

Project

The Forrestfield Airport Link is a railway line that will connect eastern suburbs of Perth to the city, upgrading the existing rail network and giving a faster, easier and affordable access to Perth Airport. The rail link consists of a twin-bore one track tubes tunnel and three new stations at Redcliffe, Airport Central and Forrestfield. Construction operations began in 2016 and will complete in 2021.

In 2016, Euroform has been awarded the supply of the carousel plant for the production of the lining concrete segments of the Forrestfield Airport Link.

The plant is made up of:

- 9 Sets of wheeled segment moulds in 5+1 configuration (54 in total).
- 1 Working line transfer system.
- 1 Plant control room.
- 1 Casting station.
- 2 Transfer units for moving the moulds from the working line and the curing tunnel and vice-versa.
- 1 Curing tunnel with 3 lines.
- 5 Vacuum segment handle devices (3 for extrados, 2 for intrados).
- 2 Segment tilting devices.
- 4 Clamps for segment handling (2 for single segment, 2 for 6 segment group).
- 1 Reinforcement cage handling crane (monorail type).
- 2 Multi-segment (up to 6) transfer trolley (1 for extrados, 1 for intrados).

The system is semi-automated and is activated by a PLC installed in a control room. The PLC runs a program that processes the data from the several sensors of the system (placed on each moving element) and sends the commands to the actuators (cylinders and motors) which then realize the movements. The operation cycle is manual activated by an operator (carousel leader) in the control room.

Plant functioning steps:

- Mould opening and segment dismantling.
- Cleaning, mould closing and oiling of the dismantled mould.
- Anchored gasket installing.
- Reinforcement cage and inserts positioning.
- Cover closing.
- Pouring and vibration.
- Accelerated curing of the segments.
- Finishing of the segments (tilting and transfer).

CLIENT

Salini Impregilo – NRW Joint Venture

MAIN FEATURES

Plant type:	Carousel
Production rate:	9 segments/hour
Pouring rate:	19 m ³ /hour

Working line and Cage crane



Control room



Casting station



Curing tunnel entrance



Intrados vacuum segment handling and Tilting device



Transfer unit

