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Peter Kolby  
Operator at Novozymes A/S



**PHILIPS**

Industry lighting

GreenManufacturing

Novozymes



Case Study

3 factories get 5 star lighting solutions for huge energy savings



“ Philips fulfilled our requirement for an energy-saving solution based on LED fittings with integrated controls, so that the light could either be dimmed or switched off completely depending on anyone being in the areas.”

**Peter Fink-Jensen**  
Senior Project Manager at Novozymes A/S

“ With the intelligent GreenManufacturing solution there was no need for new cables, which made it all very easy to install. I have already proposed the same solution to other customers.”

**Martin Fehrn**  
Service Leader, Lindpro

Client: Novozymes

Location: Novozymes production facilities in Copenhagen, Bagsværd and Kalundborg

Fittings used:  
GentleSpace Gen 2 and Pacific LED

Sensors used:  
Wireless PIR

GentleSpace Gen2



## Project and requirements

Novozymes has three factories in which a large number of T8 neon tube light fittings needed replacing. Access conditions at all three locations were generally difficult, making a traditional cable-based installation very time consuming.

The plan therefore called for reuse of the existing cable installation, coupled with an intelligent solution to be able to control lighting levels as needed and based on human presence. The aim was also to reduce electricity consumption and contribute to sustainable production. Furthermore, the two installation contractors, Lindpro and Electricom, had only four months from signing the contract to completing the work.

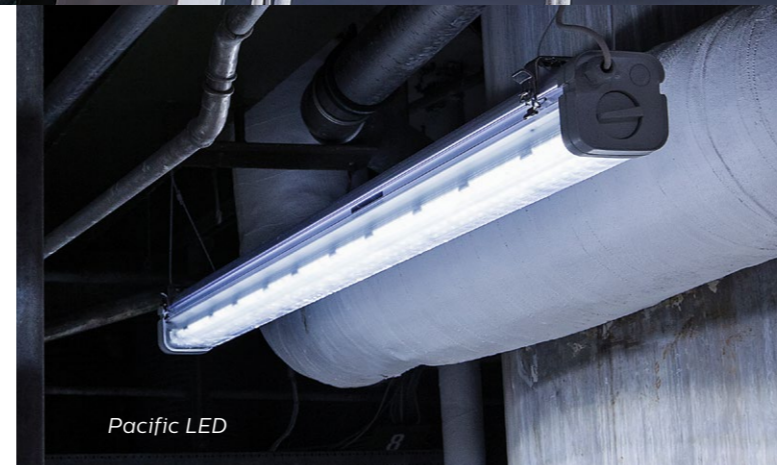
“The installation process had to be flexible enough to give us the opportunity to optimise if modifications were made to the premises”, explains Peter Fink-Jensen, Senior Project Manager at Novozymes.

Philips’ GreenManufacturing is a new lighting system based on LED fittings with integrated lighting control and wireless sensors. Acting upon the recommendation of consultant Sweco, GreenManufacturing was selected, as it met all of the requirements.

## Requirements met by GreenManufacturing

The GreenManufacturing system has been installed in all three production units. Replacement was on a 1:1 basis, reusing the existing cables. A total of 4,400 Pacific and GentleSpace LED fittings were installed, plus 1,200 sensors able to communicate wirelessly with these fittings. No further installation work was needed, as the wireless sensors can be relocated when required.

GreenManufacturing functionality can be adapted to individual areas based on behavioural patterns and the requirements of the people working there.



When no movement is detected after ten minutes, the light dims to 10%, and in designated areas switches off after a further ten minutes.

“Our energy savings have been calculated to be around 4,600 MWh per annum. No replacement of tubes will be required during the lifetime of the

fittings, which also saves us maintenance costs and, of course, disruption for production and the workforce,” says Peter Fink-Jensen.

“Service life is expected to be around 15 years for 9-10 hours daily use,” explains Andreas Birch from Sweco, consultants for the project.

“Credibility, quality products and a well-known manufacturer with a good track record that is able to provide the necessary support were the reasons we chose Philips”, adds Fink-Jensen.

“The project ran to plan, and the GreenManufacturing solution was installed at all three production facilities, four months after the contract was signed. Production runs around the clock and stayed uninterrupted throughout the entire project”, he stated.

## Satisfied users

“We are very satisfied with the lighting. Large factory buildings like ours can be uncomfortable to be in if they seem dark, but the lights come on so quickly that it doesn't feel insecure. The light intensity is also higher than from the old tubes”, claims Peter Kolby, an operator at the site.

“The fact that the lights do not turn off completely is nice. By keeping them on at 10% means we can still see in the building, something that is necessary, not least from a safety point of view. When we work on the night shift, it's really great to have full lighting throughout.”

## Easy and fast installation

“Electricom was responsible for about half of the installation. Per Junge, installer and owner, is very satisfied with GreenManufacturing and the level of support provided by Phillips:

“Philips gave us thorough instructions to commission the system, and our electricians have nothing but good things to say about it”, he says, pointing out that GreenManufacturing system will definitely be used again in the future.

“With the intelligent GreenManufacturing solution there was no need for new cables, which made it all very easy to install. I have already proposed the same solution to other customers”, says Service Leader Martin Fehrn from Lindpro.

“The aim was to cut electricity consumption and contribute to sustainable production – and we certainly succeeded with GreenManufacturing”, says Fink-Jensen, Senior Project Manager at Novozymes and responsible for running the project.