

What science can do for Wales

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WALES and the EU today stand at a crucial point in their economic future. The challenges of globalisation and economic restructuring are mounting. We are not just competing within the EU any more, now the EU is competing with the world.

Not only do we have to vie with the traditional economic giants of the USA and Japan, but also increasingly with the emerging economies of India and China. Wales and the EU must find a way to meet these challenges - and science and technology are the key.

From the industrial revolution to the rebuilding of the EU after the Second World War, science and technology have always been the driving force for economic growth. They have also given us longer, healthier and safer lives. In an age of spiralling energy prices, bird flu, climate change and even basic hunger, science and technology have the potential to give us answers.

As First Minister Rhodri Morgan recently acknowledged, the case for a specifically Welsh policy for science is compelling. The days of Wales offering a low-cost European base for multinationals are over. Wales' future now lies in the knowledge economy, harnessing science and technology to develop niches in innovative products and services.

To achieve this, a strong strategic approach is necessary. But Wales cannot act in a vacuum. So-called 'blue skies' or 'frontier' research is often impossible for individual countries to undertake unaided because no single country has the finance or infrastructure to go it alone.

The development of and access to new instruments, technologies and methods are fundamental to achieving progress in science and technology and are often beyond the funding capabilities of one country and require EU collaboration. The CERN (European Laboratory for Particle Physics) project of 1954, which resulted in the development of the internet, is proof of just what European collaboration can achieve.

The EU's current science funding scheme, the Framework Programme, is already boosting scientific research and development in the EU, and is forecast, thanks to Tony Blair's insistence during the UK's Presidency, to increase by 75% over the next seven years.

Yet on the whole the EU has a long way to go to catch up with some of our competitors abroad. Currently, the EU spends 1.9% GDP on R and D, much less than both Japan and the US. In Wales today, although there has been an increase over the past five years in terms of spending, the most recent available figures show R&D spending at a lamentable 1.3%.

The EU goal is to reach a 3% target over the next five years, and Wales must take its share of responsibility in reaching this target at a regional level.

For the EU to reach this 3% level it would require 700,000 more scientists. To achieve this we must create the right conditions to attract some of the 400,000 European scientists working in the US back home.

We must also tackle the crisis in the study of science and technology at European Universities which, for example, has seen number of graduates in physics fall by 17% between 1997-1998 and 2001-2002. Indeed, with all the money in the world, we will never compete unless we have the human resources to carry out and drive scientific discovery.

Wales must do more to utilise EU research funds and, where possible, tie them closely to the structural funds, channelling them according to the EU's Lisbon Agenda to create a competitive knowledge economy and focusing on strategic priorities.

Within Wales we already have internationally-renowned areas of expertise, now we must develop and build on their successes and create new ones. The technium centres dotted around the Objective 1 area are prime examples of how the next EU funding round should be focussed. But positioning ourselves for the long term is crucial.

This really will be our last bite of the apple in relation to European structural funds, so we have to arrange ourselves now to secure future EU funding through the science programme. This is where future European funding is likely to focus as the shift from agricultural spending continues.

But increases in funding and resources will prove fruitless unless we utilise our research commercially. We must transfer our know-how into industry and exploit the discoveries we make. Learning how to develop the business end of innovation and to handle the intellectual property aspects is the key challenge facing Wales and the EU. The increased funding for EU science will not be enough to catch-up with the likes of the US unless we put more effort into boosting this so-called 'technology transfer'.

By engaging with the EU, boosting expenditure on R&D, linking cutting-edge high-quality research to industry, and increasing technological 'roll out' we will be able to go some way to closing the competitive gap between us and our competitors. In doing so we will ensure long-term economic sustainability and secure quality of life, opportunity and prosperity for all.

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