

Research infrastructure is a hot topic. Lately, I have been receiving questions about funding and access to resources for high-performance computing (HPC) provided by SNIC, the Swedish National Infrastructure for Computing. So far, this has been a free resource for our researchers, funded by the Swedish Research Council (VR) and applied for in competition. The need for high-performance computing and data storage is increasing rapidly, and so are the associated costs. The Swedish Research Council, which is currently funding the operations with SEK 120 million a year, intends to cover no more than half of the funding in the future. This is just one example of the major changes concerning research infrastructure that started several years ago. Within the Academic Area of Science, we have discussed how to deal with this situation over the past few years, but it is only when it becomes urgent for an operation that the problem becomes real. Now it is starting to become urgent for many more. To briefly sum up the situation, VR, via RFI (the Council for Research Infrastructures), will only fund infrastructure of national or international importance, and it will cover a maximum 50% of the costs of the infrastructure, while KAW will no longer fund infrastructure other than within project grants. Moreover, VR's budget for research infrastructure is largely tied up in existing commitments, some of which were made without wise long-term planning and prioritisation regarding available funds in the future. Very little funding is likely to be made available to new projects in the next few years unless additional funds are allocated. The consequence of all this is that a major responsibility for funding and planning has been placed on the universities, which have to fund the local infrastructure and contribute to the national infrastructure. This must be done through a combination of different types of funding; both government funds and external contributions, for example in the form of user fees, are possible depending on the type of infrastructure and the availability of funds.

It is said that the universities will receive larger block grants in the upcoming research bill in November. This would undoubtedly help solve the infrastructure problem, but I'm not optimistic. I think we have to expect to finance more and more of our operations using the funds that we already have or that we can acquire in another way. At the same time, we have to ensure that VR's processes for prioritising research infrastructure improve, so that the available funds can be used more effectively and only for what is truly of national interest. In spite of the rhetoric, this is not always the case. Here, URFI, the universities' reference group for infrastructure, can play a key role. In this group, constructive discussions are held between representatives of the management of all Swedish research universities. Moreover, the group has regular discussions with RFI, which I hope will become increasingly constructive. A test case is SNIC, where Uppsala University is currently working on an application to VR in consultation with URFI.[EA1] [AK2]

Regardless of the future allocation of funds to the universities, we have to adopt processes for prioritising and funding research infrastructure within our institution. The first thing to remember is that it is primarily a matter of where decisions are best made, not who is going to pay, even if different decision-making structures will lead to different distributions of cost. Everything is ultimately funded by the departments. The University does not have a cornucopia. The Academic Area of Science adopted guidelines for research infrastructure in 2014, and this autumn, discussions will be held within the University as a whole with the aim of establishing University-wide guidelines. The principle within our academic area is that the fundamental responsibility for research infrastructure is at the department level. It should be a part of the department's strategic work to prioritise and budget for research infrastructure as it does for other needs. It is no stranger than prioritising subjects when advertising teaching positions, although that can be difficult enough. There are two kinds of exceptions from this principle: very expensive infrastructure and infrastructure of broad common interest.

Expensive infrastructure is co-funded by the department and the academic area, and perhaps also centrally by the University. The academic area has applied this approach in a few cases, most recently concerning a transmission electron microscope, the total cost of which will be about SEK 65 million over 10 years. The academic area contributes SEK 17.5 million, the University covers reconstruction and installation up to nearly SEK 10 million, and the department and other users cover the rest. I am aware that this co-funding received some criticism. A view was expressed that funding should be sought from RFI. My view is that this type of microscopy is not a national infrastructure, and that RFI will not (nor should it) provide funding given the current principles and financial framework. Unless substantial new resources are added at the national level, this is a type of investment the University will have to be able to make on its own in the future.

What this means for the future funding of, and access to, computer resources is too early to tell. However, in all likelihood, Stockholm University will have to pay for these resources. We are major users and represent more than 10% of the total use within SNIC, which gives us some idea of the potential costs in the future. How then should these costs be covered? This will have to be discussed, of course, but my view is that the guidelines adopted by the academic area in 2014 should constitute the basis.

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