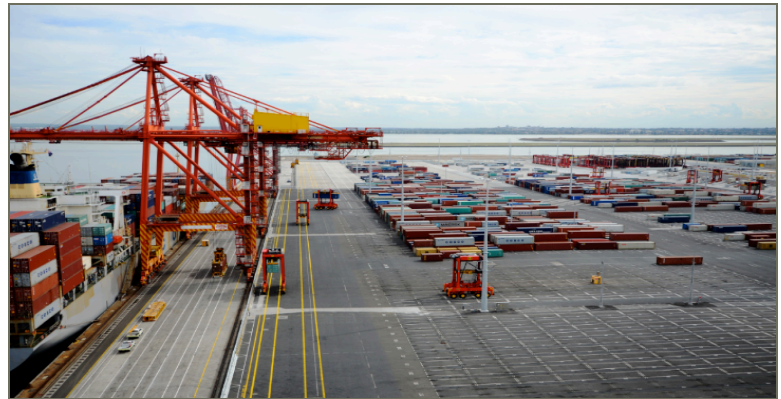




#### AT A GLANCE

<b>CLIENT</b>	Patrick
<b>LOCATION</b>	Port Botany, NSW
<b>VALUE</b>	\$400M

The Port Botany shipping terminal in NSW is now Australia's largest fully automated container terminal that facilitates the automated transfer of containers to and from trucks by Autostrads™



As well as SEMF being the lead agent for delivery of the control system for all yard infrastructure SEMF played a significant part in the electrical design from HV to ELV.

SEMF Needed to demonstrate safety compliance throughout the system lifecycle. This was achieved by referencing and meeting relevant clauses of safety standards AS 4024, AS 61508 and AS 60261 throughout the assessment, design, implementation and testing phases of the project.

The main challenge was the size and scale of the site required technology such as fibre optic networks to communicate with approximately 100 I/O racks. The system was implemented on an operational brown-field site, reducing accessibility during installation and commissioning. To reduce maintenance and support costs the system was designed to be as centralised which necessitated the use of a single PLC, however significant attention needed to be paid to the processing speed in order to meet the safety response time requirements for each of the safety functional elements of the system. Significant complexity was also introduced by the systems that the PLC system needed to communicate.

This system was delivered to Patrick as a fully validated package. This was achieved by SEMF participating as consultants, designers, developers and test engineers in concert with Patrick's larger team. This model allowed Patrick to leverage off SEMF's knowledge of risk assessments and safety in the early requirement setting phases as well as SEMF's capability to design develop and implement.