CASES
013

Maximum safety ensured

High quality LED light improves working conditions and ensures maximum visibility

The offloading of fish trawlers arriving at Seaport IJmuiden places much pressure on port workers involved. Transhipment needs to take place at rapid speed to ensure the fresh produce arrives timeously in the shops. Working in stressful environments at night can easily lead to fatigue and resulting in accidents. Seaport IJmuiden selected AAA-LUX LED floodlights, thereby improving employees' safety and increasing their comfort.

Seaport IJmuiden is predominantly a transhipment port for fish and offshore material. Since its establishment in 1988, the port has managed to become a solid player in the market for handling ferries, cargo ships as well as fishing trawlers. Over 20% of all fish delivered at ports in the Netherlands, is off-loaded in IJmuiden.

Being aware of international studies that show that virtually every hour a port employee gets injured while performing his duty somewhere around the world, Seaport IJmuiden decided to consider value-adding lighting to improve visibility at the wharfs. "Time had come to replace the existing floodlights as they no longer meet the standards," Technical

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Manager Mark van Wijk of Seaport IJmuiden says. The quality of the lights that initially had been installed had degenerated over the years. "In the absence of sufficient lighting, some parts of the wharf were no longer even illuminated at all anymore," he adds, while referring to the specific wharf which has been

upgraded. For Seaport IJmuiden, LED technology was the technology of choice to be used as a replacement for the illumination. "We started using LED technology three years ago to illuminate our public spaces in an affordable way. The positive results encouraged us to consider using the technology for illuminating our wharfs too." Seaport IJmuiden appointed Klaver Infratechniek to guide them to make the decision

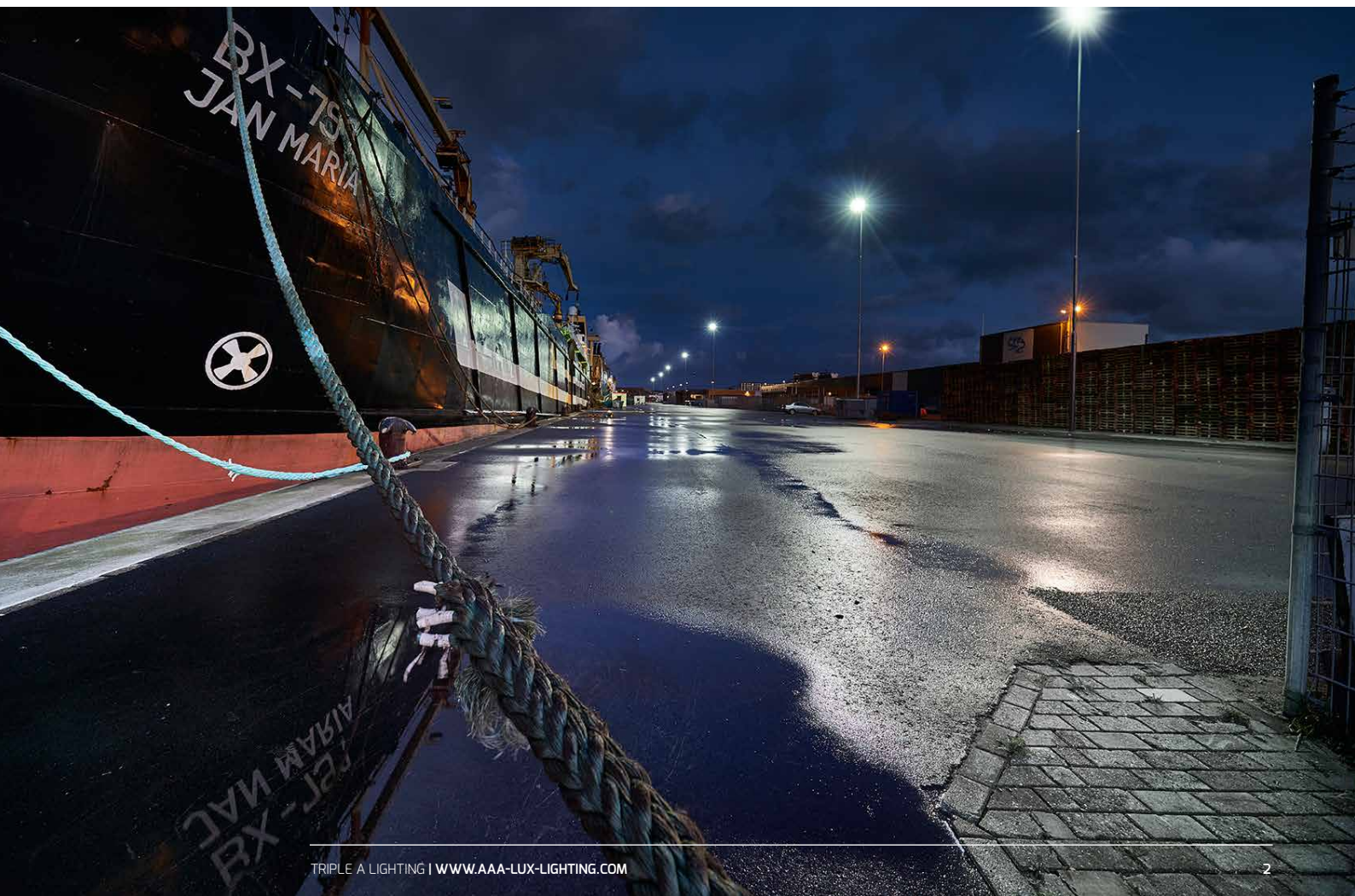
"By using AAA-LUX LED luminaires, only six masts would be required to provide sufficient lighting"

of choosing the best product on the market. "The ambitions of Seaport IJmuiden were difficult to fulfil," says John Langhout of Klaver Infratechniek. "Seaport IJmuiden was determined to go for LED but most suppliers of LED technology are not able to deliver high-quality illumination through LED, unless you will have many luminaires installed. This would, obviously, also require additional masts." Installing additional masts would not have been an option for Seaport IJmuiden as this would have escalated the

cost and would have affected the mobility of vehicles on the wharf. "The requirements Seaport IJmuiden wanted us to meet made us decide to select high-power LED luminaires from AAA-LUX. From our light-plan, it became evident that, by using AAA-LUX LED luminaires, only six masts would be required to provide sufficient lighting." Seaport IJmuiden considered that as a win-win situation as this would improve the safety and security on the wharf while mobility would not be affected.

Winning with white light

The contributing factors that LED has towards health and safety are slowly being recognised internationally. Public perception considered white LED light, for a long time, as being cold and unattractive. However, scientific studies proved that white light improves safety and reduces fatigue when scientists in 2002 established a link between the ganglion cells in the eye and the secretion of the melatonin (sleep) and cortisol (stress) hormones. These hormones are closely involved in the sleep and awareness rhythm. The scientists established that white light helps the eye to easily distinguish objects and people at night. White light shows more detail and allow for people and objects to be seen from a greater distance. According to the



scientists, these improvements are made possible because the eyes are more sensitive to light that is predominantly made up of blue light particles. Blue is the dominant factor in LED light which is made up of blue, red and green rays of light.

Light produced by conventional luminaires is predominantly yellowish as it mainly consists of red or yellow light particles. As a result this light is less clear. Many people consider this light as being cosier, an ambiance that might work in a domestic environment but definitely not at industrial areas at night. "The AAA-LUX LED luminaires also produce more lux compared to any other LED luminaire that is available on the market," John Langhout says. Lux is the unit of illuminance. According to the Dutch Light & Health research foundation, light with the correct lux levels stimulate productivity. They also note that few workplaces have light at the correct lux level as most workplaces prefer to comply with lux levels that have been established to ensure the safe execution of the job over the comfort of the working environment. It is, for that reason, why most workplaces are illuminated by lux levels between 300 and 500, a fraction of the

1000-2000 lux that daylight emits on an averagely cloudy day. "Good and healthy illumination of the workplace requires light that accommodates both the visual as well as biological need for illumination," the foundation states. Light that matches daylight

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is the best way to go. The findings of the foundation are undisputed. Nevertheless, the code of practice 'Safety & Health in Ports' of the International Labor Organization states that, in operational areas where people and vehicles or plant work together, the minimum level of illumination should not be less than 50 lux. This is clearly an indication that much can still be achieved in ports around the world.

Ready for action

The installation at Seaport IJmuiden was completed just before the start of the summer. "That makes it a bit challenging to immediately say something about the result. Twilight in summer here lasts very long and we benefit from that during our operations. However, from my own observations while walking around the wharf around midnight, I can state that the wharf is well-illuminated in the darkness of the night. All vehicles, obstacles and people are easy to identify and the light hardly produces shade," Mark van Wijk of Seaport IJmuiden admits. "The equal spread and uniformity of the illumination at the wharf has also improved." John Langhout of Klaver Infratechniek is also satisfied with the installation. "Seaport IJmuiden now has illumination of the highest standard which will contribute in achieving their growth ambitions." Langhout is convinced that the new lights will improve productivity and reduce the risk of possible incidents. "Even if a truck hits a light mast, we will make sure that productivity can resume as quick as possible. Klaver Infratechniek has an insurance policy that guarantees that the luminaire will be replaced as quickly as possible when it is damaged from an accident or incident." The combination of the new luminaires and the policy Klaver Infratechniek has, will certainly contribute to Seaport IJmuiden preventing ever appearing on any lists of incidents reported at ports.

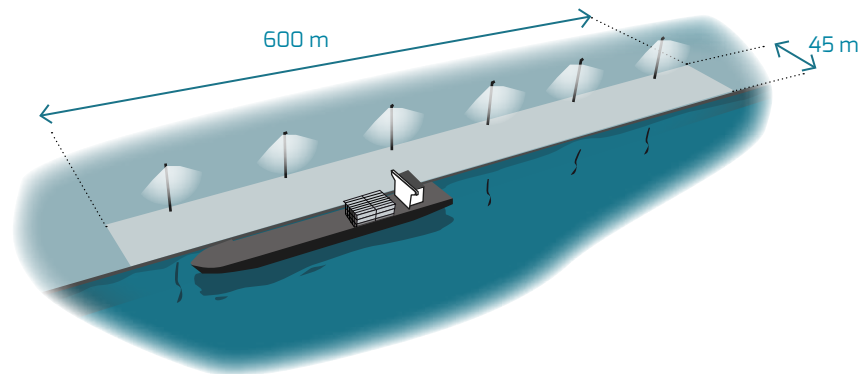


About Seaport IJmuiden

Seaport IJmuiden is situated at the coast of the Netherlands and is predominantly a transshipment port for fish and offshore material. Since its establishment in 1988, the port has managed to become a solid player in the market for handling ferries, cargo ships as well as fishing trawlers. Over 20% of all fish delivered at ports in the Netherlands, is off-loaded in IJmuiden. Ships are predominantly offloaded at night to ensure that the fresh products will be available in the shops the next morning.

Installation details

Lightplan



Led Luminaires used



6 x AL 180 SERIES

WS 180
SERIES



More information:
<http://aaa-lux-lighting.com/application/al-180-semi-circle/>

LCMS



Controlbox



More information:
<http://www.aaa-lux-lighting.com/products/lcms/>

AAA-LUX project partner

