



Case study: VDL ETG Singapore

# Sustainable manufacturing powered by connected lighting

VDL ETG Singapore adopts Interact for its new, state-of-the-art facility in Singapore, delivering energy savings, enhanced productivity, and improved worker safety.





VDL ETG Singapore partnered with Signify to deploy Interact connected lighting, an advanced solution designed to optimize lighting usage, boost operational efficiency and advance worker well-being in industrial environments. This innovative solution aligns with VDL ETG Singapore's sustainability goals and reflects its commitment to the Singapore Green Plan 2030.



### Customer challenge

VDL ETG Singapore, part of the Dutch VDL Groep, specializes in designing, developing, and manufacturing of complex, high tech components, modules and systems for the semiconductor industry. As a Tier-1 Contract Manufacturer for high-tech capital equipment, VDL ETG leverages its in-house production of complex Critical-to-Performance components to deliver tested and qualified integrated systems. These systems include Ultra High Vacuum Systems/Modules, Wafer Handling Platforms, and High-speed & High Accuracy Wafer Stages.

With over 30,000m<sup>2</sup> of production space and a workforce exceeding 800 employees, VDL ETG Singapore is committed to integrating sustainability and innovation into its operations. The company actively focuses on energy efficiency, waste reduction, and circularity as part of its corporate social responsibility agenda.

In response to rising demand for manufacturing equipment in the region, VDL ETG Singapore decided to expand its footprint with a new state-of-the-art facility. Beyond increasing production capacity, this facility sets a new standard for sustainable practices in high-tech manufacturing.



Signify's on-demand lighting approach has allowed us to cut lighting expenses by half compared to standard options, significantly reducing energy use and CO2 emissions. Moreover, it has helped us reduce the amount of manual actions and run preventive maintenance programs for lighting control, bringing an attractive business case for our total cost of ownership. Feedback from our team has been overwhelmingly positive and we're excited about how scalable this solution is for our future expansions.

**Joshua Leong**  
Manager, Facility Management





## The solution

To meet VDL's sustainability and innovation priorities, Signify deployed Interact, an advanced connected lighting solution that enables remote management of the lighting infrastructure, real-time monitoring of lighting performance and energy usage, and facilitates preventive maintenance planning across the entire facility. By leveraging data collected from sensors integrated into the lighting infrastructure, the system drives smarter decisions and sustainable practices. At this facility, over 1,500 connected luminaires were implemented across three warehouse floors and four office levels, creating a seamless lighting ecosystem.

The wireless nature of the Interact system allowed for rapid installation and commissioning, reducing cabling costs and environmental impact. With its scalable architecture, Interact ensures VDL ETG is well-positioned to expand these capabilities seamlessly to future facilities, ensuring long-term operational efficiency.

## Making it happen

The Interact system helped VDL ETG Singapore achieve significant energy savings through features like daylight harvesting and occupancy-based lighting. Compared to standard LED solutions, the system delivers 50% energy reduction, providing optimal lighting while minimizing electricity usage. This directly supports VDL ETG's global sustainability goals, including reducing carbon emissions.

In addition to energy efficiency, the solution enhances workplace safety and productivity while lowering operational costs. The ability to monitor and manage lighting remotely has streamlined maintenance processes, further reinforcing the facility's commitment to sustainable and cost-effective operations.

By adopting Interact, VDL ETG Singapore has set a benchmark for integrating smart, connected systems into high-tech manufacturing, paving the way for a greener and more efficient future.

## Project details

- 50% energy savings compared to non-connected LED solutions
- 3 floors of warehouse space and 4 floors of office space, all on the same platform
- Attractive TCO driven by reduction in energy consumption and labour cost savings
- The solution aligns with the Singapore Green Plan 2030 and Singapore GreenMark requirements



## Benefits



### Minimize energy consumption

Advanced controls enabled VDL ETG to generate a remarkable reduction in energy consumption, minimizing the buildings' overall environmental impact and reducing overhead costs.



### Reduce operational costs

The solution enables an on-demand behaviour for the lighting operations, minimizing the need for maintenance site walks and increasing the speed of interventions.



### A scalable platform

New buildings can be onboarded on the same Interact platform, enabling VDL ETG to implement a future-proof, scalable solution.



### Ensure compliance

The solution aligns with VDLs's sustainability goals, helping them set a new benchmark in sustainable operations; the new facility aligns with GreenMark requirements for lighting operations.



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