

Main observations of the second ERF seminar on Human Capital in Modern European Research Infrastructures (RIs)

The 2nd ERF seminar held in PSI Villigen the 19th of October 2010 consisted of two plenary sessions each with several presentations and one session with parallel streams considering various aspects of Human Resources' management in detail. The key aspects to emerge were as follows:

☐ **Consider the specific context of human resources for RIs**

Research Infrastructures require particular HR management skills due to the fact that they express different needs than those of other research structures. Indeed, the day-to-day operational constraints require managing high levels of professionalism and skill and optimizing the employability of scientists, engineers, technicians and administrative staff. Moreover, unlike other typical research environments (e.g. university) it is necessary for these various groups of staff not only to work together as a group to achieve the objectives – of projects typically lasting many years – but also to get the guarantee that they would be able to move between different projects and assignments, within a specific “employment area” whose size depends on the category of staff.

The high and continuously evolving technologies employed require imaginative thinking, and capability to update the know-how from the staff and an ability to think ‘outside the box’. The RI staff necessarily works with researchers from universities and from industry with varying expectations and working styles. Furthermore the high technology requires expert interaction with industrial suppliers of equipment and components. Although the HR development of staff at RIs relates to high technology there is, so far, a limited crossover to high technology industry despite the aspiration of Europe to evolve towards the knowledge society with mobility across different institutions.

Finally, the HR development in high-technology areas requires long term strategic planning and foresight, given the long latency times associated with such programs. This is particularly true in scientific areas with large growth rates and dynamics.

☐ **Consider the impact of RIs' HR within a global strategic view (Europe, its borders and the international relations)**

HR management at RIs has – as one function – conservation of skill and knowledge in Europe both for the design and construction, as well as for the operation phases, with the attraction of skill and knowledge from elsewhere into Europe to increase the available human capital – so-called ‘brain gain’. There is an argument that designing, constructing and operating a RI can contribute to the advancement of a region and its wealth. Of course, there is also the possibility of ‘brain drain’ of skilled project developers, after the construction, from RIs to similar facilities elsewhere in the world, especially if in Europe, new RIs are not being designed, constructed and operated. Moreover, the mobility between research and industry (both ways) is a potent driver for technology transfer, and a politically important socio-economic driver.

By extension, and looking beyond the single RI, the question raises about the necessity to develop and harmonise exchanges with less-equipped EU countries (in RIs) in developing their capacity and providing them with expertise and temporary highly-skilled manpower for building new RIs. Furthermore, in terms of users of RIs, analysis of the Trans-national Access statistics in some scientific areas clearly shows a majority of users moving between countries which themselves own and operate RIs. If nothing else this proves a strong correlation between the existence of national RIs and the activity and mobility of a national scientific user community. Moreover, it may well be inferred that RIs or Regional Partner centres to larger RIs are seminal in creating such communities. With respect to 'brain gain' the EC may consider opening up even more its Trans-national Access to users from non-EU countries, to establish the ERA as a truly attractive at international level.

☐ **Facilitate/stimulate the contacts between HR professionals of RIs**

The particular characteristics of RIs encourage innovative thinking in HR. However, there are many common problems and the possibility of exchanging best practices in related solutions. This requires (a) a common language (English) and vocabulary to describe specific aspects; (b) an agreed description of processes and management philosophies and criteria to facilitate comparison and exchange of views.

With appropriate planning, it is possible to anticipate the requirements for HR resource at RIs as they move through the phases of design, construction and operation – including upgrades (which require aspects of design and construction) and subsequent closedown and any de-commissioning. With EU wide cooperation over several scaled projects, one could imagine mobile staff being utilised in the most effective way as and when needed at different phases of each RI. This would require the HR management at each RI to have a clear idea of the overall landscape in Europe and match the career development aspirations of each member of staff looking for appropriate opportunities within that RI or elsewhere.

However, in Europe (and also sometimes between different institutions in the same Country) there are barriers to the free movement of RI staff among different RIs, including differing systems for pensions and social insurance, different educational systems, cost-of-living differentials among countries, different fiscal environments, etc.. There is a real requirement for the harmonisation of the schemes or the introduction of EU wide schemes to overcome the differentials.

Clearly, co-locating more facilities at one physical location, and within one institution, has advantages for staff mobility and sharing within the organisation but also could provide more attraction to external staff wishing to move for career development reasons (see above "employment area").

An anticipative attention must be devoted to the training actions in this domain towards:

- **the RI managers** about specific HR concerns in terms of planning, mobility, succession and competencies' survey, including language skills for all levels of personnel, to allow interaction and mobility at EU level;
- **the middle management:** self-capability to move, acceptance to have collaborators moving ; encourage the supervisors to let the post-docs building their own career;
- **the post-docs & PhD:** preparing them to build a professional network at the European level, to learn a new culture (not only a new scientific challenge), and be capable to build a career based on European mobility.