RAMIRI Final Report

Executive Summary

Realising and Managing International Research Infrastructures was a coordinating and support action that aimed to develop a training and networking environment for those involved in setting up and managing research infrastructures (RIs) based in Europe of international importance. The project concept emerged from a perceived need articulated by Professor John Wood, former Chair of ESFRI and the European Research Area Board, for a bespoke training for RI managers that could not be met by any extant training course or network (e.g. MBA management qualifications).

In 2008, a Consortium of 5 partners (Imperial College London, Institut Laue-Langevin (ILL), European Synchrotron Radiation Facility (ESRF), Deutsches Elektronen-Synchrotron (DESY), Elettra Sincrotrone Trieste and UKAEA-Culham) was convened to deliver the RAMIRI project. In 2009, a RAMIRI Symposium, comprising three events (one large, plenary conference and two, smaller follow-up conferences) were held in London, Grenoble and Hamburg, respectively, and comprised a number of presentations, speaker panels, work-in-progress talks and site visits to three RIs, along with a social programme. A mid-term review meeting comprising a high-level delegation from the Consortium Management Board, EIRO-Forum representation and the European Commission was also held between the Grenoble and Hamburg conferences.

In 2010, a project extension enabled work to begin on a revised deliverable of a 'manual' or handbook to take forward the project. In practice this was incompletely achieved, owing to the complexity (and perhaps unfeasibility) of such a document, but a series of interviews as well as analysis of the Symposium papers resulted in a draft manual as well as a training blueprint (the formulation of an improved learning programme and the identification of a training curriculum comprising six key topics) were taken forward into a second project, RAMIRI 2.

Summary Description of the Project context and the main objectives

The RAMIRI project emerged from a perceived need to equip the 'new' and smaller EU member states with the skills and networks to be able to engage fully with research infrastructures and the building of the European Research Area. This starting point recognised the significant level of excellent science that is taking place within these countries, but also that there is a lack of management capacity and experience in many instances which present an obstacle to the engagement of new and smaller member states to engage with the development and management of research infrastructure. Furthermore, this structural training and experience deficit encourages the further accumulation of expertise within the historical centres of research excellence with the European Union.

Professor Wood's extensive experience (both within Europe and worldwide) within governance and steering committees of major research facilities and funding bodies was decisive in identifying this need with respect to the new EU member states. While Europe is home to a number of historical and pioneering research infrastructures (such as CERN), the diversity and uniqueness of these facilities has resulted in a lack of sharing of best practice and common challenges. Existing networks of research infrastructures (such as EIRO-Forum) tend, in effect if not by intention, to be effectively closed to the new generation of up-and-coming research infrastructures, many of which are novel in form (e.g. physically distributed infrastructures and e-infrastructures) and which are more likely (by dint of the cost threshold for smaller member states to develop new facilities) to include the involvement of the smaller or 'new' EU member states.

Many of the people likely to be involved in the establishment and management tasks associated with new research infrastructures will have no previous experience in setting up a research infrastructure, coming instead from a national research facility, university or other professional environment. The publication of the first ESFRI Roadmap in 2008 set the stage for a new kind of training and networking environment to support the diverse community of people involved in RI management across the European Research Area. As a

former Chair of ESFRI and the European Research Area Board, Professor John Wood was uniquely placed to understand the need for a Community-level coordinating action to support the training needs of RI managers. Furthermore, the publication of an ESFRI working group discussing the socio-economic impact of RI emphasised the very significant role that RIs can play in delivering regional socio-economic impact and therefore play in the harmonisation of EU regions.

Training Need

Formal management qualifications (such as the MBA, or professional accountancy qualifications) do not speak to the uniquely complex context of international research infrastructures, which bring together a mix of primarily public funds with cutting-edge scientific proposals and a culture of international collaboration; specific training courses in research administration are too narrow, or field-specific. Aside from the very large (and potentially impersonal) environment of the European Research Infrastructure Conferences (ECRI; now ICRI) held on a broadly biennial basis, there was no networking environment which enabled RI managers to meet and get to know ministry officials, and people working in 'traditional' RIs in the physical sciences (such as synchrotrons) to meet people working in the innovative 'distributed' facilities which are typically associated with other scientific fields, including the social sciences and humanities.

RAMIRI Mission

Thus, the first objective was to support RI managers in the new member states. Other objectives emerged and crystallised during the process of the project (and were taken forward as recommendations within the funding application of a second phase of RAMIRI (RAMIRI 2). These were:

- Improved sharing of experience and learning between people working in established RIs and people engaged in setting up new RIs

- Improved sharing of experience between 'new' and 'old' Europe: recognising the value of RIs to deliver significant positive socio-economic impact at national and regional levels, aiming to increase both the level of engagement and management competence in new EU Member States
- Sharing of common challenges and differences in approach between the 'traditional' RIs (single-site, often associated with the physical sciences) and new 'distributed' RIs (networked, multi-site; associated with e-Science, ICT, biotechnology, social sciences, humanities, and others)
- Learning opportunities for middle-managers engaged in setting up or managing a new or existing RI, recognising within this group a diversity of professional background (research active scientists; former researchers; people from a specific professional background e.g. accountancy)

The RAMIRI project intended that these top-level objectives could be addressed by the following practical objectives:

- Convene a series of events featuring experts in the area of research infrastructure management
- Develop a new kind of training/networking conference for the RI management community
- Deliver training and networking to the target audience (see below for summary)
- Develop an enduring network of European research infrastructure managers who share a common experience of the RAMIRI project

Target Audience

The target audience which emerged during the period of the RAMIRI project can be summarised as the 'Three News':

1. New EU member states
2. New kinds of facility
3. New managers (research scientists new to management or management professionals new to the research environment; ministry officials)

RAMIRI Project: Recap

The original RAMIRI project was designed as a 15-month project, the major deliverable of which was the planning and execution of a three-part Symposium comprising a 'plenary' conference (of around 100 delegates) in London; and two smaller follow-up conferences (roughly, 50 delegates each) in Grenoble and Hamburg.

- The London conference was held 15-17 July 2009 and hosted and organised by two partners: Imperial College London and UKAEA-Culham.
- The Grenoble conference was held 9-11 September 2009 and was organised and hosted jointly by Institut Laue-Langevin and the ESRF.
- The Hamburg conference was held 14-16 September 2009 and was organised and hosted by DESY.

In addition to the Symposium, a small residential meeting (the 'mid-term review') was held in Annécy between the Grenoble and Hamburg conferences (over a weekend) and was attended by members of Consortium Management Board, members of the Programme and Events Steering Committee and a number of invited experts from, for example, the European Commission and EIRO-Forum.

The project was subsequently extended for a further 9 months on a cost-neutral basis in order to allow further preparation of an extended deliverable of a RAMIRI training manual and the proceeding report, allowing time for a series of interviews and further analysis.

Work packages

Five work packages were associated with the project:

Work Package 1	Management of the Consortium
Work Package 2	Preparing the Symposium Programme

Work Package 3	Promoting the Symposium
Work Package 4	Organising the Symposium
Work Package 5	Dissemination of project outputs

These work packages are reported in more detail in the previous project reports.

Outcomes and Dissemination

The Realising and Managing International Research Infrastructures project was a successful initiative, based both on the actual benefits to delegates who attended the 2009 RAMIRI Symposium, and as a prototype project which demonstrated both need and enthusiasm for a project of this kind, as well as indicating aspects in which a future larger-scale adoption of the project's principles could be improved or modified. In total, over 100 individuals attended the whole symposium as planned, with a number of others (in the region of around 50) attended a part of the symposium. That so many of those who attended the plenary conference in London returned for a 'part 2' in either Grenoble or Hamburg provides compelling evidence that RAMIRI's overall mission and its themes addressed a perceived need for a forum for discussion of research infrastructure management that could be smaller, more responsive and more personal than the ECRI/ICRI-style large RI conference.

The two-part format did pose a certain challenge in that a number of delegates cancelled – often at the last minute – their second conference, resulting in a few cases in unused hotel rooms. Where possible, the coordinator tried to ensure that these places could be filled at last minute by those on a waiting list, with local staff or with staff from one of the consortium partners. In part, the distinction between a 'plenary' conference in London and two smaller conferences in Grenoble and Hamburg may have not been made clearly enough at the outset. The London conference was intended to introduce broad themes and topics (with a possibility for 'political speeches') and the Grenoble/Hamburg conferences were intended to develop and nuance these themes with an

increased emphasis on case studies. Whilst this characterisation was achieved (with case studies of the ILL. ESRF, DESY, European XFEL and the two 'Projects In Progress' presentations taking place in Grenoble/Hamburg), there was also some blurring of these differences, in part because of the availability of speakers and the need to 'reintroduce' the key themes afresh in each conference. This would not have been the case if, for example, the RAMIRI delegation had been conceived of as a closed cohort (perhaps on a selection basis) rather than a conference which anyone with an interest in the topic and a relevant background was in principle encouraged to attend to the extent that they were able.

A remark is in order about the profile of the delegation. This is an area which could be handled differently in order to achieve a more focused outcome. The nature of the invitation process (which was handled mostly by individual letters to the representative members of ESFRI, national ministries and to partner contacts) did result positively in a delegation with a background highly relevant to RAMIRI objectives, with a focus on those involved in management rather than, for example, research active scientists. Many of the nominated candidates came with personal recommendations.

However, it is clear that the personal approach needed to launch a new project without prior profile or reputation was also a stumbling block with respect to the availability of some individuals to nominate candidates or cascade information about the project to relevant organisations and individuals. This also resulted in, for the most part, a highly senior delegation that was not always in keeping with the spirit of RAMIRI's objectives; namely, to create a learning programme (rather than a 'talking shop'). The inclusion of a number of very senior delegates (also in part the result of a number of speakers choosing to attend the rest of the day conference themselves) made both for lively and informed opinion, but was felt to be potentially inhibitory for less experienced (and perhaps therefore less confident) delegates. This theme also intersected with the target audience of managers in new EU member states, who may have felt less confident to raise more basic questions within a senior delegation.

The level and relevance of information presented by the Symposium speakers was generally high (many of these talks are presented in edited form in the RAMIRI Proceedings). Nevertheless, despite attempts to encourage more interactive styles of presentation, this was not, for the most part, achieved, and most of the presentations were formal Powerpoint presentations, led from the front of the room, with a possibility for a question-and-answer session after the talk. This had to do with, again, the level of seniority of some speakers (whose available time was very limited, and where there was little willingness to engage with the idea of presenting in a more interactive, pedagogical way) and the way that many of the speakers were brought in to present on only one occasion. A standing body of RAMIRI 'faculty' could enable a less formal, and more creative way of working.

The content presented by speakers was largely structured by Professor John Wood's initial recommendations as laid out in the original plan of work. Over time, as the idea for a 'handbook' or a further evolution of the programme emerged, it became clear that the 2009 Symposium had a number of broad emphases and some gaps. In particular, the case of less 'traditional' (single-site facilities in the physical sciences) types of research infrastructure was less well represented in the programme, and this emphasis on traditional RIs in clearly reflected in the profile of the project consortium, where single-site RIs are predominant (ILL, ESRF, Elettra Sincrotrone Trieste, UKAEA-Culham…).

Interventions by Wouter Los (LifeWatch), Steven Krauwer (CLARIN), Graham Higley (Encyclopedia of Life) and Erich Rome (DIESIS) provided a stimulating counterpoint to this model, along with the presentation by Florian Gliksohn (ELI) as a proposed facility with sites distributed across three countries and moreover in the new member states. Not only is the case of distributed infrastructure more relevant to meeting the objective of targeting new and smaller member states (as these states are more likely to be involved in setting up or managing a research infrastructure of this kind), but they also raise important questions (e.g. about user communities) or offer particular expertise (e.g. in managing intellectual property rights) that are relevant to all research infrastructure (and not simply

an exotic variant of a 'traditional' infrastructure. John Wood's though-provoking essay on the future of European science (presented in Grenoble and included in full in the Proceedings report) offered an important visualisation of a world in which e-science, distributed science, and the role of remote data processing and archive facilities become central to the science of 2020.

The website was used to disseminate content from the 2009 Symposium and a mailing list was maintained in order to stay in contact with previous delegates. Key people associated with the project, such as Professor John Wood and the Programme Manager continued to raise the profile of the project by attendance at a number of meetings, such as:

- ECRI 2010 in Barcelona (23-24 March 210)
- a presentation given at the Presentation for Annual Meeting of the National R&D Advisory Councils in Bruges (11 June, 2010)
- Expert Panels on Managing Innovation (under the aegis of the Centre for Preclinical Research and Technology, Warsaw 22-24 September)
- as well as an extensive series of face-to-face and teleconference meetings with RI experts (detailed in project report 2).

Recommendations for future development of project:

- Maintain a multi-part learning programme but develop a programme that emphasises the distinct value of attending both parts of the programme
- Consider a closed cohort/class group to maximise networking consolidation and to enable a more focused use of conference time
- Alongside the use of 'gateway' individuals and organisations (such as the ESFRI delegates) to cascade information about the project, look for additional publicity mechanisms (e.g. taking a stand at relevant EU research management conferences) in order to make contact directly with target audience
- Target future RAMIRI activities more squarely on new or mid-level RI managers or ministry officials rather than people already in senior roles

- Consider engaging a standing body of RAMIRI 'faculty' members to deliver the majority of the learning programme, and encourage them to develop less formal and more interactive forms of presentation (e.g. asking delegates to engage with scenarios and present their suggestions)
- Improve balance of discussion between 'traditional' RIs (single-site facilities in the physical sciences) with physically distributed and e-infrastructures from the physical and social sciences, life sciences, ICT and humanities.