



ERF Workshop
**“Technology Transfer and Industrial
Relations in Research Infrastructures”**

6-7 June 2013
NH Hotel, Trieste



Elettra Sincrotrone Trieste

Scope

The European Association of National Research Facilities Association, ERF, aims at representing the wide variety of Research Infrastructures (RIs), built and funded by the European countries, but open to the use of all researchers admitted on the basis of quality from Europe and outside. To support and extend the EU capabilities, ERF wishes to engage not only with the communities represented in ERF but also more widely. This wider community includes governments (international, national and local), research funders, other RIs, higher education, industry and the citizen. The ERF Workshop “Technology Transfer and Industrial Relations in Research Infrastructures” brings together experts from research infrastructures, policy makers and industry to share real experiences, best practices and new challenges in the collaboration between industry and research. The scope of the workshop is also to underline the role of Research Infrastructures in the context of Innovation activities in Europe.

Organising Committee

Tamás Belgya, Centre for Energy Research
Michel Bessière, Soleil
Philippe Deblay, Soleil
Ornela De Giacomo, Elettra Sincrotrone Trieste
Celine Lory, Soleil
Ilka Mahns, DESY
Marco Marazzi, Elettra Sincrotrone Trieste
Edward Mitchell, ESRF
Cristina Modolo, Elettra Sincrotrone Trieste
Carlo Rizzuto, Elettra Sincrotrone Trieste
Ian Tracey, STFC

Elettra Sincrotrone Trieste

Elettra Sincrotrone Trieste www.elettra.eu is an international research centre specialized in the study of materials through a highly versatile and powerful tool: synchrotron light. This light makes it possible to reveal otherwise inaccessible details of the structure and behaviour of atoms and molecules in order to solve various problems in many fields such as

electronics, environmental science, pharmacology, diagnostics, engineering, and nanotechnology. Synchrotron light is emitted by two different sources: **Elettra**, a third-generation synchrotron (giving the name to the centre itself), and **FERMI**, a newly-designed free electron laser that became operational in 2011. The light produced is collected and conveyed to over 30 experimental stations, which use it as their main analysis instrument. The research activities carried out at the stations are supported by chemistry, microscopy, materials science, electronics, and IT labs, widening the centre's range of techniques.



Elettra Sincrotrone Trieste S.C.p.A. is non profit shared company recognized of national interest; the partners are Area Science Park, the Autonomous Italian Region of Friuli Venezia Giulia, the National Research Council of Italy (4.85%), and Invitalia Partecipazioni S.p.A..

Elettra has established long-term collaborative relationships with major Italian and foreign institutions. In fact the centre plays a leading role in the development of joint projects between European research facilities, particularly as coordinator of the networks promoting transnational access to synchrotron and free electron lasers, in the development of shared activities, and in the strengthening of services provided to clients. Elettra is also an associate of IAEA, the International Atomic Energy Agency (established in 1957 within the framework of the United Nations, for the peaceful use of nuclear technology) and is part of the primary science and technology network of the Central European Initiative (CEI). Over the years, Elettra has maintained an intensive effort for sharing technology; through the **Industrial Liaison Office (ILO)**, it provides assistance to companies and private research centres interested in direct access to its analysis and measurement services and its technologies. By providing the scientific community and the private sector with constantly updated services, **Elettra Sincrotrone Trieste** is pursuing its own mission – **promoting cultural, social, and economic growth** – **at the international level** through three key activities: basic and applied research, technical and scientific training, and technology and knowledge transfers.



European Association of National Research Facilities

The European association of national Research Facilities laboratories (ERF) represents international-level multidisciplinary Research Infrastructures funded by national sources but offering open and free access and serving every year over 20,000 academic and industrial users from Europe and all over the world. ERF is open to all Research Infrastructures which develop this “ERA open access” policy, hosting researchers from any Country in the world, selected solely on their quality by international peer review. These Research Infrastructures play a strong strategic role to make the European Research and Innovation Area attractive and competitive. Among its objectives are:

- to coordinate the development and openness of forefront facilities for European research;
- to develop the mechanisms and best practices for international provision of international quality research facilities;
- to act as a source of scientific and technical expert opinion for national and European policy making;
- to act as a single voice - representing a large constituency for European research facilities - with decision makers;
- to facilitate the availability of resources for high quality research facilities by cooperation and also through the initiation of specific joint initiatives or consortia; to support and stimulate the increase of the socioeconomic returns to society.

It is a constant preoccupation of ERF to ease the operation of the nationally-based Research Infrastructures (RIs), and open them to international competition pushing them to be at the top-level of the scientific excellence. This is a driver also to stimulate education and technical training as well as the innovation processes within the high-level clusters where they are usually installed. The double challenge of developing economical outputs and maintaining a high scientific level is very exciting, and requires addressing practical issues to the scientific communities and their stakeholders.

ERF is readily available to contribute to the construction of a more effective and attractive Research and Innovation Area, and is developing criteria to allow better comparisons between different RIs and to improve critical aspects, as e.g.: their effective management, the open access and its costs, the educational and industrial returns, the mobility of scientific and technical personnel and the response to “grand challenges” by better use of the RI capabilities, e.g. for the development of appropriate Energy use and efficiency. This makes the ERF capable to contribute to an EU oriented and effective response to the Grand Challenges which lie ahead.



ERF Workshop

Technology Transfer and Industrial Relations in Research Infrastructures

Workshop Programme

Thursday, 6 June 2013 - NH Hotel, Trieste

13:00 - Welcome Lunch

14:00 - Opening Session

- Welcome Greetings: Carlo Rizzuto, ERF Chair
- Roberto della Marina, Vice President AREA Science Park

14:30 - Session I: Framework and Institutional views

Chair: Ed Mitchell, ESRF Grenoble

Opening - Carlo Rizzuto, ERF Chair and Edward Mitchell, Head of Business Development at ESRF Grenoble

- UK science funding and how STFC implements Impact. Ian Tracey, Head of Entrepreneurship and External Technology Transfer at STFC
- Technology Transfer in Germany: General overview and a deeper look at strategies and instruments of Helmholtz Association. Joern Krupa, Director Technology Transfer at the Helmholtz Association
- Relations between IRs and industrial companies in France: return of experience and definition of a pragmatic strategy. Jean Pierre Caminade, Science Officer for Research Infrastructures, French Ministry for High Education and Research and Jean Luc Lancelot, CEO of Sigmaphi and President of PIGES Association
- Discussion

16:30 Coffee break

16:45 – Session II, part I: Best Practices of Technology Transfer

Chair: Frank Lehner, DESY

- Overview of some previous studies and workshops. Frank Lehner, Head of International Collaboration at DESY
- Enhanced industrial uses and technology transfer opportunities at SOLEIL. Philippe Deblay, Technology Transfer Manager at SOLEIL
- Applied Research with Neutrons and Technology Transfer at the Budapest Neutron Centre. Lazlo Rosta, Scientific Leader at Budapest Neutron Center
- Knowledge and Technology Transfer: Hurdles and Challenges at ESRF, Grenoble. Ed Mitchell, Head of Business Development
- PSI with&for Industry. Andrea Foglia, Technology Transfer Officer at PSI

ERF Workshop

Technology Transfer and Industrial Relations in Research Infrastructures

Workshop Programme

Thursday, 6 June 2013 - NH Hotel, Trieste

- Technology Transfer Opportunities at DESY. Katja Kroschewski, Head of Technology Transfer at DESY.
- Expertise and Technology for Industry@Elettra Sincrotrone Trieste. Marco Marazzi, Technology Transfer Manager at Elettra Sincrotrone Trieste.
- Open discussion

17:45 – Session II, part II: Case Studies

Chair: Mauro Zambelli, KYMA

- The Collaboration between Elettra Sincrotrone Trieste and Zambon Chemicals on polymorphs characterization. Livius Cotarca, R&D Manager at Zambon Chemicals and Dr. Maurizio Polentarutti, Beamline Scientist at Elettra Sincrotrone Trieste
- Quantitative assessment of steatosis by infrared microspectroscopy for liver graft quality control. François Le Naour, Researcher at Inserm and Dr. Catherine Guettier, Anatomy Department, Paul Brousse Hospital, France.
- Commercializing of new technologies from Research Institutes focused on MTCA.4. Friedrich Fix, General Manager at AD-TE-C and Frank Ludwig, Physicist at DESY.

18:45 Closure of Day 1 - Discussion and Summary Outcomes

20:00 Social dinner

ERF Workshop

Technology Transfer and Industrial Relations in Research Infrastructures

Workshop Programme

Friday, 7 June 2013 - NH Hotel, Trieste

8:30 – Session III, Part I: Business Models, innovative practices and new challenges.

Chair: Lazlo Rosta, Budapest Neutron Center

- Strategic management of the intellectual property at IIT. Lorenzo de Michieli, Technology Transfer Manager at IIT, Italian Institute of Technology.
- Technology Transfer through procurements: the CERN case. Prof. Sandro Centro
- PFMI Cosmétique: a mutualised platform dedicated to the challenges of the cosmetics sector. Christophe Masson, CSO at Competitively cluster “Cosmetic Valley”.
- Breeding ground for a rare species - the DESY incubator project tries fostering entrepreneurship from basic science. Katja Kroschewski, Technology Transfer Manager at DESY.
- Technological impact as seen by economic analysts. Florian Gliksohn, Institute of Physics of the ASCR (ELI Beamlines) / ELI Delivery Consortium.

10:10 - Coffee break

10:30 – Session III, Part II: Business Models, innovative practices and new challenges. Part II

- HZDR Innovation GmbH - enhancing the commercial access to large R&D-infrastructures. Björn Wolf, HZDR
- Innovation and growth: the vital role of Strategic Alliances. Aldo Romano, Research and Innovation, Confindustria
- TT: Examples and Learning from a Company Working within the Accelerator Community. Wolfgang Diete, Director Vacuum, Beamline & X-Ray Systems, Bruker ASC.
- CERN impact-driven innovation approach. Enrico Chesta, Head of Technology Transfer and IP Management at CERN – European Organization for Nuclear Research.

11:50 – Workshop Summary

12:10 - Workshop closure

12:30 – Lunch

13:15 - Bus Leave for Elettra Visit (optional)

15:00 - Bus from Elettra to Ronchi dei Legionari (Trieste) Airport

15:00 - Bus from Elettra to Trieste Train station

Collection of Abstracts

Session I: Framework and Institutional views

UK science funding and how STFC implements "Impact"– Ian Tracey, STFC

This talk will cover the spectrum of tools and techniques that STFC uses to take the science it funds from the bench to society: called Impact. It will describe the whole range from funding, different spinout techniques, licensing approaches, incubation, Entrepreneurs in Residence through to UK Innovation Campuses. It will also highlight support that the UK government offer e.g. Catapult centres which link with STFC. Actual examples will be given to demonstrate how STFC creates Impact.

Technology Transfer in Germany: General overview and a deeper look at strategies and instruments of Helmholtz Association - Joern Krupa, Helmholtz Association.

Coming from the special function of Helmholtz Association in the German research system to develop and operate large-scale facilities the talk will first focus on the complex system of Technology Transfer from universities and other public research organisations in Germany. After a comparison of activities, key performance indicators and models of leading TTOs the Technology Transfer strategies and instruments of Helmholtz Association will be introduced, e.g. the two funding programs from the head office: Helmholtz Enterprise for supporting spin-offs and Helmholtz Validation Fund for the proof-of-concept of technologies. Success stories showing that unique infrastructure can be a basis for disruptive innovations will underline the opportunities and challenges in technology transfer. This leads to future goals, e.g. enabling innovation by better communication of advantages and easier access to beamlines for industry and SMEs or creating appropriate incentives and maintaining the balance between basic research and commercial use.

Relations between IRs and industrial companies in France: return of experience and definition of a pragmatic strategy - Jean Pierre Caminade, French Ministry for High Education and Research and Jean Luc Lancelot, Sigmaphi PIGES Association.

The talk will start by presenting the large scope of RI configurations that are concerned by the relations with industrial companies in various configurations of business models. Two schemes for structuring the RI-companies' relations will be introduced that will be later discussed during the seminar: the partnership platforms and the industrial meetings for RI projects. As these two models cannot cover all the configurations, additional generic actions and permanent structures that deserve to be implemented at national or European levels will be presented.

Session II, part I: Best Practices of Technology Transfer

Overview of some previous studies and workshops - Frank Lehner, DESY.

Innovation fuels economic growth, the creation of new products, processes, jobs and services. Research infrastructures are often said to be an excellent seed for driving knowledge transfer and technology spillovers to industry. However, evidence for these effects should not only be limited on output factors such as spin-off formations, licenses and patents. Moreover, research infrastructures make socio-economic impacts through much more complex forms and represent interactive learning environments for customers, firms and markets and also for the society as a whole. In this talk I will try to review some previous studies and will summarize some results from the previous ERF workshop on socio-economic impacts that was held in June 2012 at DESY.

ERF Workshop

Technology Transfer and Industrial Relations in Research Infrastructures

Enhanced industrial uses and technology transfer opportunities at SOLEIL - Philippe Deblay, SOLEIL
The Industrial Relations & Business Development Office (IRBDO) is an internal service of the Synchrotron SOLEIL which achieves support activities to all groups and all departments of the company. Currently, the Office has two engineers experimented in development and management of interfaces between science and industry or between science and society, for marketing, sales, networks and partnerships, legal and business communication aspects... They have spent a main part of their careers in different public or private organizations like national research organizations, local authorities, SMEs, start-up, biotech cluster. The main activities of the IRBDO of SOLEIL are: - For Industrial Relations: business communication, participation in research & industry networks and clusters (main sectors: optics, medicine, automotive, cosmetics, nanometrology...), participation in local and national R&D projects, scientific or technological industrial partnerships, scientific or technological services for companies (from synchrotron experiment for material analysis to vacuum cleaning of mechanical devices). - For Technology Transfer: IP, internal support for the management of the knowledge created at SOLEIL, transfer of know-how and technologies to industry, creation of innovative start-up. Sectors in which the industrial activity of SOLEIL is more relevant are pharmaceuticals, biotechnology, cosmetics, petro-chemistry, aerospace, scientific instrumentation...

Applied Research with Neutrons and Technology Transfer at the Budapest Neutron Centre - Lazlo Rosta, Budapest Neutron Center

The ESFRI Roadmap foresees the realisation of more than 50 new research infrastructures (RI) for the next decade or so. This alone makes involve of nearly 22-25 billion euro investment in Europe. The amount to be spent on new RIs worldwide can be in the same order of magnitude. The operation budget of existing large scale facilities contains usually a 10-15% of equipment as part for extension, upgrade or maintenance. Thus, construction and operation of research infrastructures itself provides a substantial market in the order of tens of billion for a high-tech industry, which is directly related to technologies, measurement methodologies, instrumentation development, equipment installation and utilization required and performed in the same RIs. Examples for the chain of "research-development-technology transfer-prototyping-product-fabrication" in case of research equipment for RIs will be given. As a particular example, a world-wide market survey and equipment business opportunities in the field of neutron research will be presented. Examples of spin-off enterprising, needs for incubation and venture capital involvement are considered.

Knowledge and Technology Transfer: Hurdles and Challenges at ESRF, Grenoble - Ed Mitchell, ESRF.

The ESRF has worked with industry from even before the first light was delivered in 1994. The ESRF's Business Development Office (BDO) is charged with managing all interactions with industry from service sales, patents, licences to collaborations and partnerships. The BDO is an internal service of the ESRF, positioned in the Directorate. The main activity to date is managing and developing beam time sales, though this is changing. At the ESRF industrial service sales earn about 2.2MEuros annually with the strongest sector being pharma and biotech. One of the current challenges is to deepen our relationship with industry to more than a simple client-supplier relationship. There are many opportunities for this, though grants and networks; the main limitations are in building awareness and understanding in industry (both large and small), and having staff available to do industrial liaison and support work. The BDO is formed essentially of scientists with typically no industrial or business experience when they start work with the BDO. Training is made in "real time" on the job. Almost all of the eight BDO staff have other tasks not linked to industry, giving an FTE of about four available for industry effort. Beyond this the general cohort of ESRF scientists and engineers perform ad hoc support for industrial links for work on the beamlines and licences and the BDO relies on the ESRF internal finance service for invoicing and contract support.

PSI with&for Industry - Andrea Foglia, PSI

PSI strives to make new findings from research accessible to the industry to strengthen the competitiveness of industrial enterprises. PSI offers technologies, products and know-how. With its facilities and services it can additionally support companies' research and development processes, as well as implement joint research projects with the industry. The technology transfer office (3.7 FTE) supports the parties involved in contractual and administrative matters, and manages the intellectual property rights. If necessary, the technology transfer office advises and supports scientists in commercially exploiting their inventions and results in spin-off companies. The PSI transfer office supports interested companies with the exploration of transfer opportunities and implementation of transfer projects in order to be able to match the needs of the company with the PSI range of know-how and services. Approximately 40 new patent applications are applied for annually, of which around 10 - 15 are priority applications. The PSI portfolio currently includes around 70 patent families.

Technology Transfer Opportunities at DESY - Katja Kroschewski, DESY

The technology transfer office at DESY is the central interface for the protection, marketing and commercialisation of DESY's intellectual property. Thus we function as the gateway for requests from industry or as DESY's bridge to the market, if you will. The team comprises 7 FTEs plus various student assistants and is an administrative department of DESY directly reporting to the DESY directorate. Among us we screen for inventions, file for patent, do market research to reach a product definition, realise marketing measures and have just hired someone solely dedicated to sales. We organise industry workshops and participate in projects wherever there is a transfer, innovation or industrial component. We also make sure, that our activities are in line with DESY's restrictions as a publicly funded fundamental research organisation. Thus we ensure the access to scientific and technological developments for a wider group of users as well as the organisation of service for industry. The talk gives a short overview about the technology transfer activities at DESY and points out the opportunities for industry.

Expertise and Technology for Industry@Elettra Sincrotrone Trieste - Marco Marazzi, Elettra Sincrotrone Trieste.

Thanks to the experiences accumulated over the years Elettra has created and consolidated an exceptional body of skills and technical expertise that are offered to companies and private research centres. Through the Industrial Liaison Office (ILO) Elettra promotes the use of its facilities in applied research for industrial applications in different fields, such as: mechanics, optics, pharmaceutical, environment, textiles, microelectronics, energy, chemistry, micro and nanotechnologies etc. The ILO manages Industrial Usage of Synchrotron Light by providing proprietary beamtime, assisting businesses and laboratories in the direct access to analysis, measurement services and analytical and metrological measurements. Besides, the technologies developed at Elettra provide the ability and the knowledge to offer consultancy in the design and construction of new light sources and in the development of products and prototypes for other Laboratories such as parts for light sources, accelerators, amplifiers and detectors. Among the technology transfer activities managed by the Industrial Liaison Office are also intellectual property and its exploitation.

Session II, part II: Case Studies

The Collaboration between Elettra Sincrotrone Trieste and Zambon Chemicals on polymorphs characterization - Dr. Livius Cotarca, Zambon Chemicals and Dr. Maurizio Polentarutti, Elettra Sincrotrone Trieste.

The contribution presents the results of the collaboration between Elettra Sincrotrone Trieste and Zach -Zambon Chemicals. They have worked together since 2010 to develop a high Resolution

XR Powder Diffraction Protocol for polymorph detection using Synchrotron radiation having set up a unique cGMP environment to guarantee the compliance and validation of the system.

Commercializing of new technologies from Research Institutes focused on MTCA.4. Friedrich Fix, AD-TE-C and Frank Ludwig, DESY.

The contribution presents activities related to the development of the novel electronic crate standard MTCA.4 at DESY and the validation fond project “MTCA.4 for Industry” funded by the Helmholtz association. In this project DESY in cooperation with industry has the focus on the commercialization of the new electronic standard and to bring the technology from DESY to industry as well as to other institutes in the world. The main development drivers are projects such as the LLRF (Low-Level-Radio-Frequency) system, the timing system, the special and standard diagnostics systems, the laser synchronization and the timing distribution for the European XFEL. Furthermore the validation project includes support and consulting, information distribution and workshops for industry and institutes as well as a market analysis for the identification of the current market situation and needs of future clients and customers. The development strategies and overview of MTCA.4 activities at DESY are given. For a particular electronic module developed at DESY the workflow, license strategy and first experience for the industry is presented in detail.

Session III: Business Models, innovative practices and new challenges. Part I

Strategic management of the intellectual property at IIT. Lorenzo de Michieli, IIT -Italian Institute of Technology.

The Fondazione Istituto Italiano di Tecnologia (IIT) is a government sponsored Foundation created in 2003 to promote excellence in research, technological development and advanced education. The primary goals of the IIT are the creation and dissemination of scientific knowledge as well as the strengthening of Italy's national production system. To achieve these goals, IIT cooperates with Industries, both in R&D, and Technology Transfer initiatives. In this regards, the strategic management of the Intellectual Property (IP) plays a key role: it is aimed at individuating, selecting and growing the asset of the Foundation, it allows providing visibility to cluster of technologies by means of codified and well recognized means, it is an effective instrument to vest technology cluster with monopoly rights, thus creating a highly recognisable point of accumulation for technology, know-how and legal rights. Moreover the strategic management of IP is needed in licensing undertakings, and it is especially required in defining and establishing research collaborations with industries. Research contracts indeed are the origin of future IP, future collaborations and future income for research . Ownership, use, management, licensing, access rights of the IP deriving from industrial collaborations are key aspects which may have large impact on the role, the effectiveness and the reputation of the research institute in the Innovation chain.

Technology Transfer through procurements: the CERN case - Prof. Sandro Centro, University of Padua, CERN

Even if CERN is deeply involved in TT and fosters this process, an important issue is TT performed with purchasing order of high tech materials to industries of the member states. The results concerning LHC design and construction will be presented.

PFMI Cosmétique: a mutualised platform dedicated to the challenges of the cosmetics sector - Christophe Masson, “Cosmetic Valley”

The cosmetic sector is one of the most dynamic sectors of French industry, with companies of all sizes and trades positioned along the whole of the value chain: development of new ingredients (active ingredients, texture agents), original formulations (nanoemulsions, microcapsules), new packaging (materials, design), etc. Legislative pressure (European cosmetic regulation, REACH) and consumer expectation (for more effective, personalised care products) make measurement and instrumentation one of the major challenges for innovation in the cosmetic sector. Cosmetic

industry has to characterize the physicochemical properties of the products (nanoparticles, container-content interaction), to develop in-vitro alternative models to animal testing (toxicity, ecotoxicity), and to set up clinical trials (demonstration of assertions). The Cosmétique platform's goal is to create a permanent management infrastructure for services, research, transmission of knowledge, and intellectual property around different R&D activities. This structure will be supported by several platforms, research centres and complementary businesses specializing in measuring and objectivation challenges. It will strengthen links between industrial players and academic research and will offer SMEs the means to develop new ingredients and products by giving them access to innovations via "open labs". The first "open lab" which has been operational since June 2013, will be specialized in the Characterization, Optimisation of Products and Diagnostic on Different Scales. It includes a university (Cergy Pontoise), a large research infrastructure (SOLEIL), a SME (BioEC), and a competitiveness cluster (Cosmetic Valley).

Breeding ground for a rare species - the DESY incubator project tries fostering entrepreneurship from basic science. Katja Kroschewski, DESY

To remain competitive in a globalized and fast paced world, companies have more and more discovered the potential benefit they might gain from innovations created in research. The awareness that the bridge connecting science and industry can be crossed both ways is rising. Up to now there has been no real history of spin-offs at DESY. The way from fundamental research into application is usually long and strewn with hindrances. Yet, when building accelerators the frontier of the technological feasible is continually expanded, which results in inventions and know-how as a by-product. Also, lately, there is a dynamic combination of cooperative culture emerging at DESY which fosters application possibilities. With a range of new, interdisciplinary and unique institutes on our campus, like i.e. CSSB, CFEL and the NanoLab, we are creating a hub not only for expeditions into the Nanocosmos, but also for Life Sciences and IT and Material Science. In this culture more people are trying to do the step into entrepreneurship. It is a way of utilization that is becoming more important at DESY, though building an incubator, also means being a missionary in the town halls in order to make discernible the mutual benefits of such a project. Before this background, I try to show which path we take to offer fast and uncomplicated help for scientists at DESY who want to take the leap to build up their own existence from the fruit of their inventive minds and how that could act as a magnet for further developments.

Evaluating ex ante the technological impact of RIs – The economists' point of view and ELI's experience. Florian Gliksohn, Institute of Physics of the ASCR / ELI Delivery Consortium.

The Extreme-Light-Infrastructure (ELI) will be the world's first international laser research infrastructure, pursuing unique science and research applications for international users. ELI will be implemented as a distributed research infrastructure based initially on 3 specialised and complementary facilities located in the Czech Republic, Hungary and Romania, thus being the first ESFRI project to be fully implemented in the newer EU Member States. ELI is pioneering a novel funding model combining the use of structural funds (ERDF) for the implementation and contributions to an ERIC for the operation. To be approved, ERDF-funded projects have to demonstrate that they will generate "sufficient" socio-economic return. The "Cost-Benefit Analysis" (CBA) is the economic impact valuation tool requested by the European Commission. The presentation will briefly reflect on how the economic literature approaches the valuation of technological impact and will then present how technological impact can be taken into account when assessing the socio-economic impact of a RI project. Quantification and monetisation are two of the main difficulties and limitations of this valuation "exercise". The presentation will conclude by highlighting the prime importance of facilitating the appropriation of the infrastructure's technological results by the hosting region through dedicated regional actions and strategies.

Session III, Part II: Business Models, innovative practices and new challenges.

HZDR Innovation GmbH - enhancing the commercial access to large R&D-infrastructures - Björn Wolf, HZDR

The long-term goal of the Helmholtz-Zentrum Dresden-Rossendorf (HZDR) is to conduct cutting-edge research in the areas of energy, health, and matter. Several large-scale research facilities, each with a unique experimental focus, are available to both internal and external users to assist them with finding answers to these scientific questions. Since 01.01.2011 the HZDR is member of the Helmholtz Association, the largest scientific organization in Germany. HZDR has four locations in Dresden, Freiberg, Leipzig and Grenoble and employs about 800 people - among them 380 scientists. By actively applying research findings and delivering access to research facilities also to industrial partners, HZDR is making a valuable contribution to the future of the economy and society. Due to issues like unlimited liability, the status of a non-profit organization and limited flexibility the HZDR was facing restrictions in the extension of its transfer activities. To enhance the transfer output and the industrial access, in 2011 a commercial arm, the HZDR Innovation was founded. The HZDR Innovation GmbH is a technology transfer company which utilizes economically research results and services and provides development services as well as transfer services of research results into the market, including the production of prototypes and / or demonstrators. The HZDR Innovation GmbH realizes production orders from the industry, drawing on the expertise and infrastructure of the HZDR. Within the first year the services of the new company were focused on (1) Defect Engineering by high energy ion implantation of protons and helium ions in power semiconductor devices and (2) Ion Implantation services for products of any materials and applications from surface modification to complete wafer processes of devices, like irradiation detectors. With more than 60 new clients, a turnover of about 700 k€ and a profit margin of about 10 percent already the first year was a success. The forecasts for the next year's show a significant growth rate. The HZDR Innovation GmbH supports and participates by taking shares also in other spin-offs from the HZDR and takes over their investment management.

Innovation and growth: the vital role of Strategic Alliances - Aldo Romano, Research and Innovation, Confindustria Italy.

Industrial growth through technology research and product innovation is a major effort that Europe is trying to implement to beat present economic difficulties . But innovation is a wide concept to be introduced also in other parallel activities of an industry , like the " business approach " to the market. A new business model introduced by STMicroelectronics years ago and widely applied in the following years , basically a courageous innovation of the traditional customer-supplier relationship brought to the limit of a true " Strategic Alliance " will be described . The implementation of this new concept is at the basis of the extraordinary growth STMicroelectronics had during the 90th and the first part of year 2000. More than a theoretical elaboration a true case will be described (Bosch/ST) , a piece of " real life " of an industry (ST) still too small to survive on the market . Here the initial cooperation , a technology transfer , evolved in a deep , sincere , long lasting strategic alliance still alive today . The model , extended to other leading customers , became the key " Corporate Strategy " and determined the unique growth the company enjoyed for many years.

ERF Workshop

Technology Transfer and Industrial Relations in Research Infrastructures

TT: Examples and Learning from a Company Working within the Accelerator Community Wolfgang Dieter, Bruker ASC.

The talk is focused on the experience of a company working with and for accelerator based research facilities. The perspective and point of view is given with examples of successful technology transfer projects concerning smaller synchrotron beamline devices to larger scale units for accelerator systems and proton therapy.

CERN impact-driven innovation approach - Enrico Chesta, CERN

CERN is actively engaged in identifying technologies developed for its accelerator complex that could be profitably used by partner research organizations or commercial companies in applications with potentially high socio-economic impact (beyond purely fundamental physics research). In order to maximize the chances of fulfilling this mission, a coherent 'Impact Driven' model has been developed, striving to find a delicate balance between 'Open Dissemination' and 'Protected Dissemination' approaches. This talk will provide an overview of CERN current strategy in the field of Technology Transfer and Intellectual Property Management, with details on the most effective models, implementation tools and processes developed to achieve satisfactory dissemination and valorisation of the knowledge generated within the Organization. CERN currently available technology portfolio will be described and some promising on-going projects embracing a variety of technology fields and application areas will be detailed to showcase technical challenges and possible benefits of initiatives driven by (but not limited to) the needs of CERN scientific programme.

Biographies of Speakers

Caminade, Jean Pierre

Jean-Pierre Caminade is Scientific Officer at the Department of Research Infrastructures of the French Ministry of Higher Education and Research and member of the ESFRI Working Group on Innovation (2013). He has been partnership manager of the Synchrotron SOLEIL from 2007 to 2012 and was Executive Secretary of the association of European Research Facility (ERF) from 2009 to 2012. From 2002 to 2007 he was in charge of the supervision of FP6 European contracts at CEA-DSM-Saclay (Fundamental Research Division of CEA). During this period he chaired the proposal committee of the ERID Watch FP7 project which aimed to evaluate and stimulate the potential of innovation of the procurements made by the European research facilities. Before joining the CEA-DSM he was scientific officer at the EFDA Close Support Unit of JET at Culham (UK).



Centro Sandro

Sandro Centro is Full Professor of Experimental Physics at the University of Padua, since 1987. Active in the field of Particle Physics since 1968. Deputy spokesman of the Icarus experiment on CERN–Gran Sasso neutrino beam. He was among the founders of AtemEnergia, spinoff of the University of Padua. Member since 2000 of CERN Finance Committee as Industrial Liaison Officer for Italian industry at CERN.



Chesta Enrico

Enrico Chesta is the Head of CERN Technology Transfer and Intellectual Property Management Section (also known as CERN Technology Transfer Office), part of the Knowledge Transfer Group. Since the beginning of 2013 he has also been appointed Chairman of the EIROforum Thematic Working Group on Innovation Management and Knowledge/Technology Transfer (TWG-IMKTT). Enrico joined CERN's Knowledge Transfer Group in 2010 as Technology Transfer Officer. Before, he worked for ten years in the aerospace field at ESTEC (European Space Agency) and CNES (Centre National d'Etudes Spatiales). He was mainly involved in innovative projects related to the development of advanced electric (plasma and ion) propulsion systems for spacecrafts, used in large telecom platforms for high efficiency station keeping and in scientific satellites for high precision orbit and attitude control. Enrico received a diplôme d'ingénieur généraliste from Ecole Centrale Paris (F) in 1998, complemented by an aerospace engineering degree obtained with honors from Politecnico di Torino (I). He worked as research assistant in 1999-2000 at Stanford University (US) to model and characterise plasma perturbations in Hall-effect thrusters. In 2009 he was granted an Executive MBA from ESC Toulouse (F).



Cotarca Livius

Livius Cotarca was born in Romania where he received his MSc in Industrial Chemistry and PhD in Organic Chemistry degrees from Polytechnic Institute Timisoara. He also holds a MSc degree in Chemical Engineering from the Polytechnic of Milan. He was successively Associate Professor of Organic Chemistry at Polytechnic Institute Timisoara from 1978 to 1990, Visiting Professor at the Technical University Munich and University of Bielefeld in 1991 and senior chemist and group leader at the Caffaro Research Center in Torviscosa, Italy from 1992 to 1999. He then joined Zambon Group, currently Zach-Zambon Chemicals, where he is now head of global research and industrial development. Dr Cotarca is the author of two books, 30 patents and over 60 papers in the field of organic and physical organic chemistry. Dr Cotarca is a recipient of the Nicolae Teclu Award for chemistry of the Romanian Academy. He is a member of the American Chemical Society and other scientific associations.



De Michieli, Lorenzo

Since 2008, Lorenzo is Manager of the Technology Transfer Department at IIT, with responsibility on licensing of intellectual property, development of industrial relationships, and launch of spin off initiatives. Prior to joining IIT, he was head of the Patent Office first, and later head of the Technology Transfer Office of the Italian Institute for the Physics of Matter (INFN). There he managed extensive patent portfolios, he defined licensing strategies and negotiated licence agreements with companies and investors. At the National Council of Research (CNR), he was involved in definition and management of large R&D projects with industries at both National and European level. Lorenzo is currently involved in several activities related to innovation and technology transfer for Universities, Institutions and Industries. He is member of the Governing Board of the "Research and Entrepreneurship Foundation", a no profit organization funded by major Italian Banks, large industries and top Italian research institutes to promote high tech start-up companies. In 2010 he was appointed Technology Transfer Expert for the European project "Support to Research and Technological Development & Innovation in Jordan" where he supported the start up of eleven Jordanian technology transfer offices. Since 2007 Lorenzo holds a course on "Technical aspects of patenting and IP exploitation" at the University of L'Aquila (Italy) within the Master on "Intellectual Property and Technology Transfer" where he is also member of the Master's Scientific Committee. He is former member of the "Council for Technological Innovation" of the National Institute for Astrophysics (INAF) with the aim of supporting innovation from space research. Lorenzo was born in 1973. He holds a M.S. in Physics – Material Science and a Ph.D. in Mechanical Engineering – Robotics from University of Genoa, Italy. He accomplished a recognized professional training in Intellectual Property Rights at Jacobacci & Partners, a European leading company in industrial property protection.

Diete Wolfgang

Wolfgang is currently the Division Director “Vacuum, Beamlines and X-ray Systems” at Bruker ASC managing a business of synchrotron beamline instrumentation of about €8m revenue . He started working in 1995 at ACCEL Instruments GmbH (MBO of Siemens) on Superconducting rf structures and in 1998 began the activities on synchrotron beamline instrumentation, a business that has been constantly growing. In 2007 ACCEL was integrated into Varian medical and in 2009 the activities were sold to Bruker, his present company. Wolfgang studied Physics at the University of Wuppertal Germany and did his Diploma thesis at Los Alamos National Laboratory (USA) on Superconducting Accelerator Cavities.



Andrea Foglia

Andrea studied Biotechnology at the University of Pavia (Italy) and Molecular Biology at the University of Geneva (Switzerland). In addition, he earned a Master of Advanced Studies in Intellectual Property (MAS IP) from the Swiss Federal Institute of Technology Zurich (ETHZ), Switzerland.

Before joining PSI as Technology Transfer Officer, he has worked for the Technology Transfer Office of the University of Basel (Switzerland) and for a leading Swiss telecommunication enterprise as a consultant in IP strategies and patent portfolio management.

Having focussed on IP-related issues for years, he has a strong background in IPR with special regard to technology transfer, patenting strategies and licensing. At PSI, he advises clients in the areas of intellectual property, collaboration with the industry, commercialization, legal and licensing.



Fix Friedrich

Friedrich Fix studied mechanical engineering at the University of Applied Science Darmstadt. Since 1980 distributes electronic components and computer systems for several companies like AMP (Tyco), Interschalt, Fetronik GmbH, Elma Electronic GmbH and AD-TE-C. In 2012 Friedrich Fix finished his study of Advanced Management (M.A.) (UNI). Since 2013 he becomes the general manager of the Eicsys Embedded Integrated Control Systems GmbH. His areas of expertise are the sales management especially in Germany, sales engineer electronic equipment, technical supervising as well as consultant environmental energy. In the validation project “MTCA.4 for Industry” at DESY he is a mentor for DESY on the way of commercialisation for electronic components. Furthermore he supports the market analysis with his company AD-TE-C which is included as a work package in the project.



Gliksohn, Florian

Involved in the Extreme-Light-Infrastructure (ELI) project since 2008, Florian Gliksohn has specialised in the legal and financial dimensions of the setting-up and management of European research infrastructures as well as in the project management of large-scale research facilities. As the executive manager of the Extreme-Light-Infrastructure project (ELI) in the Czech Republic until 2010, he developed significant experience in the application and use of structural funds for the development of national and pan-European research infrastructures as well as a strong interest in the field of socio-economic impact assessment. He has been involved in several expert groups and projects at the European level such as the ESFRI working group on implementation, RAMIRI, CoPoRI and others. Florian is one of the designated members of the Management Board of the ELI Delivery Consortium AISBL, the newly established international association in charge of supporting the development of ELI as a pan-European research infrastructure, the coordinated implementation of the ELI research facilities, and the establishment of the European consortium (ERIC) that will operate ELI. Florian Gliksohn studied law, international and public affairs, business, and management at Sciences-Po Paris, HEC Paris and the London School of Economics. florian.gliksohn@eli-laser.eu

Guettier Catherine

Dr GUETTIER- BOUTTIER Catherine has been working as a Research Investigator at Inserm U785 since its creation in 2006. She has worked as head of the Pathology Department in Jean Verdier Hospital Bondy, Paul Brousse Hospital Villejuif and more recently Paul Brousse and Bicêtre Hospitals since 2008 . Since 1993 Catherine teaches Pathology at the University of Paris XIII and XI. She received the HRD in 1990 and her Phd in 1989 from University of Paris VI. In 1984 she received the MD at the University of Paris V and the specialization in Pathology from University of Paris VI. Catherine is co-author of several scientific publications on peer journal; in the last 5 years she has mainly published on the journals of Hepatology, Histopathology, Gastroenterology and PLoS One.



Kroschewski Katja

After having studied at IMS Stuttgart (Institute for Natural Language Processing) and UC Berkeley Katja Kroschewski received her diploma degree in Computational Linguistics in 1996 and joined directly the Institute for Natural Language Processing at the University of Stuttgart as a research assistant for seven months. She then switched to the language Services of Daimler AG in 1997. There she was responsible for machine translation and translation memory projects between May 1997 and September 2003. As she had moved to Hamburg with her family in 2001 she left Daimler AG in October 2003, when she became the executive director of CompCat Software und IT-Lösungen GmbH (CompCat Software and IT Solutions Co.) and kept working freelance for Daimler Chrysler. In November 2007 she joined DESY as a team member of DESY's TT office marketing synchrotron radiation and working for the EU ERID-watch project. Within this project she carried out a case study on industrial usage of synchrotron radiation across Europe. Since December 2009 Katja Kroschewski has been head of DESY's technology transfer office, which is responsible for patenting, licensing, industry contracts, sponsoring, assistance for spin-offs as well as utilization and marketing of technologies and services.

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Krupa Jörn

Dr. Jörn Krupa, born in 1973 in Berlin, has been head of the Department Technology Transfer within the Head Office of Helmholtz Association of German Research Centres in Berlin since 2010. After studies in urban and regional planning at the Technical University Berlin he worked as a project manager and as a researcher in the field of regional development, e.g. in EU-Projects dealing with economic effects of Universities. In 2010 he received a doctor's degree with his thesis on regional knowledge and technology transfer. His tasks in the Head Office of Helmholtz-Association are mainly:

- Information and coordination of the Technology Transfer Offices of the 18 Helmholtz-Research Centres,
- Reporting and Marketing of Technology Transfer and Innovation activities,
- Organization of the new Partnering Event "Innovation Days" and of different Research Days and Open Innovation Workshops with Industry,
- Networking with industrial partners / SME and external business experts,
- Administration of two supporting instruments for spin-offs (Helmholtz Enterprise) and technology validation (Helmholtz Validation Fund).



Lancelot Jean Luc

Jean-Luc Lancelot, 58 years old.

Engineer from Ecole Centrale + MBA

8 years with Zodiac International : Design Engineer, Product Manager and Subsidiary Manager.

13 years as General Manager of a steel foundry (subsidiary of an americangroup) making safety components for high speed trains Took over Sigmaphi in 2001; strong development made on the basis of innovation and exports.



Lehner Frank

Frank Lehner received his PhD in physics in 1998 at the University of Hamburg and earned his habilitation as private lecturer at the University Zurich in 2006. He is an experimental particle physicist by training and worked at various high energy physics experimental collaborations at DESY, CERN and Fermi National Accelerator Laboratory, USA. He is well experienced with technical, managerial and administrative issues of large international research infrastructure projects and worked as a senior science policy officer at DESY. Frank Lehner is now in charge of international cooperation and strategic partnership programs at DESY. He is co-coordinator of the initiative "Solar Energy for Science/Building Bridges" to embark on a joint energy/science partnership between Europe and Middle East/North Africa for future sustainable developments and was co-organizer of various ERF workshops.

Le Naour, François

Dr Le Naour, Senior Scientist in the Inserm - Research Unit 785 : Pathogenesis and Treatment of Fulminant Hepatitis and Liver Carcinogenesis , has been working in Inserm since 2001 as research Investigator in U268 and U602. Francois was a Postdoctoral fellow at University of Michigan, Ann Arbor, USA in 1999 and received the HDR from University of Paris 11 in 2006, a Phd from University of Paris 6 and Inserm U268 in 1998 and completed a DEA (Master of Science) at the University of Paris 6 in 1994. Francois is co-author of about 48 publications in peer-reviewed journals; h index = 25; 2800 citations total in journals such as Science, J Biol Chem, J Cell Biochem, Biochem J, Mol Cell Proteomics, Proteomics, J Proteomics, Oncogene, Leukemia, Cancer Immunol Immunother, British J Cancer, Clin Cancer Res, Cancer Res, J Immunol, Eur J Immunol, Cellular Immunol, PLoS One, Anal Chem, Analyst, Rapid Commun Mass Spectrom, Dev Biology, Hepatology.



Ludvig, Frank

Frank Ludvig received his PhD in physics in 2003 at the University of Hamburg. Since 2003 he worked on several project in the field of development of a cavity field detector with pico- and femtosecond stability for the European XFEL, beam diagnostic with sub-picosecond resolution as well as using coherent transmission radiation in the THz range. Especially in the last years as a scientific research staff member of the group Maschinen Strahlkontrollen (MSK) at DESY he focused on the LLRF (Low-Level-Radio-Frequency) system, the high frequency reference distribution system and the femtosecond based optical synchronization system for FLASH and the European XFEL. Frank Ludvig is now the deputy of the group Maschinen Strahlkontrollen (MSK) at DESY. In the validation project “MTCA.4 for Industry” he coordinates the work relevant to the LLRF system including the development of several electronic components based on the MTCA.4 standard to achieve a broadening of the available MTCA.4 product portfolio on the market.



Marazzi Marco

Marco Marazzi is the Manager of the Industrial Liaison Office of Elettra Sincrotrone Trieste. He joined Elettra in 2009 to bring his 10 year experience in working with industry in the Research and Development area. Marco is also in the panel of experts of Industrial Projects for the Italian Ministry of Education and Research. From 2004 to 2009 Marco worked as Industrial Development Manager in Magneti Marelli, automotive company of FIAT Group; in this position he was responsible for the development of new Joint Ventures and Technological Platforms and the set up of new Operations worldwide. Marco main achievements include the successful start up of new Operation Plant in India (New Delhi area) completed in August 2009 and the successful Industrialization of Audi Instruments Dashboards (A6, Q7, A5, A4, Q5 car models) with an average production of 750.000 units for year. Previously, from 1999 to 2004 Marco worked as Senior Research Engineer in the R&D Department of Avanex Corporation, Milan, Italy, formerly Corning Corporate as a responsible of a team for the development of new packaging technologies for optical components for telecom applications. Marco owns a degree in Physics and is the author of several patents.



Masson Christophe

Christophe has managed R&D programs in pharmaceuticals companies for over 10 years. He designed and developed original molecules for drug delivery (Sanofi, France), xenotransplantation (Novartis Pharma, Switzerland), and metabolic diseases (Genfit, France). The majority of the R&D projects he has directed were developed in partnership with academic research teams. He left Genfit's scientific research department in 2009 to join the Cosmetic Valley competitiveness cluster to set up research partnerships to support innovation inside the French cosmetics sector. Christophe MASSON (PhD), 37, Chemical Engineer Chimie ParisTech (ENSCP, 1998) and PhD in Organic and BioOrganic Chemistry (Paris 6 University, 2001) is Co-author of 10 publications and 5 international patent applications.



Mitchell Ed

Prof. Edward Mitchell is Head of Business Development at the European Synchrotron Radiation Facility ESRF in Grenoble, France. He has spent 20 years working with synchrotron radiation, first as a scientist and then designing and operating X-ray stations for structural biology. After being General Manager for the international Partnership for Structural Biology in Grenoble, he coordinated the preparation phase of the 250MEuro ESRF Upgrade Programme (an ESFRI roadmap project). Since 2010, he manages the relations between ESRF and industry, which today participates in one third of the science done at the ESRF. He also manages the CALIPSO FP7 project work package on enhancing industrial use of European light sources and coordinates the Grenoble GIANT Innovations Campus international visibility. Ed Mitchell obtained his BA in chemistry and DPhil in molecular biophysics at Oxford University, and is Honorary Professor in the EPSAM Research Institute of Keele University (UK). He is an author of 70 publications in international journals.



Polentarutti Maurizio

Maurizio Polentarutti has been working as a beamline scientist at the Elettra Sincrotrone Trieste (Italy) since 2001. Starting from 2005 he is the responsible for the hard X-rays diffraction beamline, hosting a wide variety of X-ray experiments ranging from materials characterization for industry and academic research to 3D molecular structure solution for rational drug design with direct pharma and medical applications. He is responsible for different R&D scientific and technological programs, also in collaboration with international institutions.



Rizzuto Carlo

Present functions: President, Elettra Sincrotrone Trieste (from 1999), Chair of the European Research Facilities association (ERF), Director of the RAMIRI-EU Research Infrastructures management school. Member, Expert Committee for Research Policy of the prime Minister-Italy(CEPR). Chair, Scientific & Technical Committee for the Diffusion of Scientific Culture (MIUR). Past functions: Member/Chair in several national/international research bodies, in particular in: Criogenic Engineering, Physics, Space Activities, Research Policy Committees at EU and national level. Founder: Istituto Nazionale di Fisica della Materia (INFN), and Technology Transfer and Venture Capital Firms (“ReteVentures” and “Quantica SgR”). Chair of the European Forum for Research Infrastructures (ESFRI). Scientific Activities: Low Temperature and Solid State Physics, Criomedicine, Criogenics and Superconductivity, Metals, Magnetism, Materials Sciences, Sustainable Energy Supply and Technologies, Evaluation and Research Policy, Free Electron Lasers.



Romano, Aldo

Aldo Romano became Chief Executive Officer of STMicroelectronics srl, STMicroelectronics’ Italian subsidiary, in 1991. Since 2006, he has also served as President of STMicroelectronics srl. Romano joined SGS (a predecessor company to STMicroelectronics) at the dawn of the semiconductor industry in 1965 and, after a pioneering activity as a designer of the first European i.c.’s, earned several promotions before becoming Director of the Bipolar IC Division in 1980. After the merger with Thomson Semiconducteurs in 1987, all application-specific IC activities were grouped into the Dedicated Products Group, under Romano’s direction. In 1998, he was promoted to Corporate Vice President and General Manager of ST’s Telecommunications, Peripherals and Automotive Groups and served in this capacity until 2005. The technology know-how accumulated by Romano’s groups has been successfully applied in the design of innovative products that have contributed to ST’s leadership in intelligent power, disk drives, telecommunications, and automotive electronics. Romano has also been the key contributor to ST’s unique customer-dedicated approach, which, through strategic alliances with leading customers, has allowed the company to advantageously cooperate with outstanding players in the industry. Aldo Romano was born in Genova, Italy, in 1940, and graduated with a degree in Electronic Engineering from the University of Padova, Italy. He retired from STMicroelectronics in 2012, after 47 years entirely dedicated to innovation and growth of the company.

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Rosta Lazlo

László ROSTA (65) has been working in the field of neutron scattering for 40 years. He is leading the scientific activity at the Budapest Neutron Centre since 1992. He has initiated and participated in the realisation of the research instrument suite at the 10 MW Budapest Reactor, including a cold neutron source, neutron guide system and various spectrometers. He has gained experience in studying structure and dynamics of materials by various neutron and other techniques (X-ray, Raman, NMR etc.). In particular, small angle neutron scattering has been extensively used to reveal nano-scale features in materials like ferrofluids, biological membranes, bio-compatible ceramics or in industrial applications such as welds, turbines. Recently, non-destructive testing of archaeological objects is also in the scope of his interest. Dr. Rosta is author/co-author of 250 publications, member of the Academia Georgica di Treia (Italy) and numerous other scientific bodies; experienced in technology transfer, co-founder of several spin-off companies.



Tracey Ian

Ian oversees external technology transfer and intellectual property stemming from the European Space Agency, CERN and HEPTEch – a technology transfer organization of 24 large-scale research institutes based across Europe. Managing the ESA incubator at Harwell Oxford and the CERN incubator at Scitech Daresbury, Ian focuses on helping start up and early stage companies take their ideas from conception to implementation. As part of his work supporting business creation for science and technology innovators, Ian identifies individuals with high growth start-up backgrounds, who can help take IP into new products and companies, becoming tomorrow's business leaders. Ian is an experienced technology transfer and innovation professional and has created, managed and guided various STFC spinouts. These include TeraTech Components, Cella Energy, DSoFt, The Electrospinning Company Ltd and PowerPredict. Ian continues to sit on several of their boards as a Non-Executive Director. A firm believer in the value of entrepreneurship, Ian created the Harwell Oxford Technology Entrepreneur Forum in 2012 with the aim of making Harwell Oxford the technology entrepreneurial hub of the Oxfordshire and Thames Valley area. Ian's early career and educational background is in information systems engineering. He was sponsored by BT Research Labs through university, predicting the future telecommunications products 15 - 25 years ahead. Research topics included using Virtual Reality to enhance team working. He made the first transatlantic Voice over IP call, the first public broadband line was his home and he helped the fashion industry have a better understanding of demographic centric body profiles.

Björn Wolf

Since 2010 Björn is head of the department for technology transfer and legal affairs at Helmholtz-Zentrum Dresden-Rossendorf. At the moment he is leading the working group for technology transfer and intellectual property rights of the Helmholtz Association, the largest scientific organization in Germany with 18 independent research centers and more than 33.000 employees. Björn Wolf studied business management at BA Dresden and TU Freiberg and worked for a bank before he moved to Fraunhofer Institute for Systems and Innovation Research ISI, Karlsruhe from 2002 until 2007. His main research fields were private and public funding of innovation and new enterprises, technology transfer, innovation management, regional innovation systems. In 2004 he spent several months doing research at the Melbourne Business School. From 2007 to 2010 Björn Wolf worked for the founding initiative Dresden Exists and supported the spin offs and business development activities of four Leibniz Research-Institutes in Dresden. Since 2002 he is lecturing at different universities in the field of innovation management, finance of innovation and controlling.



Zambelli Mauro

Mauro Zambelli was born in Genova, Italy, in 1953. He got his degree in electronic engineering in 1977. He started his work experience already in 1975 in Ansaldo, a major Italian electromechanical company, where his job was research and development in the field of power semiconductor devices first, then of solar cells and silicon detectors for high energy physics.

In 1985 he took the responsibility of the design and development of power devices and then of the whole R&D group of Ansaldo Semiconductor Department, managing both technical and organizational processes. In the following years he managed important research projects in the frame of industrial research programmes funded by the Italian National Research Council and the European Community, in cooperation with Italian and European companies and research centres. At the beginning of nineties he left the company to start his own activity in the field of power electronic converters and subassemblies, photovoltaic solar energy conversion, test & measurement and data acquisition systems.

Starting in 1993, beside the technical issues, he has been working on company consultancy, offering since then expert assistance to more than one hundred different organizations operating in the manufacturing and service sectors, micro-enterprises to multinational companies, both private and public, Italian and European. His field of activity covers process and project management, process re-engineering, total quality management, certified management systems, organization improvement, knowledge and technology transfer, marketing. In those years he set up and managed several small enterprises offering technical products as well as consultancy and training services. From 2003 to 2007 he was responsible of the Quality Assurance Department (SAQ) of the “Agenzia Regionale per la Protezione dell’Ambiente Ligure” (Agency for Environment Protection of the Liguria Region), where he managed the accreditation of the four chemical/microbiological laboratories of the Agency against the ISO/IEC 17025 standard. In 2007 he took a position at Sincrotrone Trieste SCpA, where he is working on organizational topics and on knowledge and technology transfer. Since then he has been appointed as CEO of Kyma Srl, a subsidiary company of Elettra Sincrotrone Trieste working in the field of equipment for particle accelerators, with particular reference to the design and manufacture of insertion devices for synchrotron light sources and free-electron lasers. Senior teacher in many company and post-doc masters, he is lecturer at the University of Genova, where he taught “Semiconductor physics and technology” from 1988 to 1991 and he’s currently teaching “Quality management and certification” in the frame of the Material Science and Engineering course of studies. He has exceeded five thousand hours of teaching in topics relevant to his professional experience.