

EUROPEAN COMMISSION

**Annual Report on the ERC
activities and achievements in 2012**

ERC
European Research Council



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Commissioner's Introduction

At a time when the European Union is committing resources to recover from the current crisis, one needs to be even more ambitious about science, research and innovation. And excellent basic research, which is the cradle of Europe's future growth and welfare, should be at the forefront of these efforts.

These ambitions are widely shared by the European Research Council (ERC) in its continuous efforts to promote world-class frontier research. This annual report, that I have the pleasure to introduce, demonstrates that in 2012 the ERC has once again succeeded in supporting and strengthening research excellence in Europe.

The ERC was only created in 2007, but it already has an enviable reputation. Any researcher who secures a grant from the ERC has done it by going through a very tough Europe-wide competition, not just a competition organised within national borders. Only the very best researchers with excellent ideas make it to the top. The ERC already counts Nobel laureates, Fields medallists and winners of other prestigious international research prizes among its grantees.

The ERC funds research in the most basic and widest context, including endeavours where curiosity-driven researchers convincingly pursue what they believe is their duty: to try to better understand the world in which we live. Wouldn't we all like to widen the frontiers of our current understanding of the origins of life on Earth or have a clearer picture of how stars form and evolve? Or to comprehend how our brains work, or unlock the secrets of the prime numbers? The cultural and philosophical importance of what these researchers do is undeniable: quenching humanity's thirst for new knowledge demands frontier research.

But innovation also demands frontier research. We might not realise it, but every time we buy something on the Internet with our credit card, we have to thank the theoretical mathematicians: modern cryptography depends on some marvellous properties of those same prime numbers that continue to stimulate scientists' curiosity. And certainly Einstein, when finalising his general theory of relativity, had little concern for practical or observable consequences. But the development of the multi-billion dollar growth industry centred on the GPS depends on precise atomic clocks that were initially developed solely for the purpose of testing his theory.

I talk frequently to global business leaders. I always ask them about the factors that persuade them to invest in one country or region over another. A world-class research base is always the first one they mention. It is not difficult to understand why. Basic research, with its long-term perspective and strong emphasis on excellence and interactions between disciplines, is a necessary foundation for a successful innovation system. If 40 years ago the 'fathers' of fibre optics and digital imaging — who then went on to win the 2009 Nobel Prize in physics — had not followed their curiosity, we may never have developed the communications industry which has contributed immensely to the last decades' economic growth.

The discoveries being made today in labs and universities financed by the ERC could tomorrow lead to tangible improvements to our lives, such as new types of diagnostic tools for managing patients with chronic diseases or distinctly new solar technologies able to compete with the very best existing ones, but at a fraction of the cost.

Europe must aim at consolidating and improving its science performance against its competitors. By raising the overall level of its basic research, Europe will be able not only to widen the frontiers of knowledge but also to turn innovative ideas into products and services that will create growth and prosperity.

Let me thank the ERC and its Scientific Council for their invaluable contribution towards these goals.



Máire Geoghegan-Quinn
*European Commissioner for Research,
Innovation and Science*



Personal message from the ERC President

This ERC annual report provides a glimpse into the main achievements of the ERC in 2012. Evaluation and granting procedures proved to run smoothly. The ERC has again successfully closed an Advanced Grant and a Starting Grant round, with approximately EUR 680 million and EUR 730 million spent, respectively. With more than 300 new Advanced Grantees, and around 560 Starting Grantees, this was a year in which more ERC grants have been distributed than ever before. Just after the end of 2012 the 3000th grant agreement was signed.

Demand for ERC funding is still rising to an ever higher level, keeping the overall success rate of proposals at merely 12-13%. Not surprisingly, the demand increases are greatest among the Starters. The numbers confirm the ERC Scientific Council's conviction that the intellectual basis for creative and excellent research in Europe is far from being exhausted. This is an important argument against any reduction of frontier research budgets. In autumn 2012 an initiative was taken by the two Nobel laureates who are members of the ERC Scientific Council to approach their colleagues to sign an open letter to heads of states and governments in Europe. Fifty Nobel Prize laureates and Fields medallists followed the invitation. The letter argued against cuts of the research budget at European level and was published in almost all major national newspapers throughout Europe. It was followed by an online petition 'no cuts on research in Europe', initiated by researchers of the younger generation, among them many ERC grantees, and coordinated by the Initiative for Science in Europe. It collected more than 150000 signatures. The letter and petition were subsequently presented to the Presidents of the European institutions, Barroso, Van Rompuy and Schulz.

The ERC Scientific Council continues to be strongly committed to the ERC as a learning institution. After having successfully implemented the 'Proof of Concept'-scheme we introduced a novel pilot scheme, the 'Synergy Grant'. When it was first presented, the Synergy Grant left critics in doubt: does the ERC quietly return to consortia? Far from it. The Synergy Grant funds individual excellent researchers, not institutions; it is bottom-up and investigator-driven. It offers up to four researchers the freedom to join forces and to come forth with daring projects which can only be realised by matching specific skills and knowledge that go beyond 'normal', even if otherwise excellent, science.

The results of the Synergy Grant evaluation 2012 proved us right in showing that we were obviously meeting a demand from the scientific community. The interest was overwhelming – more than 700 proposals for a rather small part of our overall annual budget. The evaluation procedure had been set up in a novel way and it proved to be rigorous. Only 11 projects were funded in the end, all of which fulfilled the demanding requirements of posing risky questions to be tackled by a small group of researchers and their teams, while moving beyond what has been scientifically accomplished so far. As a pilot scheme, the Synergy Grant will be continued in 2013 with some minor revisions, and will then be critically assessed by the Scientific Council.

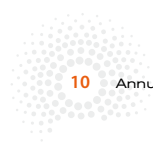
In 2012, the ERC has reached the fifth year of its young and dynamic existence. We celebrated the occasion with an exuberant festivity on 29 February and 1 March in Brussels. It gave us great pleasure to do so in the company of many distinguished policy makers from Europe and beyond. We were proud to listen to ERC grantees presenting their scientific achievements in three panels, which inspired and entertained some 500 invited guests.

In 2012, the ERC also launched its internationalisation campaign, 'the ERC goes Global'. For the last 12 months, the ERC Secretary-General Prof. Donald Dingwell has been traveling in Asia, the Americas, and Africa. In total, he visited 26 cities in nine countries. In more than 70 meetings, he conveyed the message that is often met with disbelief, followed by enthusiasm: the ERC is open to everyone, and its transparent, fair and highly international evaluation procedure is strictly based on the excellence-only criterion. This message continues to surprise many researchers outside Europe. The rising global recognition of the ERC is also reflected in a Memorandum of Understanding, signed at the ESOF conference in Dublin in July by Commissioner Máire Geoghegan-Quinn and the Director of the US National Science Foundation, Prof. Subra Suresh. The agreement will enable ERC grantees to host young researchers selected by NSF at no extra cost. We expect similar bilateral agreements to be formulated within the coming years.

A preconception I often heard during my stays abroad in the past year is that Europe is doomed, and that the European Union is at the brink of breaking apart. There are many good arguments against this misperception, but Europeans should not treat it lightly, as it may well inform public policies. The ERC is the best proof against the image of a dysfunctional European Union, as it highlights in an exemplary way that European institutions can create European added value in highly innovative ways. This is one of the reasons why the Scientific Council remains committed to pursue the ERC's unique mission. It will continue to make fundamental contributions to the transformation of Europe into a world-leading knowledge area.



Prof. Helga Nowotny
ERC President and Chair of its Scientific Council





Highlights - 2012 in review

1.1 Mission

The European Research Council (ERC) marks a new approach to investing in frontier research in Europe. Funded through the European Community's seventh framework programme (FP7) as the implementation of the 'Ideas' specific programme, the ERC aims at reinforcing excellence, dynamism and creativity in European research by funding investigator-driven projects of the highest quality at the frontiers of knowledge.

The EU-funded research under this programme responds to the need to increase the attractiveness of Europe, both for the best researchers worldwide and for industrial research investment. In addition, the programme aims to strengthen the EU's capacity to generate new knowledge that will feed back into the economy and society.

The ERC is comprised of an independent Scientific Council of 22 distinguished scientists, engineers and scholars that establishes and monitors the implementation of the ERC's scientific strategy, and an autonomous executive agency that handles the operational management.

Two grant schemes designed by the Scientific Council form the core of its activities: Starting Grants (StG) support researchers at the early stage of their careers, with the aim of providing working conditions that enable them to become independent research leaders, while Advanced Grants (AdG) are designed to support outstanding and established research leaders by providing the resources necessary to enable them to continue the work of their teams in expanding the frontiers of scientific knowledge.

In 2011 a new funding option was launched, the Proof of Concept (PoC), offering to existing ERC grant holders the possibility to establish the innovation potential of ideas stemming from their existing ERC grants. This funding scheme is aimed at covering the funding gap known as 'the valley of death' which occurs in the very early stages of the commercialisation process of potentially innovative ideas.

An additional funding scheme was introduced in 2012, the ERC Synergy Grant (SyG), aimed at groups of two to four exceptional researchers, combining their expertise, knowledge and resources to make scientific breakthroughs that would not be possible for any of them working alone.

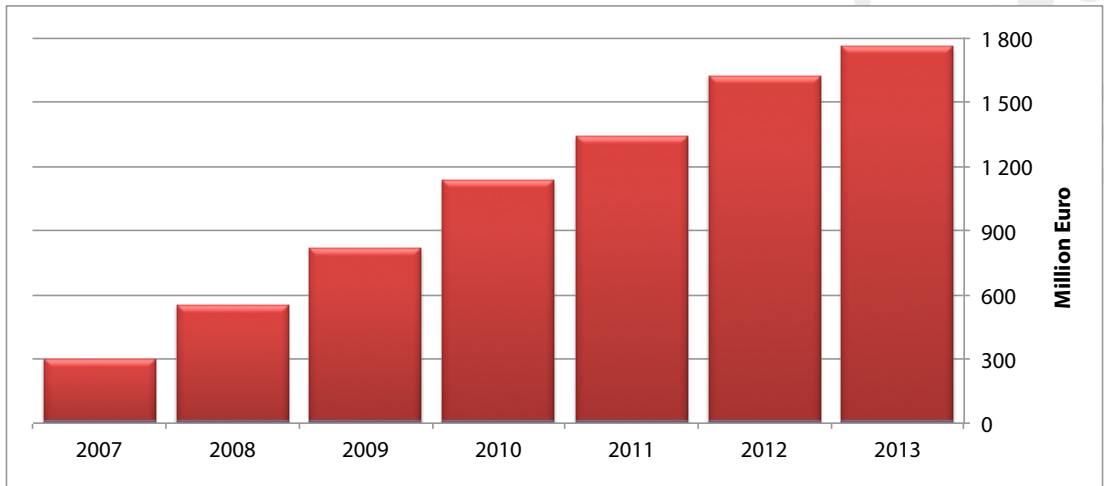
By promoting excellence, the ERC has a fundamental role in reinforcing and making more coherent the whole system of research and innovation. This curiosity-driven, competitive approach has allowed the 'Ideas' programme to fund a broad project portfolio, including projects which address current grand challenges as well as fundamental questions. The ambition is to lay the foundations of solutions to future, unpredictable challenges that European society may face.

1.2 Main achievements in 2012

The 'Ideas' specific programme's budget implemented by the ERC is EUR 7.5 billion over a period of 7 years. It represents around 15% of the entire FP7 budget.

In the implementation of the programme in 2012, commitment credits of EUR 1.6 billion (global commitment) and payments of EUR 840 million were fully executed. Around 2.4% of the operational budget was spent on administration.

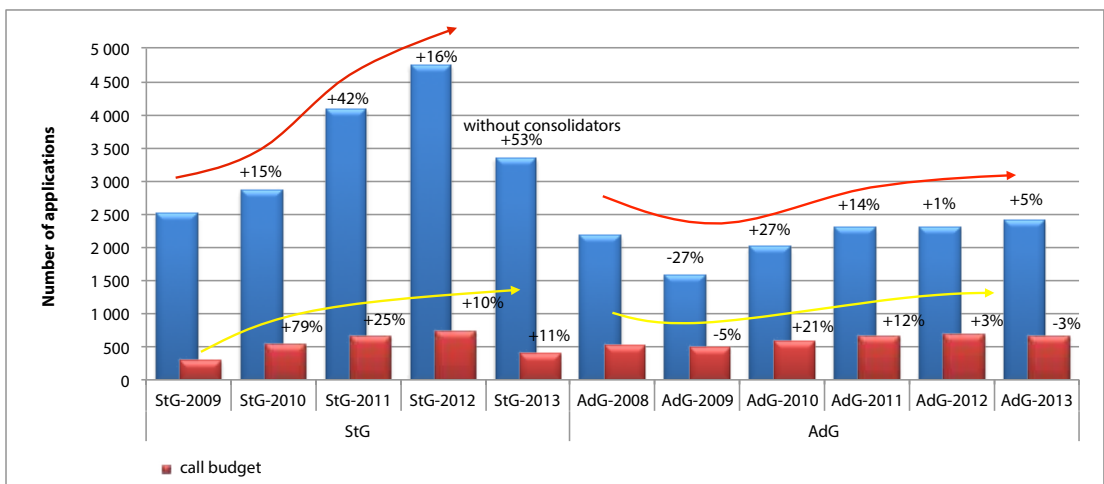
Figure 1: Annual budget evolution 2007-2013



The ERC schemes have been well received by the research community. Since its start in 2007, the ERC has completed 10 calls for proposals for the Starting and Advanced Grant schemes. The competitions yielded a total of over 33 000 proposals. More than 3 400 have been selected for funding through a rigorous peer review process. By the end of 2012, almost 3 000 frontier-research projects were up and running in more than 500 prestigious research institutions in Europe.

In response to the two 2012 calls, the ERC received a total of 7 045 proposals, representing an 11% increase compared to 2011. More than 870 new awards were granted to individual investigators hosted by universities and other public and private institutions throughout the EU and associated countries, for a total budget of approximately EUR 1.5 billion. Around 7 000 proposal evaluations were conducted in the 2012 calls, divided as usual into 25 different panels per call, involving almost 700 panel reviewers and more than 5 000 external reviewers.

Figure 2: Rising number of applications



The 2012 'Ideas' work programme included a new funding opportunity offered on a pilot basis: the Synergy Grant. It aims specifically at enabling small groups of outstanding Principal Investigators and their teams to bring together complementary skills, knowledge and resources in new ways that will help them jointly address research problems that go beyond what could be achieved without such synergies. Following an extremely competitive call, a small number of grants were awarded in December 2012 to excellent researchers who will work together on exceptional projects requiring complementarity.

A glance at the list of ERC grant holders who received international scientific prizes and awards in 2012 ⁽¹⁾ provides a good example of how ERC funding schemes have attracted also this year top researchers. As of 2012, 76 ERC grantees have received prestigious international scientific prizes and awards. Also noteworthy is the fact that the ERC already counts among its grantees five Nobel Prize winners and three Fields medallists.

ERC-funded projects are highly productive and ERC-funded research is largely present in high-impact journals. By the end of 2012, the ERC Executive Agency (ERCEA) collected from Thomson Reuters' Web of Knowledge more than 7 900 journal articles acknowledging ERC funding.

The efficient operation of all the calls during 2012 underlines the successful organisational development of the ERCEA, which was created to implement the 'Ideas' specific programme as an integrated constituent of the ERC. The agency's staff counted 380 members at the end of 2012.

The agency managed to consolidate its key performance indicators in relation to grant implementation in 2012 and largely met its targets, with the exception of the 'time to grant' referring to the time from call deadline to signature of grants. While the target was to sign grant agreements in at least 50% of grants within 365 days, the actual time in 50% of cases was 379 days (Advanced Grants 2011). For Starting Grants, the 'time to grant' was below the set target of 365 days, with 347 days for StG-2011 and 351 days for StG-2012. However, the length of the two-step evaluation process, which is based only on excellence criterion, did not make it possible again this year to meet this ambitious target.

Thanks to tight supervision and a performing follow-up system, the 'time to pay' remained record with an average of 10 days for pre-financing, 14 days for interim payments and 34.6 days for final payments.

⁽¹⁾ <http://erc.europa.eu/projects-and-results/prizes-and-awards-2012>



Nobel Prize in physics 2012 awarded to an ERC grantee

Professors Serge Haroche (France) and David J. Wineland (United States) have been jointly awarded the Nobel Prize in physics for 2012 for 'ground-breaking experimental methods that enable measuring and manipulation of individual quantum systems'.

Prof. Haroche's ERC-funded project DECLIC focuses on the boundary between the quantum and classical worlds. Quantum light particles have the ability to be in two physical states at the same time; this is called 'state superposition'. In quantum computer, this would mean that a memory bit could have a value of both '0' and '1' at the same time. This is impossible in our 'classical' macroscopic world due to the decoherence mechanism: light particles must be in one physical state or the other, and have a value of '0' or '1'. The DECLIC project studies precisely the decoherence mechanism of light in cavities. Prof. Haroche's team uses the techniques and methods of cavity quantum electrodynamics, which have been recognised by the Nobel Committee, to try to create and control quantum superposition in systems containing a few 10s of photons. This could be useful in technologies exploiting quantum features, for example in quantum information processing for computers.

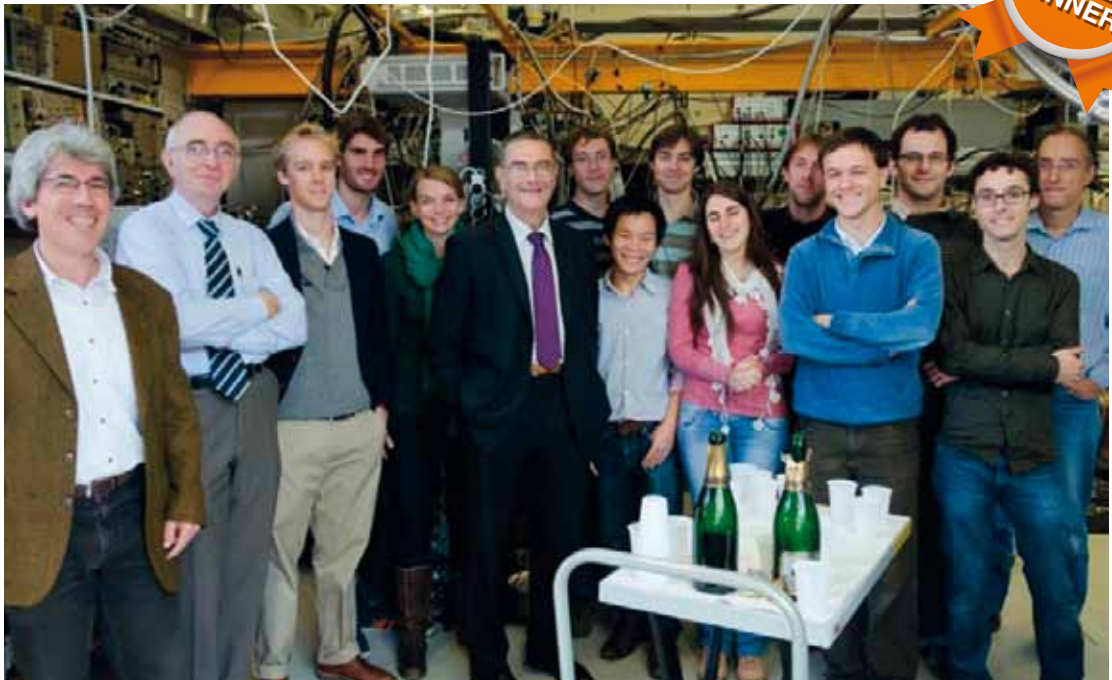
Principal investigator: Serge Haroche

Host institution: Centre National de la Recherche Scientifique (CNRS), France

ERC project: Exploring the decoherence of light in cavities (DECLIC)

ERC call: Advanced Grant 2009

ERC funding: EUR 2.5 million for 5 years



Prof. Serge Haroche and his team at the Laboratoire Kastler Brassel celebrating the Nobel Prize announcement.

1.3 Highlights – 2012 in review

Five years of excellent ideas – The ERC's fifth anniversary

Five years after its launch, the ERC celebrated this milestone with a 2-day event, which can be described as a blend of science, debate and entertainment. Between tasting the birthday cake, listening to presentations on the most spectacular ERC-funded projects and enjoying shows, the overarching theme was excellence.

Among the participants were high-level speakers from all the main EU institutions and many of the ERC's founding fathers. Together with guests from top research organisations from around the globe, they discussed the impact of the ERC so far and its future prospects.

ERC President Helga Nowotny asked policymakers to trust the ERC when it comes to 'the usefulness of useless knowledge', which can lead to unexpected discoveries. She reminded the audience of the need for taking risks and underlined the importance of excellence in research.

This view was supported by European Commission President José Manuel Barroso who, in the video message, described the ERC as 'a beacon for excellence, not only in Europe' and a great example of 'doing more, better, faster'. He expressed his strong personal commitment to the ERC and called for the EU Member States' and the European Parliament's support for the proposed budget boost.

Commissioner for Research, Innovation and Science Máire Geoghegan-Quinn put the spotlight on the major achievements of the 5-year-old and said it has become 'one of Europe's biggest success stories.'

A large part of the programme over the 2-day celebration was dedicated to scientific sessions, one in each domain - Physical Sciences and Engineering, Life Sciences and Social Sciences and Humanities – with nine outstanding ERC grant holders speaking and members of the ERC Scientific Council moderating. These discussions gave evidence of how the ERC can influence the global scientific landscape, address today's problems and overcome tomorrow's pressing societal needs.

The closing speech was given by Robert-Jan Smits, Director-General of the European Commission DG Research and Innovation. Having taken part in the ERC's journey from the start, he described it as one of the most interesting experiences of his career; both because of the people he got to know and the process itself. One of the lessons he learnt from the ERC was that when an 'idea is strong and powerful enough, it cannot be stopped'.





Fifth anniversary grantees

Paving the way to more efficient and safer light sources

With her Starting Grant, Professor Anja-Verena Mudring studies novel smart materials to produce energy-efficient light sources that would also be competitive on the market and environmentally safe. A significant amount of electricity could be saved if more energy-efficient light sources were used. For instance, the recently banned conventional incandescent lamps convert most of the energy to heat rather than to luminosity. Compact fluorescent lamps (CFLs) used in home illumination or light emitting diodes (LEDs) found

in traffic lights are more energy efficient, but their current manufacturing process employs hazardous and rare materials which are harmful to both the environment and human health. These could now be replaced by environmentally friendly ones such as noble gas xenon, characterised by safer production and end-of-life processes.

Prof. Mudring's team employs nano-energy-conversion phosphors coated by means of new ionic liquids-based techniques. Ionic liquids production does not require toxic and difficult synthesis steps. It allows a reduction of reaction times and temperature, less chemicals are needed and smaller particles are obtained with high phosphor content. The researcher hopes this new method will provide a competitive alternative to traditional light bulbs, which would be less harmful to human health and the environment.

Principal investigator: Anja-Verena Mudring

Host institution: Ruhr-Universitaet Bochum, Germany

ERC project: Exceptional materials via ionic liquids (EMIL)

ERC call: Starting Grant 2007 and Proof of Concept 2011

ERC funding: EUR 999 800 for 5 years and up to EUR 150 000 for the Proof of Concept grant





Molecular bypass therapy for mitochondrial dysfunction

Malfunction of the mitochondria, the cells' 'power plants', underlies a diverse range of human pathologies, including rare neuromuscular syndromes, age-related neurodegeneration and devastating paediatric metabolic disorders. Mitochondrial dysfunction is also a major cause of tissue damage in heart attacks and strokes and has also been linked to cancer progression. Professor Howy Jacobs proposes an innovative genetic therapy for this vast range of pathologies that uses alternative respiratory chain enzymes from lower organisms as a way to bypass inhibited steps in the regular mitochondrial energy-producing system. Triggered by genetic defects or toxic insults, mitochondrial dysfunction leads to cellular damage due to increased oxidative stress, interruption of basic metabolic pathways and over-production of harmful by-products. In principle, these damaging effects could be alleviated by introducing single genes for the alternative enzymes into failing mitochondria. Although these enzymes do not restore full energy production, they reverse some of the harmful effects associated with mitochondrial dysfunction. Ultimately, Prof. Jacobs's innovative research could produce an important breakthrough technology applicable to human medicine, potentially allowing treatment of currently incurable conditions.

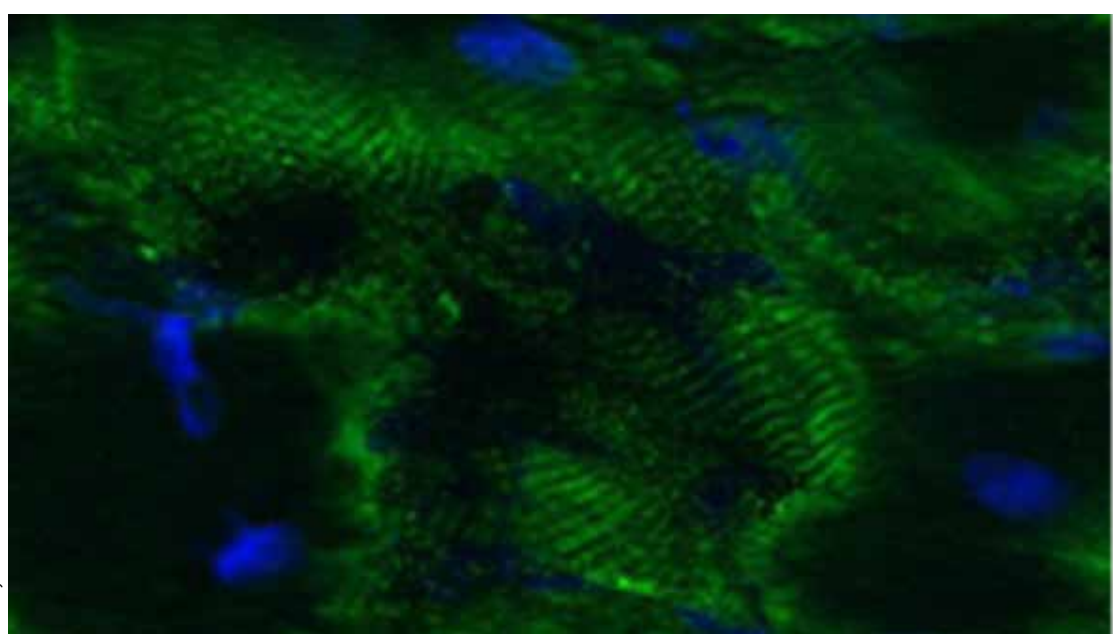
Principal investigator: Howy Jacobs

Host institution: University of Tampere, Finland

ERC project: Molecular by-pass therapy for mitochondrial dysfunction (MITO BY-PASS)

ERC call: Advanced Grant 2008 and Proof of Concept 2011

ERC funding: EUR 2.43 million for 5 years and up to EUR 150 000 for the Proof of Concept grant



A section of mouse heart, with nuclei stained in blue and mitochondria in green; the green colour confirms the expression of AOX.



Human capacity to adapt to climate change

If global warming continues as it is currently foreseen, societies will urgently have to adapt themselves. Little has been done so far to explore the drivers of adaptive capacities of future societies to hazardous climate changes on Earth. Professor Wolfgang Lutz aims to fill this gap and use demographic methods to develop a quantitative forecasting model for analysing the capabilities of populations to adapt to future climate change-related challenges. He will primarily focus on testing the hypothesis that broad-based education of the population (and in particular near-universal junior secondary education of women) can help reduce the vulnerability and enhance the adaptive capacity of peoples to natural disasters and climate change. Using case studies on past natural disasters — such as hurricane Mitch, the Asian tsunami and the recent flooding in south and south-east Asia, he will compare the effects of better education to that of wealth and other possible factors. At the global level, the project will produce the first science-based projections for all countries until 2100 stratified by age, gender and level of highest educational attainment. In the context of this project, Prof. Lutz has also drawn up a new predictive theory of socioeconomic change called ‘demographic metabolism’.

Principal investigator: Wolfgang Lutz

Host institution: International Institute for Applied Systems Analysis, Austria

ERC project: Forecasting societies adaptive capacities to climate change (FUTURESOC)

ERC call: Advanced Grant 2008 and Proof of Concept 2012

ERC funding: EUR 2.44 million for 5 years and up to EUR 150 000 for the Proof of Concept grant



Education can empower children to better adapt to climate change.

Horizon 2020 negotiations

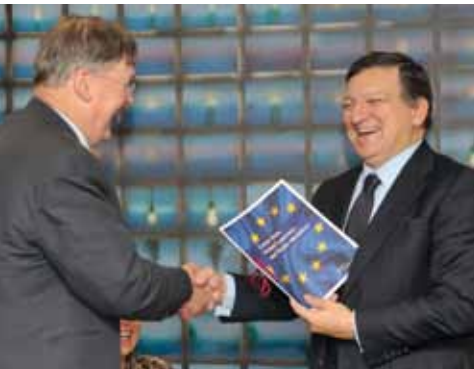
The European Commission published its proposals for Horizon 2020, the EU's programme for research and innovation from 2014 – 2020 in November 2011. By the end of 2012 the Council and the European Parliament's ITRE Committee had both taken positions on the three parts of the Horizon 2020 legislation (Framework Regulation, Rules for Participation and Specific Programme). The following step is to work to reconcile their positions in order to reach final agreement on the three documents, once the overall EU budget is agreed. To this end the Council, EP and Commission will hold a number of 'trilogues' at the start of 2013.

In November 2012 a delegation led by Nobel laureates Sir Tim Hunt (member of the ERC Scientific Council) and Jules Hoffmann met the President of the European Parliament, Martin Schulz, the President of the European Council, Herman Van Rompuy, and the President of the European Commission, José Manuel Barroso, to urge EU leaders to secure the future budget for research and innovation Horizon 2020. They handed in an open letter, signed by 44 Nobel laureates and 6 Fields medallists, warning against the dramatic consequences of possible budget cuts in research and innovation. The delegation also drew attention to the petition 'No cuts on research' in support of this cause, (<http://www.no-cuts-on-research.eu/>), initiated by the Young Academy of Europe and coordinated by the Initiative for Science in Europe, which had been signed by over 150 000 citizens in Europe and across the globe by the end of 2012.



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Wolfgang Eppenschwandtner (Executive Coordinator of the Initiative for Science in Europe), Maria Leptin (President of the Initiative for Science in Europe and Director of the European Molecular Biology Organisation, EMBO), Helga Nowotny (President of the European Research Council), Herman Van Rompuy (President of the European Council), Sir Tim Hunt (Nobel Laureate in Physiology or Medicine 2001), Jules Hoffmann (Nobel Laureate in Physiology or Medicine 2011).



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Sir Tim Hunt and José Manuel Barroso (President of the European Commission).



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Martin Schulz (President of the European Parliament) and Sir Tim Hunt.





Research highlights



In the footsteps of Darwin: pig DNA sheds light on evolution and selection

In collaboration with scientists from 12 different countries, ERC Advanced grantee Professor Martien Groenen conducted an unprecedented genomic study that showed unexpected similarities between the pig and the human genome. These findings further support the use of pigs as biomedical models of human disease. The researchers examined evolutionary changes in the pig genome in Eurasia and its subsequent domestication and selective breeding by humans. They compared the DNA of the common farm pig (*Sus scrofa domestica*) with the DNA of 10 individuals of its closest cousin — the wild boar — all from different parts of Europe and Asia. This was followed by a comparative DNA analysis with human, mouse, dog, horse and cow. The study revealed significant genetic differences between Asian and European wild boars: the result of their separation around 1 million years ago. Furthermore, sequencing analysis of 48 individual pigs uncovered gene variants in the pig genome that are associated with human diseases such as obesity, diabetes, dyslexia, Parkinson's and Alzheimer's diseases. This discovery has important implications for agriculture, evolutionary biology and medicine.

Published in *Nature* in November 2012, these breakthrough results were featured on the journal cover.

Principal investigator: Martien Groenen

Host institution: Wageningen Universiteit, the Netherlands

ERC project: Molecular characterisation of genetic factors in the pig under selection during speciation, domestication and breeding (SELSWEEP)

ERC call: Advanced Grant 2009

ERC funding: EUR 2.5 million for 5 years



© Nature 2012 — Mike Kemp, Rubberball, Getty Images/Pompeii, René Mattes, Hemis, Corbis



European wild boar representative of the ancestor of the European domestic pig.

© Prof. M. AM. Groenen



The first seafarers of the Indian Ocean and how they changed the world

The role of the sea in drawing together peoples and cultures from distant places and continents — and promoting the beginnings of globalisation — is apparent from textual sources and archaeological remains. Like the Mediterranean Sea, the Indian Ocean represents an important zone of inter-cultural interaction and trade, across which populations have migrated and mixed for several thousand years. With her SEALINKS project, Dr Nicole Boivin has brought together an international team that endeavours to understand more about the earliest Indian Ocean maritime voyages and contacts, the role local communities had in their emergence, and their social, economic and environmental impacts. The researchers have embraced a multidisciplinary approach combining traditional archaeological techniques and historical linguistics with new methods such as molecular genetics, cladistics and palaeoenvironmental studies. Students on both sides of the Indian Ocean (Kenya, Tanzania, Sri Lanka and India) have also been trained in new archaeological methods in an effort to build capacity and support research at the local level. The aim of the project is to reconstruct the histories of connectivity that linked and transferred human populations, domesticated plants and animals, technologies and societies, and which lie hidden under more recent evidence of interaction. The research is helping to highlight for the wider public the cultural exchanges and ethnic mixing that have long characterised human societies.

Dr Nicole Boivin was a speaker at the ERC session in the American Association for the Advancement of Science (AAAS) congress in Vancouver, Canada, and accompanied ERC Secretary-General Prof. Dingwell during his first trip for the internationalisation campaign 'ERC goes Global', launched in February 2012.

Principal investigator: Nicole Boivin

Host institution: University of Oxford, United Kingdom

ERC project: Bridging continents across the sea: Multi-disciplinary perspectives on the emergence of long-distance maritime contacts in prehistory (SEALINKS)

ERC call: Starting Grant 2007

ERC funding: EUR 1.2 million for 5 years





The mysteries of ageing: learning from the bat

For all living organisms, ageing is the inevitable process of biological deterioration that makes them increasingly vulnerable to diseases and finally leads to death. Despite considerable research into ageing, its intrinsic complexity remains to be fully understood. Selected for a Starting Grant 2012, Dr Teeling will study bats. Proportionally to their size, these animals are one of the few mammals that live longer than humans and they are an interesting exception to the ageing rule. Although they present certain age-related changes, these occur at a significantly slower pace than in humans and other mammals.

Dr Teeling will study the underlying molecular mechanisms governing ageing in bats.

With her team, she will follow a group of wild bats in France over several years. The team will take tiny blood samples from the bats and perform genetic analyses that may explain their exceptional longevity. The outcome of her research could lead to the design of innovative therapeutic strategies which could counter the ageing process in humans.

Dr Teeling is one of the 566 researchers selected for a Starting Grant 2012. Her project will start in January 2013.

Principal investigator: Emma Teeling

Host institution: University College Dublin, National University of Ireland, Ireland

ERC project: Comparative genomics/wildlife transcriptomics uncovers the mechanisms of halted ageing in mammals (AGELESS)

ERC call: Starting Grant 2012

ERC funding: EUR 1.5 million for 5 years



Wild-caught round-eared bat (*Myotis myotis*).



International human rights law in Russia and the West

Awarded an ERC Starting Grant in 2009, Prof. Lauri Mälksoo has emerged as one of the leading younger voices from eastern Europe in his field. His project focuses on Russia's general understanding and practice of international law, including in the field of human rights. Prof. Mälksoo argues that western countries and Russia seem to put a different emphasis on the importance of human rights law in the general edifice of international law. This creates tensions, in particular within organisations such as the Council of Europe and the United Nations. He chose an innovative and unconventional method to address this question combining classical international legal research with detailed empirical evidence, such as elements of international relations, political theory and historical research. His team will also bring together different disciplines, groups and opinions, including those of Russian judges, politicians and academics, in order to get a wider scholarly perspective. The aim is to assess Russia's doctrine and application of international law which, the researcher hopes, will ultimately contribute to the mutual understanding between Russia and the West.

Principal investigator: Lauri Mälksoo

Host institution: Tartu Ülikool, Estonia

ERC project: International law and non-liberal states: the doctrine and application of international law in the Russian Federation (INTLAWRUSSIA)

ERC call: Starting Grant 2009

ERC funding: EUR 500 000 for 5 years





Biology meets nanotechnology to design the world's toughest composite material

Biological materials such as spider silks, bones and nacre are remarkable for their exceptional mechanical properties. For example, their toughness, adhesive power, damping properties or self-cleaning and self-healing abilities make them interesting models for nanotechnology. With his ERC-funded project, Prof. Nicola Pugno explores the composition of these materials with the aim of tackling the drawbacks of currently used artificial products. Indeed, nano-tubes or graphene sheets, which represent the future of material science, still have one major drawback: the tougher they are, the weaker they become and vice versa. The ultimate aim of the project is to design composite materials that would be tailor-made for specific predefined needs. The team will use nano-mechanics theoretical tools, and will perform numerical simulations on both the biological and artificial materials. Specific case studies will then be brought to the engineering level to test their importance for material science and feasibility for the high-tech industry. The outcomes of this research could potentially lead to designing the world's toughest composite material or to manufacturing an airplane wing providing less resistance and adhesion associated with reduced fuel consumption.

Prof. Nicola Pugno was invited to the World Economic Forum 2012 'Summer Davos', Tianjin, China, 11 to 13 September 2012 and to the Falling Walls Conference that took place in Berlin on 9 November 2012. ERC funding contributed to the launch in 2012 of his new 'Laboratory of Bio-Inspired and Graphene Nanomechanics' at the University of Trento, Italy.

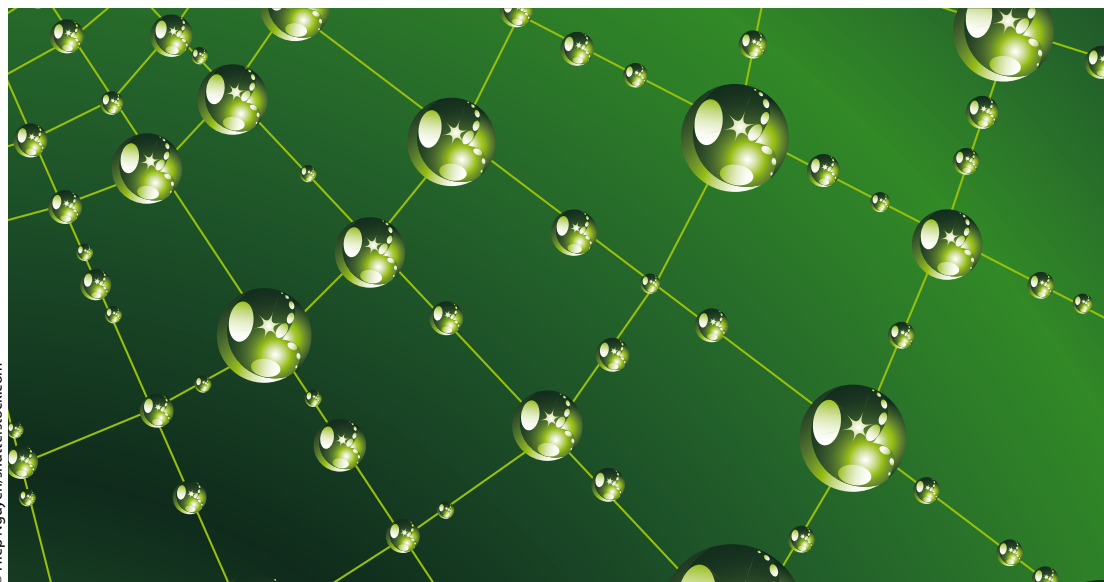
Principal investigator: Nicola Pugno

Host institution: University of Trento, Italy

ERC project: Bio-inspired hierarchical super nanomaterials (BIHSNAM)

ERC call: Starting Grant 2011

ERC funding: EUR 1 million for 5 years





Tiny fossils for huge steps in our understanding

With her ERC grant, Dr Heather Stoll studies microscopic fossils — remains of calcifying algae or ‘diatoms’. Within their cell walls made of silica, the fossils have preserved organic molecules produced by the algae during photosynthesis which testify the conditions in which they lived and died. The researcher specifically focuses on determining how the algae fix CO₂ and how changes in the climate 60 million years ago have affected their ways of doing so. Dr Stoll’s team has identified and calibrated new biochemical indicators that could help track the evolution of the algae. The next step is to measure the speed of adaptation to different environmental changes. By combining studies on fossils with

observations on modern algae grown in laboratory conditions, the researchers hope to answer questions such as: do algae have a CO₂ concentration threshold which — when reached — activates a change in strategy for fixing CO₂? Could this determine which species are more successful? How would algae respond to potential climate change in the future? And how would the ocean’s ability to absorb CO₂ from the atmosphere in the future be affected?

Dr Heather Stoll participated in the Euroscience Open Forum Dublin 2012 (ESOF 2012) as a speaker of the scientific session on ‘Adaptation or extinction? Responses to radical climate changes’.

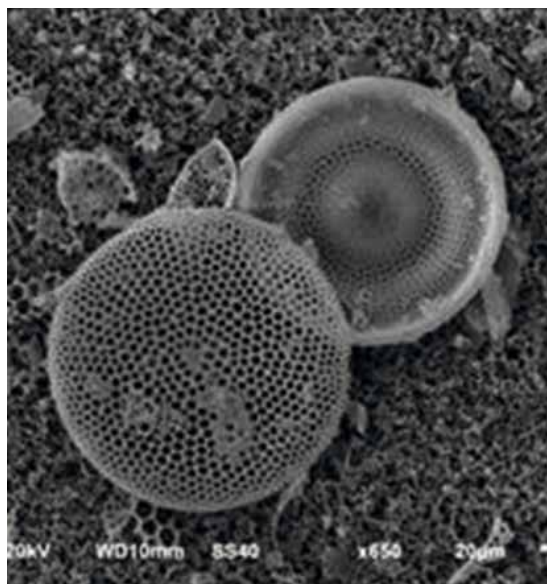
Principal investigator: Heather Stoll

Host institution: Universidad de Oviedo, Spain

ERC project: Precedents for algal adaptation to atmospheric CO₂: new indicators for eukaryotic algal response to the last 60 million years of CO₂ variation (PACE)

ERC call: Starting Grant 2009

ERC funding: EUR 1.8 million for 5 years



Fossil diatoms at the Eocene–Oligocene transition from an ocean-drilling programme core in the Atlantic sector of the Southern Ocean.

Fossil coccospere of Miocene age from a South Atlantic Ocean Drilling Program core.



Theories on spatial memory and mental maps put to the test

Spatial memory refers to our ability to remember and recall the location of items in a given environment. This is true for both our immediate environment — for example, remembering whilst at home where we left our keys — but also memories of more distant places and objects such as the route in a city we are about to revisit. Although the neural circuits supporting spatial memory have been well described, academics do not agree on the type of information the brain uses to create our spatial maps. Some theories suggest that the brain builds environmental representations on the basis of the location of items (the allocentric memory), whereas others propose that one's interactions with these items are crucial for the generation of mental maps (the egocentric memory). Recent findings have tried to reconcile these two conflicting theories, proposing mixed models to explain the formation of spatial representations in the brain.

With his ERC grant, Dr Avraamides tests the validity of each of the discussed models in humans and gathers empirical data allowing the predictions of these theories to be tested. The outcome of his research could have important implications for the development of navigation systems for blind people and for human-machine communication.

Dr Avraamides gave a talk at the informal Competitiveness Council in Nicosia under the Cypriot Presidency of the EU Council and highlighted the benefits of the ERC grants to the EU ministers.

Principal investigator: Marios Avraamides

Host institution: University of Cyprus, Nicosia

ERC project: Multiple systems of spatial memory: their role in reasoning and action (OSSMA)

ERC call: Starting Grant 2007

ERC funding: EUR 500 000 for 4 years



A virtual model of a room that was used in experiments.



Advancing frontier research

3.1 From 2007 to 2012: six years of ERC calls

ERC calls for proposals 2007-2012

ERC Call	Applications received	Of which		
		Evaluated*	Funded	Success rates (%)**
Starting Grant 2007	9 167	8 787	299	3.4
Starting Grant 2009	2 503	2 392	245	10.2
Starting Grant 2010	2 873	2 767	436	15.8
Starting Grant 2011	4 080	4 005	486	12.1
Starting Grant 2012	4 741	4 652	566	12.2
Starting Grants total	23 364	22 603	2 032	10.7***
Advanced Grant 2008	2 167	2 034	282	13.9
Advanced Grant 2009	1 584	1 526	245	16.1
Advanced Grant 2010	2 009	1 967	271	13.8
Advanced Grant 2011	2 284	2 245	301	13.4
Advanced Grant 2012	2 304	2 269	313	13.8
Advanced Grant total	10 348	10 041	1 412	14.2***
Proof of Concept 2011	151	139	51	36.7
Proof of Concept 2012	143	120	60	50.0
Proof of Concept total	294	259	111	43.4***
Synergy Grant 2012	710	697	11	1.6

(†) Ineligible and withdrawn proposals not taken into account

Data as of 21/01/2013

(*) Basis: evaluated proposals

(**) Average of the individual call success rates

By the end of 2012, the ERC had launched in total six Starting Grant, one Consolidator Grant ⁽²⁾ and six Advanced Grant calls for proposals.

- Ten calls were completed (Starting Grant 2007, 2009, 2010, 2011 and 2012; Advanced Grant 2008, 2009, 2010, 2011 and 2012), i.e. the evaluation process was concluded and the results were communicated to the applicants and other stakeholders.
- The proposal submission deadlines of the Starting Grant 2013 and Advanced Grant 2013 calls had passed and the evaluation processes were still on going for these calls.
- The Consolidator Grant 2013 call was launched in November 2012 with a deadline in February 2013.

⁽²⁾ Since 2010, the Starting Grant has been 'streamed', allowing applicants to be compared with researchers of a similar level. Broadly speaking, 'starters' are usually still in the process of setting up their own research group, while 'consolidators' are very often already working with their own group, but need to consolidate it. As a development from this practice, under the 2013 work programme, the two streams of what was the ERC Starting Grant will be divided into two separate calls in response to the rapidly rising number of applications.

In addition, the second call for Proof of Concept grants was launched in February 2012, with the first deadline in May and the second in October 2012. For both deadlines, the evaluation process was concluded and the results were communicated to the applicants and other stakeholders.

Finally, the evaluation process of the first pilot call for Synergy Grants was concluded in 2012 and the results were communicated to the applicants and other stakeholders. The second pilot call for Synergy Grants was launched in October 2012, with a deadline for submission of proposals in January 2013.

The number of applications received in 2012 confirms an increasing trend: in response to the 2012 calls (Starting and Advanced Grants), a total of 7 045 proposals were submitted, representing an 11% increase compared to 2011 submissions, with a larger increase (16%) for the Starting Grants. The response to the Starting Grant 2013 competition (starters only), with 3 329 proposals received, represents an increase in demand of 53% compared to the starters component of the Starting Grant 2012 call. The response to the Advanced Grant 2013 competition was also 5% stronger than in 2012.

Distribution by country of residence of the Principal Investigators at the time of application

Call	Evaluated				Funded			
	EU	Assoc. Countries	Other Countries	Total	EU	Assoc. Countries	Other Countries	Total
Starting Grant 2007	7 885	683	219	8 787	251	35	13	299
Starting Grant 2009	2 125	202	65	2 392	207	29	9	245
Starting Grant 2010	2 432	269	66	2 767	363	56	17	436
Starting Grant 2011	3 575	315	115	4 005	421	49	16	486
Starting Grant 2012	4 137	398	117	4 652	491	66	9	566
Total Starting	20 154	1 867	582	22 603	1 733	235	64	2 032
Adv. Grant 2008	1 693	300	41	2 034	229	47	6	282
Adv. Grant 2009	1 278	212	36	1 526	197	43	5	245
Adv. Grant 2010	1 677	238	52	1 967	226	40	5	271
Adv. Grant 2011	1 984	203	58	2 245	265	33	3	301
Adv. Grant 2012	1 960	238	71	2 269	257	43	13	313
Total Advanced	8 592	1 191	258	10 041	1 174	206	32	1 412
Grand Total	28 746	3 058	840	32 644	2 907	441	96	3 444

FP7 Associated Countries

Albania, Bosnia-Herzegovina, Croatia, Iceland, Israel, Faroe Islands, Liechtenstein, the Former Yugoslav Republic of Macedonia, Republic of Moldova, Norway, Republic of Montenegro, Serbia, Switzerland, Turkey.

3.2 The 2012 snapshot

ERC Starting Grants

The 2012 ERC Starting Grant call was published in July 2011 with an indicative budget of EUR 730 million (representing a 10% increase compared to 2011). In total, 4 741 proposals were received, distributed by domain as follows: 2 058 proposals in Physical Sciences and Engineering (43%), 1 653 in Life Sciences (35 %) and 1 030 (22 %) in Social Sciences and Humanities. A total of 566 proposals were selected for funding (data as of January 2013). More than EUR 790 million was awarded with an overall average grant size of around EUR 1.4 million.

The 2013 Starting Grant call was published in July 2012 for applicants qualifying as 'starters' (i.e. Principal Investigators that have been awarded their first PhD at least 2 and up to 7 years prior to the publication date of the call for proposals) with an indicative budget of EUR 398 million. A total of 3 329 proposals were submitted: 1 486 in Physical Sciences and Engineering, 1 073 in Life Sciences and 770 in Social Sciences and Humanities, representing respectively 45%, 32% and 23%. A small, but constant, increase of the share of proposals in Physical Sciences and Engineering can be noticed from 41% in 2011 to 43% in 2012 and 45% in 2013 (see Figure 3).

ERC Advanced Grants

The 2012 ERC Advanced Grant call was published in November 2011 with an indicative budget of EUR 680 million. A total of 2 304 proposals were received, distributed by domain as follows: 978 proposals in Physical Sciences and Engineering (42%), 773 in Life Sciences (34%) and 553 in Social Sciences and Humanities (24%). The evaluation process resulted in a total of 313 proposals being retained for funding (data as of January 2013) for a total of about EUR 720 million awarded and an overall average grant size of around EUR 2.3 million.

The 2013 ERC Advanced Grant call was published in July 2012 with an indicative budget of EUR 662 million. A total of 2 408 proposals were submitted: 1 053 in Physical Sciences and Engineering, 788 in Life Sciences and 567 in Social Sciences and Humanities, representing respectively 44%, 33% and 23%. The share of Physical Sciences and Engineering proposals increased from 40% in 2011 to 42% in 2012 and 44% in 2013 (see Figure 4).

ERC Proof of Concept

The Proof of Concept (PoC) scheme was introduced in 2011 to allow researchers who are already ERC grant holders to bridge the gap between their research and the earliest stage of an innovation.

In the first call (2011), a total of 51 grants were awarded, of which the final 22, selected at the end of 2011, were announced in February 2012. The first 29 grants were announced in October 2011.

In 2012, a further 33 PoC grants were awarded to ERC grantees at the May deadline and another 27 at the October deadline, bringing the total number of PoCs selected for granting by the end of 2012 to 111.

Host Institutions in the UK and in the Netherlands are the most successful in hosting PoC grantees (23 and 20 respectively), followed by France (10) and then by Israel and Switzerland (9).

The pool of potential applicants for a PoC grant is limited to the number of researchers holding an ERC grant. It is therefore not surprising to see that UK institutions host the highest number of PoCs, considering that they also host the highest number of ERC grants. It is, however, interesting to see that the Netherlands, Switzerland, Israel and Belgium host a higher proportion of ERC PoC grants as compared to their share of the total ERC grants, while France, Germany and Italy host a lower proportion of PoC grants as compared to their total share of ERC grants. Among the countries hosting only one PoC grant, Poland and Cyprus have a very low share of total ERC grants.

Figure 3: Starting Grants – submissions 2007-2013

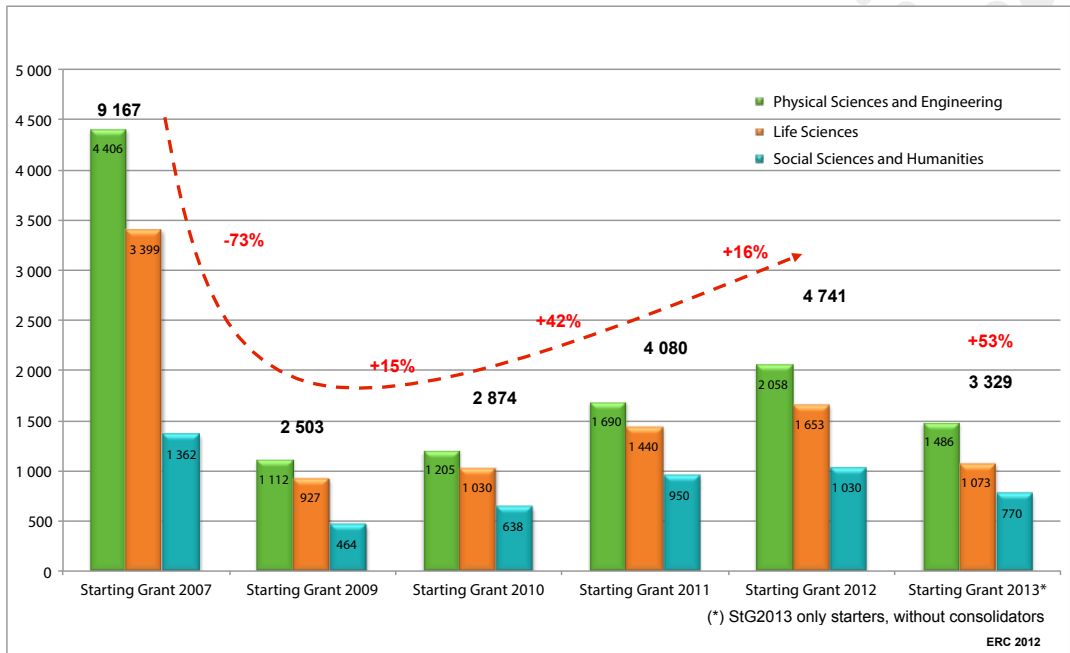


Figure 4: Advanced Grants – submissions 2008-2013

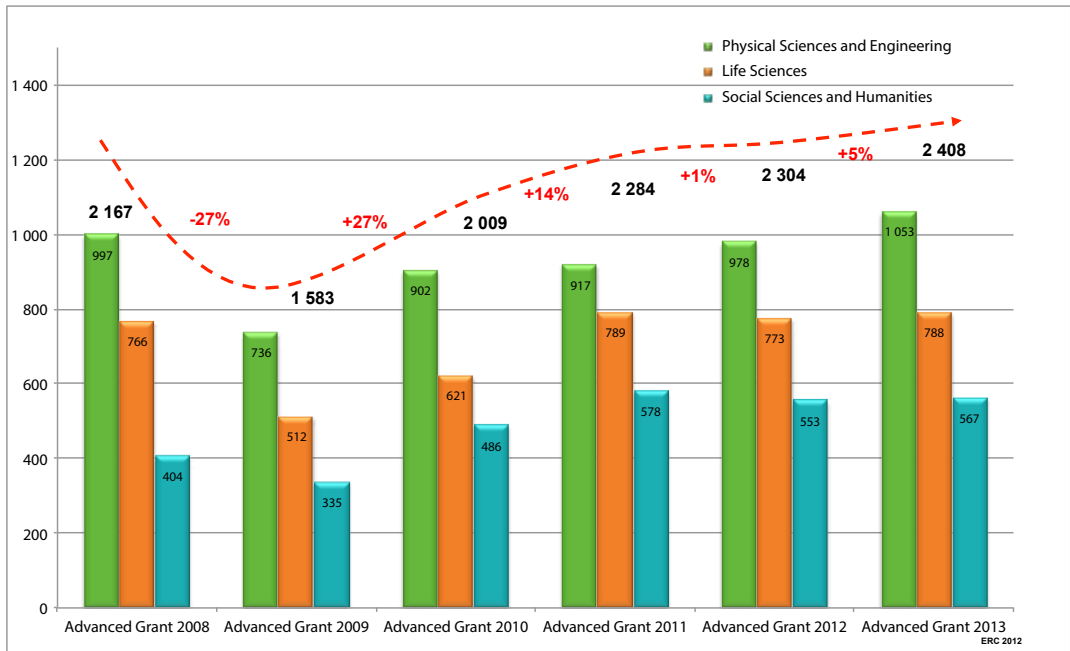
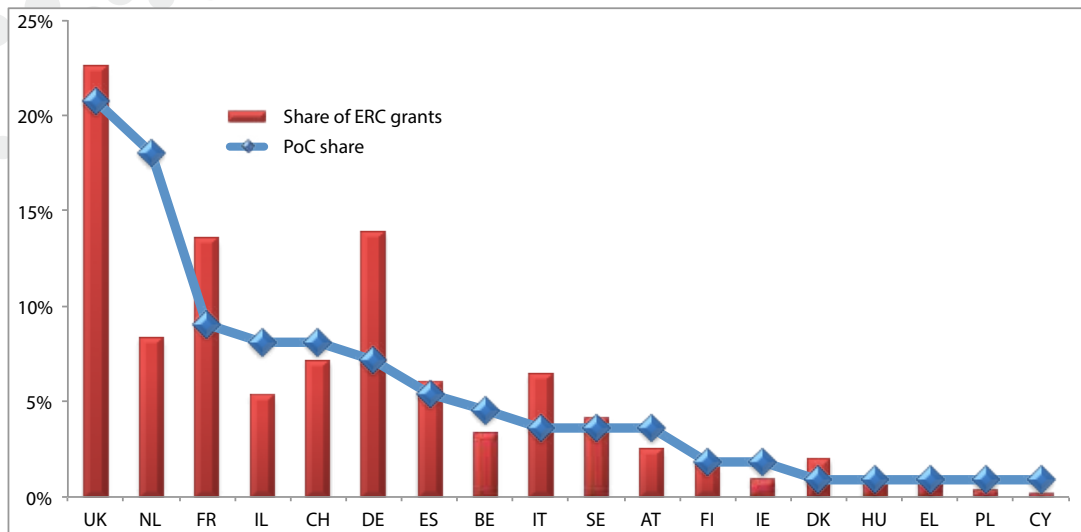


Figure 5: Share of ERC grants vs share of PoC grants – 2011-2012



In terms of the areas of research from which PoCs originate, 61% of the successful projects deal with ideas stemming from ERC research funded in the domain of Physical Sciences and Engineering (PE), in particular from the areas of material and synthesis (PE5), physical and analytical chemical sciences (PE4), systems and communication engineering (PE7), and computer science and informatics (PE6).

Another 29% come from proposals originating in projects evaluated in Life Sciences (LS), with prevalence in the area of diagnostic tools, therapies and public health (LS7).

Irrespective of the research area from which they originate, the large majority (44%) of the PoC projects selected for funding so far aim at developing clinical, medical or pharmaceutical applications; 22% target various industrial applications, 9% aim more specifically at applications in ICT, and another 9% deal with applications in the area of energy. Projects aiming at developing consulting and software or web-based products and services stem largely from research originally funded in the domain of Social Science and Humanities (SH).

The aim of this funding scheme is to carry out a proof of concept of an idea that was generated in the course of the ERC-funded project, i.e. to undertake further work to verify, in principle, the opportunities for exploitation of this idea.

But how were these ideas generated in the course of the ERC-funded project? In more than half of the PoCs selected for funding, the idea originated from new findings within the research work conducted by the researchers as part of their ERC Starting or Advanced grant. In around 27% of the cases, the idea was the result of a sort of natural follow-up from the research activities conducted by the researchers, while in 8% of the projects the researcher declared that the idea was the result of serendipity or was the result of an unexpected result in the work conducted within the ERC Starting or Advanced grant. Finally, in the remaining projects, the idea taken to proof of concept was drawn from methodologies, instruments or software developed for use in the ERC Starting or Advanced grant. All PoCs stemming from ERC grants originally funded in the SH domain fall in this category.

Figure 6: Areas of application of PoC projects 2011-2012

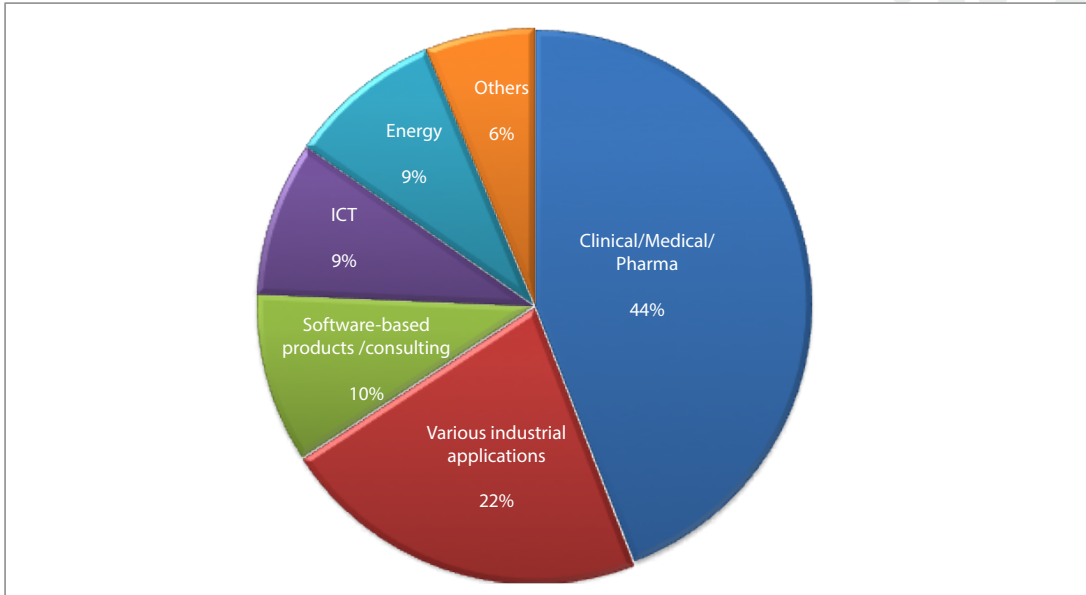
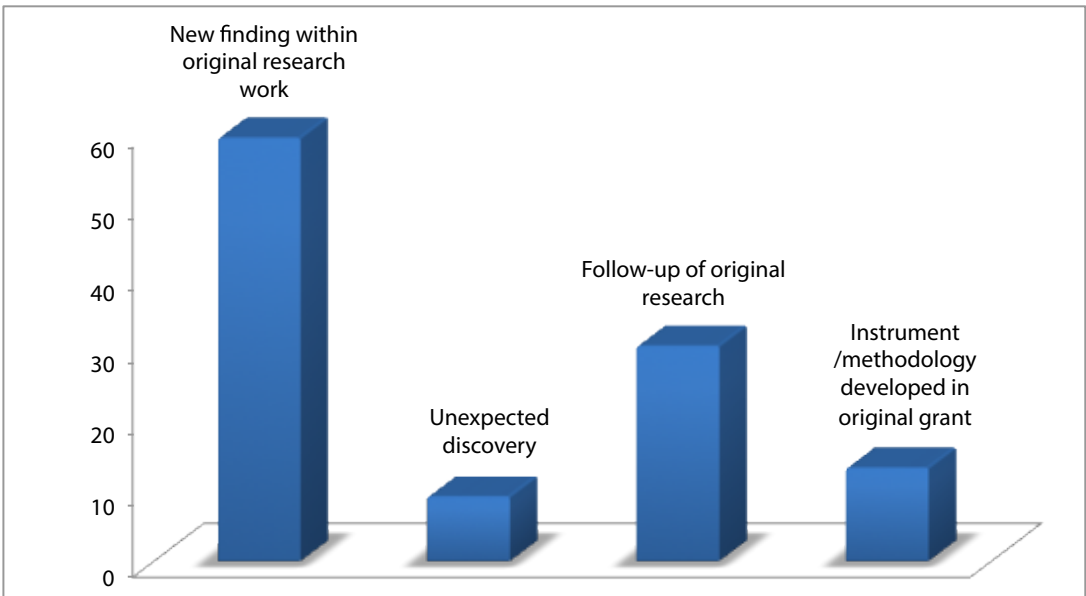


Figure 7: Invention path in PoC projects 2011-2012



ERC Synergy Grants

In its 2012 work programme, the ERC Scientific Council launched on a pilot basis a new funding opportunity, the ERC Synergy Grant. Its aim is specifically to enable small groups of outstanding Principal Investigators and their teams to bring together complementary skills, knowledge and resources in new ways that will help them jointly address research problems that go beyond what could be achieved without such synergies.

More than 700 applications were submitted and assessed following an evaluation procedure specifically designed for this purpose. In an extremely competitive call, 11 projects were finally selected in December 2012 to receive funding for up to 6 years. The average Synergy Grant selected for funding is worth EUR 11.5 million and the total budget allocated in 2012 was EUR 126 million. As each Synergy Grant project involves between two and four Principal Investigators, 38 outstanding researchers are being supported through these 11 grants.

The high number of proposals received attests to a very substantial interest from the scientific community for a very innovative type of grant. In contrast to consortia, Synergy Grants target individual investigators whose complementarities enable them to take risks and address questions which push the boundaries of frontier research in novel ways.

Synergy projects selected for funding in the 2012 pilot call

Toxic protein aggregation in neurodegeneration	Franz Ulrich HARTL	Paul Wolfgang BAUMEISTER	Ruediger KLEIN	Matthias MANN
	Max Planck Society	Max Planck Society	Max Planck Society	Max Planck Society
Diamond Quantum Devices and Biology	Martin Bodo PLENIO	Feodor JELEZKO	Tanja WEIL	
	University of Ulm	University of Ulm	University of Ulm	
NEXUS 1492. New World Encounters in a Globalising World	Corinne Lisette HOFMAN	Ulrik BRANDES	Gareth Rees DAVIES	Willem J.H. WILLEMS
	University of Leiden	University of Konstanz	Free University of Amsterdam	University of Leiden
Novel materials architecture based on atomically thin crystals	Konstantin NOVOSELOV	Vladimir FALKO	Andrea FERRARI	
	University of Manchester	University of Lancaster	University of Cambridge	
Ultracold Quantum Matter	Immanuel BLOCH	Ehud ALTMAN	Jean DALIBARD	Peter ZOLLER
	Max Planck Society	Weizmann Institute of Science	CNRS	University of Innsbruck
Frontiers in Quantum Materials Control	Andrea CAVALLERI	Antoine L.M. GEORGES	Dieter Hans JAKSCH	Jean-Marc S.T. TRISCONE
	University of Hamburg	Ecole Polytechnique	University of Oxford	University of Geneva
Quantum Computer Lab	Leo KOUWENHOVEN	Carlo BEENAKKER	Lieven VANDERSYPEN	
	TU Delft	University of Leiden	TU Delft	
The Developing Human Connectome Project	Anthony David EDWARDS	Joseph HAJNAL	Daniel RUECKERT	Stephen SMITH
	King's College London	King's College London	Imperial College London	University of Oxford
Domestic Devotions: The Place of Piety in the Renaissance Italian Home	Mary LAVEN	Abigail BRUNDIN	Deborah HOWARD	
	University of Cambridge	University of Cambridge	University of Cambridge	
Combination therapies for personalised cancer medicine	Antonius BERNS	David ADAMS	Daniel PEEPER	Michael Rudolf STRATTON
	Netherlands Cancer Institute	Welcome Trust Sanger Institute	Netherlands Cancer Institute	Welcome Trust Sanger Institute
An Intelligent Implantable MODulator of Vagus nerve function for treatment of Obesity	Christofer TOUMAZOU	Stephen Robert BLOOM		
	Imperial College London	Imperial College London		

Three examples of Synergy Grant projects

The Hetero2D project is about the development of a new class of materials with predetermined properties, specifically tailored for multifunctional applications. Starting with individual one-atom thick materials (like graphene and other 2D atomic crystals), the researchers plan to assemble them with atomic precision into complex 'heterostructures'. By utilising 2D crystals with different properties, the team hopes to develop heterostructures which would single-handedly cover a range of functions. The top atomic layer could, for instance, act as a sensor, while the next one could work as an amplifier, transistor or solar cell for power generation and so on until the material is capable of running a whole circuit. These combinations would offer unlimited opportunities as it would be possible to embed the functionality of material already at the stage of its fabric. In addition, the heterostructure would only be a few atoms thick and would become the building block for future flexible and transparent electronics. The Synergy Grant is absolutely essential for this team as the breakthroughs envisaged at the newly created Graphene Global Research and Technology Hub — comprising the National Graphene Institute and the Graphene Centre — would not be possible by the individual researchers working alone.

Researchers: Prof. Konstantin Novoselov (University of Manchester, UK), Prof. Andrea Ferrari (University of Cambridge, UK) and Prof. Vladimir Falco (University of Lancaster, UK).

The Nexus1492 project intends to rewrite a more nuanced chapter of the global history of the Amerindian cultures and societies under European colonisation. The team believes that their research configuration, which is truly interdisciplinary, will be able to re-evaluate the reasons for the historical divide pre- and post-1492 and to redress an historical imbalance. Their focus on the Amerindian histories and legacies, the archaeological research and the work they will carry out with local scholars and communities as well as their choice for a multi-scale and multi-spatial dimension should help in filling the gaps of the current scholarship. The research team will also pioneer new analytical tools and cutting-edge techniques in the field of archaeology. Furthermore, a joint heritage agenda will be designed to revive the indigenous cultural remains in our modern era.

Researchers: Prof. Dr Corinne L. Hofman, Prof. Dr Willem J. H. Willems (Leiden University, the Netherlands), Prof. Dr Ulrik Brandes (University of Konstanz, Germany) and Prof. Dr Gareth R. Davies (Free University of Amsterdam, the Netherlands).

The i2MOVE project is about fighting obesity. Obesity is considered by the World Health Organisation (WHO) as one of the greatest public health challenges of the 21st century and a major risk for cardiovascular disease, cancer, pregnancy and associated complications, depression and diabetes. Over 23% of adult EU citizens are obese and the resulting health costs accounted for up to over EUR 10 billion in 2010. While the existing treatments are rarely effective (e.g. bariatric surgery), the research team believes that electrical stimulation of the vagus nerve could be efficient when combined with intelligent recording. With their Synergy Grant, the researchers will combine new physiological knowledge with engineering technology based, for instance, on implanted electrodes. This new kind of 'intelligent' implant would record vagal signals associated with hormone release during eating, and would stimulate the nerve to modulate these signals in order to better regulate appetite. There are hopes that the therapeutic value of this project would also be useful to treat other diseases linked to neural or brain disturbances.

Researchers: Prof. Christofer Toumazou and Prof. Sir Stephen Bloom (Imperial College London, UK).

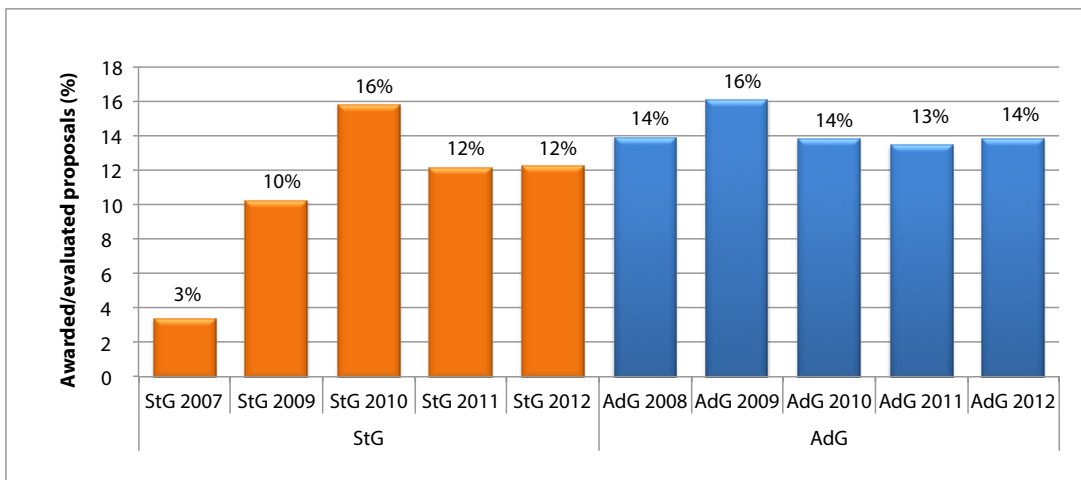
Success rate

The ERC supports investigator-driven frontier research through a competitive review process greatly recognised and highly respected by the entire scientific community, based on the sole criterion of scientific excellence. For the ERC Starting Grant 2012, around 3 500 members of the science, engineering and social science and humanities communities participated in the excellence review process as panellists and external reviewers. For the Advanced Grant 2012 call, the number of experts was over 2 500.

As the number of submitted proposals is continuously increasing at a rate higher than the call budget, the success rate is decreasing from call to call. In the case of Starting Grant calls, the success rate dropped from 15.8% in 2010 to around 12% in 2011 and 2012.

The success rate of the Advanced Grants increased slightly to 13.8% in 2012 from 13.4% in 2011 (see Figure 8).

Figure 8: **Success rate (10 ERC calls)**



Gender distribution of ERC grants

With 10 completed calls, around one fifth of the more than 3 400 selected projects has a female Principal Investigator. The share is substantially higher in the Starting Grant competitions with 24% women grantees, compared to 13% in the Advanced Grant competitions. These relatively low shares are partly due to the lower proportion of women applying to each of the two grant schemes, with an average of 29% in the Starting Grants and 15% in the Advanced Grants (see Figures 9 and 10).

Figure 9: All ERC Starting Grant calls – share of female applicants (*) per ERC call by domain

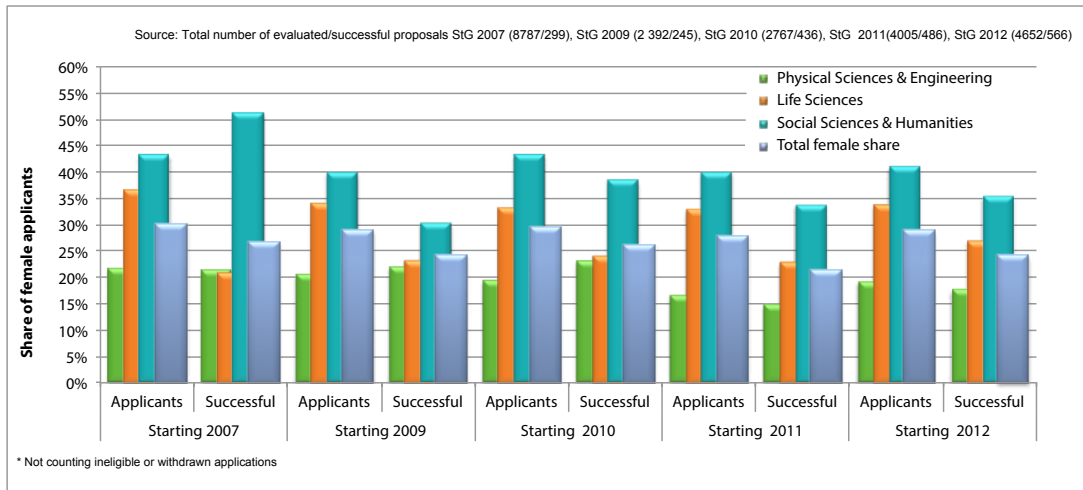
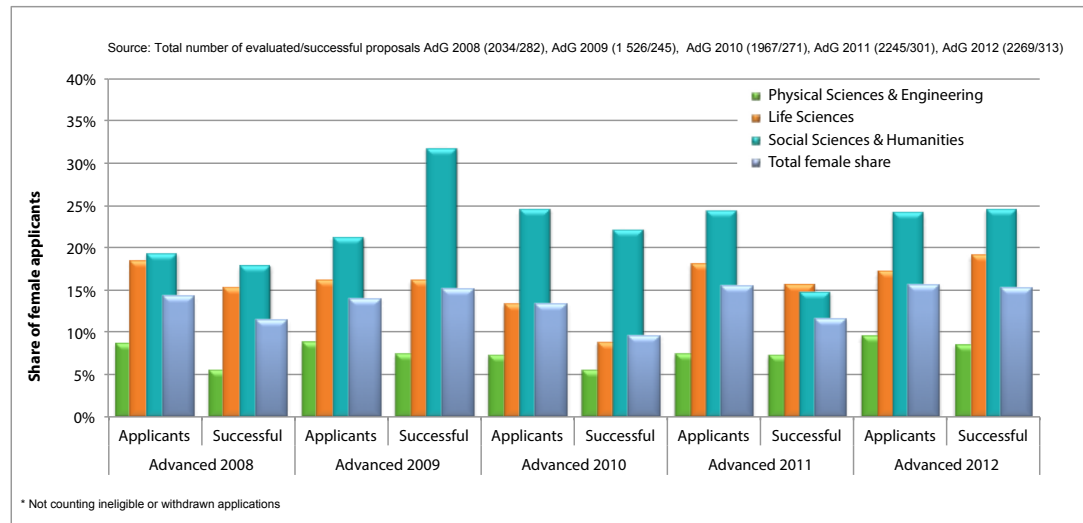
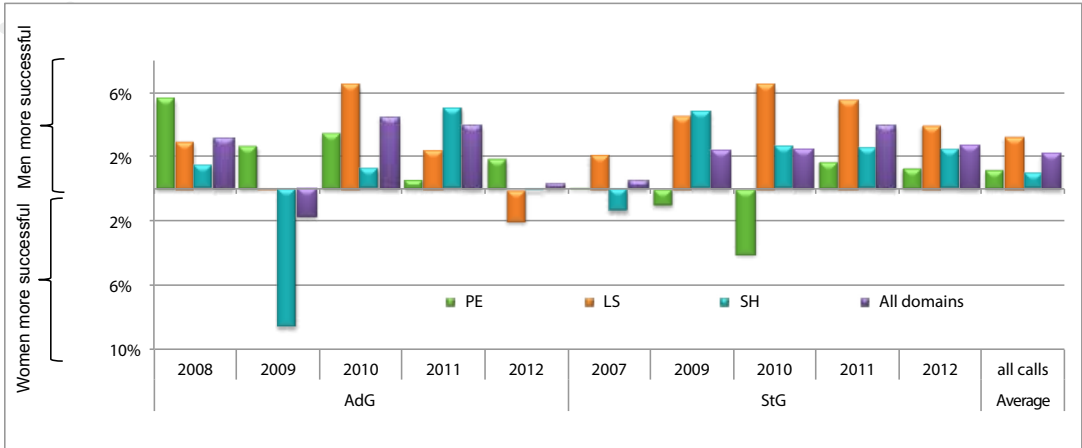


Figure 10: All ERC Advanced Grant calls – share of female applicants (*) per ERC call by domain



In general, male applicants are slightly more successful than women. Sometimes women are more successful than men, and this has happened in all three domains, although always in different calls (see Figure 11).

Figure 11: Difference in success rates between female and male applicants by call and domain



Men applying to Starting Grant calls are more successful than women in most of the host institution countries, with the following exceptions: Greece, Cyprus, Slovenia, Ireland, the Czech Republic and the UK. Female Advanced Grant applicants are more successful than male applicants in Hungary, Finland, Austria, Germany, the Netherlands, the UK and Israel (see Figures 12(a) and 12(b)).

Figure 12(a): Difference in success rates between female and male applicants – Starting Grants

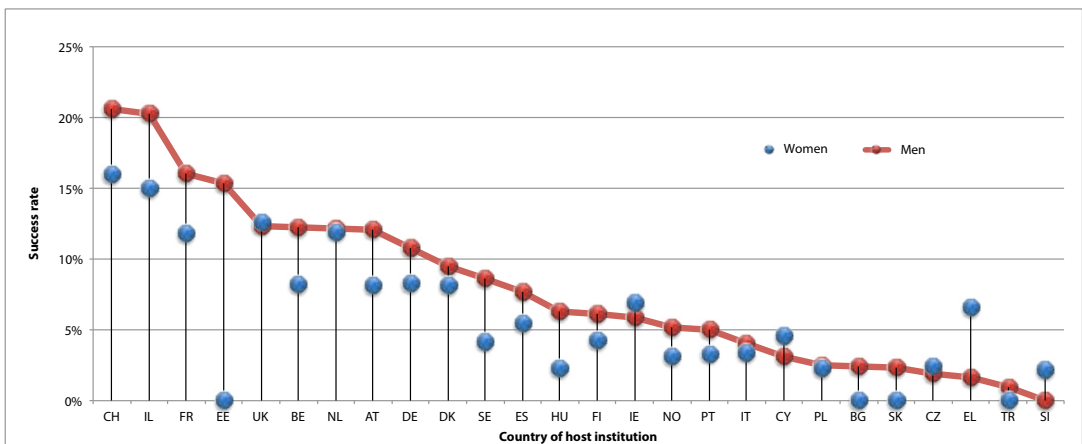
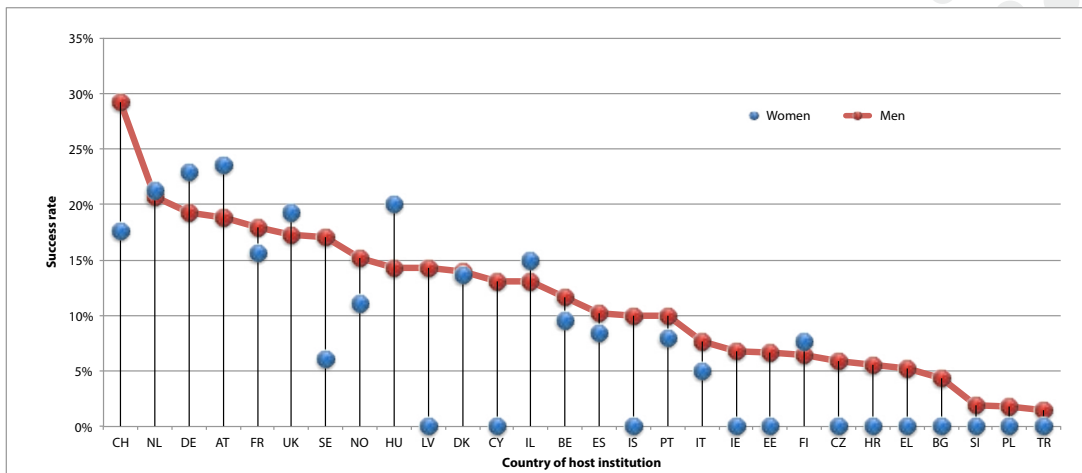


Figure 12(b): **Difference in success rates between female and male applicants – Advanced Grants**



Following up on the implementation of the ERC gender equality plan ⁽³⁾, the ERC has continued to raise awareness about ERC gender policy among potential applicants and to challenge any potential gender bias in the evaluation procedures. The numbers of female applicants and their success rates have slightly, but clearly, increased in 2012, particularly for the Starting Grants. The share of female applicants to the 2013 ERC calls, which were still in the evaluation phase at the end of 2012, increased again compared to the 2012 calls, and is considerably larger than the average over the completed calls: 34% in the Starting Grant 2013 and 20% in the Advanced Grant 2013.

In addition, an analysis of the composition of a significant sample of ERC-funded teams gives an additional dimension to the contribution towards gender balance (see page 47 of this report).

In parallel, the ERC is continuously working towards achieving gender balance in the composition of its evaluation panels. The share of women among the ERC panel members is, overall, equal to or larger than the share of female applicants, with 29% of women among the panel members for the Starting Grant calls and 25% for the Advanced Grant calls.

During 2012, the ERC participated in various meetings and seminars attended by female researchers where the ERC grants were promoted. The Chair of the working group on gender balance, Prof. Lago, represented the ERC at the second European Gender Summit in November 2012. The working group also launched a support action call to analyse gender aspects in career structures and career paths. It is a project of about 1 year which will look into differences in the career paths of men and women and what distinguishes the successful from the unsuccessful applicants. Moreover, the working group published a second support action call for 2013 on gender mainstreaming and the ERC proposal submission and peer review practices.

Host Institutions

More than 500 prestigious research institutions from 29 EU Member States and FP7 associated countries host at least one ERC grantee after the completed ERC calls of 2007–2012. One third of the host research organisations have at least five ERC grantees.

⁽³⁾ http://erc.europa.eu/erc_gender_equality_plan

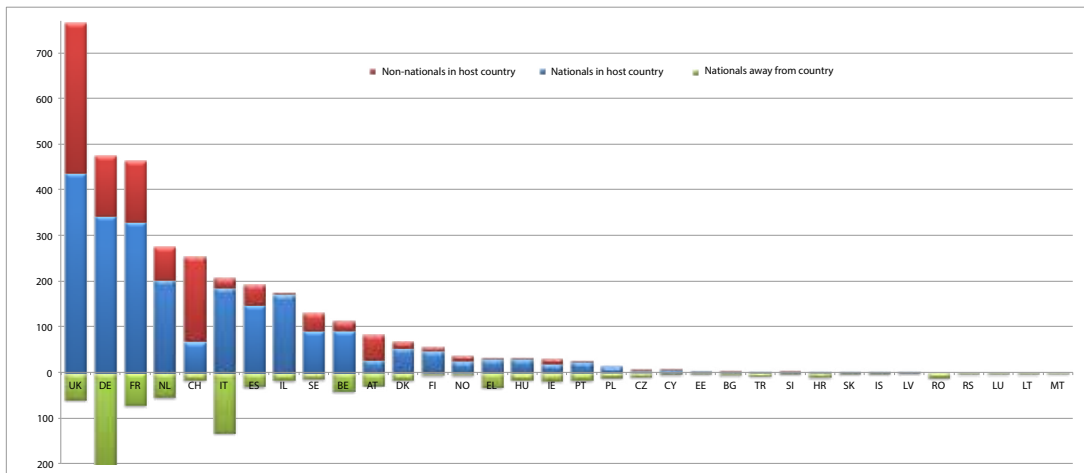
The majority of the ERC grantees are hosted by institutions located in the EU (87%), and 13% have a host institution in an FP7 associated country. Figure 13 and Figure 14 (page 50–53) show the geographical distribution of organisations hosting the 2012 starting and advanced grantees. A list of the most successful host institutions can be found on page 82.

As a result of the 2012 calls, Slovakia, Latvia, and Croatia host their first ERC grant, Slovenia its second and Estonia its third. Young researchers based in Turkey won two new Starting grants, after the first ERC grantee working in Turkey moved with the grant to Switzerland (after contract signature).

In general, most of the ERC grantees are nationals of the country of their host institution, with the exception of Switzerland and Austria where the share of foreign grantees is 73% and 69% respectively (see Figure 15). In absolute numbers, the UK hosts the largest group of foreign grantees (328, of which 84% were already resident in the UK at the time of application), followed by Switzerland (185, of which 79% were already resident in Switzerland). Besides the UK and Switzerland, only Germany and France have more than 100 ERC foreign grantees in the country. The share of foreign grant holders is very small in Israel (2%), Greece (3%), Hungary (7%), Portugal (8%) and Italy (11%).

The same figure shows the tendency of some nationalities to work abroad rather than in their home country: 52% of the Greek and Austrian grantees, and 50% of the Irish grantees are based in foreign countries (when looking at nationalities with at least 20 ERC grants). The absolute numbers are in particular high for Germany and Italy, with 212 and 133 nationals respectively hosted by institutions abroad. In both cases, about 90% of these grantees were resident abroad at the time of application (data as of January 2013).

Figure 15: Country of Host Institution and origin of grantees



Europe as a prime location for scientists from all over the world

ERC competitions are open to any researcher anywhere in the world who wants to conduct research in an EU Member State or FP7 associated country. The ERC list of grantees displays 58 nationalities, as last declared by the Principal Investigators at the time of granting. Among these nationalities, 24 are outside the European Research Area (ERA): there are six Asian nationalities, six Latino-American, five African, three from the ex-Soviet Union, in addition to Australia, New Zealand, the US and Canada. US nationals are by far the most common with 109 grantees, representing 47% of all non-ERA grantees (namely non-EU Member States and non-associated countries).

The ERC grants offer non-ERA grantees the possibility to obtain additional financial resources to cover 'start-up' costs as well as flexibility in the use of the 50% working time requirement on an ERC project.

With a view to increasing the ERC's visibility and to attracting more applicants from overseas, in 2012 the ERC launched an international awareness-raising campaign, 'ERC goes Global', led by its Secretary-General. Visits were organised during the course of the year to countries in North and South America, Africa and Asia. The numbers of non-ERA ERC grantees is still very small (232 after the first 10 calls), but some signs of increase in the number of applications are already visible. The share of non-ERA applicants to Starting Grants increased to 10% in the 2013 call from 8.4% in the 2012 call. The share of non-ERA applicants to Advanced Grant calls remains constant at 6%.

Most of the non-ERA grantees were already resident in Europe at the time of application (89%). The ERC has funded 96 researchers who, at the time of application, were resident outside the ERA, but only 26 of them are non-ERA nationals. The vast majority of the incoming grantees (81 researchers of the total 96) were resident in the US at the time of application. The share of applicants who were resident outside the ERA when the proposal was submitted is 10% of all applicants.

In addition, the analysis of the composition of ERC-funded teams shows that ERC grantees are bringing to Europe large numbers of excellent young researchers from abroad (see page 47 of this report).

In 2013, a new initiative will provide opportunities for early-career researchers in the US to come to Europe to join the teams of ERC grantees. This initiative is designed to help young top talent, based in the US and pre-selected by the National Science Foundation (NSF), to spend some time in Europe hosted as members of ERC grantees' teams. The NSF will launch the initiative with a view to stimulating the mobility of these US researchers, and enhancing their international profile and knowledge early on in their careers. The role of the ERC and the NSF will be to facilitate contacts between their respective researchers who are interested in using the scheme.

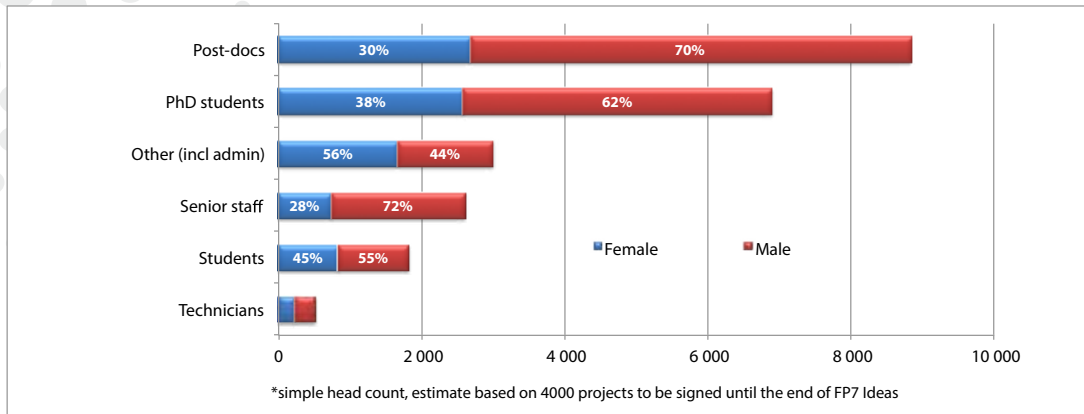
Training tomorrow's leading researchers

ERC grants are individual grants awarded to excellent researchers in order to help them materialise their frontier research ideas. However, in their effort for scientific breakthrough, ERC grantees do not work alone. Generous ERC funding offers them a possibility to set up their own research project team by recruiting the most promising researchers from the global pool of scientific talent. Through these research teams set up by grantees alone, the ERC indirectly contributes to the training of a new generation of excellent scientists who will, inspired by their mentors, take their role in the future.

Available evidence coming from a significant sample of 635 funded projects indicates that, on average, each ERC project — in addition to a Principal Investigator — employs around six team members, a large majority (66%) of which are early career researchers: about 37% of team members are postdoctoral researchers and some 29% are PhD students.

A bold forecast based on a simple headcount of ERC team members (reported so far) indicates that by the end of the 'Ideas' specific programme in 2013, when the ERC will have funded close to 4 000 grantees, it will have also supported some 23 500 other team members, offering cutting-edge research training for nearly 9 000 postdocs and 7 000 doctoral students. They represent tomorrow's generation of excellent researchers, personally mentored by the best scientists of our time in new research techniques at the frontier of knowledge. While the final professional destination of some of these research-trained graduates is academia, some others will continue their career in industry, bringing with them skills needed to perform research and to develop new ideas and skills in using advanced instrumentation and techniques.

Figure 16: **Forecast – number of ERC team members at the end of FP7 ‘Ideas’**

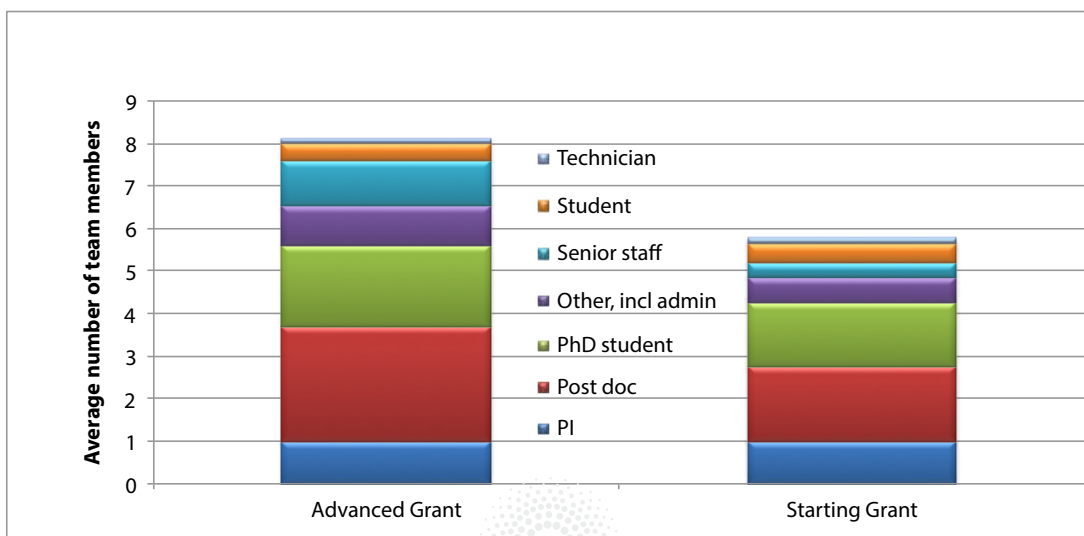


On the basis of the analysis of this important sample, the actual number of team members on a single ERC project varies a great deal and could range from soloing of a Principal Investigator to as many as 25 staff members on a project. The number of team members on a project also varies according to the two grant schemes and the three scientific domains.

Advanced Grant projects tend to set up larger teams, on average engaging over seven team members supporting a Principal Investigator, while Starting Grant project teams are generally smaller, with five team members per Principal Investigator on average. When looking at the composition of the research teams, it can be noticed that Starting Grant teams include on average two postdocs, between one and two PhD students and another supporting staff member, most likely being administrative staff or a graduate student. Advanced Grants generally expand on this composition by adding to it another postdoctoral student, one senior research staff member and a full time administrative staff member.

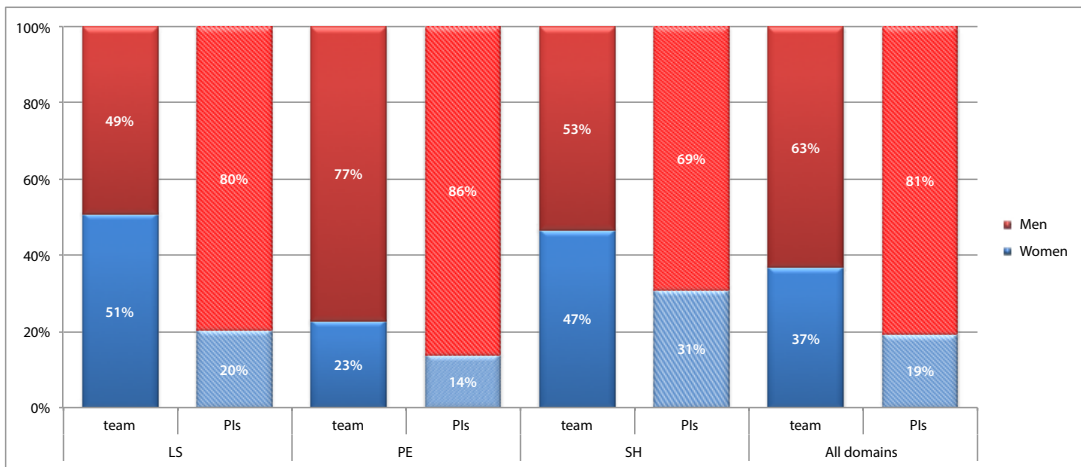
Looking across the three domains, almost half of the ERC team members reported to date are in the Physical Sciences and Engineering domain, a good third in Life Sciences, while the rest are in Social Sciences and Humanities. However, on average, teams in Life Sciences are larger than teams in Physical Sciences and Engineering, with teams in Social Sciences and Humanities being the smallest.

Figure 17: **Composition of ERC project teams**



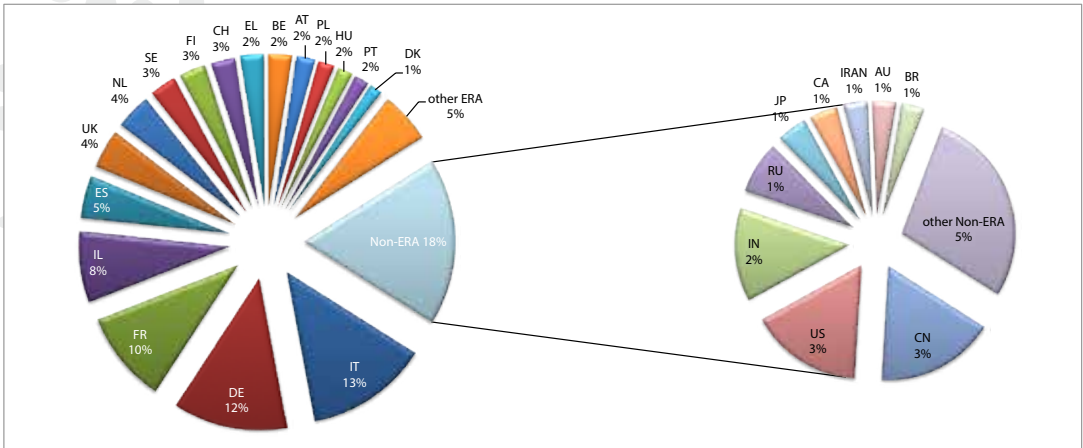
The analysis of this sample shows that staff members in ERC project teams also reveal important dimensions of the ERC contribution towards gender balance. Current estimates show very positive figures in terms of the share of female team members: some 37% are women, which is a higher share than the number of women grantees (20%). The majority of these women are at the start of their research career, so this can be seen as an encouraging sign for better representation of women in cutting-edge research in the future. The share of female team members varies significantly across scientific domains (51% in Life Sciences, 47% in Social Sciences and Humanities, and 23% in Physical Sciences and Engineering where the share of female grantees is also the lowest (14%)), but the figures collected so far are a very encouraging sign for a future better share of women in research (see Figures 9 and 10). The ERC grants offer to a large number of young female researchers, still in the training phase of their career, the opportunity to work in a highly motivating environment and to become better prepared for a long career in research.

Figure 18: Share of female team members and Principal Investigators



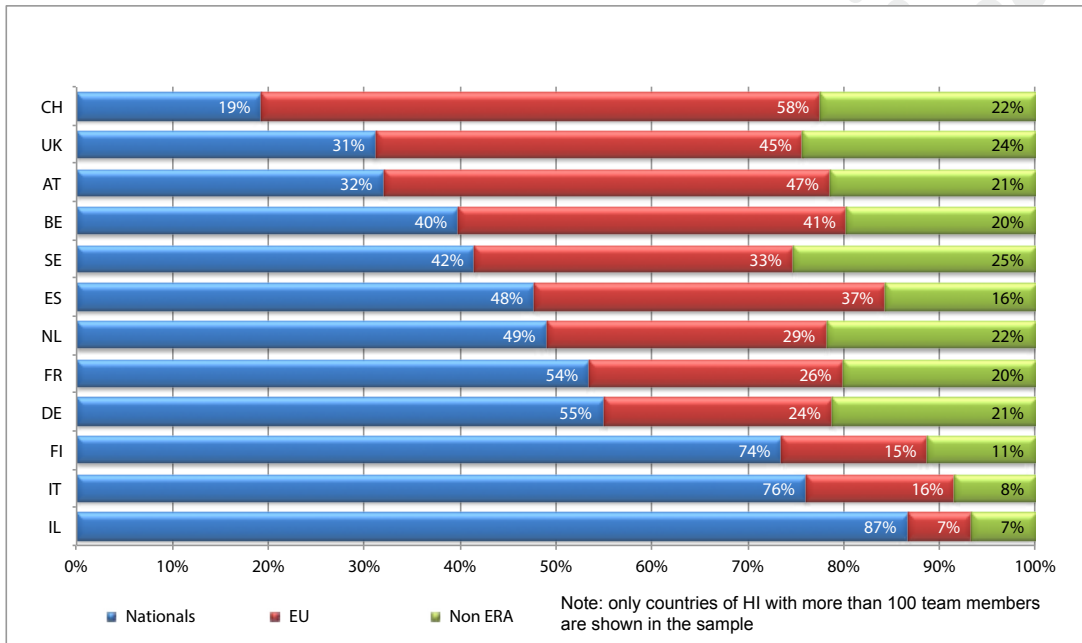
Through the training of excellent young researchers, the ERC is achieving another important goal in terms of internationalisation and widening participation. Around half of all ERC team members hold a nationality that is different from that of the Principal Investigator of their project. Furthermore, ERC team members represent 38 of the 41 European Research Area (ERA) countries. In addition, another 55 nationalities from outside the ERA are represented in the teams working on ERC projects. Altogether, this demonstrates the true global character of the ERC programme.

Figure 19: **Distribution by nationality of ERC team members**



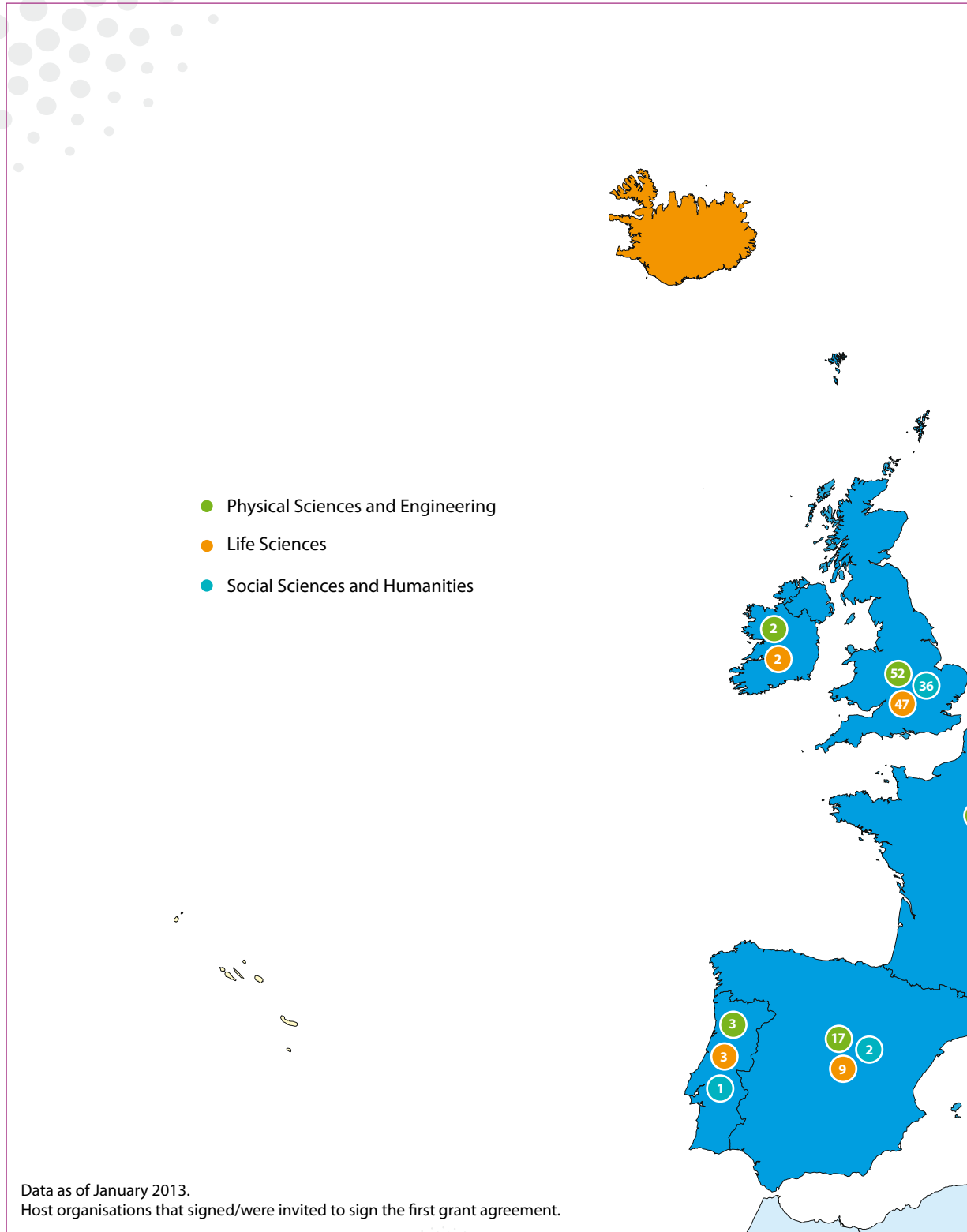
In this sample of 635 teams, Italians, Germans and French are in the lead when looking at the distribution of ERC team members by nationality with just above a 10% share each among all ERC team members. Initial evidence more likely indicates that in terms of nationality, ERC teams are very colourful and diverse. As much as 18% of ERC team members — or some 4 000 of them by the end of FP7 — are overseas nationals, with many of them coming from the big EU research and innovation competitors: China, the US, India and Russia. Half of the team members' nationals of non-ERA countries had no educational or professional experience in ERA before joining the ERC team. Attracted by the excellent working conditions on ERC projects, over half of these overseas nationals came to Europe for a postdoctoral position (54%) in the domain of Physical Sciences and Engineering (56%). With some effort to keep them on its territory after their ERC training, Europe would strengthen its position as a global research competitor.

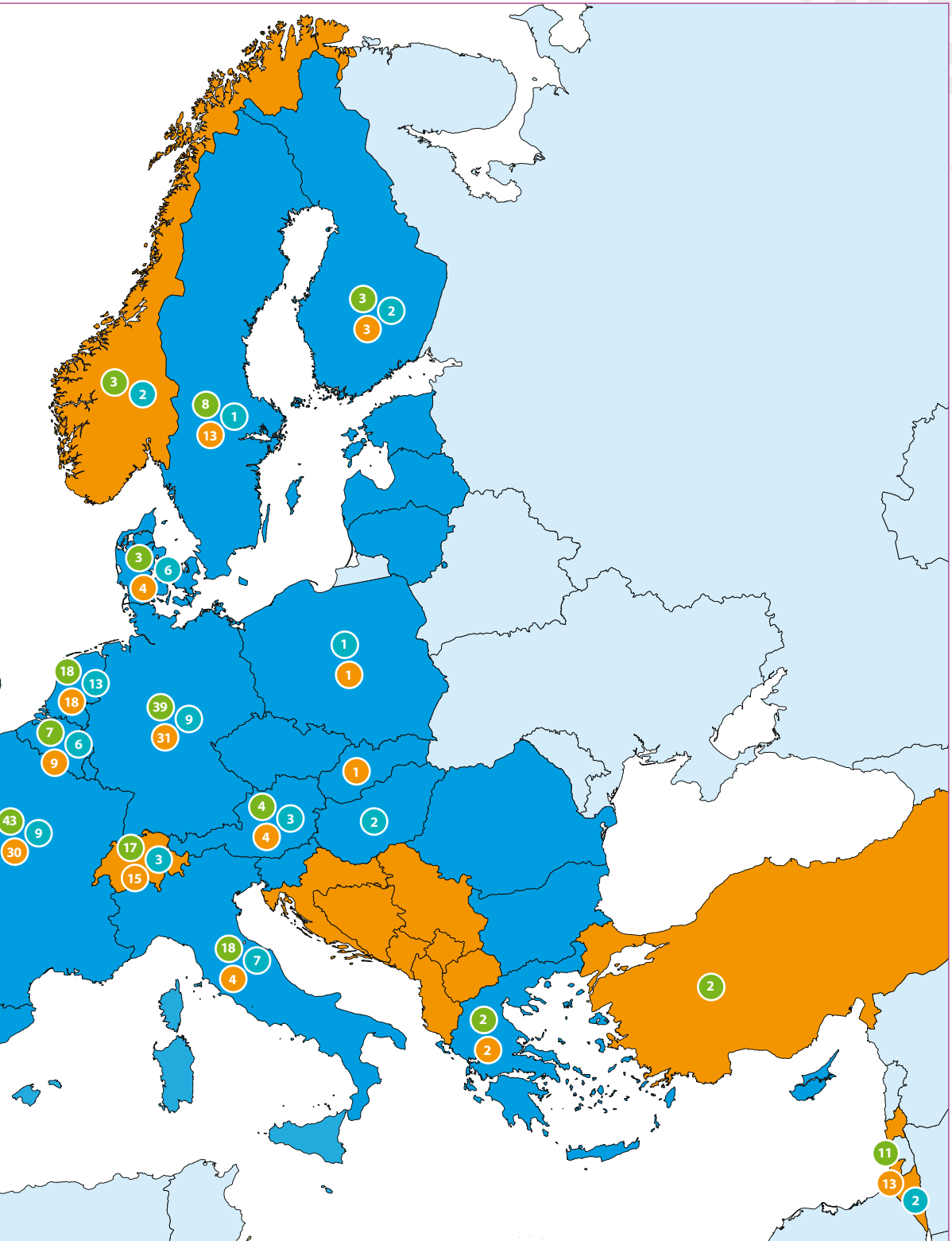
Figure 20: Team members by nationality per country of Host Institution



The distribution of ERC team members by nationality per country of Host Institution reveals some differences between ERA countries in attracting ERC researchers from abroad: Switzerland is the country with by far the highest share of foreign ERC team members; the UK and Sweden attract a relatively high share of team members from outside the ERA; while ERC projects hosted at institutions in Italy, Finland and Israel seem to be less open to researchers from abroad.

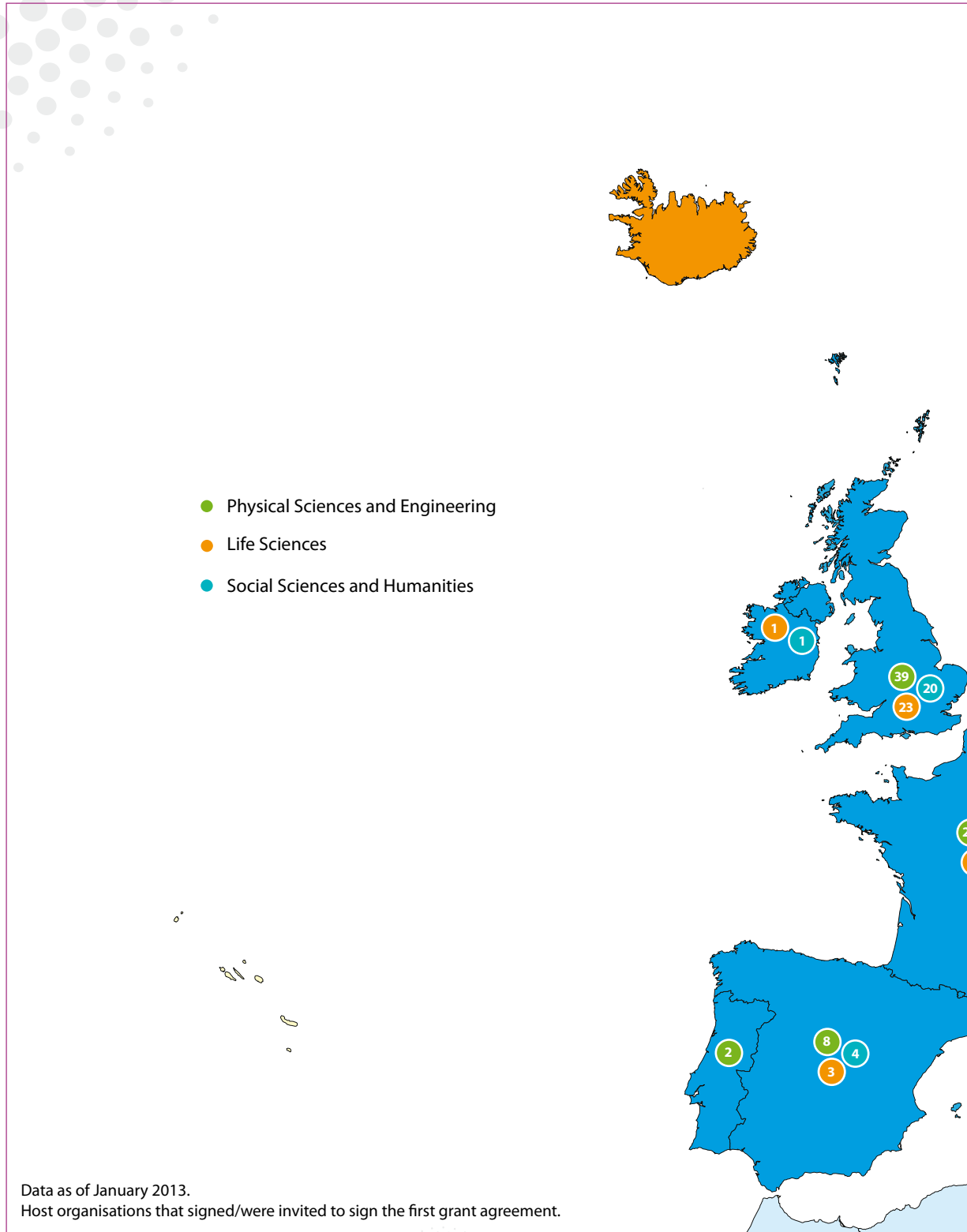
Figure 13: **ERC Starting Grant: 2012 Call**
Geographical distribution of grant holders



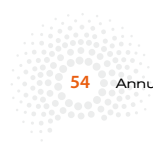


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Figure 14: **ERC Advanced Grant: 2012 Call**
Geographical distribution of grant holders



Data as of January 2013.
Host organisations that signed/were invited to sign the first grant agreement.





ERC Scientific Council and Executive Agency

4.1 The ERC Scientific Council

The Scientific Council has the responsibility to establish the ERC's overall scientific strategy, the work programme and, from a scientific perspective, positions on the implementation and management of calls for proposals and evaluation criteria, peer review processes and proposal evaluation. It is made up of representatives of the European scientific community at the highest level, acting in their personal capacity, independently of political or other interests.

Twenty-two members were appointed by the Commission as founding members of the Scientific Council. These founding members were selected on the basis of the criteria set out in Commission Decision 2007/134/EC of 2 February 2007 establishing the ERC⁽⁴⁾.

This includes the requirement that the Scientific Council's composition would allow it to be independent, combining wisdom and experience with vision and imagination and reflecting the broad disciplinary scope of research. Individual members are chosen based on their undisputed reputation as leaders and for their independence and commitment to research.

The names of all 22 members of the Scientific Council, included in Annex I of the Commission decision establishing the ERC (revised in 2011), can be found on pages 72 and 73 of this report. The list includes 12 of the founding Scientific Council members whose term of mandate was renewed in 2011; the seven new members appointed in 2011 for the first staged renewal of approximately one third of the Scientific Council; and three other members who were appointed in 2009 and were not affected by the 2011 renewal exercise.

Change in the membership of the Scientific Council

In December 2012, the European Commission appointed eight new members of the Scientific Council. This was part of the second staged renewal of the Scientific Council, which starts early 2013. The newly appointed members were identified by the same independent standing ERC Identification Committee, composed of six high-level scientists and scholars, that renewed membership in 2011. The scientific community was consulted during this identification process. The new members will arrive at a crucial time to ensure the transition to Horizon 2020.

The new members are:

- **Prof. Klaus Bock**, Danish Ministry of Science, Innovation and Higher Education;
- **Prof. Athene Donald**, University of Cambridge;
- **Dr Barbara Ensoli**, Istituto Superiore di Sanità;
- **Prof. Nuria Sebastian Galles**, University of Pompeu Fabra;
- **Prof. Reinhard Genzel**, Max Planck Institute for Extra-terrestrial Physics;
- **Prof. Matthias Kleiner**, Technical University of Dortmund;
- **Prof. Éva Kondorosi**, Hungarian Academy of Sciences;
- **Prof. Reinhilde Veugelers**, KU Leuven.

⁽⁴⁾ OJ L 57, 24.2.2007, p. 14.

With the December 2012 appointment by the European Commission, one third of the Scientific Council members are being replaced. The outgoing members in 2013 are Professors Claudio Bordignon, Mathias Dewatripont, Hans-Joachim Freund, Norbert Kroo, Maria Teresa Lago, Henrietta L. Moore, Christiane Nüsslein-Volhard and Jens Rostrup-Nielsen.

The Commission's proposal for the specific programme implementing Horizon 2020 establishes the function of an ERC President, to be chosen from among senior and internationally respected scientists. The ERC President will reside in Brussels for the duration of the appointment and devote most of the time to ERC activities. The ERC President shall be appointed by the Commission for a term of office limited to 4 years, renewable once. The President will be remunerated at a level commensurate with the Commission's top management. The recruitment process and the candidate selected shall have the approval of the ERC's Scientific Council.

Also in December 2012, the European Commission appointed seven experts to conduct the search for the next President of the ERC. The committee will be led by Lord Sainsbury of Turville, Chancellor of the University of Cambridge and a former British science minister. The committee will make its recommendation to the European Commission in time for the next ERC President to take up duties on 1 January 2014, as successor to the current President, Helga Nowotny. The President will be the voice and public face of the ERC, and will ensure the ERC principles of excellence, efficiency and independence.

Support to the Scientific Council

Due to the specific governance model, the Scientific Council's plenary meetings are prepared with the organisational and administrative support of the unit 'Support to the Scientific Council' in the executive agency. The unit also provides advice and analysis to facilitate the work of the Scientific Council to fulfil its tasks.

In response to relevant requests by the Scientific Council, the unit continuously advises them in their activities by providing analysis and intellectual input. This is done by drafting various documents which reflect the Scientific Council's main orientations, including the 'Ideas' Annual Work Programme and this Annual Report. In 2012 briefings, presentations and data analysis on the ERC performance were prepared by the unit for the ERC President (38), several members of the Scientific Council (21) and the Secretary General (35) for their participation to various events worldwide.



Scientific Council plenary sessions, Sofia, Bulgaria.

A series of other working documents were prepared in 2012 by the support unit, providing advice and assistance to the work of the Scientific Council and its standing committees and working groups. For example, the unit supported the work conducted by the committee on conflicts of interest, scientific misconduct and ethical issues in developing the strategy for identifying and addressing scientific misconduct concerning ERC applicants and projects, subsequently adopted by the Scientific Council.

The agency's dedicated unit supported also the working group on gender balance in launching a call for proposals to analyse career paths' differences of men and women and what distinguishes the successful from the unsuccessful applicants and assisted the working group on innovation and relations with industry by providing analysis and inputs on possible actions to connect industry with PoC grantees and speed-up the commercialisation of the results of PoC projects, including the organisation of events aimed at facilitating contacts between PoC grantees and potential investors.

In 2012, the unit also supported the working group on open access in preparing the ERC recent further step to strengthen its policy on this issue.

Meetings

The Scientific Council held regular meetings in 2012 across Europe, usually at the invitation of national authorities. Meeting in different countries which are either EU Member States or associated countries is a way of making the ERC more visible. The meetings are also considered important events both by the national authorities as well as the local scientific and research community. Five Scientific Council plenary sessions were organised during the period between 1 January and 31 December 2012: in February, June and December in Brussels (Belgium), in April in Sofia (Bulgaria) and in October in Limassol (Cyprus).

Following the recommendations of the panel on the review of the ERC's structures and mechanisms in 2009, the Scientific Council established two standing committees: the first providing guidance on conflicts of interest, scientific misconduct and ethical issues and the second dealing with the selection of evaluation panellists. The executive agency supported the operational activities of the two committees, which met once and twice respectively in 2012.

The members of the Scientific Council also meet in WGs addressing specific issues. In 2012, various meetings of the ERC working groups on innovation and relations with industry, open access, internationalisation and gender balance were organised by the executive agency. The WGs carry out analyses and contribute to the ERC's scientific strategy through proposals to be adopted by the Scientific Council in plenary in the areas covered by their mandates: to examine the ERC's relationship with the industrial/business sector and the impact of ERC-funded research on innovation; to develop an ERC position on open access; to explore suitable mechanisms to boost the participation of non-European researchers, particularly Brazil, Russia, India and China (the BRIC countries), in the ERC schemes; and to ensure that the ERC is at the forefront of best practice with regard to the gender balance in research.

A series of working documents containing analyses and key messages on the specific issues dealt with by the WGs and by the standing committees were prepared by the executive agency, in collaboration with members of the groups.

The ERC Board

To further assure its liaison with the European Commission and the executive agency, the Chair- and Vice-Chairpersons of the Scientific Council and the Secretary-General together with the Director of the agency, meet regularly as the ERC Board. These meetings are also attended by the senior management of the agency. The board met 10 times in 2012, in particular to prepare or give follow up to meetings of the Scientific Council.

Strategic developments in 2012

Adoption of the scientific misconduct strategy

At its plenary meeting of 4 and 5 October 2012, the Scientific Council adopted a strategy for identifying and addressing scientific misconduct concerning ERC applicants and projects.

According to the strategy, host institutions of ERC applicants and grant holders have the primary responsibility for the detection of scientific misconduct and for the investigation and adjudication of any breaches of research integrity that may arise. Therefore, the ERC recommends that host institutions have structures in place to uphold scientific integrity, to deal with all cases of scientific misconduct that may come to the attention of the ERC and to report to the ERC on what actions they have taken to deal with any relevant scientific misconduct problems.

But the ERC will also address all concerns about potential scientific misconduct or suspected breaches of research integrity concerning an ERC applicant or project. Through its executive agency, the ERC will take appropriate follow-up actions whenever there is sufficient evidence that scientific misconduct has taken place. Among other steps, it may exclude peer reviewers from further review evaluations or terminate their appointment; exclude proposals from evaluation, selection or award procedures; request measures to be taken by the host institutions; or suspend or terminate grants.

The strategy institutionalises what has been the ERC practice so far in dealing with scientific misconduct. The ERC Standing Committee on Conflict of Interests, Scientific Misconduct and Ethical Issues (COIME) plays an important consultative and advisory role, working in close collaboration with the Director of the ERC Executive Agency (ERCEA) in assessing the information on alleged scientific misconduct concerning an ERC applicant or project. It can also nominate, for appointment by the ERCEA Director, external experts who would act as advisors to the ERC in dealing with specific cases. The final administrative decision on a case of alleged scientific misconduct will be taken by the ERCEA Director after receiving COIME's conclusions and using his own discretion or judgement.

In developing its strategy, the Scientific Council has carefully looked into existing codes on scientific integrity, a set of non-regulatory documents intended to challenge governments, organisations and researchers to develop more comprehensive standards, policies and concrete structures to promote research integrity both locally and on a global basis. The codes address good practice and bad conduct in science, offering a reference point for developing regulations where none exist, while complementing existing codes on research integrity.

Taking these codes into account, the ERC strategy on scientific misconduct sets the strategic framework for the development, by the ERCEA, of an efficient and effective structure to deal and react to allegations of misconduct concerning its applicants and projects, as many other funding organisations worldwide have done.

The ERC strategy ensures that all concerns about potential scientific misconduct or suspected breaches of research integrity concerning an ERC applicant or project will be addressed by the ERC within the legal and procedural framework applicable to an agency established within the European Commission framework.

Cases reporting

The ERC strategy on scientific misconduct provides for record keeping and reporting of cases in the ERCEA annual activity report and in the ERC Scientific Council annual report. The following is a report of cases dealt with in 2012.

The ERCEA and COIME have analysed 13 cases of scientific misconduct in 2012: seven cases of conflict of interests involving peer reviewers; two cases of alleged plagiarism; two cases of copy/paste of ERC applications; and two cases of scientific misconduct allegedly committed by an ERC applicant in the past.

Two more cases were still under examination by COIME at the end of 2012.

Cases of conflict of interest

In four of the cases of conflict of interest involving peer reviewers, the reviewers were invited to step down from the evaluation panel, and they all did so.

In one other case, where a conflict of interest was declared with delay by a member of the evaluation panel, it was concluded that it could not be proven that there was more than negligence and therefore the reviewer could continue to complete his/her service in the panel but would not take part in the discussions related to the application for which the conflict of interest was declared. The same conclusion was reached in another case where a member of the evaluation panel declared on time conflict of interest with one of the applications evaluated by the panel on which he/she was serving.

In one more case, the appointment of a member of the evaluation panel was formally terminated by the ERCEA.

Cases of plagiarism

In the first case, the ERCEA and COIME received a request for clarification of an accusation of plagiarism in connection with a Starting Grant proposal to the ERC. The complainant, a university professor, sent an allegation that one of the Starting Grant proposals submitted to the ERC included a considerable overlap in topics, project and works with another research project contained in an un-submitted PhD thesis of one of the professor's students. The ERCEA contacted the Host Institution (HI) of the applicant describing the allegations received and asking for clarifications. The HI conducted an investigation and concluded that the ERC application was properly referenced to previous work, including the parts mentioned by the complainant and did not constitute in any way a form of scientific plagiarism.

In the second case the complainant, an external reviewer, requested clarifications on a potential plagiarism claiming that his/her own material, from a yet unpublished book, had been partly plagiarised in a Starting Grant proposal submitted to the ERC. As evidence, the reviewer provided a table comparing the texts of the application and his/her own unpublished book which he/she had shared earlier with the ERC applicant. Based on the fact that a clear suspicion of fraud was evident in the case, the ERCEA Director decided to disqualify the proposal from the evaluation.

Copy/paste of ERC applications

In one case, a 2012 Starting Grant application had been suspected of substantial overlaps with an unsuccessful 2011 Advanced Grant proposal, while in another a Starting Grant application had been suspected of a significant overlap with an unsuccessful 2011 Starting Grant application. In both cases the conclusion was that no misconduct had been committed.

Cases of alleged misconduct committed in the past

The first case concerned alleged falsification of data committed by a Starting Grant applicant more than 10 years before submitting the proposal to the ERC. The ERCEA sent a request for information to the body dealing with research integrity in the country where the misconduct allegedly took place. This office could neither confirm nor deny that an investigation on the case was taking place. The decision of the ERCEA, shared by the COIME, was to proceed with the award of the grant to the proposal that in the meantime was selected for granting, with the reservation that if any new information would come from the abovementioned office on research integrity a new decision could be taken, including terminating the grant.

A last case dealt with an allegation of scientific misconduct concerning a 2012 Advanced Grant application. The complainant, an external reviewer, informed the ERCEA that the applicant misbehaved in 2007, publishing two review papers in which he/she (or co-authors) plagiarised sections of a previous monograph written by the reviewer. The case is still open.

Global Research Council

In May 2012, Prof. Helga Nowotny, together with leaders of the major funding organisations from about fifty countries, met at a global summit hosted by the US National Science Foundation (NSF). The participants endorsed a high-level statement of principles for scientific merit review ⁽⁵⁾ and launched the Global Research Council (GRC).

In a world where research cooperation at the international level is continuously increasing, the statement of principles for scientific merit review ⁽⁶⁾ aims at providing a common framework and at conveying standards that can be accepted and shared by science funding agencies globally.

The statement recognises that the merit review process is an essential tool in evaluating scientific research and underlines that rigour, transparency and excellence in the evaluation processes help assure that government funding is appropriately spent in advancing science and addressing societal challenges.

The common principles enounced in the statement identify best practices and standards that will contribute to fostering international cooperation in research among funding agencies. In addition, for those countries that are developing new funding agencies, they provide a global consensus on the key elements necessary for a rigorous and transparent review system.

⁽⁵⁾ In the context of the agreed document, the terms 'merit review' and 'peer review' are used interchangeably.

⁽⁶⁾ <http://www.globalresearchcouncil.org/statement-principles-scientific-merit-review>

The ERC endorsed the statement of principles for scientific merit review which confirms the value of its highly recognised peer review procedure based on scientific excellence only.

The Global Summit on Merit Review marked also the establishment of the Global Research Council, a virtual organisation that focuses its activities on issues of general international interest to funding agencies. The ERC joined other heads of science and engineering funding agencies from around the world in founding an organisation aimed at promoting the sharing of data and best practices in a spirit of excellent collaboration among funding agencies worldwide.

The GRC will watch over the realisation of the common objective of enhancing the quality of science through cooperation and collaboration, avoiding unnecessary duplication and providing economies of scale.

The GRC will give the opportunity to the heads of research councils to meet every year and discuss topics of common interest. One or two topics will be identified for action every year which will be developed at regional meetings into a consensus document for consideration at the annual meeting. The 2013 annual meeting will be held in Berlin and co-hosted by DFG (Germany) and CNPq (Brazil). The two topics selected for 2013 are scientific integrity and open access with the aim of endorsing a global statement of principles on research integrity and an action plan for implementing open access at the meeting in Berlin. The ERC has been involved in the preparatory work on both topics at the European regional meeting in October 2012.

Open access

In July 2012, the ERC took a further step to strengthen its policy on open access, in the belief that making research results freely available is the most effective way of ensuring that the fruits of publicly funded research will be accessed, read and used in the future.

Since its creation, the ERC has been a strong supporter of the idea that the wide range of research results — including publications and primary data — should be made freely accessible. In 2007, the ERC's Scientific Council laid down specific guidelines requiring that all peer-reviewed publications springing from ERC-funded projects be deposited on publication into an appropriate research repository where available, such as PubMed Central, ArXiv or an institutional repository, and subsequently made open access within 6 months of publication. This stance was meant to ensure broad dissemination of research results and to allow scientists to draw on each other's work.

More recently, in July 2012, the ERC announced its intention to join the open access repository service 'UK PubMed Central' (UKPMC), joining 18 existing UK and European funders. Following this announcement, the existing funders agreed that the service would be rebranded as 'Europe PubMed Central' (Europe PMC) by 1 November 2012. One of the main goals of this rebranding was to encourage other European funders of life sciences research to follow this example.

The Europe PMC initiative is overseen by the Wellcome Trust; it provides free access to over 2 million full-text biomedical research articles and over 26 million citations from PubMed and other sources. By joining Europe PMC, the ERC hopes to encourage even more grantees to make their publications openly accessible. In order to support the initiative, a Support Action has been introduced in the 'Ideas' work programme 2013, providing a subsidy of EUR 90 000 to the initiative, through the Wellcome Trust.

To gauge the public accessibility of the outcomes of ERC-funded research, an analysis was carried out by the ERC Executive Agency, based on a sample of 600 journal articles. This study showed that the ERC is doing quite well: by now, over 62% of manuscripts based on ERC-funded research are openly accessible. Yet, the share of articles varies across research domains, with close to 70% in Life Sciences, 65% in Physical Sciences and Engineering, and around 50% in Social Sciences and Humanities.

In summer 2012, the ERC Scientific Council also updated its open access guidelines for researchers funded by the ERC, strongly encouraging them to make their publications available in discipline-specific repositories. The revised guidelines uphold the requirement that all papers and monographs based on research supported by the ERC have to be made open access no later than 6 months after their publication. Open access fees incurred during the lifetime of the project can be covered through the ERC grants as eligible costs.

The renewed commitment by the ERC towards open access comes at a time when public authorities are stressing the importance of open access in maximising the returns of investments in research and development. The ERC's open access policy is fully in line with the European Commission's approach as articulated in the Commission communication of July 2012 on how to provide better access to scientific information, boosting the benefits of public investment in research.

The second strategy retreat of the ERC Scientific Council

At the end of October, the Scientific Council held a retreat hosted by the Ettore Majorana Foundation and Centre for Scientific Culture in Erice, Sicily. In this more relaxed and informal setting, they considered the political context of the ERC's work and were able to discuss in depth the effectiveness of the ERC in funding genuine breakthrough research and the effectiveness of the Scientific Council itself and its support structures. The Scientific Council was able to agree on orientations for the transition to Horizon 2020 and establish future strategic priorities.



The Scientific Council held a retreat hosted by the Ettore Majorana Foundation and Centre for Scientific Culture in Erice, Sicily.

4.2 The ERC Secretary-General



Prof. Donald Dingwell

The ERC Secretary-General has a key role in ensuring the integrated operation of the ERC, based on the strategy and programme of activities prepared by the ERC Scientific Council. He is a member of the ERC Board, working together with the Chair and two Vice-Chairs of the Scientific Council as well as with the Director of the ERC Executive Agency, to oversee the implementation of the ERC's strategy and work programme established by the Scientific Council.

Prof. Donald Dingwell, a prominent geoscientist, Professor at Ludwig Maximilian University, Munich (Germany) and currently the President of the European Geoscience Union, is the current ERC Secretary-General.

4.3 The ERC Executive Agency

The executive agency implements the seventh framework programme's 'Ideas' specific programme according to the strategies and methodologies established by the independent ERC Scientific Council.

The executive agency operates on the basis of the powers delegated to it by the European Commission, which has the ultimate political responsibility for the implementation of the 'Ideas' specific programme.

Structure

The organisational structure of the agency follows its operational and horizontal objectives. It consists of two operational departments (Scientific Management Department and Grant Management Department), of three and two units respectively, and one Resources and Support Department (of three units). The accounting officer, the internal audit office, the Audit Management and Implementation Unit, the Communication Unit as well as the Support to the Scientific Council Unit report directly to the Director (see page 80).

For the operational budget of the 'Ideas' specific programme, a unit of payments and controls was established with the centralised responsibility for the financial management of the grant agreements (i.e. the operational budget appropriations).

In 2012, the Scientific Management Department underwent an important reorganisation which will allow the ERCEA to adjust to an amount of work unforeseen when it was created in 2009. While the Process Management and Review Unit remained as it was before, the organisation of the other two units changed. From a linear structure based on two units associated to calls (Starting and Advanced Grants respectively), each with its own set of staff associated to corresponding evaluation panels, they have now changed into a matrix-like structure where one unit is linked to the coordination of all calls (Starting, Consolidator, Advanced, Synergy and Proof of Concept grants) and the other provides support to the evaluation panels with staff distributed among panels across all calls.

The new structure has the advantages of offering a more efficient coordination at call and panel level and a better match between the expertise of the scientific officers employed and the research areas of the evaluation panels. A more efficient use of expertise in scientific project follow-up and better ways to deal with more scientifically oriented tasks are also ensured.

Staff and recruitment

The 2012 operating budget provided for the employment of 100 temporary agents (TA) and a budget for 281 contract staff (CA) and 8 seconded national experts (SNEs), adding up to a total of 389 agents.

At the end of December 2012, the agency employed a total of 380 agents: 96 temporary agents, 275 contract agents and 9 seconded national experts.

Statistics of December 2012 show that the agency employs approximately 35% men and 65% women. As regards the gender balance of highly specialised staff (temporary agents and contract agents function group IV), 61% of the posts are occupied by women. At the end of 2011, the ERC Executive Agency employed nationals from 26 EU Member States.

Figure 23: **Staff composition by post category**

Figure 23b: **Staff composition by gender**

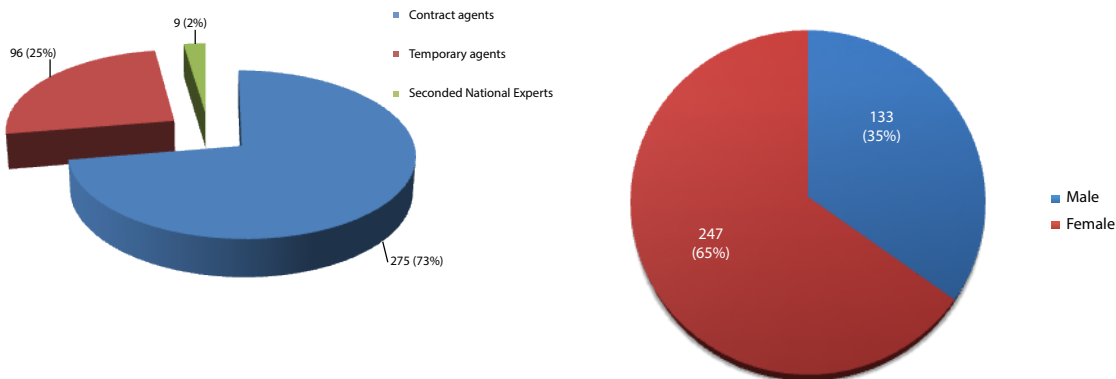
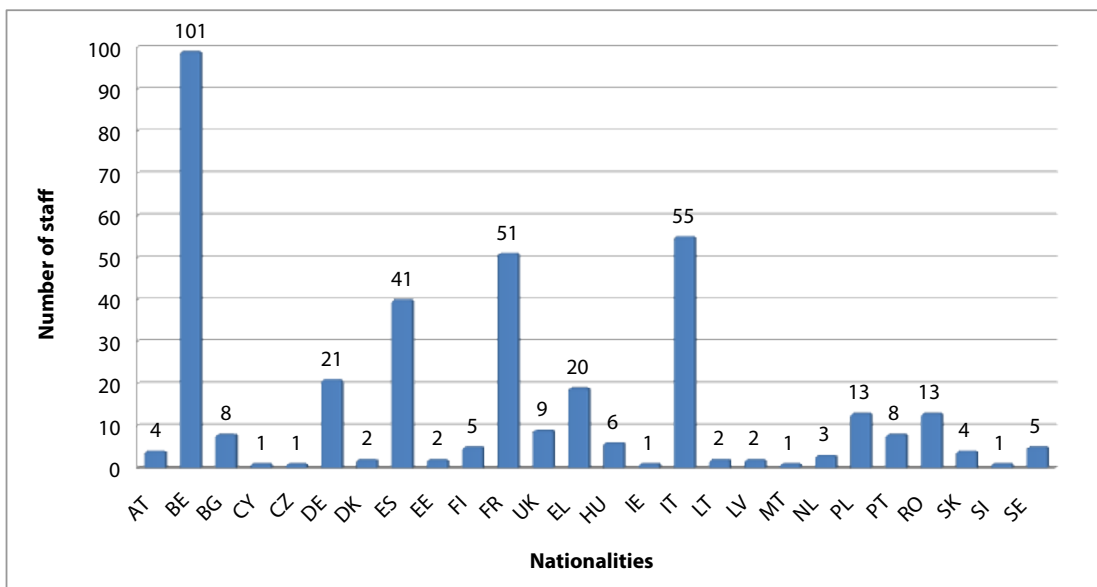


Figure 24 - **Staff composition by nationality**



4.4 Communication

The year 2012 saw a key milestone and several significant developments for the ERC. It was marked by the ERC's fifth anniversary celebration, the launch of the 'ERC goes Global' campaign, the first international agreement (with the NSF), an ERC grantee winning the Nobel Prize for physics, ERC grantees' participation for the first time in the Summer Davos meeting, and in an informal EU Competitiveness Council.

With the ERC's growing worldwide recognition, the rising number of ERC-funded research projects and the Communication Unit's intensified efforts, there was an increase in the number of press articles, media interviews, activities on social media (Twitter and Facebook), invitations to events and visits organised.

In addition to these initiatives aimed at raising the visibility of ERC's existing and new funding opportunities at a global level, the ERC increased its presence in major international scientific conferences, events and exhibitions, as well as career fairs and workshops in Europe. ERC Scientific Council members, grantees and ERCEA staff have greatly contributed to many of these events and information campaigns, which took place in various countries in the EU, but also in Turkey, the US, India, Canada, Hong Kong and China.

The ERC President Prof. Helga Nowotny also visited Singapore and New Zealand this year on the occasion of her participation in the Asia Pacific Science Policy Studies Research conference at the Victoria University of Wellington. Furthermore, Prof. Nowotny attended the newly created Global Research Council, and numerous events in Europe such as the European Excellence Conference 2012 organised in Aarhus under the EU Danish Presidency, the Falling Walls Conference in Berlin, and the Spanish Society of Biochemistry and Molecular Biology in Seville. Additional conferences were attended by Scientific Council members and also by ERCEA staff, where an ERC stand or session was organised to inform of ERC funding schemes, such as the Euroscience Open Forum (ESOF) conference held in Dublin, the Lindau Nobel Laureates' meeting, the Nature Jobs Career Fair, the World Congress of Political Sciences and the European Congress of Mathematics, to name a few.

The ERC was present at the Annual Meeting of the New Champions (also known as Summer Davos) for the first time, held in China, where three ERC grantees gave talks with the support of Scientific Council member Prof. Alain Peyraube. In North America, the ERC attended the NSF career fair and as in the past, the MIT European career fair, the American Association for the Advancement of Science (AAAS) conference, the American Association for Cancer Research, the Neuroscience annual meeting, the American Anthropological Association's annual meeting and the annual fall meeting of the American Geophysical Union.



Prof. Henshilwood, ERC Advanced Grantee and Prof. Dingwell, looking out from the Howiesons Poort excavation in Klipdrift Shelter, South Africa.



ERC Grantee, Prof. Serge Haroche, Nobel Prize in Physics 2012.



Global Research Council
Leaders of major research funders from 44 nations met in Washington DC in May to agree on principles on the evaluation of research.

The national contact points (NCPs), based across Europe, serving as information multipliers to potential applicants, were continuously kept informed about ERC calls and changes via e-mail and through biannual meetings organised in Brussels (in June and November this year). In 2012, new 'Ideas' NCPs from overseas were nominated after the visits of the ERC Secretary-General.

Furthermore, a 2-day event in the presence of Helga Nowotny and of the Italian Research Minister was organised by the Italian NCP and by the National Research Council (CNR). This event attracted 200 participants, most of whom were grantees and potential applicants, and also journalists.

This year, the ERC has received extensive media coverage worldwide and in Europe; both as a world-class funding organisation and through its funded projects and its grant holders. Owing to the 'ERC goes Global' campaign, it has intensified its efforts in international press relations, which resulted in more coverage around the globe than ever before. The landmark event on the occasion of the ERC's fifth anniversary also attracted a great deal of media attention throughout Europe and so did the Nobel laureates' initiative against possible cuts in the EU research budget, where the ERC was mentioned as a European success story. In addition to the media events organised throughout the year, the ERC regularly issued press releases and updates. Numerous press interviews with the ERC President, ERC Secretary-General and Scientific Council members have been published. These press activities have resulted in a significant number of articles in both the scientific and the general press (over 2 100 mentions).



European Research Council at ESOF.



ERC-NSF initiative (Subra Suresh, Máire Geoghegan-Quinn and Helga Nowotny).

The ERC's quarterly e-newsletter 'Ideas' continued to inform subscribers of new developments, ERC-funded research and grantees, as well as its presence at events worldwide.

In 2012, a growing number of features on ERC projects and their results — over 35 — were published on the ERC website and social media. The collaboration with CORDIS services was intensified and led to the drafting of nearly one third of ERC stories. Since autumn 2012, CORDIS also supported the dissemination of ERC stories via the AlphasGalileo science news service and offered to translate ERC stories to be uploaded on the platform.

Furthermore, two ERC projects have been broadcasted by Euronews in its 'Futuris' programme and a few new videos featuring ERC projects or grantees have been produced.

The positive experience of partnership with Host Institutions was further extended. Eight media releases were written specifically for the media with researchers and their universities. For instance, the results of an archaeology project suggesting that 'modern human culture could have emerged 44 000 years ago' were released together with a video produced for the project and resulted in media coverage at national level. Seven special features were published to match the news, for example the adoption by the European Commission of its bioeconomy strategy and action plan in February, or when the ERC was present at major conferences. Each feature presented five to six projects and was printed and distributed on the ERC stand at international congresses on ageing, neurosciences, anthropology and archaeology, and geophysics.

Throughout the year, the executive agency's dissemination working group contributed to monitoring interesting projects and good communicators among grant holders, in order to provide speakers or examples of projects for events, media activities or publications.

Finally, regarding the ERC website, two new functionalities were created to offer visitors quick access to basic statistics on ERC calls and projects, as well as a searchable database of all ERC-funded projects.

Concerning the presence of the ERC on social media, a Facebook account and a Twitter account were launched in 2012. The ERC has more than 1 100 followers on Facebook and more than 1 800 followers on Twitter.



European Research Council Quarterly Newsletter.



Facebook has currently 1 100 followers and more than 1 800 on Twitter.



European Research Council Home page.



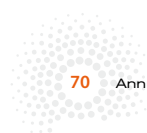
Outlook for 2013



Year 2013 will see continuing negotiations on the EU's overall budget for 2014–20 and on Horizon 2020. Following the intensive work in 2012, the process looks on track to be completed before the end of 2013 in time to start the new programme on schedule.

In terms of the ERC's grants, 2013 will see calls for all five of the ERC grants: Starting Grant; Consolidator Grant; Advanced Grant and Proof of Concept grants for existing ERC grant holders; and a second pilot call for the Synergy Grant.

The process for choosing the next President of the European Research Council should be completed in 2013 in time for the next ERC President to take up duties on 1 January 2014, as successor to the current President, Helga Nowotny.



6

Annexes

Members of the Scientific Council in 2012



Prof. Helga NOWOTNY

- President, European Research Council
- Professor emer. Social Studies of Science, ETH, Zurich
- Awards (among other): John Desmond Bernal Prize
- Foreign Member Royal Swedish Academy of Sciences
- Main research fields: Social Sciences



Prof. Pavel EXNER

- ERC Vice-President
- Scientific Director, Doppler Inst., Prague
- JINR prize in Theoretical Physics
- Member of Academia Europaea
- Main research fields: Mathematical Physics, Operator Theory, Quantum Systems



Prof. Carl-Henrik HELDIN

- ERC Vice-President
- Director Ludwig Institute for Cancer Research; Professor Molecular Cell Biology, Uppsala Uni.
- K. Fernströms Large Medical Prize 1993; Pezcoller AACR Award in Cancer 2002
- Main research fields: Cell Biology, Cancer



Dr Claudio BORDIGNON

- Full Professor of Hematology, Vita-Salute San Raffaele Uni., Milan
- Chairman & CEO MolMed S.p.A., Milan
- Main research fields: Gene Therapy, Stem Cells Transplantation, Molecular Oncology



Prof. Nicholas CANNY

- Professor emer. History, Galway, Ireland
- Former President Royal Irish Academy; Fellow British Academy; Member American Philosophical Society;
- Member Academia Europaea
- Irish Historical Research Prize 1976 and 2001
- Main research fields: Early Modern History, Atlantic History



Prof. Dr Sierd CLOETINGH

- Head Tectonics Group, Dept. of Earth Sciences, Faculty of Geosciences, Utrecht Uni.
- President International Lithosphere Programme; Vice-President Academia Europaea
- Medal Stephan Mueller, European Geosciences Union & Leopold von Buch, German Geological Society; Chevalier de la Legion d'Honneur 2004
- Main research fields: Earth sciences, Tectonics



Prof. Mathias DEWATRIPONT

- Executive Director of the National Bank of Belgium; Professor of Economics, ECARES, Université Libre de Bruxelles; President of the European Economic Association 2005
- Francqui Prize 1998; Jahnsson Medal 2003
- Main research fields: Economics, Science Policy



Prof. Tomasz DIETL

- Head of Laboratory for Cryogenic and Spintronic Research, Inst. of Physics, Uni. Warsaw
- Polish Academy of Sciences, Ordinary Professor at the Inst. Theoretical of Physics
- Agilent Technologies Europhysics Prize (2005); Foundation for Polish Science Prize (2006)
- Main research fields: Condensed Matter Physics, Spintronics, Semiconductors, Magnetic Materials



Prof. Daniel DOLEV

- Professor of Computer Science, Hebrew Uni., Israel
- Chairman Authority for Computation, Communication and Information
- Named 'Highly Cited Scientist'; ISI ACM Fellow; Dijkstra Award
- Main research fields: Computer algorithms



Prof. Carlos DUARTE

- Research Professor Spanish Research Council (CSIC)
- Scientific Director International Laboratory for Global Change
- Spanish National Science Award 2007, Spain's King Jaime I Science Award 2009
- Main research fields: Marine ecology, Oceanography, Limnology, Global Change



Dr Daniel ESTEVE

- Research Director, CEA Saclay Agilent
- Europhysics Prize 2004
- Member Académie des Sciences; Founder Quantronics
- Main research fields: Quantum Mechanics, Quantum Electronics, Mesoscopic Physics, Nanosciences



Prof. Hans-Joachim FREUND

- Fritz-Haber-Institute, MPG, Chemical Physics, Berlin
- Leibniz Award 1995; Somorjai Award ACS 2007; Centenary Award RSC 2006-2007; Karl Ziegler Award 2011
- Member Academia Europaea, Leopoldina, and Brasleira de Ciencias
- Main research fields: Physical Surface Chemistry



Dr Tim HUNT

- Cancer Research UK (retired)
- Nobel Prize in Physiology or Medicine 2001 with Lee Hartwell and Paul Nurse
- Main research fields: Molecular Biology, Control of Cell Division



Prof. Norbert KROÓ

- Research Professor, Special Advisor, Hungarian Academy of Sciences
- Laureate of the Alexander von Humboldt Research Prize, DE; The Wallis E. Lamb Award for Laser Physics & Quantum Electronics (US); Honorary Member of the European Physical Society
- Main research fields: Solid-state Physics, Optics, Neutron Physics



Prof. Maria Teresa LAGO

- Full Professor, School of Sciences, Porto Uni.
- Member Council ESO; Member Academia Europea
- Henri Chrétien Award 1985
- Main research fields: Astrophysics



Prof. Henrietta MOORE

- William Wyse Chair of Social Anthropology, Uni. Cambridge
- Director, Culture & Globalisation Programme Social & Cultural Theory; Major Research Fellow: Leverhulme Trust; British Academy, Royal Society of Arts, Royal Anthropological Institute
- Main research fields: Epistemology, Anthropology, Gender, Africa, Development & Social Enterprise



Prof. Christiane NÜSLEIN-VOLHARD

- Director, Max-Planck-Institut für Entwicklungsbiologie Abteilung III (Genetik)
- Nobel Prize for Medicine 1995; Albert Lasker Award for Basic Medical Research 1991
- Foreign Member Royal Society, London, UK; Member German Academia Leopoldina
- Main research fields: Developmental Biology, Genetics



Prof. Alain PEYRAUBE

- Directeur de recherche emer., CNRS
- Professor, Ecole des Hautes Etudes en Sciences Sociales
- Stanislas Julien Award 1989
- Honorary Professor, Uni. Peking; Honorary member Chinese Academy of Social Sciences; Member Academia Europaea, Corresponding Member Academia Sinica, Taiwan
- Main research fields: Linguistic, Chinese Studies



Dr Jens R. ROSTRUP-NIELSEN

- Senior Associate, Haldor Topsoe A/S
- Affiliate Professor KTH, Stockholm
- Main research fields: Chemical Engineering, Catalysis, Materials Research, Energy Technologies.



Prof. Mart SAARMA

- Academy Professor and Director Centre of Excellence Biotechnology Inst., Helsinki
- Nordic Science Prize 2008
- Main research fields: Neurosciences, Biotechnology



Prof. Anna TRAMONTANO

- Chair Professor of Biochemistry, 'Sapienza' Uni., Rome
- Tartufari Prize, Accademia dei Lincei; KAUST Global Research Partnership Award, Marotta Prize of the National Academy of Science
- Main research fields: Biophysics and Computational Biology



Prof. Isabelle VERNOS

- Research Professor ICREA (Institutió Catalana de Recerca i Estudis Avançats), Centre de Regulació Genòmica, Barcelona
- Associated professor Uni. Pompeu Fabra, Barcelona; Member EMBO and ASCB
- Main research fields: Cell Biology

Panel Chairs of the ERC Peer Review Panels ERC Starting Grant Panels 2012

Life Sciences

- LS1** Molecular and structural biology and biochemistry
Panel Chair: Prof. Winship Herr
- LS2** Genetics, genomics, bioinformatics and systems biology
Panel Chair: Prof. David McConnell
- LS3** Cellular and developmental biology
Panel Chair: Prof. Daniel St Johnston
- LS4** Physiology, pathophysiology and endocrinology
Panel Chair: Prof. Manolis Pasparakis
- LS5** Neurosciences and neural disorders
Panel Chair: Prof. Leszek Kaczmarek
- LS6** Immunity and infection
Panel Chair: Prof. Dolores J. Schendel
- LS7** Diagnostic tools, therapies and public health
Panel Chair: Prof. Jane F. Apperley
- LS8** Evolutionary, population and environmental biology
Panel Chair: Prof. Julia Fischer
- LS9** Applied life sciences and biotechnology
Panel Chair: Prof. Diana Banati

Social Sciences and Humanities

- SH1** Individuals, institutions and markets
Panel Chair: Prof. Richard Blundell
- SH2** Institutions, values, beliefs and behaviour
Panel Chair: Prof. Michel Wieviorka
- SH3** Environment and society
Panel Chair: Prof. James Vaupel
- SH4** The human mind and its complexity
Panel Chair: Prof. Lisa Lai-Shen Cheng
- SH5** Cultures and cultural production
Panel Chair: Prof. Caroline Elam
- SH6** The study of the human past
Panel Chair: Prof. Anthony Molho



Physical Sciences and Engineering

PE1 Mathematical foundations

Panel Chair: Prof. Ari Laptev

PE2 Fundamental constituents of matter

Panel Chair: Prof. John Renner Hansen

PE3 Condensed matter in physics

Panel Chair: Prof. Sebastien Balibar

PE4 Physical and analytical chemical sciences

Panel Chair: Prof. Aart Kleyn

PE5 Material and synthesis

Panel Chair: Prof. Barry Carpenter

PE6 Computer science and informatics

Panel Chair: Prof. Marta Zofia Kwiatkowska

PE7 Systems and communication engineering

Panel Chair: Prof. John O'Reilly

PE8 Products and process engineering

Panel Chair: Prof. Christian Sattler

PE9 Universe science

Panel Chair: Prof. Martin Ward

PE10 Earth system science

Panel Chair: Prof. Minik Rosing

The list of all Panel Members is available at:

<http://erc.europa.eu/evaluation-panels>

Panel Chairs of the ERC Peer Review Panels ERC Advanced Grants Panels 2012

Life Sciences

- LS1** Molecular and structural biology and biochemistry
Panel Chair: Prof. Daniela Rhodes
- LS2** Genetics, genomics, bioinformatics and systems biology
Panel Chair: Prof. Stylianos Antonarakis
- LS3** Cellular and developmental biology
Panel Chair: Prof. Maria Leptin
- LS4** Physiology, pathophysiology and endocrinology
Panel Chair: Prof. Nancy Hynes
- LS5** Neurosciences and neural disorders
Panel Chair: Prof. Ole Petter Ottersen
- LS6** Immunity and infection
Panel Chair: Prof. Albertus Osterhaus
- LS7** Diagnostic tools, therapies and public health
Panel Chair: Prof. Rino Rappuoli
- LS8** Evolutionary, population and environmental biology
Panel Chair: Prof. Isabelle Olivieri/Prof. Roger K. Butlin
- LS9** Applied life sciences and biotechnology
Panel Chair: Prof. Inge Broer

Social Sciences and Humanities

- SH1** Individuals, institutions and markets
Panel Chair: Prof. François Bourguignon
- SH2** Institutions, values, beliefs and behaviour
Panel Chair: Prof. Andre Gingrich
- SH3** Environment and society
Panel Chair: Prof. Peter Nijkamp
- SH4** The human mind and its complexity
Panel Chair: Prof. Bernard Comrie
- SH5** Cultures and cultural production
Panel Chair: Prof. Glen Bowersock
- SH6** The study of the human past
Panel Chair: Prof. Wim Blockmans



Physical Sciences and Engineering

PE1 Mathematical foundations

Panel Chair: Prof. Enrique Zuazua

PE2 Fundamental constituents of matter

Panel Chair: Prof. Gerhard Rempe

PE3 Condensed matter physics

Panel Chair: Prof. Jerzy Langer

PE4 Physical and analytical chemical sciences

Panel Chair: Prof. Manfred Kappes

PE5 Materials and synthesis

Panel Chair: Prof. Gianfranco Pacchioni

PE6 Computer science and informatics

Panel Chair: Prof. Micheline Beaulieu

PE7 Systems and communication engineering

Panel Chair: Prof. Ton Koonen

PE8 Products and process engineering

Panel Chair: Prof. Carlos Bernardo

PE9 Universe sciences

Panel Chair: Prof. Thomas Henning

PE10 Earth system science

Panel Chair: Prof. Peter Liss

The list of all Panel Members is available at:

<http://erc.europa.eu/evaluation-panels>



Panel Chairs of the ERC Peer Review Panels ERC Synergy Grant Panels 2012

STEP1

Physical Sciences and Engineering

SyG1 Panel Chair: Prof. Hans Mooij

SyG2 Panel Chair: Prof. Peter Wasserscheid

Life Sciences

SyG3 Panel Chair: Prof. Ilka Hanski

SyG4 Panel Chair: Prof. Carlos Martinez-A.

Social Sciences and Humanities

SyG5 Panel Chair: Prof. Gretty Mirdal

STEP2

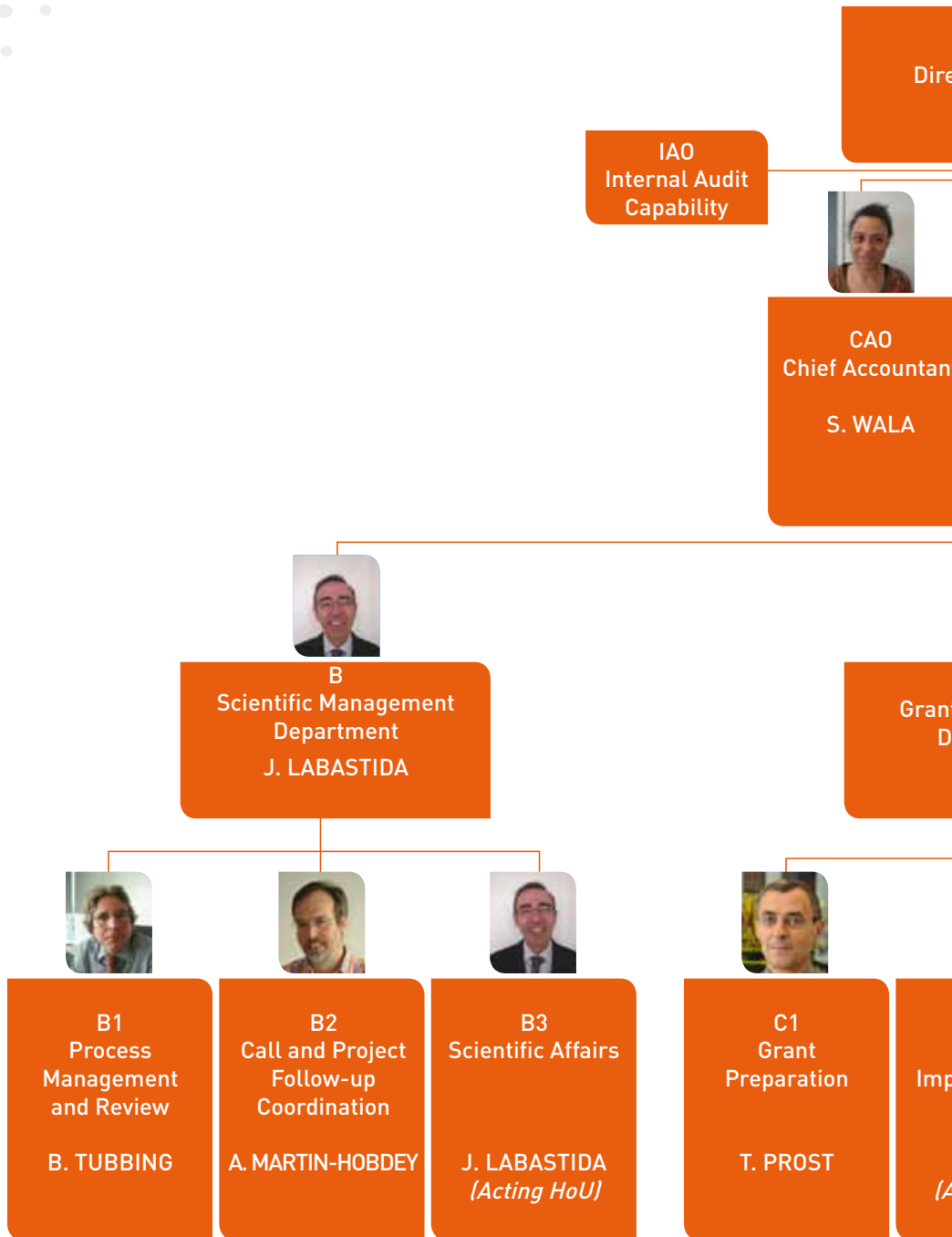
Panel Chair: Prof. Catherine Cesarsky

The list of all Panel Members is available at:

<http://erc.europa.eu/evaluation-panels>



Agency structure





DIR
Director's Office
P. AMOR



A1
Support to the
Scientific Council
T. PAPAZOGLOU



A2
Communication
M. GAUDINA



C
Grant Management
Department
M. MAY



D
Resources & Support
Department
G-E. TE KOLSTE

D0
Administrative
Budget



C2
Grant
Implementation
M. MAY
(Acting HoU)



C3
Audit
Management and
Implementation
M. HENNESSY



D1
IT Tools
Development and
Management
M. VANBIERVLIT



D2
Human
Resources,
Infrastructure,
and Document
Management
C. LENARDUZZI



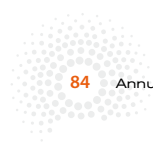
D3
Programming,
Monitoring, Legal
Matters and Risk
Management
M. OLIVAN AVILES

Organisations hosting at least 25 ERC Principal Investigators* by funding scheme

Host Institution	Country of HI	Starting Grants	Advanced Grants	Total
National Centre for Scientific Research (CNRS)	FR	121	56	177
University of Cambridge	UK	55	40	95
Max Planck Society	DE	55	37	92
University of Oxford	UK	47	42	89
University College London	UK	42	27	69
Swiss Federal Institute of Technology Lausanne (EPFL)	CH	38	30	68
Swiss Federal Institute of Technology Zurich (ETH Zurich)	CH	22	41	63
Hebrew University of Jerusalem	IL	33	24	57
Weizmann Institute	IL	31	21	52
Imperial College	UK	28	23	51
National Institute of Health and Medical Research (INSERM)	FR	28	13	41
French Alternative Energies and Atomic Energy Commission	FR	30	7	37
University of Leuven	BE	25	10	35
University of Edinburgh	UK	17	15	32
University of Munich	DE	11	21	32
Spanish National Research Council (CSIC)	ES	19	11	30
University of Bristol	UK	13	17	30
Leiden University	NL	15	14	29
National Institute for Research in Computer Science and Automatic Control (INRIA)	FR	17	12	29
University of Amsterdam	NL	15	14	29
University of Helsinki	FI	16	12	28
Technion - Israel Institute of Technology	IL	21	6	27
University of Copenhagen	DK	15	11	26
Karolinska Institute	SE	15	10	25
Radboud University Nijmegen	NL	17	8	25
University of Zurich	CH	12	13	25

(*) Basis: ERC calls 2007-2012, organisations that signed/were invited to sign the first grant agreement. Data as of January 2013.







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