HRW Conference, Osnabrück

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The European Perspective: cities and science

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Agenda

- ERRIN
  - Brief introduction
- Competition between cities
- The PLACES project

- Cities and science
  - Good practices
  - Patterns of development
  - The role of city councils

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ERRIN celebrated its 10th birthday in 2011

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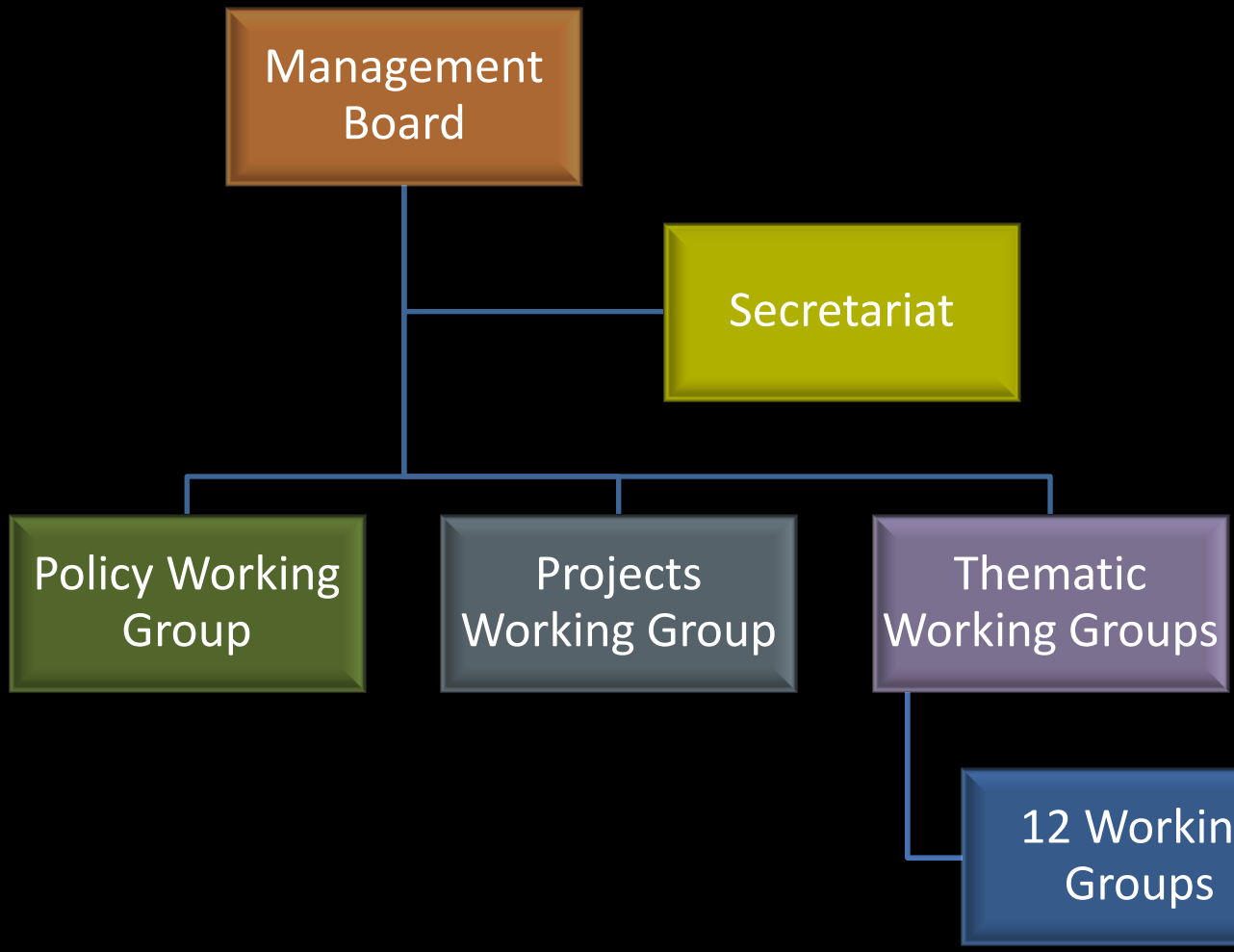
Mission

- ERRIN is a Brussels-based platform of regions strengthening regional research and innovation capacities by exchanging information, sharing best practice, supporting project development, policy shaping and profile raising.
- ERRIN helps regions get their voice heard in Brussels and supports the implementation of the Europe2020 Strategy and the Innovation Union flagship initiative.

ERRIN Structure



ICT Folkes	**Health** South Denmark/Flanders	**Biotech** Navarra / Northern Ireland/ CEBR
Science in Society Scotland Europa/Bremen	**Transport** Eszak-Alfold/Aragon	**Nanotech** Twente University/Piemonte
Future RTD Scotland Europa/ North Finland/South Tyrol	**Energy & Climate Change** Scotland Europa/ Stuttgart	**Innovation Funding** Welsh Higher Education/ Cantabria/Eindhoven
International cooperation Scotland/Catalunya	**Tourism** Tampere/Valencia	**Design & Creativity** Helsinki/Flanders/CCI Paris/Central Denmark

ERRIN – 3 Ps

POLICY

Shaping EU Research & Innovation policy

Supporting project development and engaging ERRIN regions in EU projects

Raising the profile or the network and member regions in Brussels

PROJECTS

PROFILE

Future research and innovation

Three broad priorities must be linked to the regional dimension

Excellence
- Bottom up
- ERC, European Research Area

Societal challenges
- Top down, outcome focused
- Health, food, energy, transport, climate action, inclusive societies

Industrial Leadership
- Leadership in key enabling technologies
- Risk finance and innovation

Regional dimension
- Place-based
- Partnership
- Competitive innovation eco-systems
- Smart specialisation
- Regions of Knowledge Programme (continuation)

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Proximity-based research

Engaging key actors
Public sector
Living labs
Clusters
Science Parks
NGO's
Networks,
Science
Museums,
Higher
Education,
etc.

Regional governance

Demand side
Innovation Vouchers
Research to market incentives,
Innovative public procurement,
standardisation etc.

Regional Innovation-ecosystem

Supply side
Training, skills research, cluster policy, subsidies, tech transfer

Industry & SMEs

Higher Education & RTOs

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Cities and new jobs 1

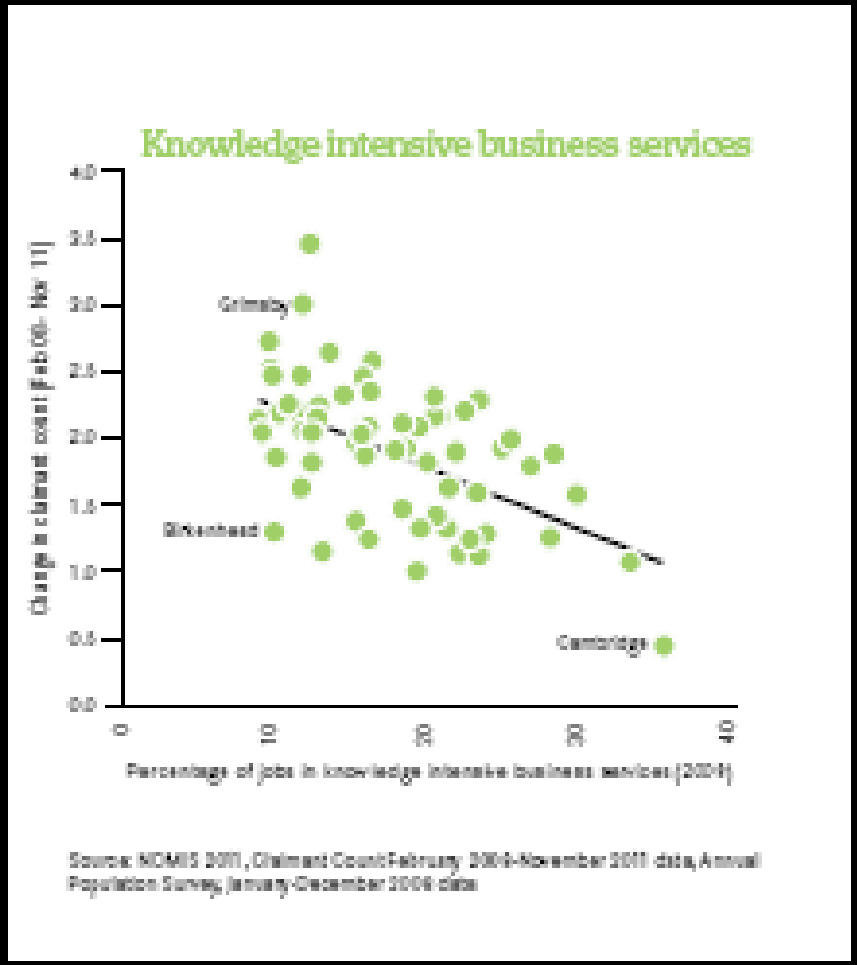
- Cities Outlook 2012 – Centre for Cities
- First, the location of new jobs will be varied. Not only has the nature of the recession played out very differently across the UK, but public sector job losses and future private sector growth are also likely to be very uneven. For example, as highlighted in Cities Outlook 2011, public sector job cuts are likely to hit cities in the North East and Wales hardest.
- **Second, the majority of these new jobs will be in cities**. Already containing 58 percent of Great Britain's private sector employment, cities will be the places where the vast majority of new jobs are created.
- Third, some cities will get more jobs than others. Inevitably some cities will be better placed to take advantage of any growth in the national economy over the coming year than others.
- The factors that currently influence the rate at which new jobs are created in cities and are thus likely to be important for future job growth include:

Cities and new jobs 2

- **Existing structure of the city economy** - those cities that have a greater proportion of knowledge jobs have tended to be more sheltered from increases in unemployment. Moreover longer term economic trends, such as globalisation and technological change, mean that these higher-value jobs and businesses are likely to further concentrate in certain cities that offer access to specialist skills and knowledge, and proximity to key markets and suppliers.
- **Business start-ups** – new businesses are a source of new jobs. Although many new businesses remain small, by definition these enterprises create new jobs as well as helping create a more dynamic and competitive business environment.
- **Innovation** – new innovations create new areas of economic activity, creating business growth which is likely to lead to job creation. Previous research found that "high growth" businesses, those responsible for the majority of new jobs in the economy, tend to be more innovative compared to their competitors
- **Skills** – businesses require skilled workers in order to improve their performance. Cities with the strongest pools of skilled labour are likely to be more attractive to incoming businesses and the availability of skilled labour is likely to be an important consideration in the expansion of businesses currently based in cities.
- **Exposure to public sector jobs losses** – Cities Outlook 2011 illustrated the potential geographic distribution of public sector job losses. As public sector job losses continue into 2012, those cities that will see the largest public sector job cuts will find it most difficult to generate net new employment in the short term.

Knowledge intensive business services

Centre for Cities Outlook 2012



Cities and skills – UK

- Many places with high skills profiles are university cities.
- Oxford surpassed Cambridge as the city with the highest proportion of higher skilled workers. Both cities have more than 50 percent of their population with high level skills. In comparison, less than 20 percent of the population in Wakefield, Grimsby, Barnsley, Mansfield and Doncaster have high level skills.
- Scottish cities continue to host some of the highest levels of skilled workers. Edinburgh, Aberdeen and Dundee are in the top cities for high skilled workers, and Glasgow is at number 11.
- Those cities with the highest skills levels also tend to have the highest number of patents. Whilst unsurprising, it suggests a link between a city's skills base and its innovativeness. The relationship between skills and innovation is also likely to be self-reinforcing

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- PLACES (Platform of Local Authorities and Communicators Engaged in Science) is an FP7 project from 2010 to 2014 to analyse, define, develop and strengthen the concept of cities of scientific culture.
- PLACES comprises 69 science communication institutions and ten regions interested in developing a more policy-focused view of science communication.
- http://www.openplaces.eu/

PLACES – FP7

- **City Partnerships (CPs)** will foster functional interactions between local stakeholders to develop effective science communication policies.

- CPs arise from science communication institutions forming alliances with local policymakers. There are currently 69 City Partnerships in PLACES representing 27 European countries. These cooperative relationships will yield Local Action Plans targeting science communication policies in European cities and regions. CPs will also grow to involve media, non-governmental organizations, universities, research institutions, companies, and more.

- **Local Action Plans (LAPs)** will target key challenges in cities based on scientific problem-solving. LAPs are strategic visions that will inform science communication policy at the local level for many years to come. Developments of LAPs are led by City Partnerships and they address science and technology-related issues relevant to their respective city or region. This is why citizen consultation is also a key step in drafting LAPs.

- **Pilot Activities** will test innovative approaches to communicate science-based solutions in cities. Pilot Activities will be developed in connection with Local Action Plans, to test best practices on how to address controversial or problematic local issues in a way that actively involves citizens.

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PLACES 2 community building

- Getting together in Europe Annual Conferences, Science Cities Workshops, training opportunities and Thematic Working Groups will bring PLACES stakeholders together in a united effort.

- Annual conferences:
  - Year 1 featured a policy symposium in 2011
  - Year 2 creative workshops with recommendations for Pilot Activities and a focus on gauging science communicators' expectations
  - Year 3 practical guidance about implementing science communication policies
  - Year 4 the final conference will present the main outcomes, activities and recommendations of PLACES

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PLACES 3 workshops

- **Science Cities Workshops** are meetings used for discussing the development of local science communication policies.
- **Training workshops** are for civil servants from all levels who want to learn how to incorporate science communication into their work.
- **Thematic Working Groups (TWGs)** will foster high-level discussion about how science communication policies and activities connect to the Europe 2020 targets: Employment, research and development, climate change and energy, education, and poverty. The groups will promote exchanges between City Partnerships that differ in experience but have similar local contexts - and vice versa.
- **The PLACES Stakeholders Assembly operates** at the European level to provide expert insight and analysis on project outputs. The Assembly is an external and specialized voice in PLACES composed of non-governmental organizations, journalists, universities, research centres…
- It all comes together here, at the PLACES OPEN web platform (www.openplaces.eu) –the workspace where all parties gather to plan, develop and exchange. The PLACES OPEN web platform is a meeting place for people working on PLACES as well as a "science in society" resource centre.
- Surveys, reports and assessments will document European realities of how local actors and science interact and yield recommendations for future policies. PLACES will conclude in 2014 with local and EU-level blueprints for how to build European Cities of Scientific Culture.

Paris Conference 2011 - 1

- Objectives
  - Mix of communicators and policy makers and politicians
- Why?– goals and strategy
- How? – actions and tasks
- How much? – funding, evaluation and return on investment

Paris Conference 2011 – 2
Nine key points from Paris

1. Science communication policy is not a secondary concern and should be recognized as an invaluable part of European research and innovation.

2. Science communication must involve all relevant public and private actors, as well as citizens, in a spirit of co-creation and co-ownership.

3. Science communication should display science as an on-going and truth-seeking human activity which also enhances curiosity about the unknown.

4. To develop science communication policies, European cities and regions should build on their historic, geographic and economic contexts, and focus on their immediate challenges and target areas of social need.

5. Science communication policies should extend from strong local and regional leadership to address long-term science perspectives with short-term political priorities.

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Paris Conference 2011 – 3
Nine key points from Paris

6. EU competitiveness requires that European cities and regions move to a more knowledge-based economy which incorporates science communication strategies and policies.

7. The Europe 2020 Strategy and its Flagships, such as the Innovation Union, drive EU research and innovation policy. Science communication must understand and embed itself in these overarching strategies.

8. Regional/city stakeholders from different backgrounds and sectors can align to stimulate funding for strong science communication policies.

9. More sophisticated and objective tools to measure the socioeconomic impacts and benefits of science communication must be developed and applied. These nine points are all areas where the PLACES project can play a major role over the next three years. The project will approach these points by developing a community of science communicators and policy makers at the local and regional levels and disseminating best practices in science communication policymaking,

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Thematic WG

- Working with the formal education system
- Creative innovation: the links with other fields of culture
- Young people and scientific careers
- ICT, access to knowledge and e-Cities
- Cooperation with private companies and entrepreneurs
- Shaping the future of territorial development
- Eco-cities, green cities and sustainable cities
- Science, dialogue and democracy
- Science places as motors for social change and social inclusion

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State of the art survey

- What are the major drivers for the development of cities of scientific culture?
- Who are the main actors?
- How are activities organised and funded?
- What is the impact of the diversity of different parts of Europe?
- What do respondents themselves make of the term cities of scientific culture?

Drivers in 2020

- European initiatives
- Local politics
- Engaging public in science
- Local universities

Actors in 2020

- Universities
- Museums, science centres, etc
- Local government
- European Union

Activities in 2020

- Websites
- Science exhibitions
- Science museums and centres
- Science festivals

Funding

- Still mainly public but shift towards more private funding
- More emphasis on European funding
- Funding is seen as a key challenge for the future

Visions for Cities of Scientific Culture

Some patterns emerge from the material collected, for example:

- In general, cities of scientific culture are seen as important drivers both for the local economy and civil society more generally
- The STEM (Science, Technology, Engineering and Mathematics) agenda in the UK has clearly had a significant impact there and is also referred to in other parts of Europe
- Science is culture appears to be the prevalent framing in countries where the dominant language is derived from Latin, such as France and Italy
- The results indicate the importance of an inclusive European dialogue over what scientific culture means

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PLACES TRAIN

Región de Murcia
ES
8-9 March

You are here

UNIONCAMERE PIEMONTE
IT
9-10 Feb 2012

South Denmark European Office

19-20 Jan

SCOTLAND EUROPA
UK
4 & 6-7 Oct

Ljubljana

26 - 27 Oct

Fundación para o Fomento da Calidade Industrial e o Desenvolvemento Tecnolóxico de Galicia
ES
7-8 July

innova
HU
1-2 Sept

26 Jan

WEST MIDLANDS European Centre
UK

Freie Hansestadt Bremen
D
6 May

12 Oct 2010

Places

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1 st SCIENCE CITIES WORKSHOP

- 12 October 2010
- By ERRIN
- All ERRIN PLACES regions (3 participants)
- 1st event to explain ERRIN tasks
- Morning workshop (technical session, closed) – link with FUND project
- Afternoon conference (open) – link with MASIS report&CASC project, panel discussion, EP, COM, case studies: Birmingham, Bremen

1st REGIONAL SCIENCE CITIES WORKSHOP

- Birmingham (West Midlands), 26 Jan 2011
- Special status: state of the art study launch (existing science culture policies)
- Morning session: local introduction
- Afternoon session: case studies+moderated discussion
  - Magdeburg
  - Espoo
  - Murcia
  - Wroclaw
  - Glasgow

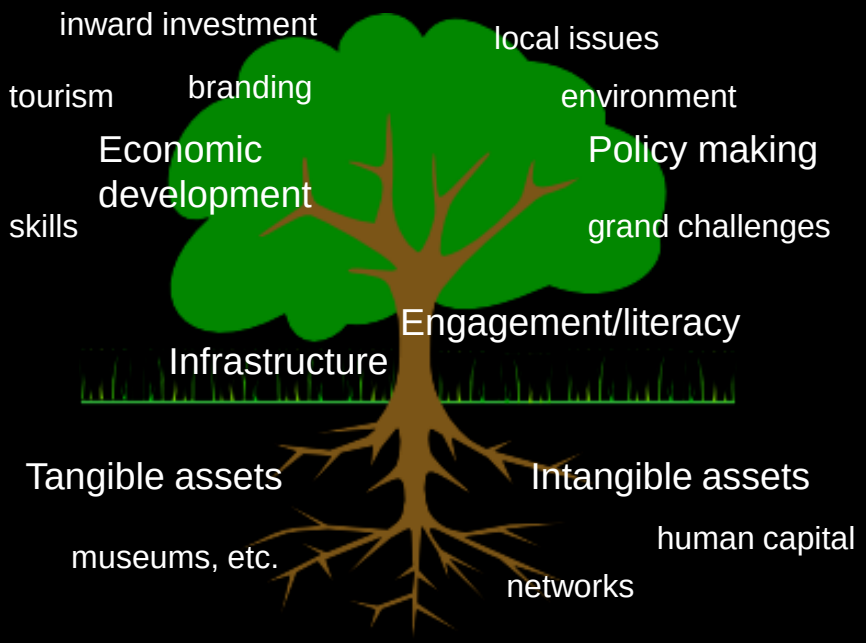
CONCLUSIONS

- WHY? – after crisis/or not. The function of science
- Partnership
- WHAT? – infrastructure determining
- HOW? – quantity or quality
- WHO? – target audience
- Funding
- Benefits – evaluation and measuring
- Internationalisation

REGIONAL WORKSHOPS

Map, exchange. evaluate

SWOT



Training needs

Key questions – why, what, how, who, impact, funding and benefits?

BREMERHAVEN AS A CLIMATE CITY

- 2005: German science city award (Bremen + Bremerhaven)
- 2008 pre-study
- 2011: start of project
- High density of climate research institutions and actions (green …, joint projects, energy efficient buildings, involvement of citizens)
- 17 wind turbines
- Waste incineration
- Solar cadastre map
- Responsibility of citizens (high tide)
- Searching for solutions
- v brand, forward looking attitude

CASE STUDIES

- Essen: new university city
  - Not integrated part of the urban development concept, separated. Green city center by 2020
  - Missing coordination
  - Essen as European Capital of Culture 2010 – changing attitude
  - Image sustainable
- Stockholm: new science city
  - Life sciences
  - Vision for 2025, new city district with 5,500 houses
  - Stockholm and Solna, Science City Foundation with 6 stakeholders
  - Hospital as integrated part of science city model

TRAINING NEEDS

- Long-term impact assessment
- Criteria of a science city, definition of city of scientific culture

3rd REGIONAL WORKSHOP: GALICIA

- Challenge: Outreach activities of already existing technology centers
- Venue: Metrology Laboratory
- Good examples: supercomputing center, fishing sector, seafood conservation, telecom
- Outreach activities: open days, science of the sea platform, science week, dive into science, dissemination, workshop, seminars, making technology your friend, helping teachers understand technical innovation, special technology for special eds, social inclusion

- Case studies: Portuguese National Agency of S&T Culture
  - 4 action lines: school, SiS, network, international
- Calmast (Ireland)
  - Company providing science culture services
- Bremen wind tour
  - Business&science part of tourism
  - Rich in off-shore wind and renewables
  - To investors then to tourists
  - Tourist guides wind wind training

4th WORKSHOP: DEBRECEN

- Triple helix cooperation
- Sustainable model of science center operation

- Agora project (social infrastructure OP): Scientific adventure park. To popularize natural sciences and career and influence attitude. Municipality investment (total project €6.7m) on the University's territory
- SF (OPs) for infrastructure development, [illegible]rogramme along regional priorities

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- INNOVA in science communication: science café, Campus Festival, Science Days, researchers night
- University: long tradition in the protestant town, support programmes for talented students, PhD programmes, Research university title, origo programme, Debrecen expo, Debrecen flower festival
- industry side: NI Hungary. Engineers to attract

- University of Strasbourg:
  - 3 universities merged in 2009, larger funding, new labs to set up
  - Jardin des Sciences: science communication center. Planetarium and Botanic Garden
  - Kids university: open days with PhD students
  - Youth parliament
- Universeum / Goteborg
  - 10 yrs old
  - Self-sustaining, 75% of income from visitors, room rental, hosting events
  - Living creatures and plants

- RUVID, Valencia
  - 10 yrs ago
  - Network of 5 public and 2 private universities
  - Year book with results
  - Press conferences, media ads with SME involvement
  - A la carte activities: outdoor activities
  - Catalogue with workshops, debates
  - Teaching and counceling

- Take use of EU funding programmes, synergy of funds: Interreg IVA: cross border coop as a tool to boost cooperation with Germany (Strasbourg case study).
- Researchers night: popular programme in many cities, funded through FP7
- Impact assessment with questionnaires, feed back from visitors and again the role of communication
- Science or innovation communication?
- Not only single companies but think in ctoral clusters

5th WORKSHOP: INVERNESS

- How to connect communities with science in a remote, scarcely populated, rural area
- Priority fields: renewables, life sciences, digital technology
- EU case studies:
  - Melbu (North Norway) – Academy of Arts and Sciences
  - Bielefeld (North Westphalia, Germany) – city marketing&science office
  - Estremoz (Portugal) – science center in the smallest town of the project

CONCLUSIONS

- WHY: harsh conditions, dependence, changing image of H&I (sport, hiking, leasure destination → associate with science)
- HOW: align funds, partnership, technology, social networking, infrastrucutre or a festival?
- More clear identity, differentiation from the others
- Efficient use of social networks (breast feeding)

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6th WORKSHOP: GLASGOW

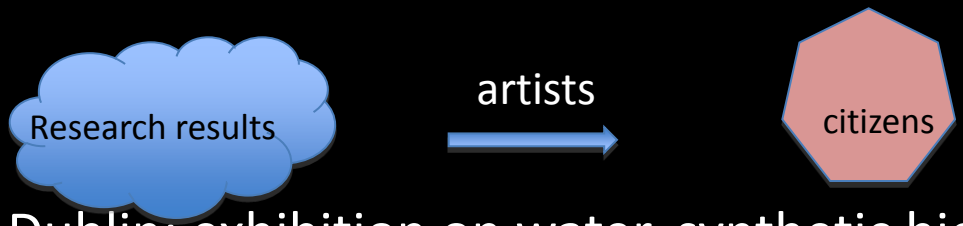
- Characteristics of cities of science, world class cities of science
- Scotland: 1st scientific research impact in the world, research pooling
- Priority areas: low carbon, life sciences and sport

CONCLUSIONS

- WHY? – socio-economic driver: healthy and prosperous future & science can play a role in it
- HOW? University cooperation (funding subject). Right size for actors. Citizens engagement to improve. Link between academia and industry needs to improve. Lack of cohesion amongst funding sources
- problem: competing science city title holders

LJUBLJANA WORKSHOP

- How science can support creative and design industries and their growth and clustering
- In the Slovene language no such term as science communication
- The most advanced activities carried out by the Technical Museum of Slovenia and the Hiša eksperimentov (The House of Experiments)
- Common action with the Modern Art Gallery in 2000. How the blind "see" the world. Art exhibitions in Hiša, double mirror. Bus question, -ology programmes, lectures, science adventures, scientival, leston mobile competition, sonnets of science
- A case study: Flanders, the Creativity platform



- Science Gallery Dublin: exhibition on water, synthetic biotech, fashion. Art comes from scientists who educate each other
- important results: LAP, network of science communication actors and a chapter dedicated to science communication in the elopment strategy as of 2013.

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TURIN

- Info-mobility, ITS
- WHY: Turin as a Smart City. Technology necessary but not sufficient. Responsible user, citizens
- HOW: large stakeholder involvement (admin, industry, university, research inst, citizens, etc), EU projects, science festivals
- Case study
  - Jerusalem tramway – Science Museum as trusted intermediary actor to explain to citizens

SONDERBORG

- South Denmark as science region, priority sectors: energy/lean energy, natural sciences, welfare technology
- Highly skilled workforce to sustain the sector
  - Attract companies, qualify workers, retain talents
- Case studies: Debrecen

Murcia

- Coming up on 8-9 March
- Receiving money for science activities but no policy behind (ad hoc cooperation with authority)
- How formal and non-formal learning environment helps to form new generations aware of the importance of science culture policies
- Case studies: Twente, South West UK, Genova

PLACES OUTCOMES

- Developing a toolkit to assess the impact of scientific communication initiatives
- Developing a framework for the European Cities of Scientific Culture
  - State of the art study
  - Report on obstacles to the development of effective science communication policies
  - Developing modes of a City of Scientific Culture
  - Recommendations for future Science in Society issues
  - Local Action Plans – developed by City Partnerships
  - Training modules
  - A structured European community

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Thank you for your attention

www.errin.eu