

During the past 5 years, 65 000 industrial jobs were outsourced from Finland to abroad (Statistics Finland). During the next 5 years, 70% of large companies and 46% of SMEs plan to continue this trend (Deloitte). Large companies use only 6% of their R&D spending on truly new topics that would change their earning models while in competing countries this share is 17%.

Universities conduct cooperative research together with companies funded by TEKES. Condition for funding is that several companies must participate, or there is no money. In practise only big companies can afford to participate in such joint projects. Money is awarded to projects. It is possible to define a project only after the most challenging work on a new topic has already been done and the key results exist in the Lab. TEKES has delegated part of its funding to the so called SHOKs (private companies like Digile), that conduct short term relevant work under large company leadership. Project funding appreciates cooperation between companies and Universities. However, truly new ideas emerge in small groups or in the heads of individual researchers. Such ideas cannot be discussed openly until they have been verified and the results published. It is remarkable that if the full cost of a project is 100€, some 35€ are paid to researchers, the rest goes to controlling the money is well spent, to rents and to indirect costs. The efficiency does not impress!

Irrespective of popular talks by consultants about 10 different categories of innovations and playing down the role of product innovations, there is no method as successful as having a heavy patent portfolio at the heart of the sustainable competitive advantage of a company. Without the patents the “soft” innovations are easy to copy leading to loss of the short-term competitive advantage. This is the reason why technical research has such a central role in creating sustainable competitive advantage.

Roughly speaking, in Finland work on truly new ideas in utility motivated technical research in a University is possible only if the researcher manages to wangle the funding using some odd method. Official sources fund either based on academic merits, mostly ignoring utility aspects (Academy of Finland) or based on short-term large company interests (TEKES). New knowledge and competence drain from the Universities in an uncontrolled stream to companies that have a poor agility record of making use of the new innovations particularly when the innovation challenges the way the company makes money. International evaluations of the Finnish innovation system report that this is no way of creating world-leading universities.

In my opinion, the conditions for TEKES funding are from a time when Nokia brought money through doors and windows: supporting that earning in any way possible made sense. Now the times are different. The task is to create completely new revenue sources in new businesses. A lot of this must happen in new companies. Boston Consulting tells us that the share of large companies that are younger than 20 years in Finland is 0%. In Sweden, USA and Canada, the share is 15%, 21% and 40% respectively.

In the UK the University of Surrey was awarded £5M for 5 years for setting up a research centre of 5th generation wireless technology in 2014. The goal is to take a leading position in 5G -research. Looking from outside, in allocating the funding utility aspects played an important role. This is different e.g. from the Centres of Excellence funded by the Academy of Finland that are awarded on academic merits only.

To de-frost the Finnish innovation system, we can pursue at least two approaches: (a) following the UK model, award significant funding to several university-led utility research/innovation centres on timely topical areas for funding free research in the area, or (b) award funding for free research to professors who have a track record of academic excellence

in utility driven research. One of the success criteria in this funding must be the creation and spinning-off of new companies. It is essential that this funding is protected from University and other bureaucracy or taxation and that the funding is at least for 5 years.

A starting point for the new innovation system is that the researcher is an entrepreneur who must have a chance and obligation to take his/her idea to the level where it can be sold as a business. Key is not the management of innovation, which is a folly anyway; the key is a fast cycle from fundamental and exploratory research thru application to creating a new business. Initial stages must be done within University walls without the lawyers or any kind of envy driven politics stopping the innovator. At the right time, the new business should be spun-off to a company with owners who are best qualified to make the new business a success. Often the researchers themselves are among the owners. It is essential that the success criteria of the university will not interfere with this activity. We can help this development by re-designing the PhD studies as I suggested in my previous Column.

From the university point of view, there should be 3 sets of criteria for funding and measuring success: (a) academic merits – a'la Academy of Finland – 1/3 of university research funding; (b) free research funding of utility research – 1/3 of university research funding and (c) project funding for maintaining existing earning models – also 1/3 of the overall funding. If sustainable companies use some 17% of their R&D funding to (b), it is clear that universities should use much more in this category.