

Case 6 - Tyndall National Institute (Ireland) – test-before-invest service

[Tyndall National Institute](#) (Ireland) is a DIH and one of Europe’s leading research centres in integrated ICT hardware and systems. Supporting more than 50 local and international SMEs on an annual level, the hub specialises in [electronics](#) and [photonics](#) and more specifically in smart sensors and systems, optical communication systems, mixed signal and analog circuit design, microelectronic and photonic integration, semiconductor wafer fabrication and nano materials and device processing.

Fully aligned with [Ireland’s Industry 4.0 Strategy](#) the hub has a strong network of [industry partners](#) and coordinates the ASCENT and EnABLES EU -funded projects providing SMEs with access to state-of-the-art facilities in nanoelectronics and for powering the IoT. The hub’s industry-focused research is applied primarily to challenges in the areas of health, communications, energy and the environment offering a wide range of services to industry helping, in particular, SMEs reduce their capital equipment costs by accessing existing Tyndall facilities and equipment. The [services](#) available include, among others, wafer fabrication, test and measurement, intellectual property investigation, microscopy analysis, temperature and environmental characterization as well as integration and packaging. Tyndall hub’s extensive fabrication facilities cover the areas of Silicon MOS Fabrication, MEMS Fabrication, Compound Semiconductor Fabrication, Training Facility, E-Beam Lithography and Flexifab. The [flexible fabrication facility](#), in specific, enables the heterogeneous integration of materials advanced device development which is essential for the More than Moore and IoT domains where advanced sensors are made network aware.

Example of service provided to SME

Tyndall hub has recently supported the Fleming Medical Ltd, an SME leading the supply of medical dressings for wound care management, including chronic wounds. The hub supported the SME in developing the world’s first commercially available “smart dressing” for use in digital-based care applications by bring the company into a smart medtech ecosystem which is now driving the development of a new connected health business model within the SME. In particular, Fleming Medical Ltd joined a European consortium comprising 42 partners from 10 countries, who aim to form a manufacturing ecosystem where new medical devices can be seeded and nurtured to grow into new business opportunities. This hi-tech dressing technology has already generated significant savings in healthcare costs, due to reduced clinical inspection time and shorter hospital stays as a result of faster wound healing.