



Case study

VR's maintenance hall

Location
Philips Lighting

Oulu, Finland
GentleSpace, Pacific LED

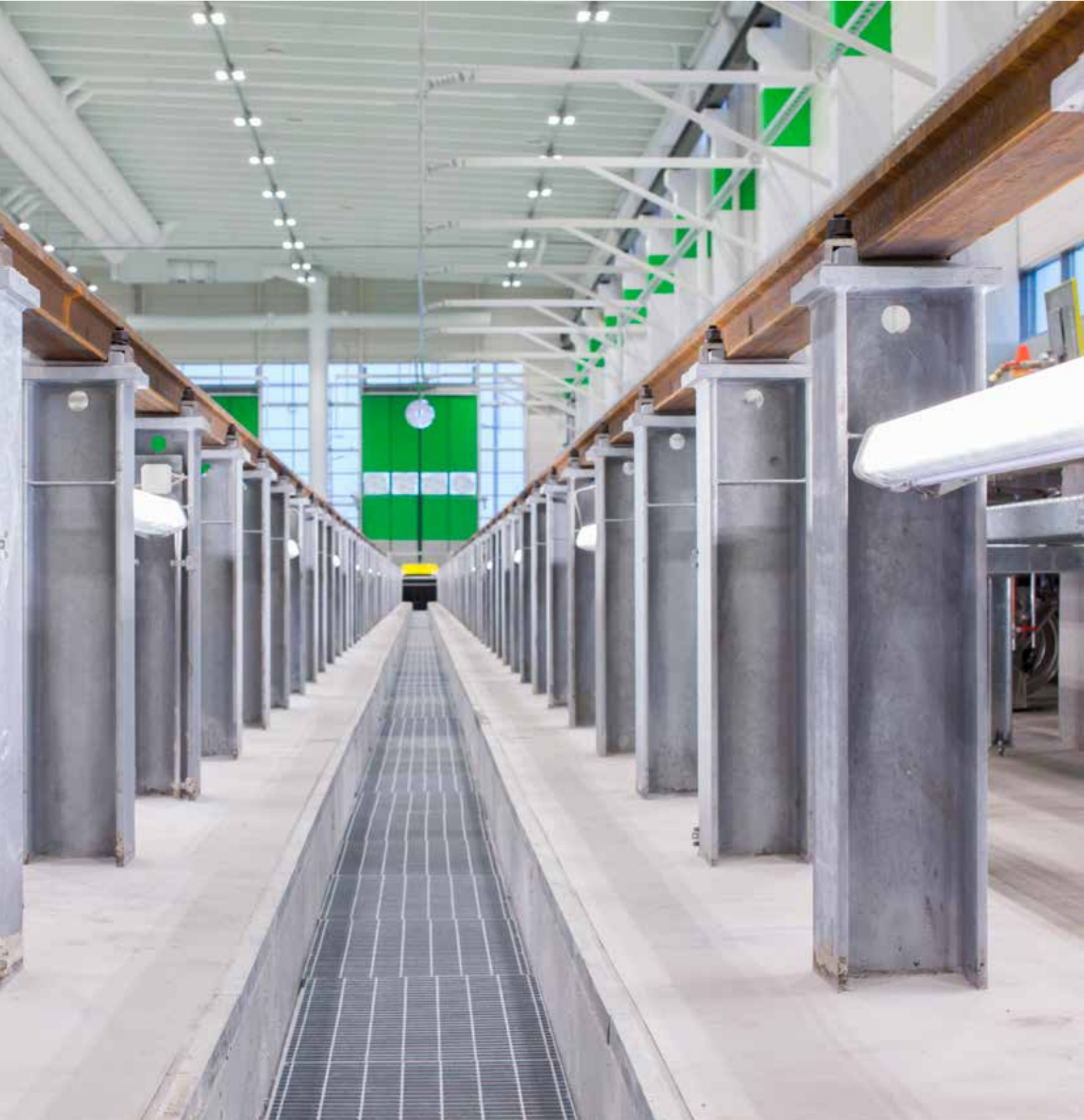


PHILIPS



‘When selecting, it was important to consider an energy-saving lighting solution as well adjustability. The halls are used around the clock, so it’s not possible to set predefined times for the lights to switch on and off.’

Jussi Kivikoura, Project Manager, VR



Philips LEDs illuminate the VR's maintenance hall in Oulu



Project info

Customer

VR

Location

VR's maintenance hall, Oulu

Lighting solutions

Ceilings in the maintenance and driving halls: GentleSpace

Maintenance levels: Pacific LED

Lighting design

Projectus Team Oy

Lighting solution

Over 900 LED luminaires installed on the ceiling, by the side of the train tracks and under the rails

Background

VR is a state-owned railway company in Finland. VR's brand new maintenance hall is located near the Oulu town centre. The hall consists of one massive open space of 17,000 square metres, with six tracks running through it. It has a maximum width of 77 metres, is 330 metres long and its internal height is over ten metres. As many as four passenger trains can be driven inside. Having sufficiently powerful and well-placed lighting plays a large role in providing successful maintenance. The lighting is provided by Philips LED luminaires.

The Challenge

"VR's old maintenance hall was a dark and dirty place. It also had old fluorescent lighting. In planning this new hall, the colours of the hall were selected carefully so that, even in this large area, we could achieve some comfort at work," says VR's Project Manager Jussi Kivikoura. "In placing the lighting, it was also important to make sure that oil or other spatter would not drip directly onto the lights. It was therefore of paramount importance that the hall had the right type of lighting. The luminaires must also be easy to clean," points out Hakala from Lemminkäinen. "In determining the lighting, emphasis was placed on environmental factors central to VR's values. We carried out life cycle calculations for metal halide lamps and

LEDs, which led to VR's decision to use LEDs," says Erkki Hakanen, Project Manager from Projectus Team.

The Solution

In placing the LED luminaires, efforts have been made to optimise the lighting for the working position of the maintenance workers in the maintenance area, as well as to ensure that they are not dazzled by the lights. "Because there are lots of windows, we took advantage of the natural light by placing light sensors near the windows. They measure the amount of daylight and they dim the lighting automatically when it is adequate. On both tracks, there is a 25-kV contact wire, so the long and maintenance-free life of LEDs was also a major factor in the decision-making process," states Hakanen. The hall is divided into functional blocks. The LED lighting can be turned off block by block: if there is no movement in one of the blocks, the LEDs will dim automatically, and they will light up again if motion is detected.

Benefits

Green values are part of VR's company strategy and therefore the purchase of LED lighting was a conscious decision. The overall investment for the hall came to about 50 million euros, of which the lighting was a significant amount. Also essential to the investment in the lighting was the payback period, which is three years on average.



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