



**A Powerful Resource for
Industry, Enterprise and the
Community**

The manufacture of semiconductor devices deals with infinitesimally small measurements, carried out by very sophisticated instruments. We operate a scaled-down, fully equipped clean room for our undergraduates, and part time students from industry, to gain hands-on experience and industry-specified, formal qualifications. [Read more ...](#)



Ellipsometer



Physical Vapour Deposition

The Issue:

The manufacture of silicon wafers on an industrial scale requires massive investment – way beyond the budgets of education providers and SMEs. So much is at stake, that the major manufacturers are seeking to take advantage of every innovation that is likely to deliver optimum speed, and minimal waste.

What happened next:

It seems that the level of education attainment of the workers in such manufacturing plants has a significant bearing on achievement of maximum efficiency and cost containment. This insight led to the strategic decision for some corporations to require that all employees take a step forward in their professional development. However, since active manufacturing plants are not suitable for hands-on training, the challenge was to find a suitably equipped learning environment with the necessary expertise.

What we did to resolve the issue:

The Tallaght campus is one of the very few non-industrial facilities in Ireland to contain a fully equipped, industry-standard silicon wafer fabrication unit for the benefit of the students. The Electronic Engineering Microelectronics Department tailored a learning programme to suit the needs of people already working in the wafer fabrication industry, on a scale that was tangible for the students and provided at a time and pace that recognised their existing work-shift patterns.

The benefits to Industry, Enterprise or the Community:

The benefits of this type of engagement is fourfold. The students have the opportunity to experience the foundation principles and processes that underpin large-scale manufacturing. The employer benefits from the 'one-step-up' training of the employees, and realise efficiencies, improved safety and reduced waste. The lecturers and technicians gain the opportunity to affirm or otherwise, the currency of their equipment, knowledge, skills and competence. The Community gains by the retention of highly-skilled, and well-paid, jobs.