INMOS Microprocessor Factory

Newport

Place
Newport, Wales, UK

Date
1982 - 1987

Client
INMOS Ltd

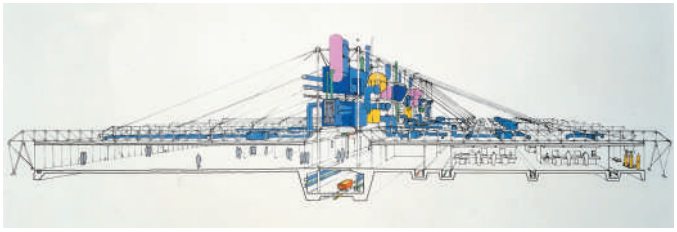
Area
8,900 m²

Structural Engineer
Anthony Hunt Associates

Services Engineer
YRM Engineers

Quantity Surveyor
GA Hanscomb Partnership

Main Contractor
Laing Management Contracting Ltd



In the jargon of business, the plant's demands did indeed dictate the design. But the architecture eventually seized control ... From the roof, the factory appears to be ruled by geometry

Lincoln Caplan, The New Yorker, 14.11.1988

Key Awards

1986
Constructa-Preis for Overall Excellence in the Field of Architecture

1983
Eurostructpress Award

Financial Times Architecture at Work Award Commendation

1982
The Structural Steel Design Award

The fast-track nature of the project required the design to be responsive to any site and capable of being built in a range of sizes. The factory is located at Newport, Gwent, close to major transport routes. The 8,900 m² building provides office and ancillary space, plus facilities for microchip wafer production.

Speed of design and construction were critical factors. The single-storey steel structure was conceived as a kit of parts, with maximum off-site prefabrication allowing the building to be erected bay by bay. The structure is a tubular steel assisted span-tension structure, supported by tension tie rods from the spine towers. This system provides uninterrupted column-free spaces for maximum internal flexibility. The roof is fabricated from 6 m span steel decking with thermal insulation and a five-layer roof membrane. The external walls are based on a system of standardised mullions incorporating various infills: single glazing, double glazing, translucent or opaque panels. Wall performances and finishes can be varied as required. The initial design includes double glazing for office areas and solid insulated sandwich panels for production areas.

The building features a central circulation/service spine with internal wings for specialised activities. The spine is 7.2 m wide and 106 m long and acts as an internal street, wide enough for vending machines, public telephones, seating, meeting places, planted areas and waiting areas. Services from the plant room – hot and cold water, chilled water, compressed air, etc. – run at high level in this main spine. The building is extendable along the spine in 13x36 m bays. Offices and restaurants are on the south side of the spine and the clean room production area to the north. Production wastes are collected in linear floor trenches and supply services are distributed on service walls. A large clean room facility and shipping and receiving bays occupy the north side of the spine. The south side has one bay omitted, providing a landscaped courtyard between the offices and the restaurant. Assembly labs and main piped services plant room occupy three western bays of the south face.