

# Market participation opportunities for Environmental Research Infrastructures

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Besides their capability to address scientific challenges, the macroeconomic impact of European Research Infrastructures can serve as an important criterion to estimate their societal relevance. This is a result of the political decision-making process prior to the launch of the first roadmap of the European Strategy Forum on Research Infrastructures (ESFRI)<sup>[1]</sup>. The Lisbon agenda as well as the 'Europe 2020'<sup>[2]</sup> strategy of the European Union have defined ambitious objectives to be reached by 2020 – on employment, innovation, education, social inclusion and climate/energy – among others to recover from the global economic crisis.

The 'Innovation Union'<sup>[3]</sup> Council conclusion puts research and innovation at the centre of the Europe 2020 strategy and demands improved dissemination, transfer and use of research results, also through open access to publications and data from publicly funded research. In this regard the European Commission invites Research Infrastructures to *"continue their opening to, and partnership with, industrial researchers to help address societal challenges and to support EU competitiveness"*. Consequently, the legal framework (Council Regulation (EC) 723/2009)<sup>[4]</sup> for European Research Infrastructure Consortia (ERIC) contain a simple mechanism to participate in the market and stipulating that ERICs *"should be allowed to carry out some limited economic activities"*.

Since there are numerous organisational and technical challenges for Research Infrastructures during their implementation and early operational phases, it is easy to understand that economic activities have no priority for most Research Infrastructures. Having said that, such activities can play a major role for the sustainability of Research Infrastructures and should be planned as early as possible.

During the ENVRIplus project we had the opportunity to visit a selection of exemplary e-infrastructures, namely ICOS (Helsinki), ACTRIS (dito), EMSO (Rome) as well as EGI (Amsterdam) in order to assess their respective readiness for own commercial activities. Travel was made possible and financially supported by the ENVRIplus exchange of personnel scheme.

The idea was to meet managers on site to explore and exchange ideas and experiences related to the business development, sustainability strategies and Research Infrastructure economics in general. In particular we were interested to learn from EGI and Research Infrastructures about their approaches towards economic activities within distributed infrastructures, business development and commercialization plans as well as ways to handle organisational, legislative, administrative and fiscal considerations such as the state aid regulations.

During our visits we had the occasion to participate in some very fruitful discussions in a friendly and courteous atmosphere. These favorable circumstances allowed us to conduct structured interviews to get an impression of the 'economic readiness' of each Research Infrastructure.

Surprisingly, both, discussions as well as interviews revealed that these organisations developed only limited entrepreneurial impetus and – at the time of our site visits- did seek no other means of financing other than public subsidies. These subsidies essentially come from two sources: public funding for infrastructure construction and support projects and membership fees from institutions that also receive public funding. On the other hand, our visits also showed that the need to perform economic activities already is on the radar of Research Infrastructures. At least there is a certain sensitivity for this topic and a willingness to deal with it more intensively in the near future.

Of course, our investigations are far away from a systematic consideration of this topic. However, after and during the visits, the question arose what is hindering Research Infrastructures to develop more economic ambition, despite the EU's support for market participation? Obviously, Research Infrastructures primarily serve scientific purposes and it is clear that those involved feel primarily committed to them, so commercial interests play a subordinate role. In addition, all Research Infrastructures visited are in relatively early stages of development and represent so-called distributed infrastructures which are subject to particular constraints. As distributed infrastructures, the participating organizations have agreed to set up a central coordinating facility. The form of company for these entities is usually an ERIC under European law, in the case of EGI a 'Stichting' under Dutch law. For simplicity's sake, we will all call 'ERIC office'. The exact mission of ERIC offices varies, but a common goal is to "*facilitate the establishment and operation of Research Infrastructures at the level of the Community*". They are therefore not responsible for the actual operation of e.g. technical facilities, their role lies rather in mediating, enabling and networking. This leads to a strong dependence on infrastructure service providers making economic activities quite complicated and giving ERIC offices little opportunity to market their own products or services.

Conversely, it would be possible to capitalise precisely on the role of an intermediary if there were appropriate mandates and business models. For example, brokerage fees could contribute to the financing of ERIC offices. However, such business models are difficult to negotiate within a distributed multinational organisation and in particular it is a challenge to define common products and prices. Further, the invoicing and billing of such services is a particular challenge for service or infrastructure providers. They are usually public institutions, which have to comply with the EU's strict state aid regulations<sup>[5]</sup>. These regulations should not be underestimated, as their intention is to avoid unfair competition. In concrete terms, this means that public institutions must offer their services at market prices, always under the full cost model and subject to VAT. A true horror for most administrations of public institutions in comparison to public funding rules.

A considerable obstacle to the active market participation of Research Infrastructures is also the uncertainty regarding the legal basis for economic activities of Research Infrastructures. While limited economic activities are foreseen within the ERIC regulations, it is not clear to what extent Research Infrastructures are allowed to perform economic activities<sup>[6]</sup>. As a consequence, public funding and membership fees are the preferred – hassle free- source of income for ERIC offices.

This financing strategy is not, however, completely risk-free, as it results in a disproportionately high dependence on public funds thus hindering the generation of financial reserves. The spontaneous implementation of innovative ideas, however, is impossible without free funds. In addition, it is evident that reserves are indispensable if, for example, membership fees are not paid or arrive late while e.g. ERIC office salaries still have to be paid punctually. Free funds generated out of free commercial activity can therefore play a major role in the development, sustainability or even the survival of ERIC offices. It is estimated that EU rules allow up to 10% of the total annual budget of an ERIC to be acquired in this way, and it is highly advisable to take full advantage of this welcome opportunity.

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