



Plessey Semiconductors Ltd is an international name in the electronics and semiconductor industry. Specialising in LED lighting for commercial growers, Plessey commissioned us to make a metal part for a ground-breaking horticultural project – growing lettuces.

Helping a ‘growing’ business

Travel north out of Plymouth and you cannot fail to see the headquarters of Plessey Semiconductors Ltd at Roborough, on the edge of Dartmoor National Park. Built in the 1980s, the landmark building is home to the company with a 100-year history of innovation, respected internationally for its semiconductor manufacturing capabilities.

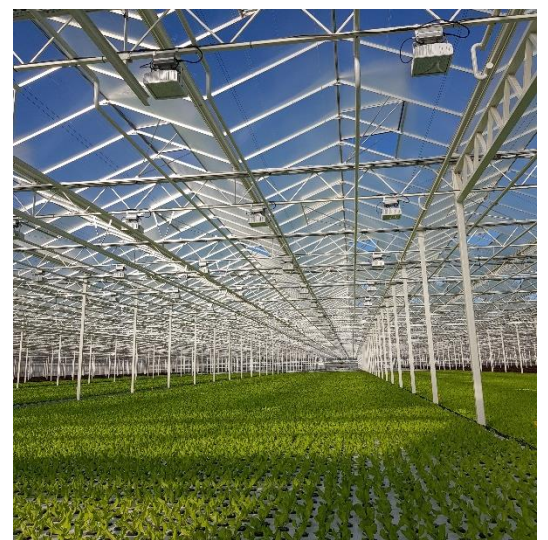
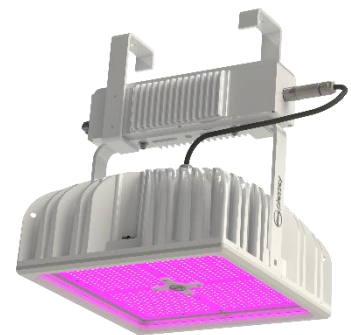
Plessey’s mission is to enhance people’s lives; and it seeks to do so by applying its leading edge technologies and expertise to healthcare sensor solutions, integrated and intelligent GaN on Silicon solid state lighting and horticultural lighting applications. The company has won numerous awards for its innovation and ability to cut the cost whilst improving efficacy of LED lighting by using standard silicon manufacturing techniques.

LED lighting for food production

Consumers now expect a range of fresh fruits and vegetables all year round; and thus commercial growers face pressure to extend seasonality, improve flavour and increase yield, while carefully controlling cost. LED lighting solutions, such as Plessey’s Hyperion™ system (pictured right), address all these needs. Not only does Hyperion™ offer lower energy consumption than traditional high pressure sodium lights, but the product has been created to be more efficient than competitor LED grow light solutions, so that fewer units are needed. Hyperion™ also offers different lighting spectrums, so is easily adapted to different applications and can be used in a hybrid installation with HPS, with light wavelength better attuned to plant growth, whilst its innovative design far reduces the shadowing effects often seen in the greenhouses.

Two-year relationship

We first began undertaking metal fabrication work for Plessey in 2015, having met through our joint involvement in the Plymouth Manufacturers’ Group. In August 2017 discussions commenced about creating a metal casing to be used as part of the Hyperion™ lighting assembly. This was



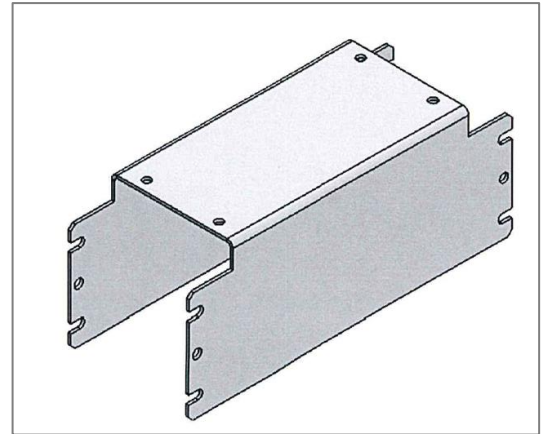
destined for a huge 20,000 m² greenhouse installation as part of a greenhouse extension project that will boost the total cultivation area to 49,000 m² at the site of a major Belgian lettuce grower using a unique experimental process, whereby the plants move slowly through the greenhouse on a conveyor beneath the LED lights. Taking 5-6 weeks to complete the journey, the lettuces are harvested at the end when fully grown.

Lights-out laser cutting

In discussion with Plessey, product development began with us creating the drawings for the part using Solidworks. This led to the production of a prototype for approval.

The first step in the manufacturing process was to laser cut the flat parts; and for this we used our Amada Fibre Laser (pictured below), the latest investment in our laser cutting department. Its software programme calculates the most efficient nesting of the shapes to ensure maximum utilisation of the 2mm sheet material, thus reducing both waste and cost.

With time being of the essence, the distinct advantage of the rapid install of the laser cutting programme onto the Fibre Laser allowed production to begin swiftly. Our production flow via the ASLUL tower (right) meant that the sheet material was automatically fed into the laser, allowing us to operate 'lights-out' and speeding up manufacture yet further.



Phased delivery

Once the parts had been laser cut, they were transferred to our press shop for folding on our suite of press brakes.

1800 units were required in total, and by working with the client and delivering in batches over a two-week period we were able to fulfil all deliveries in the tight timescale required.



“Having previously visited Aldermans’ impressive factory, we had faith in their capabilities to create this part for us. Working with a local supplier was beneficial for us both in terms of the cost and the swift supply. We’re very pleased with Aldermans’ approach and the help they have given us on this project.”

Mike Snaith, Operations Director
Plessey Semiconductors Ltd



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