



 Third European Conference
 on Research Infrastructures

Report of Session 2
User needs in PSE+ENV

 Rapporteur Carlo Rizzuto

 Nottingham – 6-7 December 2005

Session 2: User needs in Physical, Engineering and Environmental Sciences

 Astronomy and Space Sciences Engineering Sciences

 Multiuser Analytical facilities Marine and Geo Sciences

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Astronomy and Space Sciences A new golden era of discoveries and new growing open questions

Needs:
 open further the access to data "service collected"
 long term planning and predictability of commitments
 new extended ground based facilities
 better coordination between Space and Ground developments
 Challenges for future: Advanced analysis tools;
 multidisciplinary; intensive data analysis and flow; stimulate cooperative research in big groups without loss of individuality
 keys: enabling technologies
 Education and public understanding of S&T interplay

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sustainable growth depends on new technologies **Engineering Sciences**

 Research infrastructures have two aspects in Engineering:
 Test beds for new technologies and instruments+spin-offs
 Direct application for testing and development

 Important: Communication between technology platforms and various high tech I's

 RI's for Engineering are needed, have to be organized in public-private partnerships to allow dual use for R and for D
 Opening of industry owned I's to basic Research is an important advantage for both!!!

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Synchrotrons, Free Electron Lasers, Neutron Spectroscopies, High power and high quality Lasers, need to be made available to growing numbers of Researchers, from biology to archaeology, from forensic to energy applications.....

 Open access!!! Make good use of specificities-complementarities through networking-and more integrated schemes
 Increase use through interface Labs, or programmes.
 On the data collection: develop detectors and instruments, mathematical treatment&simulations. Nanotechnology integrated pose. Fast decisions!!!!

Multiuser Analytical facilities The development of nanosciences, genomics and postgenomics is based on the Fine Analysis of Matter

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The diversity and extension of space and time on which studies must be made, require very complex sets of complementary facilities and "platforms", integrated in overall subsystems and global systems + coordinated and accessible data collection beyond State boundaries....

 Problem: open the "proprietary" (strategic, national, commercial....) networks of data collection systems!!!!
 ESFRI can push for best practices, some legal aspects, induce better (+ permanent) coordination between national facilities, over long time spans, inducing better cost-returns.
 But also new infrastructures are needed the mega-inaugurable ones!!

Marine and Geo Sciences
 Environment and Earth Sciences are a must
 If we want to keep our spaceship in order....

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Main Conclusion of Session 2

There is a lot to be done in parallel to the RoadMap: best practices, improving cost-benefit, access & management policies,.....

A lot can be done also in "upgrading" existing I ' to let become RI 's (not only by investing...)

Different fields have different sizes and different organized user communities.

The Roadmap will have to be an ongoing process, multidimensional and non "reductionist"

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