

Use of Facilities by Industry

Lightsources as an example.



Katja Kroschewski
ERF Workshop
Hamburg, 01.06.2012

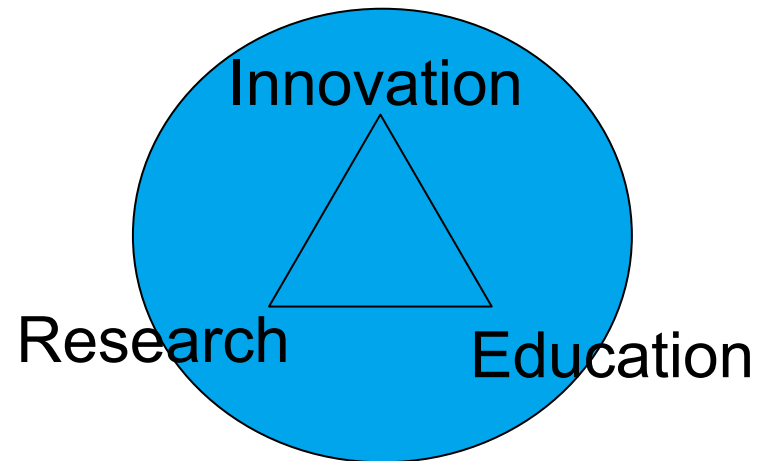
Background – the Knowledge Based Economy



- EU Horizon 2020
- EIB 2011: 10 billion €
- German High-Tech-Strategy
- Hamburg

Innovation Contact Point since 2011

- Advanced research tools needed



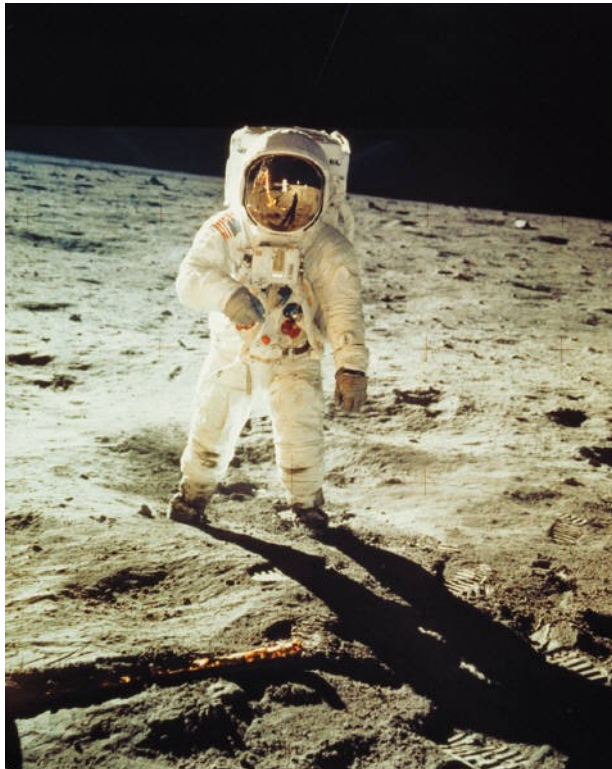
Overview

- Industrial use in basic research
- Main results from study ERID-Watch, Genesys, articles, workshops
- What does industry want?
- How do we realize it?
- Commercialisation strategies
- Examples from DESY
- Conclusions
- Industrial access of RIs is a people to people business



Industrial Use and Basic Research

- RIs often like a black box or a white spot on the map for industry
- Two worlds with different rules, velocities and values
- Industry: product orientation vs. RI: scientific goal
- But: growing need for advanced research tools



ERID-watch Case Study Industrial Use

- Motivation: Investigate aspects of industrial use of comparable RI subgroup
- Identify common and best practice
- Personal and Telephone Interviews with people from administration, research, directorate, technology transfer/ industry group, user contact



Interviewed Synchrotrons



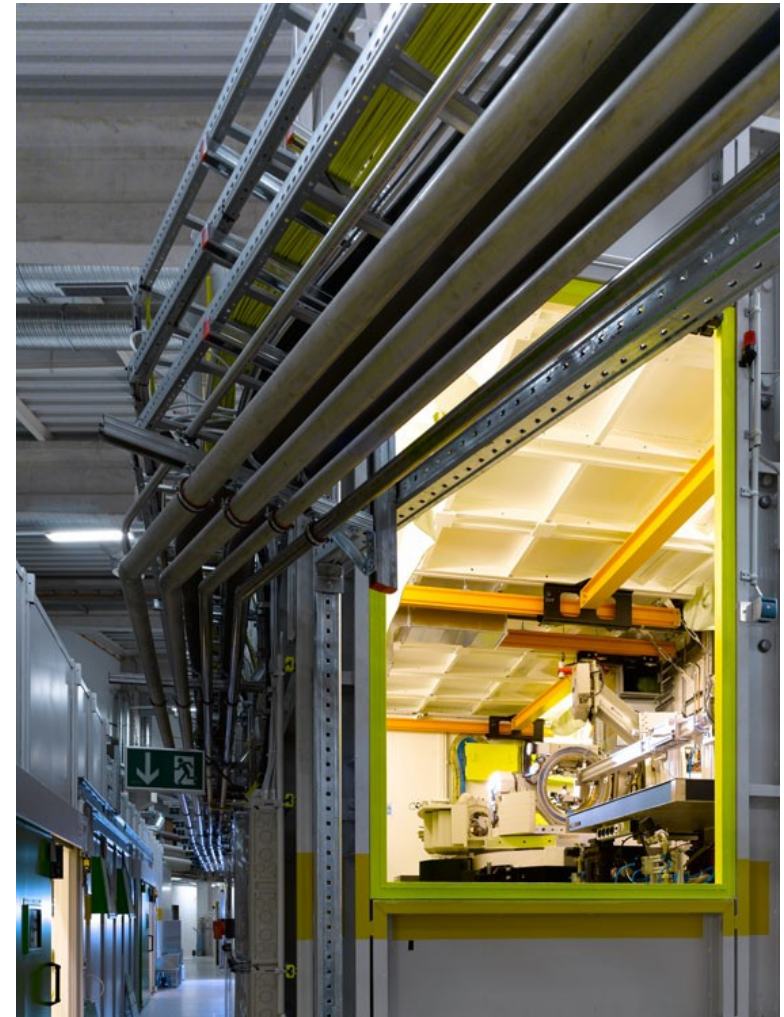
Queen in Right of Canada, Natural Resources Canada.



Expectations of Industry

Basis for decision, which lightsource will be used:

1. Beam quality
2. Rapid Access
3. Equipment & Manageability
4. 24h service
5. Competent Partners at the RI (Scientific and administrative)
6. Suitably standardized contracts and framework cooperations



Recommendations

- ① Offer fast and easy access for industrial customers
 - ② Maintain service group to secure communication channel RI ↔ industry
 - ③ Carry out market analyses to discover individual customer needs
 - ④ Build unique own profile by offering modular, fine-tuned service
 - ⑤ Expand networking at conferences
 - ⑥ Apply suitable marketing mix
 - ⑦ Network among synchrotrons
- ➔ Jointly achieve complete market coverage



Gennesys Recommendations to RI and Industry

- Integration into technological networks of competence
- Building of interface laboratories, that are contact points for industry
- Installing visitor groups from outside that run labs, while RI provides beamlines and expertise
- RIs should offer full service
- Science – industry - facility partnership
- Academic – private sector partnerships are of utmost importance
- Standardization and certified repeatability of experiments needed

H. Dosch, M.H. Van de Voorde GENNESYS WHITE PAPER
A NEW EUROPEAN PARTNERSHIP BETWEEN NANOMATERIALS SCIENCE
& NANOTECHNOLOGY AND SYNCHROTRON RADIATION
AND NEUTRON FACILITIES
ISBN 978-3-00-027338-4



Commercialisation Strategies of Others

SPring 8



Canadian Centre canadien
Light de rayonnement
Source synchrotron

 diamond



Canadian Light Source:

- > Being industry-friendly & commercially oriented
- > Providing industry with state-of-the-art-tools and help transform ideas into commercial products while satisfying regulatory requirements
- > 25% reserved for industry

Diamond:

- > ILO since 2007
- > Market expansion maybe possible when aiming at SMEs

Spring-8:

- > Explain to customer distinctive advantage of developed product and help in gaining technical breakthrough



Development of Industrial Usage

- > 25 years ago large, multinational companies had the resources to fund beamlines or have the in-house staff capability to run beamtime
- > Flexible access and support from synchrotron staff empowers even small companies to use synchrotrons
- > Meet the needs: rapid access for short periods, flexible contractual procedures, competitive pricing and a range of service
- > Usually, Life Science dominates the usage at the light sources
- > Collaboration in grant-funded projects



Access to Beamtime via Service Group Industry

Contact for beamtime

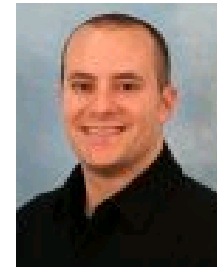


Lan Fimmen

+49-40-8998-1748

lan.fimmen@desy.de

industry@desy.de



Marketing – Trying to Explain the Application of Science

Brochures

**BRIGHT LIGHT
FOR BRIGHT IDEAS.**

Service for industry at DESY



DESY offers industrial companies access to world-wide unique radiation sources. With the support of experienced scientists, materials and processes can be examined in order to discover their true potential.

Accelerators | Photon Science | Particle Science

Deutsches Elektronen-Synchrotron
A Research Centre of the Helmholtz Association



Technologie
Information

Beschäftigte | Fachung mit Photonik | Teilnehmende
Deutsches Elektronen-Synchrotron
Ein Forschungszentrum der Helmholtz-Gemeinschaft



Technology sheets

Vakuumsseitige Flanschverbindung

Vakuum

Zusammenfassung
Vakuumsysteme in Einrichtungen der Forschung und der Industrie (z.B. im Apparate- und Anlagenbau, im UHV-Bereich sowie in der Mess- und Kältetechnik) müssen das angestrebte Vakuum zuverlässig und möglichst autark aufrechterhalten können. Gleichzeitig werden geringe Systeme aber meist in Kombination mit Messerichtungen, Kühlmedien etc. betrieben und müssen für Wartungen, Tests etc. Modifikationen einfach zugänglich sein.

Problemstellung
Insbesondere Bauteile mit problematischen bzw. komplexen Rohrverbindungen können am Übergang zum Vakuum zu Fehlerquellen bei der Aufrechterhaltung des erwünschten Vakuums führen.

Innovation
Durch die Entwicklung einer neuartigen Flanschverbindung innerhalb der Schweißnaht wird diese Fehlerquelle ausgeschaltet.

Hierzu wird der Festflansch am Rezipienten am eigenen Umfang angeschweißt, während der vakuumsseitig angeordnete, bewegliche Flansch von außen durch Rückgewindebohrungen festgezogen werden kann.

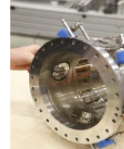
Nutzen

- Vermeidung von Rohrverbindungen
- Minimierung von möglichen Leckstellen
- Komplexe Montage von komplexen

Schutzrechte
In den USA ist das Patent seit dem 17.08.2006 unter folgenden Aktenzeichen US 11465,156 angemeldet. EPCT ist angemeldet und in Auswertung gestellt. Wünsche des potenziellen Lizenznehmers können berücksichtigt werden.

Angebot

Ggf. auf Markt- oder Produktsegmente beschränkte gewerbliche Nutzungsrechte zur Entwicklung, Herstellung und zum Vertrieb.



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...chnologie-Transfer

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TECHNOLOGIE TRANSFER.

DESY als Partner der Wirtschaft
Partner for business

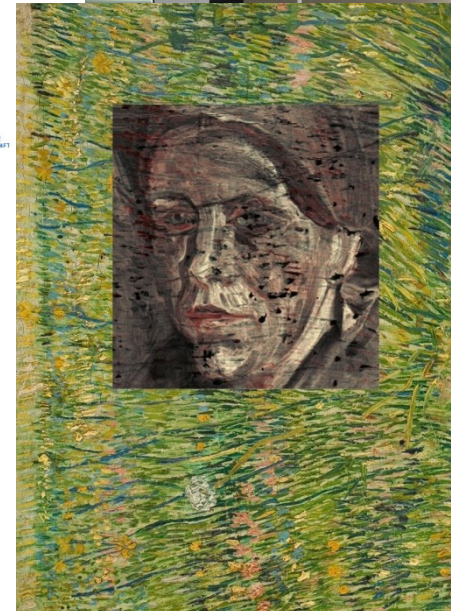


DESY forscht an den Grenzen der Wissenschaft
für einen Wandel zu praktischen Anwendungen.
DESYs besondere Technologie-Transfer liefert die zentrale
Schnittstelle für die Suche nach der Verknüpfung von
DESYs großem Potential. DESY-FT ist die Industrielle,
die innovative Erfindungen von der Wissenschaft zum
industriellen Produkt zu verwirklichen. Klein-Scale und unter
anderem DESY-FT die DESY Mitarbeiter in allen Phasen von
und der Technologie-Transfer.

Beschäftigte | Fachung mit Photonik | Teilnehmende
Deutsches Elektronen-Synchrotron
Ein Forschungszentrum der Helmholtz-Gemeinschaft



Booth



Morphing-Card



Spreading the Word – Fairs and Events 2011

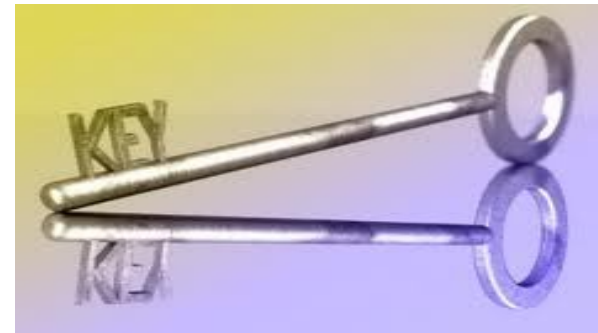
- Explore Science – Innovation Tour 2011 – Event with Chamber of Commerce Hamburg, addressing local SMEs
- HANNOVER MESSE 2011
- 26th European Photovoltaic Solar Energy Conference and Exhibition
- Increasing DESY's visibility beyond the scientific community
- Aim: acquiring new customers
- Result: 30% of the booth visitors had an interest in measurement and access conditions



Key Account Management

- Some institutions move more towards Key Account Management (KAM)
- Basis for KAM: Individual communication and networking
- Individual information for the application of synchrotron radiation including specific issues for main focus of the company
- Close personal contact between RI and industry, especially to the R&D management or CEO of the company
- Ongoing process of contact between RI and industry over years
- CRM, Facebook, Twitter, Newsletter, Homepage, Business Club

Miriam Frey , “Die Möglichkeit von Schlüsselkundenmanagement an der Forschungseinrichtung DESY”, Master Thesis, 2012



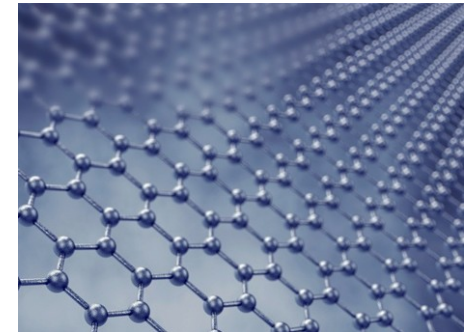


- SCIENCE LINK = network between large-scale Research Infrastructure of photon and neutron sources and users
- Including scientific institutes, universities and regional organisations that serve as service and promoting units
- Aimed at fostering innovation and entrepreneurship in the Baltic Sea Region. SCIENCE LINK is part-financed by the Baltic Sea Region Programme from 2012 to 2014
- 17 partners from the 8 EU-Baltic Sea States are involved, one Russian institution is associate partner

Cooperations on site that might foster Industrial Use



Nanolab



Idea: Science and Technology Park at DESY

- Need to determine focus: e.g.
Nano technology,
life science,
service?
- Industry beamline?
- Success factors?
- Partners?



Conclusions

- RIs crucial for development and commercialisation of high-tech products
- Need to raise awareness for potential (in companies and in own RI)
- Information & education about available techniques
- Meet customer needs
- Communication between research community, facilities and industry is of utmost importance: KAM, Fairs, Events, Mailings, Visits, ...
- Professional service group offers guidance & product definition
 - People to people business
 - Speak the right language in the right context
 - Personal Contact



Thank you very much for your attention!

