

# THIS WEEK

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## The innovation game

*Innovation within the European Union is wanting for reasons cultural, historical and technical. It can best be strengthened by breaking down barriers and building a united research area.*

A week is a long time in politics, as one-time British prime minister Harold Wilson famously said. But in European Union (EU) politics, a decade can seem very short indeed.

Just look at the ten-year strategic plan for economic growth and improved welfare that EU heads of state signed up to in Lisbon in 2000, in which research had a central role. The three EU bodies — the Council, Parliament and Commission — each realized the urgent need to make Europe work as a single territory for scientists, rather than separate bordered countries — now numbering 27 — with their own languages and habits. They agreed to create the European Research Area, intended to free the movement of scientists between countries by breaking down barriers such as difficulties in transferring pensions or transporting national research grants. They endorsed the concept of a single patent that would be valid EU-wide. And they agreed on a target to spend 3% of gross domestic product on research and development by 2010.

But ten years didn't prove long enough to achieve these aims. Once home, national governments were unwilling to concede sufficient sovereignty. The European patent, for example, depends on an agreement to work in a limited number of languages to keep patenting costs reasonable — but several countries still insist that all documents be translated into their own languages. Others want to protect the revenues of their national patent shops. Little headway has been made towards the legislative changes in areas such as pensions that were required to build the European Research Area. And most nations have failed to significantly increase their public research spending, or to incentivize that of the private sector.

Fortunately, the European Commission has stuck to each of these fundamental goals in its latest proposal for a research-related strategy for the next decade, which was released on 6 October. Called the Innovation Union, the new strategy is a component of the Lisbon Agenda's successor, Europe 2020, which was launched in March (see *Nature* **464**, 142; 2010). The EU Competitiveness Council, which comprises national research and industry ministers, is now preparing a response to the Innovation Union document, which will be discussed by the heads of state at a summit meeting on 16 December.

The Commission is dead right to persist with the research objectives of the Lisbon Agenda, because until these are achieved, Europe will not be able to compete. It is also right to emphasize the role of the European Investment Bank in providing much-needed cross-border risk capital, which is barely available in Europe.

Less convincing, unfortunately, is its fresh proposal for what it calls 'innovation partnerships' — elaborate-sounding efforts to engineer alliances between everyone in the innovation chain, all the way from

researchers and manufacturers to consumer representatives, to tackle big societal problems. These partnerships will focus on a set of established 'grand challenges', such as the ageing society, climate change and food security. The first of the new partnerships will address 'healthy ageing', the Commission suggests.

If this sort of approach sounds familiar, that's because a number of related ones are already under way. Within one called 'joint programming', for example, national research efforts are supposed to be coordinated independently of the Commission. Another idea, for 'joint technology initiatives', set up public-private research partnerships, co-funded by the Commission. And the European Institute of Innovation and Technology has morphed into another series of public-private partnerships called Knowledge and Innovation Communities.

None of these initiatives can yet be considered successful — they are in their infancy and still being fine-tuned. The innovation partnerships will perpetuate — and further complicate — the tradition, and even aim to tap into public services and their budgets, which are unfamiliar territory for EU research partnerships.

The Healthy Ageing innovation partnership has the remarkably ambitious target of yielding a two-year increase in the age to which the average EU citizen enjoys good health, by 2020. The target is laudable and simple. But is the general strategy correct? It may take many more years to create the European Research Area, but this is really what matters. In the meantime it would be best to get existing initiatives to work better before adding new ones. Once the legislative problems are solved, and risk-capital mechanisms in place, innovation should emerge on its own — without having to engineer it. ■

## Not quite assured

*An upbeat assessment of phosphate reserves leaves several questions unanswered.*

Phosphorus in the form of phosphate has a crucial involvement in RNA, DNA and cellular metabolism, and all forms of life depend on it. Along with nitrogen and potassium, phosphorus is essential for healthy plant growth — and its supply through fertilizer is a mainstay of modern agriculture.

Reserves of the phosphate rock used to make such fertilizers are finite, and concerns have been raised that they are in danger of exhaustion. It has been argued, for example, that data from the US Geological Survey point to the available supplies peaking in as little as 25 years time (see *Nature* **461**, 716–718; 2009). Because there is no substitute for phosphate in agriculture, this might present an