



Facility Description



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Our state-of-the-art research facilities comprises six floors, including basement, laboratory, plant and open atrium space totaling c.5,600m² in area. The research building accommodates, under one roof, research into advanced materials, device fabrication, packaging and integration and their translation into practical, industrially-relevant systems. The unique capability to introduce new materials into the silicon fabrication environment is essential to

support Irish companies in their development of new emerging technologies and high-value products.

The existing site comprises the Lee-Maltings Complex and some UCC teaching facilities. The site is a protected structure and consists of a number of buildings of varying age. The complex is bounded on its north side by the River Lee, on the west side by the Presentation College and on its south and east sides by Dyke Parade and Prospect Row.

The form of the Research Building stems primarily from its scientific and servicing requirements, as well as its relationship to the existing buildings and site. Three floors of flexible laboratory space were built over a tall ground floor and basement, which contains the specialist clean room areas.

The atrium street links the laboratory building at all levels to the existing 'Maltings' Building. The internal street leads into the heart of the existing buildings and has become the primary artery of the Tyndall National Institute, a lively space where people will meet and mix informally.

The scientific requirements of the brief led to an extensive requirement for plant, air handling, cooling, specialist gas distribution etc. The primary concept for the plant has been to localise air handling on each floor in the stone faced gables of the building and to distribute central chilling from the roof level downward. Extract ventilation and other specialist services such as R.O. water are fed from the top down. The structure for the new building is in reinforced concrete, giving mass, stability and low vibration, sitting on piled foundations. The sun shading is in cedar with support system in aluminium. The materials are a natural granite stone in red colour giving a heavily contrasting finish to the smoothness of the grey metal panels and simplicity of the atrium in clear glass.

Our central fabrication facilities consist of three distinct cleanroom spaces; 250m² of class 1,000 and class 10 for silicon fabrication, 750m² of class 10,000 and class 100 for MEMS and compound semiconductor fabrication and 40m² of class 1000 for e-beam lithography. Tyndall's flexible fabrication offering - FlexiFab, is in a unique position to allow for greater material exchange between the fabrication areas, whilst maintaining protocols to avoid cross contamination.

