



MINISTERIO
DE ECONOMÍA
Y COMPETITIVIDAD



Instituto de Salud Carlos III

ciber-66n

*Centro de Investigación Biomédica en Red
Bioingeniería, Biomateriales y Nanomedicina*

**ACTION PLAN
AND BUDGET 2017**

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1. INTRODUCTION

The CIBER-BBN was founded in December 2006, and was one of the first seven CIBERs (Networking Biomedical Research Centers) created by the Spanish Ministry of Health and Consumer Affairs of the Spanish Government, within the CIBER initiative, managed by the Instituto de Salud Carlos III, which is currently part of the Ministry of Science and Innovation. Initially a total of 32 groups from all over Spain joined the CIBER-BBN, and this number increased to 49 after the second selection call which took place in the year 2007. An additional group joined CIBER-BBN in 2008 and other group adhered the consortium after the competitive call in 2015. In 2017 two new groups will be integrated as a result of the competitive call in 2016. After the internal evaluation process carried out in 2010, two groups (one of them an associated group) were discontinued. Fourth other groups have discontinued at the end of 2011 (1), 2013 (1) and 2014 (2), as a result of the strategy plus scientific evaluation. In 2017 we will be 47 groups (two of them associated). All the groups have been selected by different international panels according to their scientific excellence and their compliance with the profile and priorities of the CIBER.

After the merging of eight CIBER centres in 2014, CIBER-BBN is currently a thematic area of a big consortium CIBER comprising more than 300 research groups and nearly one hundred Consortium Institutions.

CIBER an initiative with long-term projection in three areas with large development potential: Bioengineering, Biomaterials and Nanomedicine. The present document briefly presents the action plan and budget for 2017.

During 2013 the CIBER-BBN Steering Committee did a reflection process to define the strategy of the centre for the period 2014-2017. As a result of this reflection a Strategic Plan for those four years was elaborated and approved by the *Consejo Rector* at the end of 2013.

Mission and vision of CIBER-BBN are defined as:

- **Mission:** “To perform a research of excellence aimed at industrial transfer and clinical translation through the development of the scientific areas of bioengineering, biomaterials and nanomedicine.”
- **Vision:** “To become a centre of reference in research and innovation both at a national and international level achieving a leading position in technological advances and their transfer to clinical practice.”

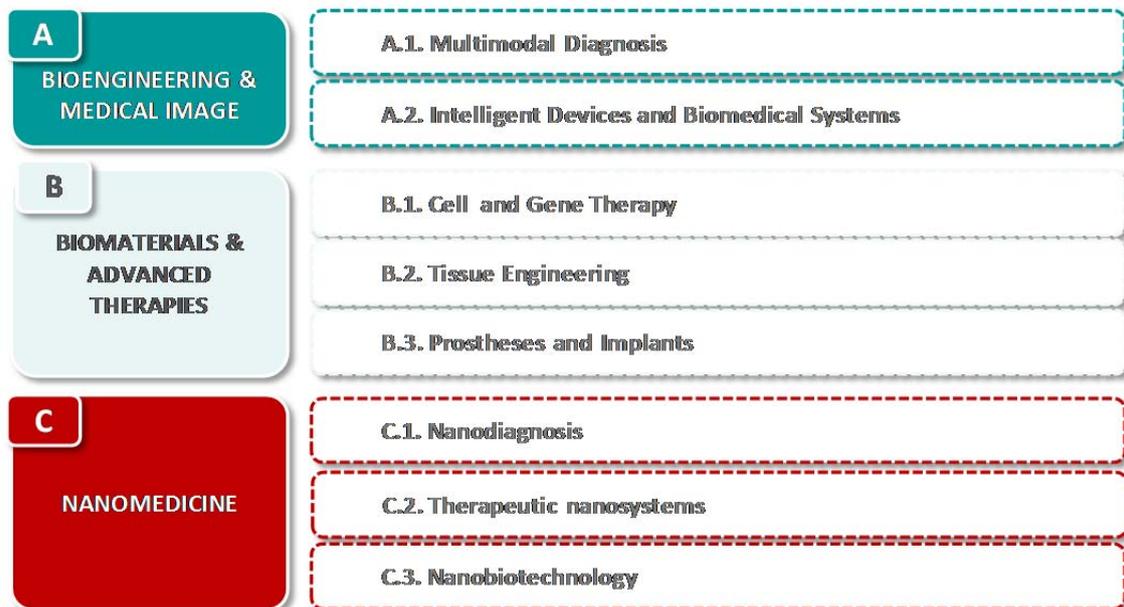
CIBER-BBN’s structural objectives have been defined as:

1. To maintain the excellent scientific and technological quality level achieved over these years.
2. To promote collaboration between CIBER-BBN's research groups, strengthening stable alliances mixing basic and applied research and allowing the creation of multidisciplinary teams.
3. To boost translation establishing the necessary channels so CIBER-BBN's research is able to induce an improvement of patient's health.
4. To facilitate the transfer of CIBER-BBN's results through patents, joint papers, creation of new technology-based companies, the offering of research services and consultancy about technology, research or innovation.

Along 2017 a review of the period 2014-2017 will be carried out and a new strategic plan will be defined so as to design new initiatives and new strategies for the next 4-year period 2018-2021.

2. ACTION PLAN 2017: INTRAMURAL RESEARCH PROGRAM

The Master Plan 2014-2017 includes eight strategic lines which take into account the research priorities in our field at national and international level and also the experience of the CIBER-BBN member groups.



A more detailed view of the scientific contents of each strategic line is shown below:

Lines of research	
A.1	Multimodal diagnosis
A.1.1	Medical image's capture and processing optimization (TAC, NMR, PET, DTI)
A.1.2	Biomedical signals' capture and processing improvement (ECG, EEG)
A.1.3	Morphological and functional modelling of tissues and organs
A.1.4	Pre operative and intra operative planning as well as creation of virtual surgery programs
A.2	Intelligent Devices and Biomedical Systems
A.2.1	Creation of systems to monitor patients (sensing and controlled systems)
A.2.2	Software applications to improve systems for patient diagnosis
A.2.3	E health and M health Systems

A

BIOENGINEERING AND MEDICAL IMAGING

Lines of research

A.1 Multimodal diagnosis

A.1.1 Medical image's capture and processing optimization (TAC, NMR, PET, DTI)

A.1.2 Biomedical signals' capture and processing improvement (ECG, EEG)

A.1.3 Morphological and functional modelling of tissues and organs

A.1.4 Pre-operative and intra-operative planning as well as creation of virtual surgery programs

A.2 Intelligent Devices and Biomedical Systems

A.2.1 Creation of systems to monitor patients (sensing and controlled systems)

A.2.2 Software applications to improve systems for patient diagnosis

A.2.3 E-health and M-health Systems

B

BIOMATERIALS AND ADVANCED THERAPIES

Lines of research

B.1 Cell and Gene Therapy

B.1.1 Stem and progenitor cells. Cellular reprogramming.

B.1.2 Development of non-viral vectors for gene therapy.

B.2 Tissue Engineering

B.2.1 Biomaterials for *scaffolds*.

B.2.2 Signaling biomolecules.

B.2.3 Cellular and molecular functionalisation of biomaterials.

B.2.4 Biomechanics and Microfluidics.

B.2.5 Decellularisation and recellularisation of organs and tissues

B.2.6 Generation of organoids from stem cells : Towards artificial organs.

B.3 Prostheses and Implants

B.3.1 Modelling

B.3.2 System of treatment and surface functionalisation

B.3.3 Custom prosthesis. 3D Printing

C

NANOMEDICINE

Lines of research	
C.1	Nanodiagnosis
C.1.1	Development of biosensor devices based on micro / nanotechnologies to detect specific biomarkers of disease
C.1.2	Evaluation and validation of new biomarkers of disease through new strategies and devices based on micro / nanotechnologies
C.1.3	Development of new contrast agents
C.2	Therapeutic Nanosystems
C.2.1	Study and development of new agents (enzymes, proteins, nucleic acids...) and nanostructures with therapeutic properties
C.2.2	Development of nanosystems to improve pharmacokinetics and pharmacotherapy of therapeutic agents
C.3	NanoBiotechnology
C.3.1	Study of biocompatibility and toxicity of therapeutic nanosystems and nanodevices.
C.3.2	Biological processes research (physiology, cell adhesion or communication, cell biophysics and epigenetic) and development of techniques for their study.
C.3.3	Theranostic systems development

The purpose of the intramural research program is to support projects leading to control key technologies, to be aware of and increase knowledge on emerging technologies and to maintain support for basic technologies. In summary, the overall objective of the program is to lead CIBER-BBN towards a higher level of technology transfer.

It should be pointed out that the aforementioned priority areas include the multidisciplinary nature of current research. They will most certainly include methodological and disciplinary aspects from several of the basic strategic lines and will therefore be interdisciplinary by definition. Some priority areas are closer to the final application, either in the healthcare system or in the industrial sector, whereas others include more basic aspects of research which on the one hand try to continue generating long-term knowledge and, on the other, pose greater and therefore riskier challenges. We are therefore attempting to maintain and strengthen the dual nature required for an institution like ours: a research center of excellence and a short-term effect on generating wealth and improving the health of the population as a whole.

A total of 69 intramural research projects will be active during 2017 (they cover the period June 2016-June 2018). More precisely 30 projects are categorized as Excellent Projects as they have obtained very good marks (above 75/100) in the assessment carried out by ANEP. Other 39 projects with lower marks are also active.

Results and activities of these projects will be presented in the 2017 Annual Conference. The Conference will be held in the second semester of 2017 in a location yet to be defined.

The main characteristics of all 69 projects proposals are:

- Multidisciplinary

- Collaboration among CIBER-BBN groups
- Inclusion of clinical partners
- Focus on a specific pathology
- Alignment with CIBER-BBN strategic lines

CIBER-BBN funding for these projects is allocated every year according to the results of group evaluation from previous years.

Pathologies addressed by the projects are:

Pathology	Nr. of projects
Cancer	24
Arthrosis / Arthritis / Bone regeneration	9
Neurological diseases (Alzheimer, Parkinson, others)	8
Infectious diseases	6
Cardiovascular diseases	5
Ophthalmology	5
Kidney diseases	3
Diabetes and obesity	2
Ulcer healing	2
Implants	2
Mental diseases (depression)	1
Rare diseases (rare anaemia)	1
Respiratory diseases	1

In addition to these intramural projects, the research groups are involved, through their home institutions or through CIBER, in competitive research projects related to the research topics described in the CIBER-BBN Strategic Plan. Researchers from CIBER-BBN take part in projects funded by private entities and public organizations, at National and International level, such as Plan Nacional de I+D (RETOS initiative, Redes, FIS), FP7, H2020 or ERA-NETs. There are also funds obtained for hiring Human Resources (such as grants in Ramón y Cajal / Miguel Servet programs, or grants for technician staff).

For the first time, CIBER will be leading as coordinator an H2020 project. More than 1.600.000 € have been allocated for the partners involved in SMART4FABRY project, which has been accepted by EC under the call H2020-NMBP-2016-2017. Researchers from different CIBER-BBN groups are involved with CIBER as project coordinator.

Together with this project, other proposals such as DRIVE, have been successful and will continue its development in 2017 with CIBER as partner of European consortiums.

At the end of 2016 we are involved in the submission of a proposal under the call WIDESPREAD-04-2017-Teaming Phase 1. It is a Coordination and Support Action in which CIBER role is to give advice as an international research centre for the creation of an Excellent research centre in the field of personalized medicine.

As it has been during 2016, an effort will be done to increase the submission of projects to international calls, especially in the case of young researchers who are applying to Starting Grants calls by ERC. Two applications have been submitted in 2016 and we hope to increase the number in 2017.

To get this goal, we count with the Internationalization Platform, shared with CIBERES and CIBERER, which is funded by MINECO in order to increase the participation and the success of these three thematic areas in international calls.

As for scientific results, it is expected that in 2017 the quantitative numbers of research production (publications, patents, ...) will tend to a stabilization after several years of growth, being now the goal to increase even further the level of production quality.

Scientific excellence is expected to be improved in 2017 with the admission of two new groups selected in the framework of *Acción Estratégica de Salud 2016*. These two groups will increase the scientific strength of our thematic area and will open new collaboration paths and synergy opportunities.

3. ACTION PLAN 2017: HORIZONTAL PROGRAMS

The three Horizontal Programs are: 1. Equipment Platforms, 2. Technology Transfer, Translational Research and Dissemination and 3. Training and Capacities.

3.1 EQUIPMENT PLATFORMS PROGRAM

In October 2014, a positive resolution from MINECO related to our application for the recognition of our infrastructure (together with the infrastructure of Centro de Cirugía Mínimamente Invasiva Jesús Usón) as ICTS (Infraestructura Científico-Técnica Singular), was received. This is considered a mayor point for the infrastructure and for the CIBER, and the necessary procedures to deploy the infrastructure have been implemented during 2015 and 2016 in order to accomplish the requirements of the ICTS status. During 2017, a consolidation of the ICTS set-up is expected. New assessment procedures of ICTSs will be defined by MINECO and we will update all the necessary internal methods so as to implement the rules given by the Ministry.

Funds from a competitive call (REDES, MINECO) supporting the project “Consolidation of the management model and promotion of NANBIOSIS” will be used until the end of 2017 for setting up the management and normalization procedures required. Efforts will be made in order to promote NANBIOSIS infrastructure at national and international level.

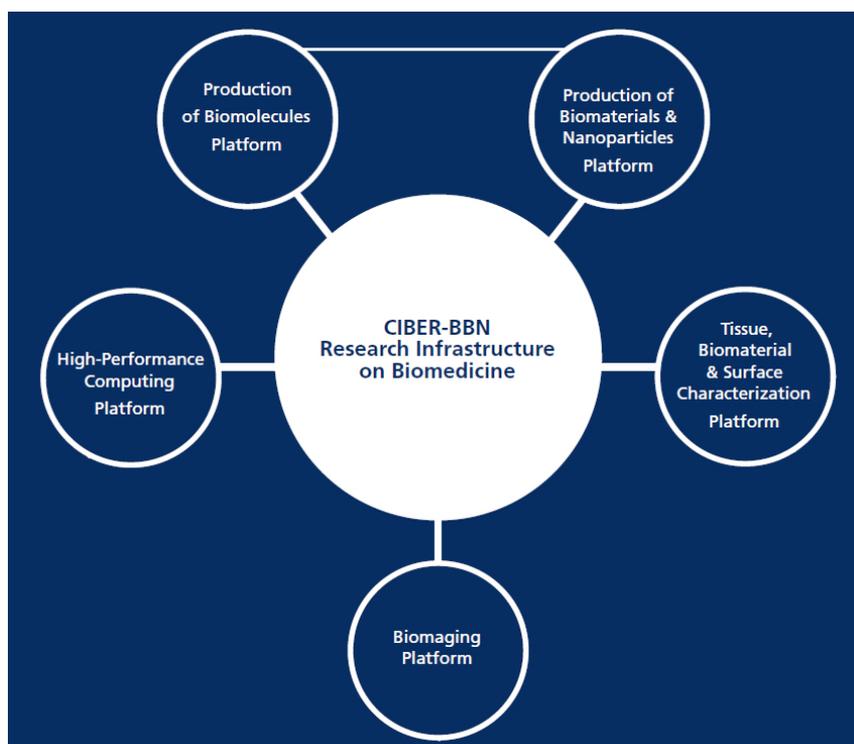
Activity performed by each unit during 2016 will be assessed according to the new MINECO guidelines. Outputs of this evaluation process will have implications in the assignment of budget for each of the units for next period (year 2018).

Bilateral meetings between CIBER-BBN and institutions where platforms are located will be held during the first months of the year.

The search for external funding will be a priority during 2017, both from public and private sources. The presentation of the program in International bodies and partnering events will be therefore carried out. We will also continue the process of presenting the program to national companies, private research foundations and public research organizations.

New investments in scientific devices will be able thanks to funds granted by FEDER to CIBER-BBN at the end of 2016 and which will make it possible to renew and complete the equipment of some of the units.

It is envisaged that NANBIOSIS is involved in international initiatives so as to improve its presence in international forums.



Assignment of resources to all platforms units for the next year (2018) will be done in 2017 as a function of the results obtained in the evaluation of all units activity during 2016.

A new strategic action to enhance the use of the equipment platforms was launched with success in 2012, and will be maintained also during 2017. This initiative aims at developing collaborative projects with companies. These projects need to involve the participation of at least one unit of the CIBER-BBN research infrastructure.

Standardization of procedures and normalization processes will continue being a priority for the program. In this context, an aspect to be highlighted is the support to those units which are interested in obtaining accreditation for quality standards by official agencies. CIBER-BBN considers that this is a key action so as to be able to offer a highly qualified research services.

Associated Platforms will be internally promoted and disseminated within the CIBER-BBN groups in order to encourage a better knowledge of their services. New

complementary platforms or initiatives will be contacted in order to establish ways of collaboration.

In November 2016, a technical meeting with University of Turin has been appointed so as to promote contacts between the units belonging to NANBIOSIS and researchers from the Italian University. A close follow-up of these collaborations will be done during 2017.

3.2 INDUSTRIAL TRANSFER, TRANSLATIONAL RESEARCH AND DISSEMINATION PROGRAM

INDUSTRIAL TRANSFER

In addition to the standard intramural projects call, a new modality, Transfer program projects, was issued starting in January 2014. Up to now, three calls have been launched, 7 projects are in phase of development and 1 project is currently under negotiation.

These are collaborative projects with at least two CIBER-BBN groups in collaboration with one or more industrial companies. These projects count with direct funding coming from CIBER-BBN and from the company ("50% explicit contribution each").

A new call of projects specifically aimed at transference of results with the industry is planned for the year 2017.

Other transference activities carried out by CIBER-BBN will be:

- Support to researchers in protection and transference procedures.
- Identification of research results that should be protected.
- Patentability studies and patents application.
- Prospective studies and technological surveillance.
- Dissemination of CIBER-BBN technological offer and research services.
- Participation in congresses, technological fairs and partnering events.
- Organization of thematic CIBER-BBN – Industry workshops.
- Support to the creation of spin off.

Since the merging of CIBERs, the transference program manager in CIBER-BBN works in close collaboration with the person responsible for transference issues of CIBER.

Thus, priority will be given to the promotion of our technological offer (research projects, patents and services) in national and international events, industry workshops, thematic meetings, fairs and congresses, ..

The prospective work of our projects will continue, with the objective of identifying aspects with potential in terms of technology transfer to industry. Identified results will be protected, mainly through patents.

A new initiative to promote transference started in 2016. It is the promotion of the most promising technologies of our groups by means of external consultancy companies. These companies are currently cooperating with our program managers in the search of funding opportunities for our projects, search of strategic partners and companies for licensing our patents.

Several any meetings between research groups and consultancy companies have been carried out in 2016. Currently the companies are analyzing the transference potential of research results. During 2017, ad hoc contracts will be signed in order to set the conditions in which the consultancy companies are going to promote a particular result on the basis of a specific interest (transference of a technology, participation in a funded project, investment of a third company, ...).

We will continue to organize CIBER-BBN / Industry meetings. We expect to organize a couple of forums in 2017, in topics which still have to be defined.

TRANSLATIONAL RESEARCH

The promotion of the interaction with the clinical environment will be prioritized. New workshops with the aim of establishing cooperation with medical researchers and favoring the translation of our research to the patients will be organized. At least two forums with industrial and clinical agents are foreseen. These Industrial-Clinical workshops will be aimed at topics to be defined. The format of such workshops will consist in a brief presentation of the technological capabilities of CIBER-BBN groups in a certain medical theme and an open debate. This debate should give us the inputs of the real problems the doctors have in real clinical practice so as we can provide them with the suitable tools. After the debate session, brief meetings between researchers, companies and physicians (partnering procedure) will be organized. These brief meetings can lead to further collaboration.

During 2017 clinical collaborative projects will be launched with CIBER and clinical parts, following the previous calls with Spanish Society of Pneumology and Thoracic Surgery and CIBERES, or with Fundación ECO. The objective of this initiative is to promote collaboration with groups not belonging to CIBER-BBN and together with which the solving of a clinical problem may be addressed from a more integrative perspective.

In this context, CIBER-BBN will launch a CIBER-internal call together with CIBERES and CIBERER (which are the three partners in the International Platform) to promote collaboration intraCIBER. "Seed" projects will be funded by the three thematic areas with the purpose of exploring the collaboration. If the collaboration is successful, it is expected that international proposals are submitted to H2020. Therefore, proposals should be aligned to the H2020 priorities.

During 2017, CIBER-BBN will be open to admitting applications from clinical research groups to join the consortium under the role of “adhered member”.

DISSEMINATION

Dissemination of CIBER-BBN activities will be carried out in close collaboration with the communication responsables in the administrative office in Madrid.

We expect to celebrate the CIBER-BBN the Annual Conference at the end of 2017, in a location yet to be defined.

Corporate documents, such as Annual Report, general brochure, infrastructure brochure, ... should be conveniently updated. Also the website www.ciber-bbn.es will be updated.

Appearance of CIBER-BBN in specialized and general media will be pursued by releasing press notes with relevant information.

New issues of our Newsletter will be edited and distributed to a large audience, comprising not only CIBER members, but also institutions, hospitals, research centres, companies and entities related to the field of biomedical research.

3.3 TRAINING AND CAPACITIES PROGRAM

The Capacities Subprogram has the main goal of strengthening multidisciplinary research and new complementary methodologies in our groups. A post-doctoral position is foreseen in each group.

The “Initiation to Research” Grants, will support grants to students who want to join a research group and initiate themselves in research career. Due to the fact that new contracts are very strictly limited in number for public bodies, more senior research contracts will be prioritized. Then, these grants will probably be limited to master students.

Mobility grants will be maintained, in both versions for mobility intra-CIBER and for mobility from CIBER-BBN researchers to external institutions and viceversa.

During 2016 CIBER-BBN organized a training course for young researchers named “Science to Business”. The contents were divided in 9 sessions (4 hours each) and the purpose of the course was to provide researchers with some tools to identify and evaluate business opportunities, and create a company if they want to advance their idea. This initiative could not be finally put into practice as there were not enough interest among the researchers. However, we can recover this interesting idea in 2017 if interest appears.

This and other specific training activities for researchers can be founded with the funds assigned for the groups.

Also, CIBER-BBN will encourage the researchers who are paid by CIBER to take advantage of the opportunity to follow training activities funded by Fundación Tripartita with the training bonus which correspond to all companies and institutions with own staff.

Presentation of posters by young researchers are encouraged during our Annual Conference.

4. SUMMARY OF ACTIONS PLANNED IN STRATEGIC PLAN 2014-2017:

These are the new actions which are planned to continuously be developed in the next four-year period:

RESEARCH PROGRAMME AND TECHNOLOGY TRANSFER

1.To consolidate CIBER-BBN's research programme
1.1. Definition of scientific challenges for each research area.
1.2. Strengthening of determined research lines with new research groups (ISCIII Call).
2. To promote translational research and technology transfer in the field of biomedicine
2.1. Change of the intramural project's model: <ul style="list-style-type: none"> - Inclusion of a clinical group in the project specifying the level of collaboration. - Positive assessment of the project if it achieves the proof of concept. - Specification of the pathology involved in the project. - External evaluation (ANEP).
2.2. Establishment of a new figure for the main specialties: "Coordinator for pathology"
2.3. Creation of a call focused specifically on technology transfer and translation: <ul style="list-style-type: none"> - Industrial or business partner able to fund an amount equal or greater than CIBER is required. - At least two CIBER-BBN groups involved. - Projects with two-year-long approach. - External evaluation (ANEP).

2.4. Implementation of CIBER-BBN's alliances with other CIBERs, Hospitals, Institutes for Health Research, Networks, etc.

2.5. Enhancement of CIBER-BBN's platforms through its accreditation as an ICTS.

3. To continue promoting scientific synergies and complementarity between groups

3.1. Maintenance of specific calls for collaboration.

3.2. Strengthening of scientific contact between groups (scientific conferences, Clinical-Academic and Industry - Academic forums).

3.3. Launch of specific calls for collaboration with other CIBERs' groups (particularly, CIBERES and new intra-CIBERs calls suggested by ISCIII after the merger).

HR AND ECONOMIC-FINANCIAL PROGRAMME

1. To enhance staff's professional development

1.1. Maintenance of the Strengthening Programme but including a specific evaluation of the staff every four years (for all hired researchers, not just for those assigned to the Strengthening Programme)

1.2. Enhancement of the competences associated to a "business developer" figure to be adopted by CIBER-BBN Programme Managers.

2. To strengthen the training of CIBER-BBN researchers and technicians (both hired and assigned)

2.1. Creation of a specific training programme in platforms for CIBER-BBN groups

2.2. Implementation of an online workshop programme.

3. To support the mobility of researchers within CIBER-BBN

3.1. Promotion of mobility programs intra and extra CIBER

4. To redefine competences of CIBER-BBN's Medical Advisory Board

4.1. Definition of new competences in order to achieve a greater connection between the Medical Advisory Board and the research groups

5. To establish funding programmes for research groups based on their assessments

5.1. Distribution of funds between the research groups according to :

- Annual evaluation.
- New call for projects based on technology transfer and translation
- Call for projects in the framework of the Clinical Partnership Programme.

COMMUNICATION AND VISIBILITY PROGRAMME

1. To position CIBER-BBN's image and scientific potential

1.1. Development of a bibliometric study of CIBER-BBN with SCIMAGO group.

1.2. Promote CIBER-BBN's corporate image.

1.3. Continuity of online communication mechanisms established, active presence on social networks and website.

2. To facilitate the interaction and knowledge between CIBER's groups

2.1. Maintenance of , Clinical-Academic and Industry - Academic forums with an international approach

2.2. Increase the frequency of research area's internal meetings as a complementary format for the annual meeting.

5. BUDGET FOR 2017

The evolution of the budget allocation in 2017 will tend to reinforce projects and programs. Overall budget of CIBER-BBN is on a program basis.

The foreseen final state budget represents continuation with respect the budget received in 2016.

YEAR	RECEIPTS from ISCIII	Nr. of GROUPS	RATIO per GROUP
2007	4.813.635 €	29	165.987 €
2008	10.131.522 €	46	220.250 €
2009	9.757.251 €	47	207.601 €
2010	5.429.927 €	47	115.530 €
2011	4.831.923 €	46	104.644 €
2012	4.291.250 €	45	95.361 €
2013	4.128.920 €	45	91.754 €
2014	3.960.160 €	44	90.006 €
2015	3.800.160 € + 160.000 €	42 + New Groups	90.480 € + XXX
2016	3.960.160 €	43 Groups	92.097 €
2017	3.960.160 €	45 Groups	88.004 €

To improve our income, we are reinforcing the search of additional economical contribution coming from external sources. This income started to be significant in 2011 and is getting more gradually more important up to now, expecting the same trend for 2017.

4.1 INCOMES

FUNDING COMING FROM THE STATE BUDGET

The funding coming from the state budget is 3,960,160 €. Other incomes come from non-executed funds from 2016, as it is shown in the following table:

INCOMES	FUNDS 2017
State budget from MICINN through ISCIII	3.960.160 €
Non-executed funds from 2016	102.690 €
Not-executed funds from previous years	330.000 €
Total	4.392.850 €

4.2 EXPENSES

The proposed distribution of 2017 budget is as follows:

		2016 BUDGET	2017 BUDGET	% VARIATION
Management		348.000 €	335.000 €	- 3,7 %
Intramural Research Program	Bioengineering Program	294.094 €	326.242 €	+ 10,9 %
	Biomaterials Program	572.404 €	570.721 €	- 0,3 %
	Nanomedicine Program	688.962 €	824.837 €	+ 19,7 %
Equipment Platforms Program		220.000 €	240.000 €	+ 9,1 %
Training Program	Initiation to Research Grants	100.000 €	140.000 €	+ 40 %
	Mobility Grants	30.000 €	25.000 €	- 16,7 %
	Capacitation Program	1.494.514 €	1.579.050 €	+ 5,7 %
Technological Transfer, Translation and Dissemination Program	Dissemination	20.000 €	20.000 €	0 %
	Technology Transference	112.000 €	112.000 €	0 %
	Transference Projects with Industry	128.000 €	170.000 €	+ 32,8 %
	Collaborations for Translational Research	15.000 €	50.000 €	+ 233,3 %
TOTAL		4.022.974 €	4.392.850 €	+ 9,2 %

6. MANAGEMENT

CIBER-BBN counts with two advisory bodies, Scientific Advisory Board (SAB) and Medical Advisory Board (MAB). The proposal of SAB and MAB members for 2017 is as follows:

SCIENTIFIC ADVISORY BOARD		
Program	Name	Institution
Bioengineering	Leif Sörnmo	University of Lund, Sweden
	Niilo Saranummi	VTT Information Technology, Finland
Biomaterials	Matthias Epple	Universität Duisburg-Essen, Germany
	Begoña Castro	HISTOCELL
	Abhay Pandit	Centre for Research in Medical Devices (CÚRAM) National University of Ireland Galway Galway, Irlanda
Nanomedicine	Patrick Boisseau	CEA-Leti, France
	Wolfgang Parak	Philipps Universität Marburg, Germany
	Alberto A. Gabizon	Shaare Zedek Medical Center, Oncology Institute The Hebrew University of Jerusalem Jerusalem, Israel
Horizontal	Joan Bigorra	Hospital Clinic, Barcelona, Spain
	Pilar Calvo	PHARMAMAR

The distribution of functions of the SAB will be:

- President: Confirmation pending
- Vicepresident: Leif Sörnmo
- Secretary: Wolfgang Parak

MEDICAL ADVISORY BOARD		
Area	Name	Institution
Traumatology and Orthopedic Surgery	Enrique Gómez Barrena	Hospital Universitario La Paz, Madrid
Cardiology	Arcadi García Alberola	Hospital Universitario Virgen de la Arrixaca, Murcia
Oncology	Josep Taberneró Caturla	Hospital Vall de Hebrón, Barcelona
Neurology	M ^a José Martí	Hospital Clínic, Barcelona
Ophtalmology	Jose María Ruíz Moreno	Complejo Universitario Hospitalario de Albacete
Pharmacology and Regulatory Affairs	Joan Bigorra Llosas	Hospital Clínic, Barcelona

The proposed composition for the Permanent Commission along 2017 is yet to be defined at the moment of composing this report.