



CASE STUDY RAILPUCK

LIGHTING TECHNOLOGY THAT ENHANCES RAILWAY SAFETY



In a ground breaking collaboration between Raillighting, an emerging company and producer of lighting fixtures for railways, and Thal Technologies, a specialist in thermal management and LED lighting, the Railpuck® has been developed. This innovative product is specifically designed to provide safe lighting along railways, focusing on walkways and train staging areas.

Martijn Broekhuis, co-founder of Raillighting, shared his enthusiasm for the new product during the interview. He explained that the collaboration with Thal Technologies came about due to previous experiences in the development of lighting fixtures. The goal was to develop a fixture that provides safe and efficient lighting in railway locations where traditional mast lighting falls short.

SMALL BUT POWERFUL

The Railpuck® is inserted into the railway track and provides safe lighting at regular distances of 3.5 meters. Special brackets are used to clamp the fixtures under the track, securing them firmly and reliably. This specific product is the result of further development of a previous concept, where the fixture has been significantly improved in terms of size, light output, and ease of transport. The new design is compact and fits in the palm of your hand, while offering the same light intensity and quality as the previous 2-meter-long fixtures.

One of the challenges where Thal Technologies proved invaluable was the development of the circuit board and resolving voltage drop over longer distances. Thanks to Thal Technologies' inventive solutions, a single driver can now power a length of up to 300 meters, with the LEDs operating perfectly between 36 and 12 volts. The fixtures are also equipped with redundant drivers, ensuring that even if one driver fails, the lighting remains operational. This provides extra safety and reliability on the railway.

SENSOR IN DEVELOPMENT

One of the exciting developments is the integration of a radar sensor for the Railpuck®. This sensor will soon be able to control the lighting based on movement, enabling energy savings. Unlike traditional PIR or other sensors, the radar sensor is robust, durable, and resistant to challenging conditions such as dirt, moisture, and heat. This makes the Railpuck® ideal for safety-critical rail environments.



The Railpuck® offers many advantages, including quick installation, long lifespan, and easy interchangeability. In addition, the system minimizes light pollution, enhances safety, and provides a cost-effective lighting solution.

With two projects already completed for train staging areas and further expansion plans to other countries, including Belgium, the Railpuck® has already made an impression on the market. This unique concept is patented worldwide and recognized as the ideal lighting solution for both national railways and private tracks of commercial companies in various industries.



“De Railpuck® is a revolutionary lighting solution that increases safety along the railway and illuminates the path without causing glare.”

Martijn Broekhuis
Co-owner Raillighting

JOINT ENDEAVOR

The collaboration between Raillighting and Thal Technologies is a powerful example of technical expertise and innovation improving rail safety.

The shared commitment to quality, durability, and reliability has resulted in a product that deserves its unique position in the market.

“With the Railpuck®, we not only illuminate pathways but also the way to a safer and more efficient railway industry.”

Martijn Broekhuis
Co-owner Raillighting



THIS IS THAL TECHNOLOGIES

Thal Technologies in Almere has been advising, designing, assembling and manufacturing for 20 years in the field of thermal management and LED lighting.

The company supplies heat-conducting materials for use in electronics. This makes Thal Technologies a specialist in solving heat problems. Cooling the hardware extends its life, prevents overheating and increases performance.



Thal Technologies also develops and produces customized industrial LED solutions. These high-quality LED modules can be found in horticulture, aviation, offshore and onshore wind turbines. Thal Technologies stands for quality. The company guarantee this with our ISO certifications and with certifications that suit the various industries in which Thal Technologies is active. But also with extensive traceability of raw materials and (semi) manufactured products.



CHALLENGE US WITH YOUR PROJECT!

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