

**Annual
Report**

2012

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INTRODUCTION

WELBIO was founded on 12 December 2008 at the initiative of the Walloon Government in order to support “*excellence in research, leading to new and significant discoveries capable of generating future applications and feeding the work supported by the Marshall Plan**” in the field of life sciences and biotechnology. In 2011, WELBIO launched 15 research programmes carried out in universities of the French Community of Belgium, selected for their scientific excellence by an international Scientific Council and following the institute’s first call for projects.

2012 saw a number of new milestones:

- WELBIO launched a new call for projects with the emphasis on talented junior investigators. The international Scientific Council selected 8 new research programmes in addition to the 15 programmes already underway. With these 23 programmes, WELBIO consolidated its position in the scientific landscape.
- The publication of more than thirty articles in prestigious journals, such as *Nature* and *Science*, highlighted the excellence of these programmes.
- The individual support given to WELBIO investigators through regular meetings with its Managing Director is one of WELBIO’s characteristics. Inventions are developed working closely with the host universities and, in particular, with members of technology transfer offices. This integrated research valorisation strategy from the very outset of the projects has already proved effective, since two patent applications have been filed.
- Finally, in December 2012, at the proposal of Minister Nollet, the Walloon and Wallonia-Brussels Federation Governments agreed on a preliminary draft decree to perpetuate fundamental research funding and, in particular, to guarantee WELBIO an annual budget of €6 million.

Consequently, four years after the publication of the Walloon Government memorandum defining the principle behind the establishment of WELBIO, the institute now has 23 research programmes of excellence underway, and its future is secure.

*Walloon Government memorandum of 12 December 2008, available at <http://welbio.org>

PERPETUATION OF WELBIO

Jean-Marc Nollet, the Minister for Research of the Walloon Region and the Wallonia-Brussels Federation (FWB), presented a new decree on 3 December 2012 aiming at perpetuating the funding of the National Fund for Scientific Research (FNRS). This decree also creates a Fund for Strategic Fundamental Research (FRFS) and the Walloon Institute for Sustainable Development (WISD) as part of the FNRS. "*Funding for research will no longer be considered an optional expense,*" stated Mr Nollet. In addition to the original funding of €100 million, the minister has secured a further €11 million per annum for research, **six million of which will go to WELBIO.**

MORE PROJECTS: FROM 15 TO 23

1. CALL FOR PROJECTS

The emphasis on talented junior investigators

Two years on from the beginning of its first 15 research programmes, WELBIO launched a new call for projects; this time with the emphasis on talented junior investigators, with a new "starting grant" category dedicated to them. These junior investigators must have no more than 12 years of postdoctoral experience. They must also have demonstrated their scientific independence as last- author of several publications and their ability to set up their own research team. Furthermore, they must have a guaranteed salary, independently from the project, for its entire term. Experienced investigators apply in the "advanced grant" category.

Out of a total of 70 eligible projects, 27 projects were submitted in the "starting grant" category. This is approximately twice as many "starting" projects than in the first call, when no specific category was dedicated to junior scientists. The establishment of the "starting" category has therefore successfully attracted several talented junior investigators.

Budget

The budget allocation for the 2012 call totals €8 million for a four-year period. The length of the projects is 2x2 years. The budget coverage is therefore 2 years, which is renewable for a further 2 years, subject to the Scientific Council's positive decision.

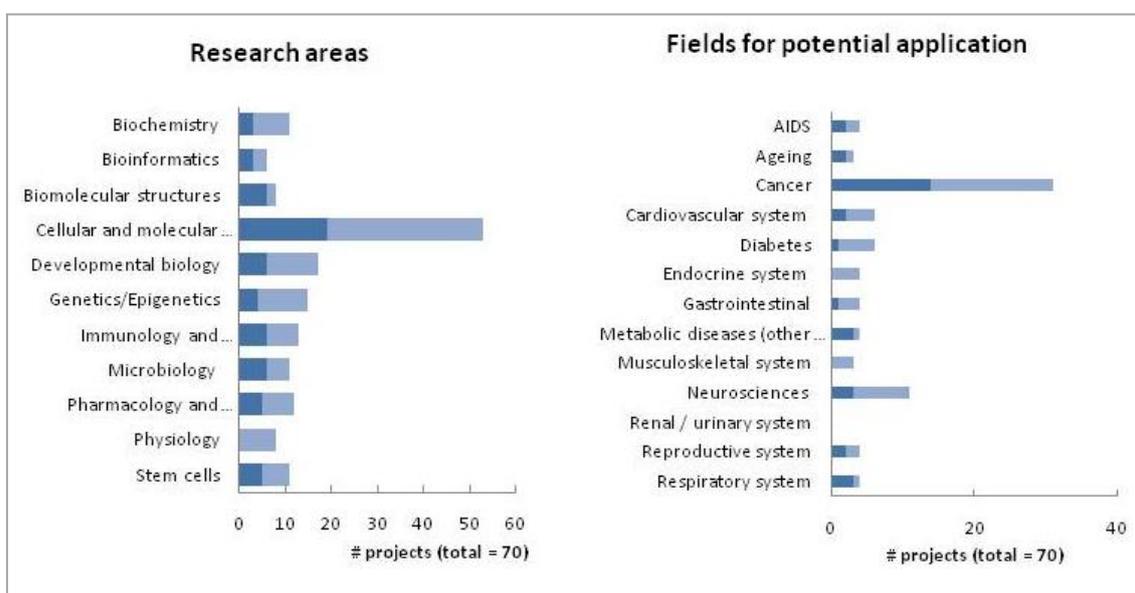
Applicants may claim a maximum of €200,000 per annum in the "starting grant" category and €400,000 per annum in the "advanced grant" category.

Theme of the projects received

Applicants must indicate three key words describing their research areas and fields for potential application of their project.

Research areas – The 70 eligible projects received cover diverse themes, ranging from developmental biology to genetics/epigenetics, as well as immunology and inflammation (in the graphic hereunder, “starting grants” appear in dark blue and “advanced grants” in light blue). As one could expect, most projects are in the field of “Cellular and molecular biology”.

Fields for potential application – “Cancer” is a field of potential application for an important number of submitted projects (44% in 2012, 21% in 2010), followed by “Neurosciences and neurobiological diseases”.



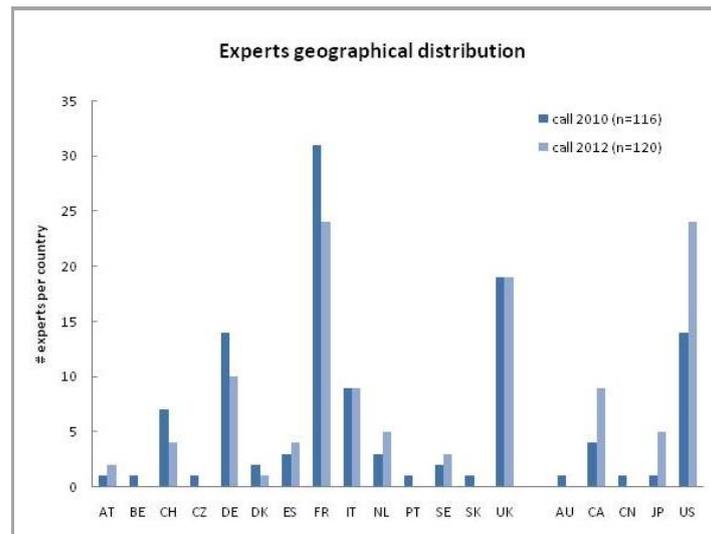
Evaluation procedure

WELBIO's evaluation and selection procedure is under the responsibility of its Scientific Council, which is composed of eminent international members:

- Prof. Sebastian AMIGORENA, Institut Curie, France
- Prof. Bernd ARNOLD, German Cancer Research Centre (DKFZ), Germany
- Prof. Pierre CHAMBON, IGBMC, France
- Prof. Xavier ESTIVILL, Centre for Genomic Regulation, Spain
- Prof. Carl-Henrik HELDIN, Ludwig Institute for Cancer Research, Sweden
- Prof. Franz HOFMANN, Technische Universität, Germany
- Prof. David WILKINSON, MRC National Institute for Medical Research, UK

The selection process involves several stages:

- All eligible projects are first evaluated by at least two international scientific experts. Within the framework of this second call, 120 experts carried out one or more evaluations. The geographical distribution of these experts is shown hereunder. The experts are mainly based in Germany, France, the United Kingdom and the United States. Compared with the first call for projects in 2010, the number of experts in the United States has doubled.



- The Scientific Council then carries out a pre-selection based on the projects and the experts' individual evaluations. Projects which are not pre-selected are not examined subsequently.
- The Scientific Council next meets to establish a priority ranking of the pre-selected projects. **This second call for projects provided the opportunity to make several improvements to the selection procedure**, notably (i) by organizing interviews of the pre-selected candidates by the Scientific Council and (ii) by implementing the use of a standardised score scale to establish the ranking of the projects.
- Finally, the Scientific Council submits the ranking of the projects to the Governing Board, together with budget-related recommendations.

Funding decision

The Governing Board decided to fund a total of eight projects, five of which are in the “starting grant” category, for a total budget of €3,900,000 over 2 years.

These eight new research programmes, which are due to begin on 1 February 2013, cover themes as varied as obesity, type 2 diabetes, chronic inflammatory bowel disease, asthma and cystic fibrosis.

Laureates of the 2012 call for projects–“Starting grants”



Fabrice Bureau – 200 000 €/year
Université de Liège

Ontogeny and molecular differentiation pathways of lung interstitial macrophages



Patrice D. Cani – 200 000 €/year
Université catholique de Louvain

Study of the interactions existing between the gut microbiota and the host : impact on the onset of obesity and type 2 diabetes



Stanislas Goriely – 200 000 €/year
Université libre de Bruxelles

Transcriptional control of memory CD8 T cell differentiation



Cédric Govaerts – 200 000 €/year
Université libre de Bruxelles

Structural characterisation of CFTR using nanobodies



Charles Pilette – 200 000 €/year
Université catholique de Louvain

Impaired mucosal immunity in severe asthma

Laureates of the 2012 call for projects –“Advanced grants”



Michel Georges – 350 000 €/year
Université de Liège

Integrating genetics and functional genomics to identify causative genes and variants controlling inherited predisposition to inflammatory bowel disease



André Goffinet – 250 000 €/year
Université catholique de Louvain

Mechanisms of brain wiring



Marc Parmentier – 350 000 €/year

Université libre de Bruxelles

Role of leucocyte chemotactic factors in tumor progression

2. RENEWAL OF ONGOING PROGRAMMES

The budget allocation for the 2010 call for projects is €19,040,000 for 4 years. Principal Investigators who had received WELBIO funding for the first two years (2011-2013) of their four-year WELBIO programme were eligible to submit a renewal grant for the 2013-2015 period. Projects had to be submitted by no later than 17 September 2012.

The Scientific Council evaluated the renewal applications along with the new projects submitted as part of the call for projects. It then made a renewal recommendation which was submitted to the Governing Board, which consequently proceeded to the funding decision.

The Governing Body decided to renew the 15 research programmes for 2013-2015, for a total budget of €9,320,000 for 2 years.

2011-2015 Programmes



Cédric Blanpain (ULB) – 350 000 €/year

Université libre de Bruxelles

Stem cells and skin cancers



Alain Chariot (ULg) – 350 000 €/year

Université de Liège

Deciphering the roles played by IKK in breast cancer



Jean-François Collet (UCL) – 280 000 €/year

Université catholique de Louvain

Protein folding and protein repair in the cell envelope of Gram-negative bacteria



Pierre Coulie (UCL) – 350 000 €/year

Université catholique de Louvain

Functions of intratumoral lymphocytes

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Carine Maenhaut (ULB) – 350 000 €/year

Université libre de Bruxelles

Molecular characterisation of the physiopathology and progression of thyroid cancers



Pierre Maquet (ULg) – 150 000 €/year

Université de Liège

Characterisation of genetic determinants of the individual variations in sleep and resilience to sleep loss in humans



Laurent Nguyen (ULg) – 350 000 €/year

Université de Liège

Molecular regulation of cerebral cortical neurogenesis



Etienne Pays (ULB) – 350 000 €/year

Université libre de Bruxelles

Cellular functions and medical applications of apolipoproteins L



Pierre Roger (ULB) – 150 000 €/year

Université libre de Bruxelles

Regulation of CDK4 and CDK6 kinases in cell proliferation and cancer.



Stéphane Schurmans (ULg) – 330 000 €/year

Université de Liège

Analysis of the tumor suppressor potential of a new gene implicated in acute leukaemia



Benoît Van den Eynde (UCL) – 350 000 €/year

Université catholique de Louvain

Mechanistic studies of antigen processing and characterisation of novel proteasome subtypes



Pierre van der Bruggen (UCL) – 250 000 €/year

Université catholique de Louvain

Regulatory roles of galectins in the immune response



Emile Van Schaftingen (UCL) – 350 000 €/year

Université catholique de Louvain

Faulty metabolite repair, a new view on enzyme specificity



Pierre Vanderhaeghen (ULB) – 350 000 €/year

Université libre de Bruxelles

Mechanisms of brain development and diseases using pluripotent stem cell technology.



Miikka Vikkula (UCL) – 350 000 €/year
Université catholique de Louvain

Identification of new lymph/angiogenic genes by using next generation sequencing.

RESEARCH

1. WELBIO INVESTIGATORS

The attribution of prestigious scientific awards to WELBIO investigators highlights the excellence of their scientific work. In 2011, the Francqui Prize was awarded to Dr Pierre Vanderhaeghen (ULB) and the Clerdent Prize to Dr Pierre Maquet (ULg). In 2012, the work of Dr Cédric Blanpain (ULB) and Dr Emile Van Schaftingen (UCL) was recognized :



The 2012 ISSCR Prize was awarded to Cédric Blanpain (ULB). This annual prize is awarded by the “International Society for Stem Cells Research” to the most deserving young investigator in the field of stem cell research. For the first time, it was awarded to a young investigator working in Europe.

*Dr Blanpain in Nature’s Top 10. Cédric Blanpain is named as one of the 10 individuals who, in the opinion of the prestigious journal *Nature*, made a major contribution to science during 2012.*



Emile Van Schaftingen (UCL), 2012 Francqui Chairholder. This Chair enables a Belgian professor to organise a cycle of prestigious conferences in his or her specialist field. In 2012, the Chair was based at the University of Namur (FUNDP).

Photo of Cédric Blanpain © Bruno Fahy

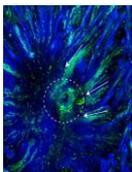
2. RESEARCH TEAMS

In order to successfully carry out the 15 research programmes underway in 2012, WELBIO investigators employed a total of 147 people. Most are scientists (approx. 80%), supported in their work by laboratory technicians. Around one third (51/147) of the staff is funded by WELBIO, with the remaining staff members being supported by the FNRS, the FRIA, as well as Télévie and the Foundation Against Cancer.

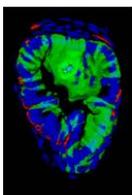
Recruitment of additional scientists and technicians is planned in 2013 as part of the launch of the 8 laureate programmes of the 2012 call.

3. SCIENTIFIC PUBLICATIONS

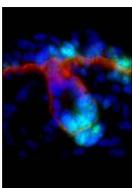
In 2012, more than thirty publications were published in prestigious journals such as *Nature* and *Science*, which have an “impact factor” greater than 10, and in other renowned journals such as *Oncogene* and *Cancer Research*, which have an “impact factor” greater than 5. Most notably:



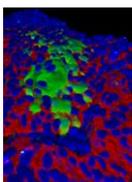
Mascré G, Dekoninck S, Drogat B, Kass Youssef K, Brohée S, Sotiropoulou P, Simons BD, Blanpain C.
Distinct contribution of stem and progenitor cells to epidermal maintenance.
Nature (2012) 489: 257-262



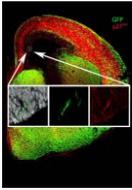
Ousset M, Van Keymeulen A, Bouvencourt G, Sharma N, Achouri Y, Simons BD, Blanpain C.
Multipotent and unipotent progenitors contribute to postnatal prostate development.
Nat Cell Biol (2012) 14:1131-1138



Youssef K, Lapouge G, Bouvrée K, Rorive S, Brohée S, Appelstein O, Larsimont JC, Van de Sande B, Pucci D, Dekoninck S, Berthe JV, Aerts S, Salmon I, del Marmol V, Blanpain C.
Reprogramming of adult interfollicular tumor initiating cells into embryonic hair follicle progenitor like fate during basal cell carcinoma initiation.
Nat Cell Biol (2012) 14:1282-1294



Driessens G, Beck B, Caauwe A, Simons BD, Blanpain C.
Defining the mode of tumour growth by clonal analysis.
Nature (2012) 488:527-530



Godin J, Thomas N, Laguesse S, Malinouskaya L, Close P, Malaise O, Purnelle A, Raineteau O, Campbell K, Fero M, Moonen G, Malgrange B, Chariot A, Metin C, Besson A, Nguyen L.

p27Kip1 is a microtubule-associated protein that promotes microtubule polymerisation during neuron migration.

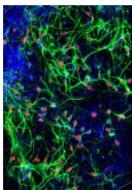
Dev Cell (2012) 23: 799-44



Salmon D, Vanwalleghem G, Morias Y, Denoëud J, Krumbholtz K, Lhommé F, Bachmaier S, Kador M, Gossmann J, Braga Stehling Dias F, De Muylder G, Uzureau P, Magez S, Moser M, De Baetselier P, Van Den Abbeele J, Beschin A, Boshart M, Pays E.

Adenylate cyclases of Trypanosoma brucei inhibit the innate immune response of the host.

Science (2012) 337: 463-466



Tiberi L, van den Aemele J, Dimidschstein J, Piccirilli J, Gall D, Herpoel A, Bilheu A, Bonnefont J, Iacovino M, Kyba M, Vanderhaeghen P.

BCL6 induces neurogenesis through Sirt1-dependent epigenetic repression of selective Notch transcriptional targets.

Nature Neurosci (2012), 15, 1627-1635

VALORISATION

One of WELBIO's characteristics is its management of *"the entire chain, from pre-translation research to transferring research results to industry"*.

To this end, WELBIO provides individual support for WELBIO investigators to develop the valorisation potential of their research. In practical terms, supporting WELBIO investigators takes the form of regular meetings with the Managing Director of WELBIO, as well as with various members from the technology transfer offices of the host universities ("scientific advisor", "business developer", incubator and legal officer).

The support given to WELBIO investigators from the very outset of the project means that the valorisation process is integrated into the scientific progress of the fundamental research programme. Consequently, the valorisation process should no longer be seen as slowing down scientific progress, as can sometimes still be the case, but as forming an integral part of it, providing the link between fundamental research and its impacts on society.

This integrated research valorisation strategy from the moment when the projects are launched has already proved effective, since two patent applications have been filed in the framework of the WELBIO programmes at the Université libre de Bruxelles (ULB).

COMMUNICATION

WELBIO announced the names of the successful candidates of its second call for projects at a press conference held on 1 February 2013 and attended by Minister Jean-Claude Marcourt, the representative of Minister Jean-Marc Nollet, Amélie Servotte, as well as Jean Stéphane, Chairman of WELBIO.



As the names of the successful candidates were announced, Minister Marcourt made the following statement: *“It is a fact that the aim of WELBIO’s activities is to support employment in innovative sectors, at the same time as responding to the big challenges facing society, such as cancer and ageing. WELBIO’s activities, and particularly this desire to support and valorise excellence in Wallonia and the Wallonia-Brussels Federation, perfectly reflect the Marshall Plan’s objective to stimulate Walloon excellence on a European and worldwide scale. In practical terms, the new avenues opened up by WELBIO research programmes could lead to spin-offs and special partnerships with Walloon industries, particularly with the support of the Biowin or Wagraim competitive clusters”.*

For her part, Minister Jean-Marc Nollet’s representative, Amélie Servotte, stressed the importance of fundamental research and applauded the success already achieved by WELBIO investigators and their teams. At the proposal of Minister Nollet, the Walloon and Wallonia-Brussels Federation Governments agreed in December 2012 on a preliminary draft decree to perpetuate the funding of fundamental research and, in particular, to guarantee WELBIO an annual budget of €6 million.

Photos of the press conference © ULg Michel Houet

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The success of the press conference can be measured by the extensive press coverage given to the message of excellence in research in the Walloon Region and its importance upstream of the region's economic development, with articles in Le Soir, L'Echo, La Libre Belgique, Belga, La Libre-Gazette de Liège, etc., and reporting on RTC Liège news.



Thus, WELBIO is fulfilling one of the missions assigned to it by the Walloon Government in its memorandum of 12 December 2008, namely *“to show the importance of Walloon research for society, for the growth of the investigators and the well-being of the population, and [...] to enhance the image of its quality and its contribution to international scientific knowledge, economic activity and employment, both in Wallonia and beyond.”*

*Walloon Government memorandum of 12 December 2008, available at <http://welbio.org>

ADMINISTRATIVE AND FINANCIAL RESOURCES

Governance at WELBIO

The Governing Board consists of representatives from academia, industry and government. The Board is chaired by Jean Stéphane, with Jacques Dumont as Deputy Chairman. The composition of the Board is as follows:

Representatives of the Walloon Government:

- Philippe Busquin, Minister of State
- Marcel Crochet, Honorary Rector, Catholic University of Leuven
- Benoît Bayenet, Representative of the Office of Minister Marcourt

Representatives of the economic and industrial sector with an interest in life sciences:

- Jean Stéphane, Chairman and President, GlaxoSmithKline Biologicals
- Roch Doliveux, CEO, UCB
- Jean-Pierre Delwart, CEO, Eurogentec SA

Representatives of French-speaking university academies

- Jacques Dumont, Professor, Free University of Brussels (Wallonia-Brussels Academy)
- Louis Hue, Professor, Catholic University of Leuven (Leuven Academy)
- Pierre Lekeux, Professor, University of Liège (Wallonia-Europe Academy)

Representative of the FNRS

- Véronique Halloin, Secretary-General, Scientific Research Fund (FNRS)

Representative of SPW/DG06

- Yves Sennen, Managing Director, represented by Pierre Villers, Inspector-General

Management report

Preamble

- This is the third financial year, covering the period between 1 January 2012 and 31 December 2012.
- Although WELBIO is considered to be a small not-for-profit association with regard to the criteria of the Law of 2 May 2002, double entry accounts are kept.
- WELBIO's evaluation rules specify that subsidies are assessed based on cleared received amounts.

Assets

- Tangible fixed assets total EUR 472 and consist of IT equipment.
- Financial assets total EUR 3,450.00 and consist of the security for rented office space in Wavre.
- Cash investments total EUR 93,770.40, distributed as follows:
 - Green account: EUR 90,115.56
 - Flexibonus: EUR 3,654.84
- Available cash totals EUR 3,647,643.01 and consists mainly of short-term deposits which reached maturity on 31/12/2012 for an amount equivalent to EUR 3,500,000.
- Adjustable accounts total EUR 5,155.35, distributed as follows:
 - Deferred charges: EUR 5,155.35.

Total assets come to EUR 3,750,490.76.

Liabilities

- Permanent cash receipts total EUR 10,000,000, distributed as follows:
 - Research fund subsidies: EUR 5,000,000, amount paid on 21/01/2010
 - Sofipôle subsidies: EUR 2,500,000, amount paid on 31/12/2009
 - Sofipôle subsidies: EUR 2,500,000, amount paid on 14/08/2012
- The loss carried forward totals EUR 6,287,365.82, distributed as follows:
 - Profit for the financial year 2010: EUR 15,659.14
 - Loss for the financial year 2011: EUR 2,341,408.43
 - Loss for the financial year 2012: EUR 3,961,616.53
- Accounts payable total EUR 5,144.04.
- Invoices receivable total EUR 2,500.00.
- Outstanding wage tax totals EUR 4,516.03.

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- Outstanding social security contributions total EUR 5,148.62.
- Remuneration payable totals EUR 329.43.
- Provisions for holiday pay total EUR 20,218.46.

Total liabilities come to EUR 3,750,490.76.

Result

- Claim declarations accepted and paid total EUR 3,772,865.88.
- Miscellaneous goods and services total EUR 93,493.86, and consist mainly of operating costs, fees and expenses for scientific experts.
- Remuneration and social security contributions total EUR 150,504.91.
- Depreciation totals EUR 399.61.
- Net bank interest, after deducting the discharging withholding tax of 21%, totals EUR 56,510.60.
- Payment differences total EUR 400.04.
- Financial costs total EUR 1,262.91.

The result for the financial year is a loss of EUR 3,961,616.53.

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