viso**  
medical lighting solutions



**Hvidovre  
Hospital**



Albertslund Kommune





## Key takeaways

### WHAT WE LEANED FROM LIGHTEL

- *#1 Complexity – Focus*
- *#2 Complexity – Project plan, think people*
- *#3 Complexity – Research plan, think people*

(Research results are expected in December 2018)

