RAMIRI

**Handling Human Resources at the start of operation of a single sited analytical Research Infrastructure: EuroMuons (physics derived facility providing experiments for all disciplines interested in matter)**

**Objective of the Research Infrastructure** (The story is purely hypothetical)

EuroMuons is a single sited facility. Muons are intermediate size negatively charged particles. Physicists have discovered a way to produce muons at very high densities. They can then be accelerated close to the speed of light and delivered to peripheral analytical instruments. When they interact with matter, accelerated muons generate signals that provide information that combine the penetration power of neutrons and the sensitivity and resolving power of synchrotron light.

This has generated worldwide a very strong demand from many scientific communities, especially some that had no means yet to investigate at very high resolution in a non destructive way the inner part of highly dense materials (rocks, large fossils, human artefacts, metallic objects, mineralized tissues of animals, etc.).

A large pan-European consortium of countries has decided to build a muon facility in an eastern country that recently joined the Union and chosen an ERIC status. The construction cost has been set at about 1 billion € for the source and 25 beamlines. The global annual operation budget has been set at 70 M€ with an in-house staff of 435 people. The life expectancy for the facility is 25 years after the start of operation.

The facility is expected to run for users 24h/day, 6 days/week, 220 days/year, maintenance and further development of the source and of the beamlines having to be performed in the remaining time.

The construction of the source and of 7 initial beamlines has taken 7 years and has benefited from renewable 5 year secondment contracts for expert staff coming from many member state facilities (neutron sources, synchrotrons, ions sources, lasers, etc.). About 75 positions have been filled in this way during the construction period. In addition, 225 long term positions have been already created and filled for support groups (electricians, plumbers, general maintenance, administration, electronic specialists, computing experts, administration, etc.) and for the initial beamlines. During the construction phase, external contractors have been appointed for building and the design and construction of many instruments. In addition some specialists (e.g. for drawings and engineering works) have been hired on short-term contacts to alleviated peak-loads of permanent staff.

The tasks of the research facility consist in:

* Building (pretty much completed at this stage) and further development the muon source;
* Construction of 25 beamlines (3 are finishing now their commissioning, 4 are under construction, 9 have already been specified and 9 are still blank sheets). The beamline portofolio has to be decided on the basis of existing and potential needs of the scientific communities;
* Allowing users to prepare locally or remotely their samples, to bring them or to forward them for mounting on appropriate sample environments, to perform analyses, data collection, data handling and treatment, and to transfer their data to their home lab;
* Setting up a strong in-house research and development program to place the source and the beamlines at the forefront of the worldwide competition;
* Welcoming external users when they come to do their experiments or to perform the local handling of sample and beamline preparation when samples are sent by courier and the experiments are done by remote control;
* Allowing in-house scientists to maintain their scientific competences by participation to research programs.

**Human Resources**

The blueprint for human resources has been established in the following way :

* A general direction with a staff of 30, including security, communication, quality control, external relationships, general affairs (relations with council, stakeholders and shareholders);
* An source division with a staff of 60 to operate and maintain the muon source and the accelerators;
* An experience division with a staff of 140 to operate the beamlines and to welcome the users and/or their samples and to perform in-house scientific research program;
* A research and development division with a staff of 90 to establish strong transverse R&D programs in all methodological and technical aspects (muon production and beam improvements, sample environments, detectors, data handling and treatment, instrumental designs, etc.);
* A computing division with a staff of 45 to install and maintain the computing and networking capabilities within the facility;
* A general service division with a staff of 55 to handle generic technical services (electricity, plumbing, maintenance of the site, etc.);
* An administration, human resources and finance division with a staff of 35.

Some general services such as catering and restaurant, land maintenance, guardians, generic computer and code maintenance are sub-contracted to external companies.

The facility has to rely on external funding for non-permanent scientific trainees (post-docs and Ph.D. students).

**The challenges you are facing**

After 7 years of very successful action during the construction phase, the initial director general and project manager has retired and has been replaced by an outstanding scientist that has very strong ambitions for the facility but also realizes his/her managerial limitations. You have been hired as advisor to the general director for all managerial responsibilities.

In particular, you are requested to :

* Analyze and criticize for him/her the already established organization chart;
* Describe the risks and main challenges you foresee for the already hired staff;
* Describe the type of experts (roles/functions, qualification, experience, skills, salary level[[1]](#footnote-1)) required for the remaining beamline construction and for the long term operation and improvement of the facility;
* Specify the duration and nature of the contracts to maintain a balance between innovation and continuity;
* Specify the recruitment process and effort (where and how to find experts, local vs. national vs. international, identifying and addressing the expectations of these experts) ;
* Describe suitable selection processes;
* Specify strategies for creating motivation, engagement, identification, productivity, etc. especially for the staff that has built the facility and has now to perform “after sale service”;
* Specify programs that will help to establish and maintain coherence and a collaborative atmosphere within the research infrastructure ;
* Describe performance evaluation methods and guidelines for formal interactions about functioning and remuneration; describe ways to identify and analyze reasons for problems in relation to staffing ;
* Identify the formal rules that exist in the different countries which need to be considered in HR recruitment and employment[[2]](#footnote-2).
1. A rough classification will be sufficient at the beginning. [↑](#footnote-ref-1)
2. An indication of a number of typical rules that need to be considered is sufficient. No comprehensiveness is required. [↑](#footnote-ref-2)