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Research = new technologies + new materials

See what’s behind it

The functionalism of surfaces due to novel materials results in improved product characteristics, for instance, in less rejection of implants, sensible improvement of adhesion and the building of diffusion barriers for various chemical elements. By funding research projects on new technologies, the FNR helps Luxembourg’s public research institutions to explore a wide range of technological, scientific and economic opportunities for new material applications. Our future depends on what we do today and know tomorrow. That’s why the FNR promotes scientific quality and scientific culture. Do and see what’s behind on www.fnr.lu

FNR. INVESTIGATING FUTURE CHALLENGES

WHY RESEARCH?
WHY IN LUXEMBOURG?

Every day, we all enjoy the benefits of research. Remember the old times without cell phones, mp3 players and a GPS navigation system in your car? Without sports-wear made of high-tech and anti-bacterial fibres? All these innovations have been made possible by research.

But the increase in quality of life is not only measurable in comfort and convenience. Research helps to conquer life-threatening diseases and fights pain for children and adults worldwide. It provides us with a standard of living that we easily tend to take for granted.

Researchers in Luxembourg and abroad are exploring various themes and matters in science and the humanities. They think about how societies – and in particular small societies like Luxembourg – will stay competitive in a globalised world. They work on solutions for public health issues and sustainable management of resources and the environment. They identify the problems of an aging society. They develop novel materials and functional surfaces. And they always knew that in research, there can be no guaranteed success. Sometimes they fail, but sometimes their failure is as valuable as a ready solution.

Without research, our world would not be the same. Research does not deal with abstract socio-economic challenges of our future. Research is not an impersonal force behind economic and social progress. Research is crucial for lasting and sustainable growth in our lives, for environmental respect for the future of our children and grandchildren and for the creation of qualified jobs for all generations. Research in Luxembourg is an investment in knowledge and expertise – an investment in stability, prosperity and social harmony.
Pure water plays a major role in our daily life. It is a natural but limited and fragile resource and has become a highly coveted economic good over the last decade. By funding research projects on the optimisation of water purification and other new environmental technologies, the FNR helps Luxembourg’s public research institutions to establish a pool of excellence for ecological issues.

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FNR. INVESTIGATING FUTURE CHALLENGES
The FNr ForeSight exerciSe
Beyond the realisation of its strategic objectives, the FNr seeks to integrate its work into the needs, expectations and challenges of Luxembourg’s citizens. In 2006 to 2007, the FNr thus undertook, together with the Ministry of Research, a detailed analysis of Luxembourg research and society, based on a close involvement of stakeholders from the R&D community, the society, and the economy of Luxembourg as well as a number of international experts. The FNr Foresight Exercise aimed at identifying national research priorities in the public sector, which are of socio-economic interest to Luxembourg. These priority domains have since been implemented in the new research programme CORE and the general FNr strategy.

Science iN SocieTy (SiS)
The FNr wishes to strengthen the links between science and society and thus to stimulate the sensitivity of scientific issues among the Luxembourg population. The FNr funds activities that create a profound understanding for the necessity of science and research as a guarantee for life quality, a means to fill youngsters with enthusiasm for scientific professions. Events like the Science Festival or the Researchers’ Days illustrate the efforts made to bridge the gap between science and society, in particular for the younger generation.

FNR SEE WHAT’S BEHIND IT

THREE STRATEGIC GOALS
Since its creation in 1999, the National Research Fund (Fonds National de la Recherche, FNR) has become a key actor in building a high-quality research system in Luxembourg. The FNR provides funding for all branches of science and the humanities with an emphasis on strategically aligned research domains. A Performance Contract, concluded with the Government, sets the budgetary frame for the well-defined short- and long-term objectives.

Beyond its traditional role of funding agency, the FNR develops various thematic and strategic instruments that help to construct Luxembourg’s profile as an international research site, notably by attracting excellent researchers from abroad, by fostering international collaborations, by promoting cooperations with the private sector, by promoting the industrial exploitation of research results and by supporting the training of researchers at PhD and postdoctoral levels. Furthermore, the FNR is actively promoting scientific culture and interest in research.

With its current funding activities for public research, the FNR thus pursues a three-fold strategic objective:

- supporting researchers to build up scientific quality and excellence
- improving Luxembourg’s research environment and institutional framework
- promoting scientific culture among the general public and the young

The FNR relies exclusively on independent peer review processes applying the internationally accepted quality standards when selecting which research projects to support. Within all its activities, the FNR encourages research projects that relate to Luxembourg’s socio-economic challenges and welcomes public-private partnerships involving Luxembourg’s key players in R&D. Funds for research projects within the FNR’s programmes are directed to the public research centres, the University of Luxembourg and public organisations, departments and establishments in Luxembourg that undertake research activities.

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Research = stability + competitiveness
See what’s behind it
Luxembourg’s geographical, political and economic context and its multi-cultural and multi-lingual population present specific challenges for decision-makers in legislation, the educational system and the labour market. By funding research projects on cross-border mobility, immigration and identity formation, the FNr supports Luxembourg’s public research institutions to formulate strategies for the country’s continuing stability and competitiveness in a globalized world.

Our future depends on what we do today and know tomorrow. That’s why the FNr promotes scientific quality and scientific culture. Go and see what’s behind on www.fnr.lu

FNR. INVESTIGATING FUTURE CHALLENGES

Research = prevention + knowledge transfer
See what’s behind it
Life expectancy in the Western World rises whereas less fortunate countries are in constant need of imported treatments and vaccines. The development of new prevention systems, diagnosis tools and therapies improves public health, which is a major key to prosperity and stability worldwide. By funding research projects in biomedicine, the FNr helps to create a pool of excellence amongst Luxembourg’s research institutions. Our future depends on what we do today and know tomorrow. That’s why the FNr promotes scientific quality and scientific culture. Go and see what’s behind on www.fnr.lu

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FNR. INVESTIGATING FUTURE CHALLENGES

Research = prevention + knowledge transfer
See what’s behind it

Research = stability + competitiveness
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FNR
GRANTS AND ACTIVITIES

With its various thematic and structural Research Programmes CORE, OPEN, INTER, ATTRACT and PEARL, the FNR funds strategically aligned public research projects in Luxembourg. The FNR is also in charge of the AFR Grant Scheme (Aides à la Formation-Recherche), an instrument that financially supports PhDs and Postdocs in their career development. In addition, the FNR supports communication between researchers to promote scientific outcomes and exchanges (RESCOM), provides funding to strengthen the exchange between science and society (PSP) and promotes the international scientific exchange between research groups (INTER Mobility).

The funding activities are rounded off by the FNR Awards: the FNR allocates annual awards for the outstanding promotion of scientific culture, for outstanding scientific publications, for outstanding PhD thesis as well as a special award for the outstanding contribution to the promotion and/or development of science and research in Luxembourg or in relation with Luxembourg.

CORE
EXCELLENCE PROGRAMME IN RESEARCH TO MEET LUXEMBOURG’S FUTURE SOCIO-ECONOMIC CHALLENGES

Based on the Foresight Exercise, the FNR implemented the framework programme CORE in 2008. The main objective of the CORE programme is to raise the scientific quality of Luxembourg public research by funding projects in the identified priority domains. CORE aims at establishing a pool of knowledge and expertise as a basis for future practical use of research results. CORE projects should directly contribute to the strengthening of the research groups in their fields of action, leading to the creation of national strategic resources and an increased visibility in the international research community.

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<tr>
<th>CORE PRIORITY DOMAINS FOR LUXEMBOURG</th>
<th>THEMATIC RESEARCH PRIORITIES</th>
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<td>Development and Performance of the Financial System</td>
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<td>Business Service Design</td>
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<td>Information Security and Trust Management</td>
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<td>Telecommunication and Multimedia</td>
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<td>Sustainable Resource Management in Luxembourg (SR)</td>
<td>Water Resources under Change</td>
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<td>Sustainable Building and Bioenergy</td>
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<td>Spatial and Urban Development</td>
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<td>New Functional and Intelligent Materials and Surfaces, New Sensing Applications (MS)</td>
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<td>Biomedical Sciences (BM)</td>
<td>Regenerative Medicine in Age-related Disorders</td>
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<td>Translational Biomedical Research</td>
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<td>Societal Challenges (SC)</td>
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Status 2013
OPEN EXCELLENCE PROGRAMME IN RESEARCH TO SUPPORT RESEARCH OUTSIDE LUXEMBOURG’S PUBLIC RESEARCH PRIORITIES

The OPEN programme intends to provide funding for a limited number of internationally competitive projects with the view to support research groups whose research directions do not fit into the FNR’s thematic CORE programme. This will also allow Luxembourg researchers to keep pace with new developments in their research fields which may lay outside the mainstream areas covered by the CORE programme.

ATTRACT LUXEMBOURG’S RESEARCH PROGRAMME FOR OUTSTANDING YOUNG RESEARCHERS FROM ALL OVER THE WORLD

ATTRACT builds on the excellence, dynamism and creativity of research in Luxembourg by attracting young R&D actors to the country. The programme was designed for young researchers not yet established in Luxembourg who distinguish themselves in a high level of ability in science or technology and proven experience in a professional research context.

PEARL LUXEMBOURG’S RESEARCH PROGRAMME FOR INTERNATIONALLY RECOGNISED SENIOR RESEARCHERS

With PEARL, the FNR offers institutions a flexible and highly attractive tool to attract established and internationally acknowledged senior researchers in strategically important research domains. The recruitment of excellent PEARL grantees contributes to increasing the quality of Luxembourg’s research environment through creating a kernel for building critical mass.

INTER PROMOTION OF INTERNATIONAL COOPERATION

INTER is a specific FNR programme aimed to increase the visibility and competitiveness of Luxembourg research in other countries. The aims of INTER are to promote and to facilitate international scientific cooperation, to create synergies between research centres within and outside Luxembourg, and to achieve critical mass. INTER facilitates access to worldwide funding initiatives and enables the FNR to initiate bi- or multilateral arrangements for calls in its own national priority domains in conjunction with other international funding bodies. In a more globalised world, research funded through INTER helps to find solutions for environmental, socio-economic and public-health issues that transcend national borders.

INTER MOBILITY PROMOTION OF SCIENTIFIC EXCHANGE

INTER MOBILITY promotes the scientific exchange, i.e. secondments of research staff between research groups of the Luxembourg public research institutions and research groups abroad in order to foster innovative, internationally competitive research and support the exchange of key knowledge and technological know-how.

AFR – PHD AND POSTDOC GRANTS AIDES À LA FORMATION-RECHERCHE LUXEMBOURG’S GRANT SCHEME FOR PHDS AND POSTDOCS

AFR provides funding for PhD and postdoctoral research training projects in Luxembourg and abroad. AFR seeks to improve the working conditions and career perspectives for researchers. The establishment of work contracts between AFR beneficiaries and their host institutions is strongly encouraged. AFR contributes to the development of human resources in Luxembourg research, translated in the long term by an increased number of qualified researchers pursuing a research career beyond their period of AFR funding. The AFR postdoc grants receive financial support under the Marie-Curie-Actions of the European Commission (FP7-People-Cofund).

RESCOM SUPPORT FOR RESEARCH COMMUNICATION

With RESCOM, the FNR supports communication between researchers to promote scientific outcomes and exchange. The FNR co-finances the organisation of international scientific conferences, exploratory workshops, lecture series and summer schools in Luxembourg as well as the publication of scientific monographs.

PSP PROMOTING SCIENCE TO THE PUBLIC

Under its Science in Society activities, the FNR provides funding to strengthen the exchange between science and society. PSP supports projects that raise public awareness of scientific topics and projects that publicise research being carried out in Luxembourg.
FNR
RESPONSIBLE FUNDING FOR LUXEMBOURG

LUXEMBOURG’S FUTURE AS A KNOWLEDGE ECONOMY

To the FNr and all its partners, it is of utmost importance that Luxembourg consolidates its strong position within the European Union. Luxembourg’s gross national product is on the upper scale, and the country successfully managed an economic diversification and the development of other branches than the steel industry. However, as it has been outlined in the Lisbon Agenda for all European countries, also Luxembourg’s future wealth and prosperity will be generated largely through a knowledge economy. With this in view, research, technology and science offer new possibilities for the labour market and the societal progress.

RESEARCH AS A SOCIO-ECONOMIC PILLAR

All of the FNr’s funding activities have one common objective for Luxembourg: to make of research a socio-economic pillar by investing in education, knowledge and excellence. Yet, the FNr does not concentrate its funding exclusively on projects with an immediate economic impact. It rather wants to take a balanced approach to research policy, encouraging research that addresses the challenges of Luxembourg’s economy as well as its society and environment in a short- or long-term view.

LUXEMBOURG 2020

Compared to other countries on an imaginary worldwide map of R&D activities, Luxembourg is a young actor in R&D, but has dynamically left the starting blocks in a global competition for high-profile research projects. There are multiple positive points that favour Luxembourg as research location. The Grand Duchy is a small country with short ways – literally and in decision-making –, it has a young university and young public research centres, a multi-cultural society with an ability to combine tradition and change, and it offers appropriate resources as well as a creative intellectual environment. In consequence, the FNr strives to make full use of Luxembourg’s potential to become, in 2020, one of the renowned research sites capable of competing with other internationally accomplished centres of R&D.
The FNR is constantly reviewing and monitoring its programmes and wants to stay flexible and strong in its reactions to possible demands and critical remarks. The FNR Annual Report, available on www.fnr.lu/annualreports, offers detailed information on all FNR activities and funded projects. Information about on-going calls and deadlines is also available on www.fnr.lu/calls.

Further brochures about the FNR and its funding programmes are available upon request or on www.fnr.lu/brochures.

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OPEN  research = excellence + originality
ATTRACT  research = opportunity + challenge
PEARL  research = flexibility + synergies
INTER  research = mobility + collaboration
AFR  research = training + perspective
RESCOM  research = support + promotion
PSP  research = communication + promotion