

The biannual magazine
of the EUREKA network

SPRING 2014

EUREKA NEWS #99

Switzerland

The land of R&D SMEs

EUREKA-Russia

Innovation diplomacy

Eurostars-2

Receives the EU's
full backing



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INNOVATION THROUGH INTERNATIONAL PARTNERSHIPS

Dear reader,

EUREKA was established almost 30 years ago. As a founding member, Switzerland is delighted to note that the original vision of cooperation on research beyond national borders is more relevant now than ever. The 17 founding members have developed into a strong multilateral innovation network which now has 41 members and 2 associate member countries – what a great success! It is worth noting that EUREKA's founding principles of support in accordance with the bottom up principle, a focus on research intensive SMEs and linking the initiative to ministries have stood the test of time.

Switzerland is very happy to take on the task of chairing EUREKA for the second time in 2014/2015. It is very important to us to use this time with our partner countries to further develop EUREKA. We have four main priorities. First of all, we would like to look at EUREKA's range of tools. Do they (still) meet the current needs of European businesses? Our second focus is internationalisation and the associated relationships between companies. With which countries should EUREKA strengthen cooperation in the future? Thirdly is the question of how EUREKA should be positioned in European research and innovation. Where do synergies exist, for example relating to Horizon 2020? And finally, private sector involvement is important to us. How can communication channels be improved to give businesses easier access to EUREKA partnerships?

I am sure that we will not only be able to build on the organisation's strong foundations, but also count on the commitment and support of EUREKA member countries. I would like to take this opportunity to already thank you for your support. Our EUREKA team headed by Bruno H. Moor, president of the Group of High-Level Representatives under Switzerland's chairmanship of EUREKA, is very much looking forward to working with you.



MAURO DELL'AMBROGIO

State Secretary for Education, Research and Innovation

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EUREKA is a European network for market-oriented R&D. Its aim is to strengthen European competitiveness by promoting market-driven collaborative research and technological development. EUREKA enables industry, universities and research institutes from 41 member countries and the EU to collaborate in a 'bottom-up' approach to developing and exploiting innovative technologies. EUREKA NEWS is published two times a year.

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THE BRIEFING

EUROSTARS-2 IN HORIZON 2020, A STEP CLOSER TO A 6 MONTH TIME TO FUNDING CONTRACT

For small companies developing innovative technologies, time is of the essence: a one month advantage in a patent race can mean either bankruptcy or millions of euros in benefits. Under the flagship of Horizon 2020 national agencies allocating Eurostars-2 funds are taking one step closer to a 6 month time-to-contract. This is the maximum period between the moment an SME submits an application for funding and the moment when a grant contract with public authorities is signed. On April 29th 2014, representatives from the 36 national bodies involved in the funding programme gathered in Brussels and defined clear milestones for the implementation of a shorter time-to-contract.

EU INNOVATION SCOREBOARD SHOWS DIVIDE EUREKA WANTS TO CLOSE

Published early 2014, the latest Innovation Union Scoreboard shows little progress in the reduction of the innovation gap between EU countries. Northern and central European states lead the way while Southern and Eastern Europe seem to be performing less well in most indicators of innovation performance. In a recent common address, former EUREKA Chairpersons Kristin Danielsen from

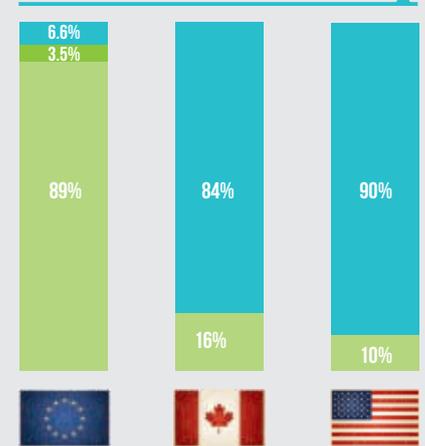
Norway and Okan Kara from Turkey and Head of Secretariat Pedro de Sampaio Nunes reacted to the widening of the innovation divide: "EUREKA has observed this trend amongst its 40+ member countries – within the EU but also beyond, signalling a worrying process of divergence in innovation performance." Enhancing cooperation with "those members that are not currently realising their great potential" was indicated as one of EUREKA's main objectives for the future.

NEW MULTINATIONAL MULTILATERAL EUREKA CALL FOR PROJECTS

Following the success of the first multilateral EUREKA call in 2014, involving a limited number of countries dedicating specific funds, EUREKA launched a new call for technological innovation projects. National innovation and funding agencies from four European countries (France, Germany, Spain and UK) are taking part in the call. To apply, a single application form available online is to be sent before Friday August 1st, 2014 to EUREKA National Project Coordinators.

THE MEMO

TRANSNATIONAL COLLABORATION CENTRALISED FUNDS



DECENTRALISED FUNDS

WHY DOES EUROPE HAVE A DECENTRALISED MODEL OF PUBLIC R&D FUNDING?

This is a European paradox: while innovation is increasingly becoming an international activity, in the old continent national funding programmes still represent more than 90% of the public funding made available to researchers and innovators. Moreover, only 4% of those funds are invested today in transnational collaborations.

History: while the United States and Canada have a long federal past, Europe is historically a divided continent where nations have opposed each other for hundreds of years. This translates today into very different innovation funding models from country to country working in relative isolation.



“ We expected to receive around 150 applications a year and fund around 40 projects. But we ended up with 600-700 applications and 150 projects annually. ”

EUREKA Chairwoman Kristin Danielsen talking to Science Business News about the success of Eurostars under the Framework Programme 7



“ The private sector in Europe is ready to invest large amounts into clean energies. But these investments could also be made outside Europe if other parts of the world move faster into developing the right commercial solutions. ”

EUROGIA2020 Chairman Gabriel Marquette addressing European Commissioner for Guenther Oettinger during a high-level debate on energy policy at the European Parliament.



FROM SOUTH KOREA TO BRUSSELS

On February 24, the Korea Institute for the Advancement of Technology (KIAT) inaugurated its European office with an official launch party, it is located just above the offices of the EUREKA Secretariat in Brussels. In Korea, KIAT is host to the local EUREKA office and placed under the authority of the Ministry of Trade, Industry and Energy (MOTIE). Over the past 5 years Korea has intensified its drive to expand collaborative R&D activities with European partners.

Too small Europe: Despite the EU's action and the size of the EU's Horizon 2020, the biggest public research fund in history worth €80 billion, the budget available at national level still represents about 14 times that figure, but...

...the model could work. The EUREKA model is both centralised and decentralised, with a few common rules and a lot of flexibility to accommodate the regulations that are the best adapted to national needs on a disparate continent.

€ 317 MILLION

total cost of the EUREKA E450LMDAP project, one of the largest EUREKA Individual projects to date. Led by ASML, the project involving German and Dutch researchers will create the tools for the production of the next generation of microchips.

CURRENTLY RUNNING CALLS FOR INNOVATIVE PROJECTS

OPEN ALL YEAR LONG	CALL FOR EUREKA INDIVIDUAL PROJECTS
OPEN ALL YEAR LONG	BILATERAL CALL BETWEEN CANADA & ISRAEL
DEADLINE JUN. 12 2014	BILATERAL CALL BETWEEN SWITZERLAND & SWEDEN
DEADLINE AUG. 1 2014	MULTILATERAL CALL BETWEEN FRANCE, GERMANY, SPAIN & UNITED KINGDOM
DEADLINE SEP. 11 2014	CALL FOR EUROSTARS-2 PROJECTS
DEADLINE SEP. 19 2014	CALL FOR EUROGIA2020 PROJECTS
DEADLINE SEP. 23 2014	CALL FOR EURIPIDES ² PROJECTS
DEADLINE OCT. 15 2014	CALL FOR CELTIC PLUS PROJECTS
DEADLINE OCT. 29 2014	BILATERAL CALL BETWEEN AUSTRIA & ISRAEL
DEADLINE OCT. 31 2014	CALL FOR ITEA 3 PROJECTS

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646/766

the number of European Parliamentarians who voted in favour of the continuation of the Eurostars-2 programme for innovative SMEs under Horizon 2020, the biggest Innovation support fund in the world.

€ 100 BILLION FOR INNOVATION TO BE SUPPORTED BY EU'S REGIONAL FUNDS

With the latest major reform of the EU regional policy under the new 2014-2020 budget for regional development, some €100 billion will be spent on research and innovation, information and communications technology, SMEs and the low-carbon economy. This novelty in the European budget will allow for better synergies between Horizon 2020, the EU's research flagship programme, and the European regional development fund, one of the major components of the EU budget. This important overhaul in the EU's budget is to address the research divide and stop the brain drain from Europe's Eastern and Southern countries.



“ Even three months can be too long a time for a start-up waiting for a public funding contract. ”

Entrepreneur Charlotte Dyring debating with public funding authority representatives during a EUREKA fringe session at the EU Innovation Convention 2014.

EUROSTARS-2 APPROVED AS PART OF EU INNOVATION INVESTMENT PACKAGE

On the occasion of the last plenary sitting of the European Parliament before the European elections, the next phase of Eurostars under Horizon 2020 has received full endorsement from the members of the Parliament. After receiving the backing of other EU institutions and commitments by the ministries of the 34 countries involved in Eurostars-2, €1.14 billion has now been secured for the full duration of the seven year-long programme. Under the umbrella of Horizon 2020, Eurostars has tripled its budget.



The European Parliament has voted the allocation of a €287 million EU contribution to Eurostars-2, a unique funding programme for transnational research projects led by small- and medium-sized enterprises (SMEs). The budget is part of an EU-wide innovation investment package of €22 billion, promoting the Union's participation in joint research and development programmes. The countries involved in Eurostars-2 will contribute €861 million in investment over the next seven years, for a total EU-national joint budget of €1.14 billion. Thanks to the allocated funding, some 800 companies received funding from Eurostars and more than 70% of all applicants were SMEs in the last phase of the programme under the Framework Programme seven (FP7).

Eurostars-2 meets the genuine needs of SMEs engaged in innovation and has attracted a wide interest from this group, with the funding of projects exceeding its initially forecasted budget. The market-oriented nature of the programme being key to its success. This principle will be safeguarded in the new phase of Eurostars under Horizon 2020, along with the objective of achieving greater simplification and harmonisation of funding mechanisms between the national authorities involved.

MEP Miroslav Ransdorf reporting on Eurostars-2 to the plenary stated: "Some 70% of newly-created

jobs are in the SME sector. In some European regions, prosperity is predominantly reliant on SME activity. These companies are finding and exploiting gaps in the market and are rich in innovative capacity." MEP Zofija Mazej Kukovic was assisting Miroslav Ransdorf: "The first Eurostars programme created almost 10,000 new workplaces."

The vote also prompted reactions from EUREKA representatives overseeing the programme. EUREKA's Chairwoman, Kristin Danielsen, declared "Operating the Eurostars Programme is one of EUREKA's core tasks. Eurostars' first phase under FP7 was a huge success. As a result, Eurostars-2 under Horizon 2020 will be a much larger programme, with member countries shouldering a much heavier financial obligation this time. Establishing Eurostars-2 has been a fascinating and complex political process for the Norwegian EUREKA Chairmanship. We are pleased to have secured a good financial framework to operate the programme properly in the years to come, by working hand-in-hand with the EU member states and institutions « says Dr. Danielsen, who is chairing EUREKA.

EUROSTARS WELCOMES NEW CHAIRPERSON OF ITS INDEPENDENT EVALUATION PANEL

Professor Ibrahim Sinan Akmandor, has been appointed for the term 2014-2017 as the new chairperson of the Eurostars independent evaluation panel. The role of the chairperson is to lead the independent evaluation panel (IEP), composed of people having a large experience and background in industrial and innovation sectors. The task of the panel is to establish the ranking list of applications submitted during a Eurostars-2 Cut Off based on the application form and the assessment made by technical experts. They discuss and decide strength and weaknesses in terms of commercialisation & market access, innovativeness of the project and the quality of collaboration between project partners.

TENTH FUNDING ROUND RESULTS

The synchronisation of funding after the conclusion of the tenth Eurostars funding round has recently been concluded. Of the 186 applications ranked above the quality threshold, 103 project applications will receive public funding; SMEs continue to be the main beneficiaries. They also carry 80% of the total project costs.

Eurostars has a 'bottom-up' approach and is open to all technologies with a civilian purpose. Main technologies represented in the pool of funded projects are electronics, IT and telecoms technologies (28%); biological sciences and technologies (28%) and industrial manufacturing, material and transport (16%). Funded projects include participants from 31 Eurostars participating countries and India, Mexico, South Korea, Ukraine and the USA.

The commitment of those countries to the programme remains strong, with Eurostars-earmarked national public funds being substantially increased to best support the innovations developed by SMEs.

THE EUROSTARS EFFECT

As projects financed by the first Eurostars funding rounds come to an end and deliver some outstanding technological results, it is now possible to have a first look at the impact of the programme.

Statistics so far show turnover of participating companies has consistently increased – on average, every euro invested (by public funding agencies and the EU) in a Eurostars project generates 9.8 euros. Most recent surveys also indicate the impact the Eurostars Programme has on the small high-tech companies it serves, from access to new markets to valuable knowledge acquisition and the development of new leads with potential clients, business partners or even private investors.

Statistics show that 12% of project participants witness the biggest share of impact on turnover. Mainly SME project leaders and those able to match public funds received with twice that in private funds. This category of project participant multiplies its initial investment by a factor of 35 - money that is reinvested in jobs and which fuels the European economy.

The best performing SMEs are active in ICT, where they develop new software or web-based services. Biotech start-ups are also top of the class - some of the most successful projects are developing high-tech medical equipment and studying novel drugs to fight serious health conditions such as cancer.

APPLICATION RESULTS EUROSTARS-2 FIRST FUNDING ROUND UNDER HORIZON 2020

In March 2013, Eurostars-2 first funding round closed with a total of 299 submissions. These involved 938 participants, 70% of which were SMEs. The total cost of applications amounted to 386 million euro, of which 78% is borne by SMEs.

Applications include participation from 32 Eurostars-2 countries, but interest in the programme also extends beyond European frontiers with European-led projects including partners from South Korea now being officially a partner in the Eurostars-2 programme.

Main technologies represented in the pool of submitted projects are ICT (26%), biotech (33%) and industrial manufacturing, materials and transport (10%).

EUROSTARS CALL RESULTS



A TYPICAL EUROSTARS PROJECT IS...



3-4 participants



2-3 countries



29 MONTHS average duration



1.4 M€ average project cost

Q&A

Bruno Moor, EUREKA HLG Chairman, Swiss Chairmanship 2014-2015



EUREKA News meets EUREKA's next Chairman, Bruno Moor, Head of division International Cooperation in Research and Innovation at the Swiss State Secretariat for Education, Research and Innovation SERI. Here he talks about innovation in Switzerland and his aims for the coming Chairmanship year.

What is the current shape of Swiss innovation? What are its main strengths?

BM / According to the ranking on the Innovation Union Scoreboard 2014, Switzerland is among the top innovation leaders. In 2012 private companies in Switzerland invested EUR 10 billion in R&D. The ratio of private R&D expenditure to GDP steadily increased over the past 10 years despite difficult economic circumstances, and peaked at 2.2% in 2012. The main sector investing in R&D is the pharmaceutical sector (45%), followed by manufacturing systems engineering (15%) and the manufacturing of high-tech instruments, such as watches, lasers, etc. (9%).

There are various factors which play an important role in Switzerland's success. On a general level, the strengths lie in the fact that Switzerland is an open society in the centre of Europe, provides an attractive fiscal policy, a reliable legal framework and good infrastructure and removes regulatory constraints and trade barriers as far as possible. On a systemic level, the high quality dual education system supplies the labour market with well-qualified specialists across the whole value chain. This is complemented by a good mix between basic and applied research with high quality R&D infrastructures, combined with open pathways for technology transfer and international cooperation.

In your opinion, what can EUREKA do for Swiss companies, and particularly SMEs?

BM / The Swiss economy is highly export-oriented and is composed of 99.6% SMEs. Switzerland has no natural resources and labour costs are among the highest in Europe. These facts demonstrate that SMEs' international R&D cooperation is vital for the competitiveness of Switzerland, and EUREKA is therefore a key instrument for us. The bottom-up nature of EUREKA is fully in line with Swiss innovation policy. We are active in all EUREKA instruments, as they create benefits for our companies in a complementary way. EUREKA has always shaped its instruments according to the needs of companies and we were impressed by the high level of interest our innovative SMEs showed for Eurostars.

“ **We will continue the work of previous chairmanships and contribute actively to realising the new strategic roadmap.**

What will be the priorities of the Swiss EUREKA Chairmanship and how do they relate to the Swiss interest in EUREKA?

BM / As Chair of EUREKA we aim to work for the benefit of the network and not for the benefit

of our national priorities. From our historical experience with federalism we have learned that integrating different views yields better results than pushing specific interests. We will continue the work of previous chairmanships and contribute actively to realising the new strategic roadmap, involving the EUREKA network as much as possible. More specifically, we plan to encourage greater involvement of national innovation instruments in EUREKA, will prepare next steps in the direction of more global cooperation within EUREKA, observe developments in ERA, test partnerships and explore new ways to provide adequate support for businesses so as to increase their competitiveness. The EUREKA Innovation Event in November 2014 in Basel will bring together our priorities, and we are keen to introduce them to our target group and learn from their reaction.

Switzerland is one of the main countries involved in the organisation of bilateral calls under EUREKA. Could you explain to us how this works?

BM / One of the unique features of EUREKA is the possibility to use its framework for bilateral cooperation. This clearly differentiates EUREKA from other multilateral programmes. Over the past five years we have found that EUREKA is a fantastic instrument to follow up on bilateral contacts



“ As Chair of EUREKA we aim to work for the benefit of the network and not for the benefit of our national priorities.

Bruno Moor

EUREKA HLG Chairman
Swiss Chairmanship 2014-2015

between EUREKA ministries, on cooperation plans of industry associations, etc. If there is mutual agreement between two countries to improve R&D cooperation in certain technological fields, the EUREKA framework provides in a very flexible way all the necessary elements to implement that cooperation directly. This is much more effective than, for example, signing an MoU. Examples of this include a series of calls launched with Turkey and agreed by the presidents of state from both countries in 2010, and calls launched jointly with Sweden which were supported by the industry associations Swissmem and Teknikföretagen.

How can an innovative company apply for funding in such a call?

BM / The call is an invitation to present project ideas in a very informal way. These project

ideas are developed in a project outline template and collected by a specific call deadline. After the deadline the EUREKA NPCs assess the outlines within a few days and make a joint suggestion on the most promising instrument for a specific project idea and on what needs to be done to submit a project application. In the second step the consortia apply for funding under the normal EUREKA procedures. As there is no earmarked budget for these calls, the NPCs have the responsibility to only recommend instruments with a fair chance of success.

“ One of the unique features of EUREKA is the possibility to use its framework for bilateral cooperation.

Your country has a particular profile when it comes to R&D spending, with a high share of the funding coming from private business. How does government funding complement and support private funding in Switzerland?

BM / The Swiss innovation system is based on the principle that the public sector provides favourable conditions for innovation and the private sector decides on how to invest in innovation. As a consequence, companies pay low taxes but they do not receive public funding for innovation activities – except in the framework of international cooperation programmes. The innovation instruments in Switzerland target the framework conditions and more specifically knowledge and technology transfer between research and business, start-up coaching and access to international partnerships.

COUNTRY PROFILE SWITZERLAND



THE OPEN COUNTRY

Orson Wells, arguably one of the most inventive movie directors of the last century, in one of his famous acting performances describes the country as so orderly and peaceful that the only invention it could produce in 500 years is the cuckoo clock. That was in 1948. Today, the average Swiss clock is a high-tech masterpiece and in the mind of the ordinary R&D enthusiast Switzerland is associated to CERN's large hadron collider, the world's most expensive and complex experimental facilities to date.

Over the past decade, the 'land of Alps' came to top almost every single international ranking on research and innovation. In fact Switzerland seems to be so far ahead of any other nation that one can hardly imagine its leading position being challenged any time soon. The EU's Innovation Union Scoreboard sees Switzerland confirming its top position year after year with a clear edge on other candidates. It places Switzerland in a leading position in almost all possible metrics, particularly the relative number high-tech firms existing and innovative new businesses created. Another highly visible study, the Global Innovation Index put together by leading US and European universities also sees the world leader

in chocolates as the number one innovator, with the country's main strength being its ability to deliver technology-packed but also highly-creative products to the market.

So, how did Switzerland do it?

A first factor is the country's openness. In a time when open innovation is the zeitgeist, the Swiss cosmopolitan atmosphere is a unique asset to its tech-friendly economy. Current news headlines hardly make justice to the fact that one in five people living in Switzerland is a foreigner. The confederation lies right in the middle of the European continent, sharing borders with three out of four of its biggest markets, Germany, France and Italy.

The European Union is Switzerland's first trading partner, with almost two thirds of Swiss exports being directed to the EU area. It is no surprise that Switzerland is a leader when it comes to high-tech exports and investments in foreign countries. Switzerland also host to the headquarters of a dozen of the most noteworthy international organisations: including the world trade organisation and the world economic forum. This experience will be helpful by carrying out the Swiss EUREKA Chairmanship.

POPULATION

8 036 900

OFFICIAL
LANGUAGES

**GERMAN FRENCH
ITALIAN ROMANSH**

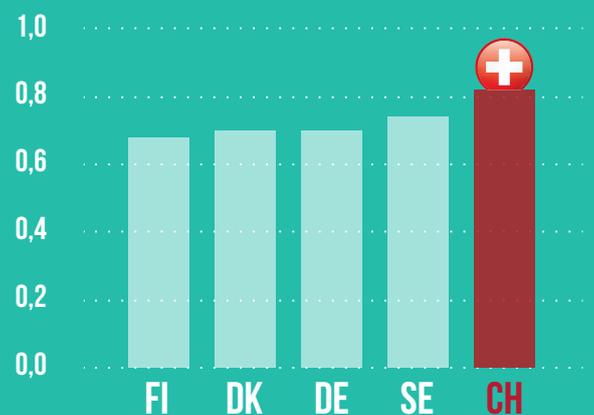
GDP

417 BILLION
USD PPP

GDP PER
CAPITA

53 730
USD PPP

EUROPEAN COUNTRIES' INNOVATION PERFORMANCE



SOURCE: State Secretariat for Education, Research and Innovation SERI

SOURCE: Innovation Union Scoreboard

COLLABORATION INTENSITY

- LOW
- MODERATE
- HIGH
- VERY HIGH



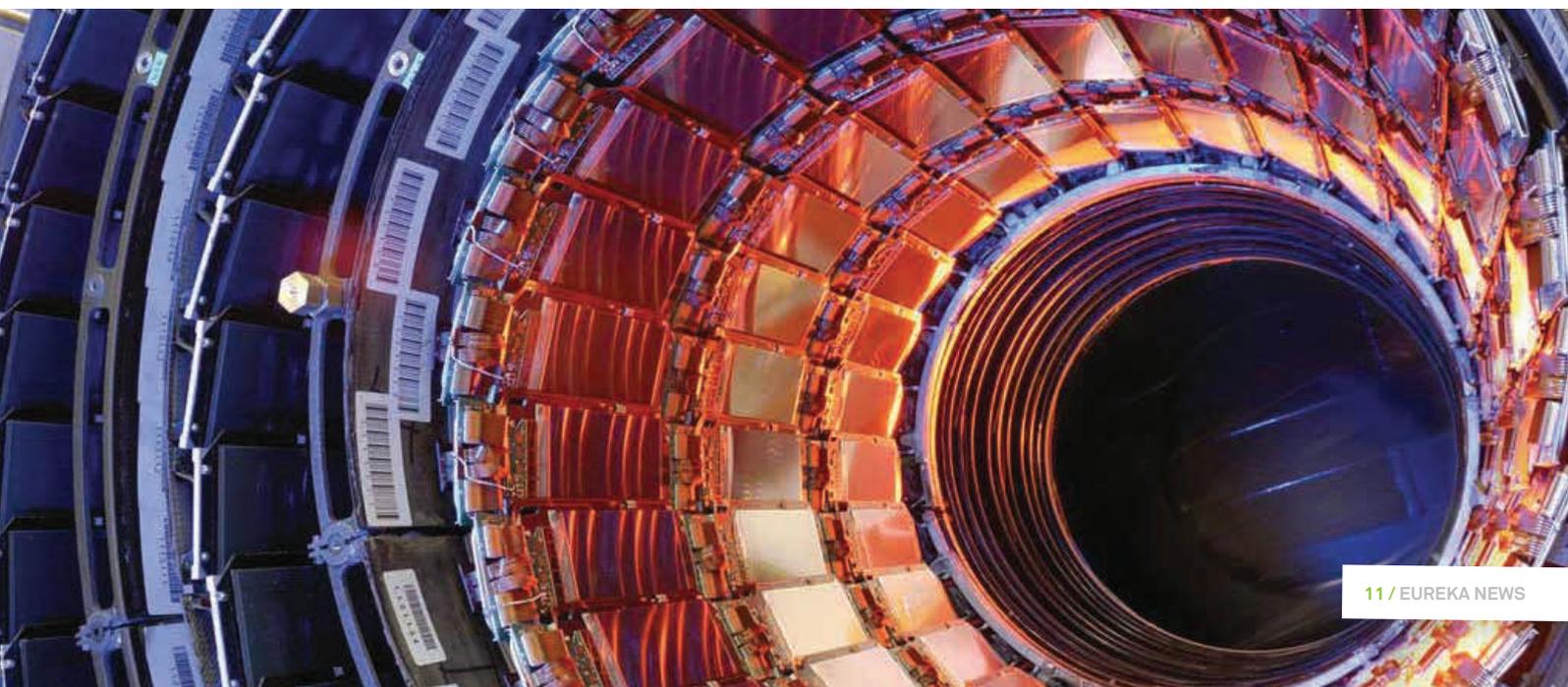
EUREKA EFFECT

The country's reputation for innovation has preceded it and led to a surge in transnational research collaboration: the figures recently released on the occasion of the publication of EUREKA's annual report show that Switzerland's participation in transnational projects in the frame of the initiative have been progressing almost exponentially since 2007, with the number of projects generated in one year reaching an all-time-high last year: 52 international collaborations involving hundreds of companies and organisations. The total budget of all EUREKA international research projects approved for financing in 2013 was €36.7 million, the highest since 1987.

Unsurprisingly, the country's main partners in those projects are France, Germany and Austria

but Swiss participants in EUREKA projects have also collaborated with their counterparts in Ukraine or Turkey and developed strong ties with Northern European countries, particularly Sweden and the United Kingdom.

Switzerland has acquired a certain cool factor recently. Brilliant young people with a background in research and innovation, unintimidated by the high cost of living move to the country in large numbers. As a business location Switzerland is highly cosmopolitan and open to the world. A multilingual federal state, bathing in Latin and Germanic influences, Switzerland's multicultural environment makes it an exciting place to work for innovative minds. An unemployment rate at around 3.2 per cent and a minimum wage that might be the world's highest make up the icing of the cake.



SMALL BUSINESS FIRST

Swiss campuses, in Lausanne, Bern or Zurich, nurture a home-grown base of entrepreneurial youngsters. But more than the academia, it is the private sector that is the motor of the local innovation economy. Investments by businesses in research and development are also one of the factors put forward by the EU's Innovation Scoreboard to explain the country's success. In another yearly EU publication, the Industrial R&D Investment Scoreboard, Swiss pharmaceutical giants Roche and Novartis regularly appear in the world's top ten for their capacity to throw billions of Swiss francs on cutting-edge innovation projects.

But contrary to a common misconception, Switzerland's dynamic innovation sector does not rely as much on its tech-focused multinationals as on its large class of R&D-intensive SMEs: 99.6 per cent of Swiss companies employ fewer than 250 staff. Similar to Germany's Mittelstand, small Swiss companies achieve unprecedented efficiencies by designing a business model for niche markets.

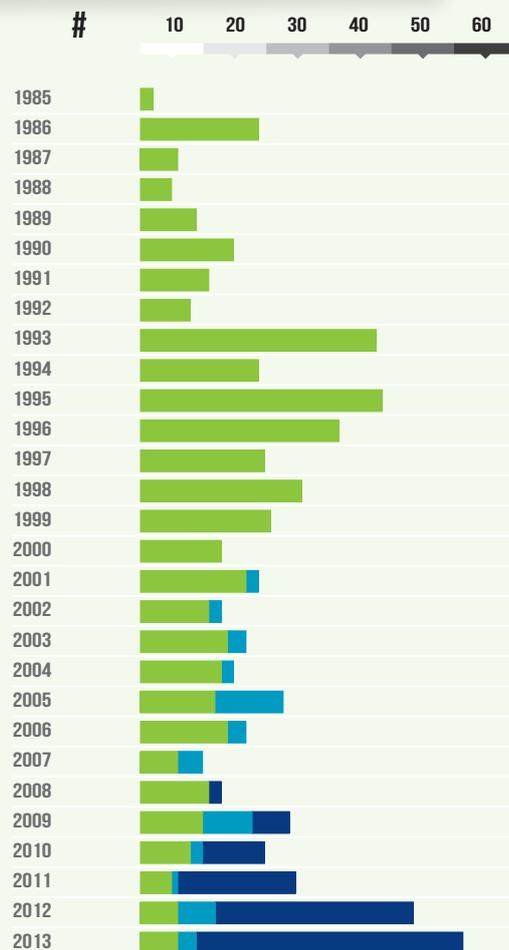
Switzerland relies on a strong small-business culture - but with an innovation twist to it. In Switzerland, small businesses are generally more innovative than those in other EU countries, particularly in the industrial sector. The combination of a very innovative SME sector and a remarkable number of large multinational companies pursuing highly-intensive R&D activities is an advantage of the Swiss innovation system.

So what's left for improvement in the Swiss innovation economy?

Analysts say the Swiss innovative small businesses could be more open to the world than it is. A victim of the confederation's own success, Swiss small businesses rely on the local pull of globalised companies and universities to do the EU neighbour talk and tend to collaborate with national partners. This is where EUREKA has a role to play, with its extraordinary capacity to connect small innovative companies across Europe.

The Eurostars-2 scheme, a pan-European programme especially designed for innovative SMEs has been for this an important instrument in helping its small business sector to internationalise, particularly by the mean of bilateral calls. It is no doubt that the upcoming Swiss one-year long Chairmanship will be the occasion to make Switzerland an even friendlier country to innovators than it is already.

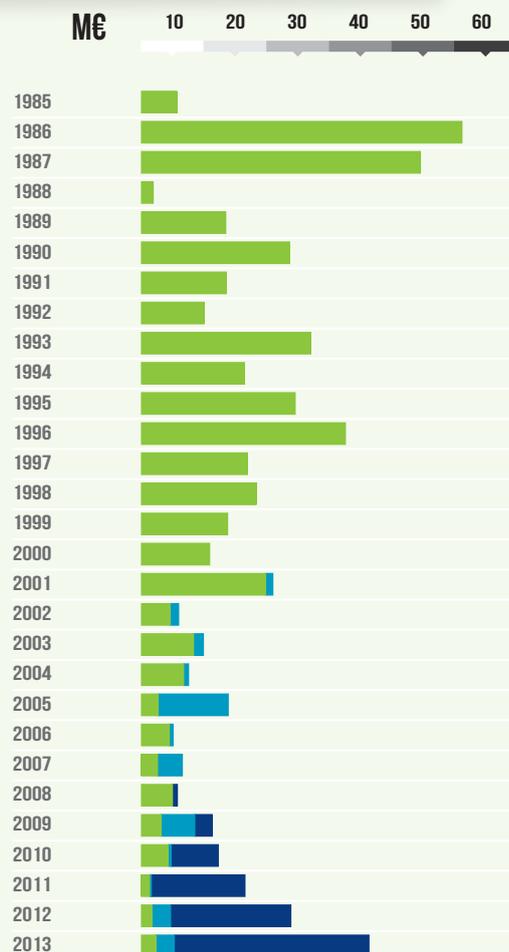
NUMBER PROJECTS APPROVED



EUROSTARS PROJECTS

CLUSTER PROJECTS

TOTAL PROJECT BUDGET



INDIVIDUAL PROJECTS

EUROSTARS PROJECT > 6936 GLUCOCELL

A UNIQUE PRODUCT ENTERS A BOOMING NICHE IN THE PHARMACEUTICAL MARKET



Every time a child takes an antibody-based medicine like a vaccine or a diabetic injects insulin, they are using biopharmaceuticals: medicines manufactured by living cells inside what is called a bioreactor. A Eurostars project is about to revolutionize the pharmaceutical sector with the introduction of a new generation bioreactor.

Traditionally the biotech industry used reusable glass or steel bioreactors to manufacture biopharmaceuticals. The required cleaning and sterilizing of glass and steel is a costly process. This has led to the introduction of disposable, pre-sterilised bioreactors. Some estimates show cost savings of up to 30% with disposable systems compared to reusable stainless steel bioreactors. As a result disposable bioreactors are now a big business. It is estimated that the single use bioreactor market will be worth close to \$1 billion within a few years. "These medicines are expensive," says Per Stobbe, MD of Stobbe Tech in Denmark and participant in the Eurostars Glucocell research project. "A treatment could cost from thousands up to €50,000. In these bioreactors there are millions, billions of cells kept in suspension in this glucose containing media producing the medicine over typically a week.

Stobbe Tech manufactures disposable bioreactors marketed through its daughter company Cercul. C-CIT manufactures biosensors. The two small companies teamed up for EUREKA Eurostars project Glucocell in order to design a new generation of C-CIT's disposable biosensors, which would work within Stobbe's bioreactors. "We developed single use sensors for disposable bioreactors for the continuous measurement of glucose in cell cultures," says Stefan Spichiger, the general manager of C-CIT in Switzerland.

A commercial success

A major product innovation emerged from the 18-month project: the world's first customisable disposable bioreactor. "There are only four manufacturers from around the globe for this type of Single-Use-Bioreactor and we are one of the four," says Stobbe. "The three others only make one product. Take it or leave it. The idea of being able to configure a Single-Use-Bioreactor is very unique. We are the only one who offers this on the globe. This is also part of what we developed during the Eurostars project."

The Glucocell project has been a huge commercial success for both the Swiss and Danish SMEs. "We have been selected as a supplier to 10 of the largest manufacturers around the globe," says Stobbe, "and that is pretty cool as we are a small company. The potential for us is that we can double our employees and turnover many times." Stobbe Tech has already tripled its workforce and turnover since the project began.

"We expect changes in the whole business structure," says Spichiger. "It will for sure have a huge effect on the turnover and I would expect that by end of 2014 we may have to hire new people in the laboratory." C-CIT also landed an investment of CHF1 million (€820.000) late last year, most of which will be used for marketing the new disposable biosensors.

Read more on the project at www.eurekanetwork.org

RUSSIA IN EUREKA



In the words of one of EUREKA's founders, French physicist and a precursor in European innovation policy Hubert Curien : "we wanted to welcome less technologically advanced to EUREKA so that this Initiative would be a unifying factor between all the countries of Europe, and in particular Eastern Europe." Still today and more than ever before, EUREKA looks into balancing the full involvement of its member countries with a strategy for international expansion. Both actions are complementary, not alternative: market opportunities must be opened to innovative companies, wherever they are and if countries such as Russia or Poland represent huge market potentials for western innovative entrepreneurs, the contrary is also true.



Russian authorities recognise that investment in innovations is crucial to ensure the continual regeneration of the technical and technological production basis. But new-generation knowledge intensive production in Russia remains at an insufficiently high level. The Russian share in global knowledge-intensive exports of civil goods is currently estimated at just 0.6 per cent. The sectorial structure of SMEs, inherited from the 1990s, is incomparable with the level of development of innovative small businesses in the EU.

Russian SMEs are poorly represented on global markets and Russian companies are holding unsteady position in technological sectors with high consumer demand, such as computer and

telecommunications equipment, electronic components, software and pharmaceuticals and the automotive industry. The level of research and innovation expenditures is also significantly lower among Russian companies than in their EU counterparts.

According to Russian officials working with EUREKA, the key problem today in Russia is the low demand for innovations and the remaining tendency to buy finished equipment abroad at the expense of developing and implementing advanced industrial technologies locally. But as Russian business's interest for technological innovations remains quite low, Russian authorities now consider participation of national companies in international programmes and projects as a way to give impetus to innovation

To tackle its innovation problem, Russia is interested in developing, in the framework of EUREKA, mutually beneficial and constructive cooperations in the field of research and technological development: creating possibilities to combine its existing research capacities and needed infrastructure to implement joint breakthrough projects. Russian

SMEs, as a sector with high capacities in terms of innovations, are willing to cooperate with their EUREKA partners, above all in the field of production.

Russia, not short of an innovation policy, also stands ready to share expertise in developing start-up support mechanisms and stimulating participation of SMEs in exploring high-tech industrial production. On the diplomatic front, the Partnership for Modernisation signed in 2010 between Russia in the EU plays the role of a consolidating factor.

However, differences in the technical regulation of Russia and the EU are one of the hindrances to further developing the partnership. For this reason, for Russian EUREKA representatives, the harmonisation of technical regulations and standards is seen as one of the main areas of improvement for the future. Russia and the EU already came to some positive results, with the signing of the Cooperation Agreement between CEN/CENELEC, the platform for the development of European technological standards, and Rosstandart, its Russian equivalent.

EUREKA PROJECT > ITEA 2 IMPONET

BIG DATA TECHNOLOGY ENABLES MORE EFFICIENT ELECTRICITY SUPPLY IN SPAIN

For Spanish energy utilities, managing consumer data to achieve greater supply efficiencies will soon be a government requirement. The EUREKA project IMPONET, which applied big data technology to the energy sector, is likely to play a key role in making this happen.

In April 2014, the Spanish government announced that utilities would have to bill electricity consumers per hour, something of course that will require capturing and processing huge amounts of data on an hourly basis. The government aims to achieve greater supply efficiencies and provide a better service to consumer, and data processing technology developed under the IMPONET - project might be exactly what they need.

“All of a sudden, our research has been getting a lot of attention,” says IMPONET project leader Eloy

Gonzalez Ortega from INDRA Software Labs in Spain. “We foresaw that utilities would soon have to cope with huge amounts of consumer data. There might be thousands of industrial meters, but there are millions of individual consumers.”

Anticipating industry needs

The project, which was launched in 2010, developed an XTPP (eXtreme Transaction Processing Platform) which is capable of gathering, capturing and feeding data from residential meter readings to a back office – in real time. By analysing such massive amounts of data, the system is able to manage the unpredictability of energy sources, thus helping to reduce consumption and boost the efficiency of energy distribution.

A crucial element to the project’s success has been the involvement of a major Spanish utility company, GNF, which provided the project team with access to consumer data and helped to identify key industry requirements, and what might need to be implemented. “The energy sector’s involvement means that when we talk with other utilities about the benefits of the technology, we can relate it directly to industry needs,” says Ortega.

He adds that by applying this new data technology, utilities can achieve energy efficiencies of between 5 and 10%. Importantly, the IMPONET platform can also be applied to collect energy data from sustainable (distributed) energy resources, and then help to control its efficient distribution. Utilities in other partner countries – Slovenia, Turkey and South Korea – are also set to take advantage of the new technology.

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We foresaw that utilities would soon have to cope with huge amounts of consumer data

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IMPONET has also hugely benefited INDRA, which hopes to secure €1m this year alone in contracts as a result of the project. “We also plan to hire between five and ten new analysts/programmers because of this,” adds Ortega. “These are conservative estimates and we plan to significantly enhance the business in the coming years.” INDRA is currently involved in talks with major utilities such as GDF Suez.

For consumers, the most obvious benefit is the ability to access hourly energy information and thus be able to consume more or less, depending on the price of energy. Consumer energy savings derived from the individual monitoring and benchmarking of energy vectors (electricity, gas, etc.) are estimated to be around 10%. Indeed, the project is paving the way for the implementation of real demand response programmes in the energy sector, and creating opportunities for the European energy ICT industry to become more competitive. “The sky is the limit,” says Ortega.





EUREKA INNOVATION EVENT

Wednesday 19 November 2014

Switzerland

www.swiss-innovation.com/eureka

A selection of successful EUREKA projects will be presented during the wrap-up of the day's events.

The winner of the EUREKA Innovation Award will be selected from among the projects.