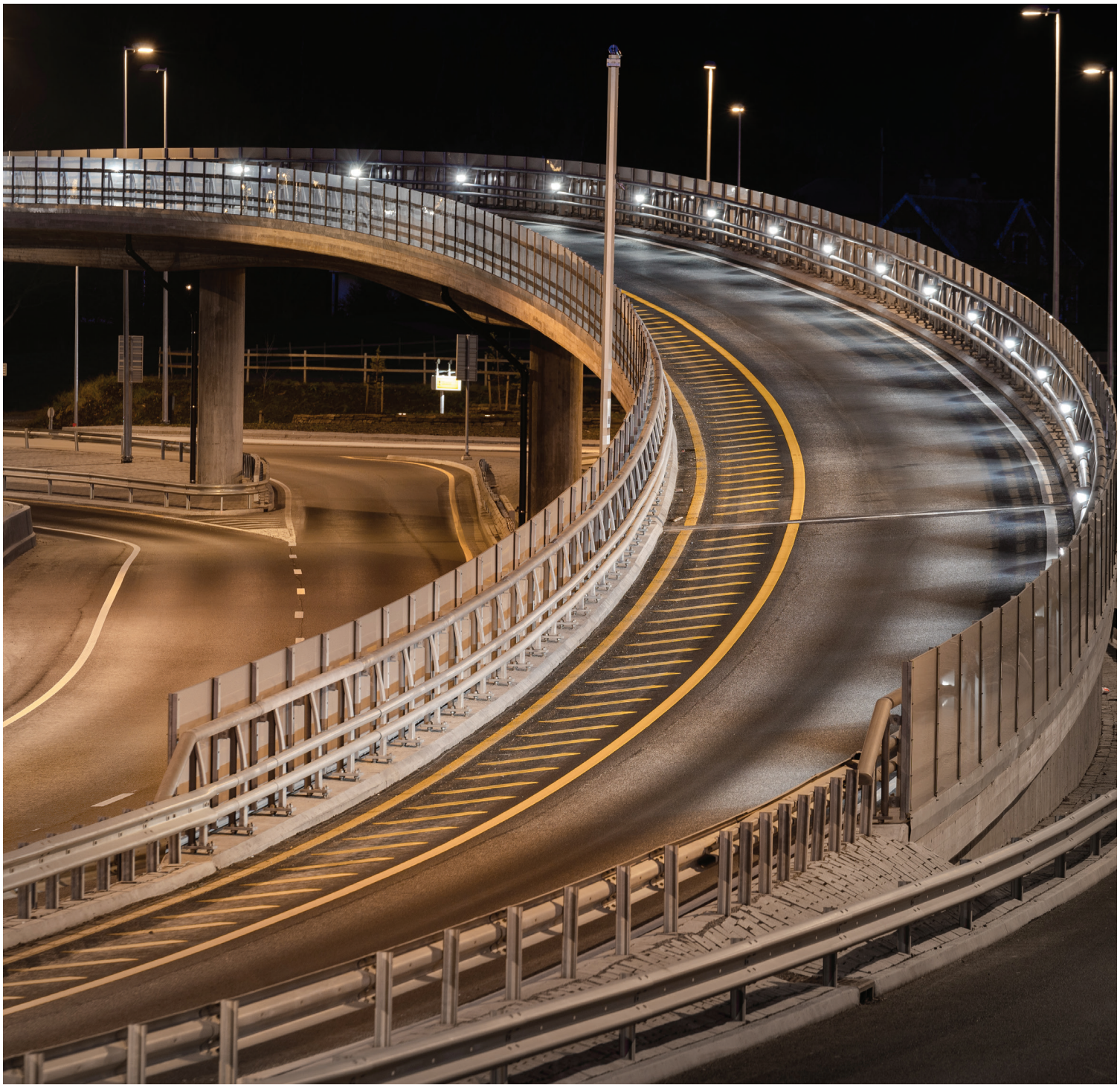
THORN

LIGHTING PEOPLE

Case Study

E39 highway flyover, Norway



Orus LED chosen for Norwegian flyover due to superior lighting performance at low mounting height

Background

A returning Thorn customer, OneCo in Norway specialises in automation and electrical installations for road, rail and tunnels, as well as construction and infrastructure operation for electricity and telecoms. Working in conjunction with Norway's road authority, Statens Vegvesen, OneCo invited Thorn to tender for the lighting of a new 400 metre flyover forming part of the E39 highway just outside Bergen.

Thorn won the tender based on the performance capabilities offered by Thorn's proposed low level mounted Orus LED road lantern.

Lighting objective

The lighting objectives for the new flyover were to safely light the road according to the EN13201 standard and ME3 lighting class without using regular columns. Dimming and status reports were also required via LonWorks power line communications.

Lighting solution

Orus LED uses Thorn's innovative and award-winning Flat Beam® technology to achieve a unique light distribution and fulfill EN13201 luminance criteria at a low optimised mounting height of 0,9m. Extensively tested for glare, luminance and flicker, the Flat Beam® technology eliminates direct glare and delivers optimum luminance on all types of road surfaces, in all weather and lighting conditions for better hazard perception.

Orus LED also offers flexible lighting control options, from simple dimming to an advanced central management system with communication via open and interoperable LonWorks protocol.

Results and benefits

Orus LED meets all safety criteria from a low mounting height. As well as ensuring compliance, this has eliminated the need for regular road lighting poles and allows easy access for maintenance and cleaning. Due to the high performance optics, obtrusive light has also been minimised.

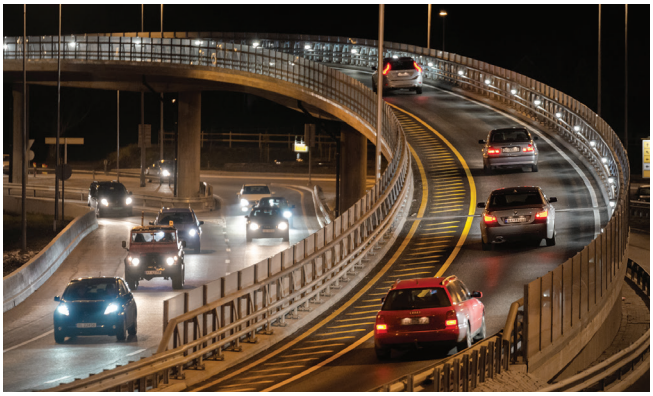
The fittings are centrally managed by Statens Vegvesen and individually addressable and dimmable through LonWorks power line communications. To ensure the right luminance is achieved without wasting unnecessary energy, dimming levels can be adjusted to compensate for any dirt accumulated in between cleaning intervals. A clean fitting for example can be dimmed to just 40% while still achieving the required luminance. Similarly, light levels can be adjusted according to volume of traffic, presence and even weather conditions to give Statens Vegvesen exceptional lighting control and flexibility.

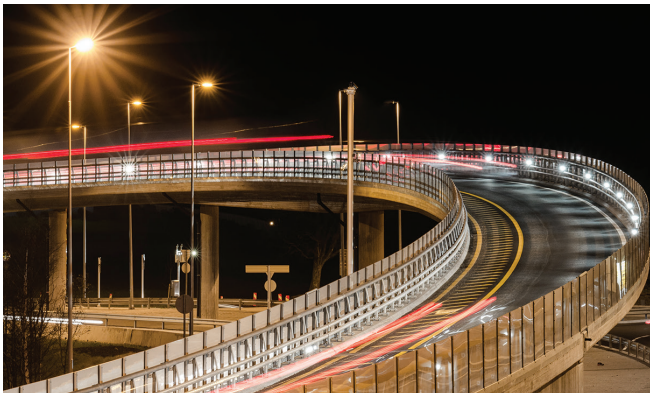
Product used

Orus LED

Key facts

- Low mounting height of just 0,9m
- Compliant with the EN13201 standard and ME3 lighting class
- Lighting control via a central management system (LonWorks power line communications)





eControl From Thorn's 15 ways to save energy, the following are key to minimising energy consumption:

Lamp efficacy

Lamp efficacy is important because the amount of light emitted from a lamp (in lumens) compared to the amount of power used by the lamp to produce it (in Watts) is key for energy efficiency. Orus LED uses the latest LED technology and therefore has a high lamp efficacy and low energy consumption.

Ballast classification

Highly efficient electronic LED drivers reduce electrical losses and therefore energy consumption.

Task lighting

Providing the correct amount of light for a specific set of conditions and moment in time is vital for saving energy. With dimming control via LonWorks power line communications, Statens Vegvesen can easily adjust light levels.

www.thornlighting.com

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