

Project Name:	Packing Lines - Line Control
Customer:	Large Ready Meal Manufacturer, Ireland
Sector:	Food and Beverage
PLC:	4 x Siemens S7-300 PLC's
SCADA:	Simatic HMI
Networks	Profibus
I/O count	800 I/O

The manufacturer makes prepared frozen meals for the retail and catering trade. They have several lines in the factory which make a variety of products. All products are cooked, filled, frozen and packed on site.

Logicon provided Automation equipment and software for control of the filling and packing and conveyors for 4 High Speed filling lines, with interaction with OEM equipment for Status and Speed references.

- Line 3 Packing and Filling.
- Line 4 Packing and Filling.
- Line 5 packing.
- Line 6 packing.

All systems are controlled by Siemens S7 PLCs and Simatic HMI's. The PLCs control all aspects of the filling and packing lines including Ishidas, Multi-Fills, Flow Wrappers, Sealers and Refridgeraion. We also provided maintenance to the site for all PLC and SCADA issues.

Project Summary;

The introduction of new product ranges to 2 lines required additional control to be added to the lines, which previously had a large manual element to their operation. The automation of 2 further lines involved the installation of a new PLC and HMI on each line. In addition, these lines were controlled by servo motors to allow precise motion control of the conveyor and shuttle fillers. One line was further fitted with 3-axes servo control system, and another with 7-axes control. The addition of precise motion control to the lines and filler heads resulted in increased line efficiency and product flexibility.

Projects requirements;

The main aspects of the projects were:

- Upgrade of Line 3 from a mainly manual process to a completely automated line – the installation of PLC and HMI.
- Replacement of the inverter on Line 3 with servo motors for shuttle fillers feed control.
- Complete automation of Line 4, with new PLC and HMI.
- Addition of servos motors for motion control to Line 4 – for conveyor and shuttle fillers.
- Control and monitoring of machines - fillers, packers, freezers, wrappers etc.
- Provision of Recipes for Line 4 to allow several different products to be manufactured.
- Line 3 provided with large degree of customisation in addition to Recipes.