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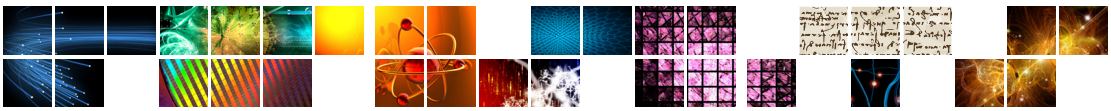
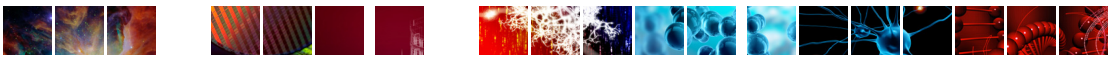
Newsletter of the European Research Council





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June 2011 ▪ Issue #2

Editorial

Dear reader,

After the launch of the European Research Council's newsletter ***i*deas** in March, to which we had much encouraging feedback, I am very pleased to introduce the second issue of our quarterly publication.

This edition will bring you up to speed on the latest ERC developments and give you some insight into what's in the pipeline. From our Brussels headquarters - featured on the front cover - we will take you to Asia, where the ERC has just finished a tour with a view to reach more top-notch researchers there. We will also present promising ERC-funded research in the field of cancer and take a look at how the current EU Presidency country, Hungary, is performing in the ERC calls so far. The two new ERC Vice-Presidents will be featured, as will ERC Advanced grantee Prof. Hannah Monyer, a role model for young female researchers. Originally from Romania, she is pursuing a successful career investigating neurological diseases such as Alzheimer. She recently spoke at the ERC's exchange with the European Parliament, which took place soon after the ERC's Scientific Council delivered its contribution to the EU's next Common Strategic Framework for Research and Innovation. You will learn about this and more in this issue too.

The key message echoed by all at the Parliament hearing was the fact that the ERC is a success story - and one that is here to stay. The ERC has stirred the European research landscape in a very positive way, and exciting research breakthroughs already happened thanks to its funding.

As Director *ad interim* of the ERC Executive Agency since January this year, I am particularly pleased to lead this part of the business. With currently 333 proficient staff members, of which 54 hold PhDs, the Agency has proved to be highly effective in its implementation responsibilities e.g. selection procedures and grant management. In terms of performance, we believe that we are on a par with renowned organisations such as the US National Science Foundation (NSF). The Agency has to some extent functioned as a laboratory for other parts of the EU's seventh Framework Programme.

Let me take this opportunity to pay tribute to my predecessor, Jack Metthey, for his invaluable and painstaking work that enabled the Agency to get off the ground, both safely and efficiently. We are now building on this success, which is key for the ERC to evolve further into a world class funding organisation.

We hope you will enjoy reading this edition.

Pablo Amor
ERC Executive Agency Director ad interim

In this issue

Meet...

The ERC's new Vice-Presidents

The Scientific Council has elected Professors Pavel Exner and Carl-Henrik Heldin as the ERC's new Vice-Presidents. They are both founding members of the ERC and their term of office runs until the end of the seventh Framework Programme for Research in December 2013.

Carl-Henrik Heldin, a Swedish national, is the Director of the Ludwig Institute for Cancer Research, Uppsala, and a professor at Uppsala University.

After its first four years, what has the ERC achieved?

The ERC has during its first years established a bottom-up procedure for research funding with excellence as the only evaluation criterion. Calls for young scientists (Starters and Consolidators) as well as experienced scientists have been established. Thus, the ERC is available for scientists throughout their careers, from the establishment of their first independent group, as long as they remain productive without any upper age limit. The best scientists of Europe have been engaged in the evaluation of applications, and skilful and committed staff have been recruited. This has given the ERC credibility.

What are the ERC's main challenges ahead?

A major challenge is to secure continued and increased funding during the next Framework Programme. Also, whereas the ERC functions well, further improvements regarding its governance, efficiency, inclusiveness and simplification are important.

How would you, as new Vice-President, like to further contribute to the ERC?

With a focus on excellence, increased funding and further improvements in its governance, the ERC will become an instrument for funding of frontier research, which will make it possible for Europe to compete with the well established, as well as the emerging, research regions of the world. This will be crucial for the development of science in general, and for Europe's ability to develop a knowledge-based economy. I will do my utmost to contribute to such a development.

Pavel Exner, a Czech national, is the scientific Director and a professor at the Doppler Institute for Mathematical Physics and Applied Mathematics, Prague.

After its first four years, what has the ERC achieved?

It is safe to say that we have achieved something not quite small. When the Scientific Council members met for the first time there was just a rough idea of what we wanted to build. Four years later we see in Europe almost two thousand grants supporting research of the highest level and a functioning system which keeps all that running.

What are the ERC's main challenges ahead?

The imminent big question is to secure the existence and development of the ERC in the next Framework Programme. It is necessary to look farther ahead, however, and I hope that many will share my vision of the ERC as a rock-solid institution, which dominates the support of frontier research in Europe and helps to make again our continent what it once was – the cradle of the world's finest ideas.

How would you, as new Vice-President, like to further contribute to the ERC?

The role includes numerous duties. Among the priorities I see the care about our peer-review system and its further improvements, because it is a cornerstone of all our activities. I would also like to contribute to widening the palette of our funding mechanisms.

For the Press Release, click here

Interview with...

ERC Advanced grant holder Prof. Hannah Monyer

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One of the almost 2000 ERC grant holders, top researcher Prof. Hannah Monyer, is conducting a highly interdisciplinary project on learning and memory. Originally from Romania, she moved to Germany during her last high school years. Already then, she discovered her interest in the brain and therefore studied medicine, focusing on psychiatry and neurology. After a scholarship at Stanford University, USA, she is now leading her research team in Heidelberg, Germany.

What is your ERC research project about?

In my lab, we work on certain forms of plasticity related to learning and memory. Neuroscientists believe that some changes occur in the brain when we learn something and these changes can be of short or long duration. The modifications underlying brain plasticity can be measured at molecular, cellular level and at network level, and will ultimately affect learning and memory. In our lab we use an interdisciplinary approach that will eventually allow us to connect the different levels of investigations. The final goal is to identify key molecules, the cells they are expressed in and the brain areas involved in the spatial learning process. We use mouse models to test the involvement of candidate genes for short-term and long-term memory.

How could your findings improve the quality of patients affected by Alzheimer and other neurological disorders?

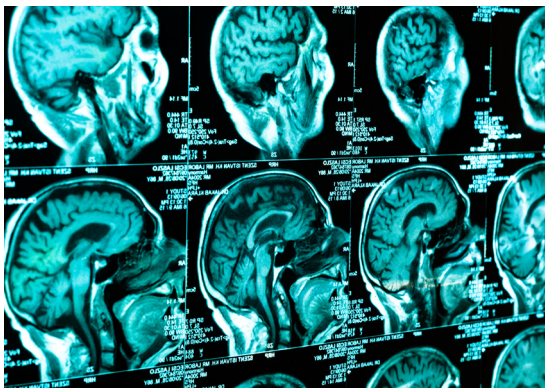
It is my firm belief that elucidating the molecular mechanisms underlying learning and memory under normal physiological conditions will eventually contribute to a better understanding of the pathophysiology in the diseased brain. Since there are still enormous gaps in understanding how the normal brain functions, it is not surprising that the development of therapies for diseases such as Alzheimer or stroke is slow, and overall results until now far from satisfactory. We work with mice, but we know that the very same brain structures as in humans are affected, and at the cellular level identical molecular cascades are involved in the disease and in the demise of cells. Thus, mouse models help us understand how the brain functions under normal and pathological conditions.

What convinced you to apply for an ERC Advanced Grant and how do you think it impacts your career?

Since I was awarded the Leibniz Prize about seven years ago, I became absolutely aware of the advantages associated with generous, long-term funding. We just published two papers, reporting on experiments that required about five years of research. Most funding is for a shorter time. Thanks to the ERC funding I could put in place an ambitious project that requires a larger team, comprising members with different profiles. Unlike other grants, the ERC grant allowed me to expand my team more than usual and the funding of longer duration gave me the opportunity to go for research that is risky, but with lots of potential. What I did not know at the time, but turned out to be the case, is that being awarded an ERC grant has become a lot like receiving a prize; it brings support to the scientist from the local authorities and so forth, as well as attention from the media.

The ERC recently established a gender equality plan. How can gender equality policies be improved and the number of successful women in science increased?

What is necessary is much more than a gender equality plan. In most European countries we are far from what is ideal and what is urgently needed. If postdocs must wait for two years to obtain a kindergarten place for



a child, a gender equality plan alone will not suffice. Despite all these difficulties, I see that much has changed over the last two decades, and it has become easier for young women scientists to combine a science career with a family life. So, overall I am quite optimistic that the number of successful women in science will continue to increase. That said, however, we all know that there are often phases when a scientific project requires much more than eight hours a day, and therefore it will always be a challenge for women (and men) to combine a scientific life with a 'normal' private life.

Do you feel that you, with your successful career, can be a role model and act as a magnet for other researchers?

As a good or excellent teacher and scientist, one is always a role model for certain scientists even outside your own lab. I know when my way of thinking, of conducting my research, of writing a paper is accepted by my young colleagues. I can almost see some of them as a younger version of myself, which is a wonderful feeling.

You are originally from Romania; how can researchers from Romania and other countries in the region be encouraged in their careers?

I received an excellent education in Romania until the age of 17, when I came to Germany. I also got, and still get, excellent students from Eastern European countries and many are eager to return, but in the end they don't. The problem is that, after having worked in an excellent lab in a Western country, they want to keep the high standards; a wish they can hardly be blamed for. Thus, to make the home country attractive again to young people who were trained in some of the best labs, research organisations must offer them conditions that allow them to compete at an international level. Until that happens, Romania and other countries will continue to lose some of their best people.

To find out more:

>> Watch the video interviews conducted by Europe by Satellite with Prof. Hannah Monyer, MEP Mr. Herbert Reul, Chairman of the ITRE Committee and ERC President Prof. Helga Nowotny, **click here**

>> Watch the video of the European Parliament Hearing on the ERC (ITRE Committee) and Prof. Monyer's intervention, Brussels, 25 May 2011, **click here** (the ERC part starts around 16min35sec)

Principal Investigator: Prof. Hanna Monyer

Project title: Linking GABAergic neurones to hippocampal-entorhinal system functions (GABACELLSANDMEMORY)

Host Institution: Universitätsklinikums Heidelberg, Germany (**http://www.klinikum.uni-heidelberg.de/**)

ERC Call: ERC Advanced Grant 2009

ERC funding: EUR 1.87 million for 5 years

Going global

Rendez-vous with Asia

As recently emphasised by ERC President Prof. Helga Nowotny in a European Parliament hearing, the ERC needs to attract many more researchers from further afield to Europe. To do so, the ERC has this year turned up its efforts a notch to make the best scientists around the globe aware of the opportunities the ERC offers. Asia is one of its targets.

While ultimately aiming at making Europe a more attractive place for the research community worldwide, the ERC also values "brain circulation" and the internationalisation of science. Its grants allow researchers of any nationality to spend up to five years of their research in Europe, either as a team leader or as a team member.

Keen to draw on the vast human resources and the excellence that Asia holds, the ERC lately made two major visits to China and India - both emerging as global powers in science and technology, and among the fastest growing major economies. In terms of net spending, China will invest more on R&D than the EU in 2014, while India has just launched its "Decade of Innovation" and considerably increased its investments in the field.

India

So far, the ERC can count four researchers of Indian nationality among its grantees. They are all young, promising researchers supported by Starting Grants. To spread the messages to excellent Indian researchers, the ERC already attended in January the yearly Indian Science Congress in Chennai and visited the Indian Institute of Technology. ERC representatives again went to India from 13 to 24 June, together with European S&T counsellors and research organisations from several EU Member States. During this Marathon tour - organised by the EU Delegation in India - the group made no less than 100 presentations in key research and innovation hot spots, as part of a large EU information campaign targeted at reaching some 3 000 Indian scientists.

China

At the same time, the ERC visited Beijing, China. The delegation included Chinese ERC grantee Dr Yiya Chen from Leiden University and was headed by ERC Scientific Council member Alain Peyraube, renowned professor of Chinese linguistics and Chair of the ERC Working Group on international strategy. They met with researchers from Peking, Tsinghua and Renmin Universities, as well as the Chinese Academy of Sciences. The EU Delegation in China also organised a meeting with researchers, journalists, national science counsellors and EU national R&D funding agencies. This visit follows last year's ERC participation in the "Science and Technology week" at the World Expo in Shanghai and meetings with universities there and in Beijing. As in the case of Indian ERC grantees, only four Chinese researchers are at present among the grant holders.

Hopes are high that these outreach efforts will entice more top talent to discover, and to benefit from, the highly attractive funding the ERC offers within FP7.

Research in the spotlight

ERC-funded research tackling cancer

The ERC has to date supported over 100 research projects on cancer, which represent 13% of projects funded in the domain of life sciences. This research addresses several cancer diseases from different angles, including DNA repair, drug resistance, cancer stem cells and new drug targets. An overview of some striking ERC projects in this area follows here.

DNA repair mechanisms and cancer

The European Molecular Biology Organization (EMBO) recently awarded the 2011 EMBO Gold Medal to Dr. Simon Boulton of Cancer Research UK's London Research Institute. In his Advanced grant project RECMITMEI which began in May 2011, Dr. Bolton uses the nematode worm as a model system to investigate how defects in DNA repair during cell division can result in genomic instability and cancer.

>> read more

Overcoming resistance to drug treatment

Two ERC grantees, Dr. Michele de Palma (Starting Grant project TIE2+MONOCYTES) and Prof. Luigi Naldini (Advanced Grant project TARGETINGGENETHERAPY) have joined forces to publish an article on drug targeting. New blood vessel formation, or angiogenesis, is critical for the transformation of benign tumours into malignant ones. The researchers could show that, by targeting the angiopoetin-2 (ANG2) molecule, angiogenesis in tumours was blocked, thereby preventing their growth and metastasis and overcoming resistance to cancer treatment.

>> read more

Stem cells and colorectal cancer

Starting Grantee Dr. Eduard Batlle, with his CRC PROGRAMME project, examines whether stem cells in the gut may be the key to understanding the origins of colorectal cancer. He has recently published a paper demonstrating that the adult intestinal stem cell gene signature predicts colorectal cancer disease relapse.

>> read more

Novel treatments for skin cancer

With her project Treatskin, Prof. Irene Leigh, develops preclinical models to identify therapeutic targets for the treatment of skin cancer and explores novel approaches to gene and cell therapy. She uses tissue engineered skin constructs, combining normal, malignant and diseased tissue elements, to examine the effect of tumour microenvironment on cancer cell invasion. TREATSKIN will be an important step in translating genetic research into pre-clinical testing, which is a key part of the drug development process.

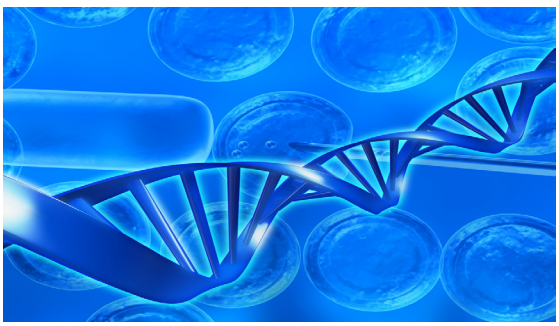
>> read more

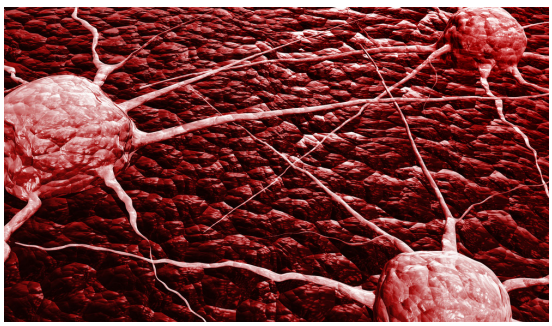
Diabetes drug could counter the development of breast cancer

Advanced Grantee Prof. Michael Lisanti presented his team's recent findings at the congress of the *American Association for Cancer Research* (AACR) in Florida last April. This is the first year that the ERC was present at this major event.

>> Watch Prof. Lisanti's video interview

For more ERC projects, click here





What's on

"Plenty of room at the top"
Scientific Council pleads for strengthened ERC

The EU's seventh Research Framework Programme, in which the ERC is the most innovative part, spans from 2007 until 2013 and the negotiations on its successor – the Common Strategic Framework for Research and Innovation Funding – are about to begin. When the European Commission opened a public consultation on this green paper, the governing body of the ERC - the Scientific Council - was among the many stakeholders who aired their views. Its position paper was presented by ERC President Helga Nowotny on 10 June at the framework consultation conference.

The Scientific Council's contribution emphasised the importance of upholding the principle of "excellence only" and urged the Commission to consider extending this principle in the next framework. The same goes for the excellence of the ERC peer review system. Referring to the "unanimous rallying cry for simplification", the Scientific Council also called for steps to be taken in this direction, recommending concrete measures e.g. for audit and the cost-reimbursement approach.

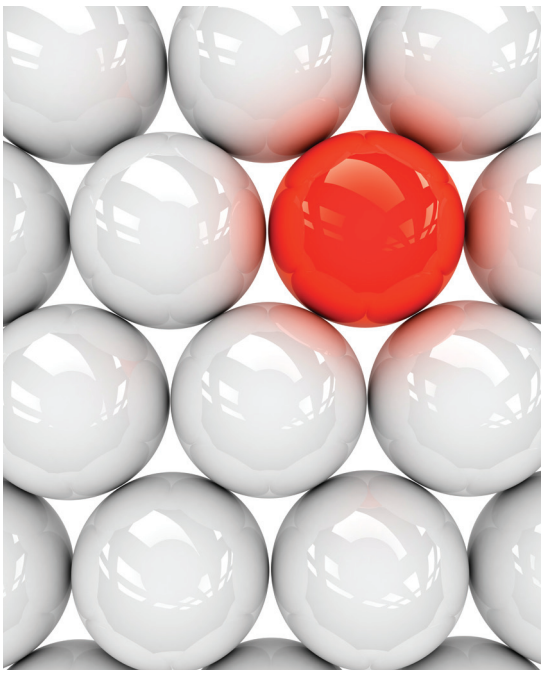
Pointing to the "existing and widening gap in research capability" in the different EU Member States and regions, the Council's position paper further advised the Commission to set up a specific instrument (possibly under Cohesion policy) that will allow building strong research programmes "that can adequately exploit a significant part of the investment into research infrastructures". Such a measure could help host institutions in regions performing less well in the ERC competitions.

The Scientific Council also sees the strengthening of research effectiveness as a way to enhance the new framework's contribution to innovation and to initiate a fruitful new dynamics of interaction. To this end, it suggested to re-structure the component parts of this framework, in particular by grouping together those that share "a commitment to world-wide scientific excellence", namely the ERC, Marie Curie, Research Infrastructures and possibly Future and Emerging Technologies (FET).

Finally, the position paper took stock of the ERC's achievements after its first four and a half years, and noted remaining challenges. Stating that the ERC is an undeniable success, confirmed by the research community, the Scientific Council argued that there is still "plenty of room at the top". It alluded to the undiminished demand from researchers, as well as "an equally undiminished quality" in the applications the ERC receives. Moreover, the success rates in the ERC competitions are relatively low (13.8%) and therefore "many excellent proposals remain unfunded".

Based on this, the Scientific Council made a case for a strengthened ERC in the next framework and pleaded for a doubling of the annual ERC budget "to a level of around €4bn per year". It highlighted that the ERC's annual budget is indeed less than half of that of the US National Science Foundation (NSF), despite that the ERC covers a wider area of frontier research.

>> To read the position paper, **click here**



Highlights – Did you miss this?

Support to the ERC in the European Parliament

The exchange of views between the ERC and the European Parliament's Committee on Industry, Research and Energy (ITRE) took place on 25 May. The overall view expressed was very positive and the ERC was described as a success story. Regarding the weak performance of some newer Member States in the ERC calls, Prof. Nowotny stressed that raising the number of successful candidates from these countries is one of the ERC's challenges ahead, even if excellence will remain the sole selection criterion.

To find out more, click here (May 2011)

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US Nobel Prize winner Prof. J. Heckman received ERC Grant

Prof. James J. Heckman, American Nobel Prize winning economist from the University of Chicago, launched in May his ERC funded research project at the University College Dublin, Ireland. This pioneering, highly interdisciplinary project on "understanding health across the lifecourse", combines health, social and economic research. ERC President Prof. Helga Nowotny commented: "This most recent example of an American top researcher attracted by an ERC grant to work in Europe is further recognition of the attractiveness of the ERC".

To find out more, click here (May 2011)

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One more Nobel laureate awarded ERC Grant: Prof. T. Hänsch

An ERC Advanced Grant has been awarded to Prof. Theodore W. Hänsch, who won the 2005 Nobel Prize in Physics for his many contributions to precision spectroscopy, including the "optical frequency comb". Precision spectroscopy is used to determine the composition of molecules in laboratories but also in "real life situations" for instance to analyse gases in the atmosphere or detect explosive or hazardous materials. His team will carry out the ERC-funded research project at the Ludwig-Maximilians-Universität München, Germany.

To find out more, click here (June 2011)

ERC's new Proof of Concept scheme: 78 proposals received

By the first deadline on 15 June, a total of 78 proposals were submitted in the first Proof of Concept competition of the ERC. This new funding initiative aims to contribute to stimulating innovation, with funding of up to EUR 150 000 per grant available to researchers already holding ERC grants. This targeted initiative will capture the maximum value from frontier research by getting good ideas to market. The last deadline for this call is in November 2011.

To find out more, click here (June 2011)

Focus on...

Hungary

ERC Grants in Hungary after six completed calls

> **21 projects** have been selected for funding in Hungarian Host institutions, among **317 proposals** submitted, benefiting from a total of EUR **25.85 million** of EC financial contribution.
> 12 projects have received an ERC **Starting Grant**, 9 projects an ERC **Advanced Grant**.
> A majority of selected projects are for research in the **Physical Sciences & Engineering** domain (12 projects).
> Grantees are mainly based in host institutions in **Budapest** (15 projects).

Two questions to Erika Szendrak, National Contact Point in Hungary

http://abicko.avcr.cz/2011/05/index.html - © Erika Szendrak

As a National Contact Point (NCP) for the Ideas Programme, Dr. Erika Szendrak is working to promote the ERC and help applicants and host institutions in Hungary. She is also senior RTD policy advisor and Director of HunASCO, Secretariat of the Hungarian Academy of Sciences.

How are Hungarian researchers and host institutions performing in the ERC grant competitions so far?

During the first years of operation of the ERC - between 2007 and 2010 - applicant scientists with Hungarian host institutions achieved outstanding results in this region of Europe. Compared to EU-12, Hungary has the strongest performance as regards successful ERC participation (and about the same as for example Denmark). At national level, compared to other parts of FP7, Hungarian research performing organisations and their scientists have attracted one of the highest overall Community support in view of the share of other FP7 funding opportunities.

What are your main activities as an ERC National Contact Point?

In a nutshell, the main activities are the same as for any other NCPs at any other FP7 programme parts: we inform, raise awareness and advise, and we also assist and train, as well as signpost and provide feedback. However, in the frame of my work in Hungary the biggest demands are for instance assisting the participant legal entities (the host institutions) in understanding the framework programme requirements in view of the national legislative environment and the institutions own regulations and accounting principles. Another key activity is providing assistance to the different institutional players - management, administrative and financial staff, as well as the scientists themselves – in order for them to understand the relevant rules and administrative requirements taking into account the different roles they play in a given activity.

Calendar of ERC calls

Open to researchers from anywhere in the world

Call for proposals	Publication Date	Deadline	Funding
ERC 2011 PROOF OF CONCEPT (Open only to ERC grant holders)	29 March 2011	08 November 2011 at 17:00 (Brussels local time)	Up to EUR 150 000 per grant
ERC 2012 STARTING GRANTS	Planned: 19 July 2011	Planned from October to November 2011 for the three domains: > Physical Sciences and Engineering (PE) > Life Sciences (LS) > Social Sciences and Humanities (SH)	Up to EUR 2.0 Mio per grant
ERC 2012 ADVANCED GRANTS	Planned: November 2011	Planned for Spring 2012	Up to EUR 3.5 Mio per grant

To stay updated and to apply, please visit:

http://erc.europa.eu

For comments:
erc-info@ec.europa.eu

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