

Selection phase Delta document

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FIRST PART – RESPONSES TO THE JURY’S OPINION OF THE PROJECT

1. Responses to the questions, remarks and recommendations of the jury

The written feedback of the pre-selection phase (weaknesses and recommendations) concerned the following topics: 1) International visibility; 2) Governance; 3) Human resources; 4) Systems innovation. Another question during the audition dealt with: 5) Humanities and social sciences.

Topics 2 and 3 are addressed in further sections of the document. The present section covers the other questions.

1.1 International visibility

“International visibility not in par with scientific excellence”

“A clear strategic plan to improve international visibility should be developed”.

Our lack of visibility is caused by the fragmentation of our brand. Many of our laboratories or curricula have an excellent scientific reputation but their individual visibility does not reinforce that of the existing universities and *grandes écoles*. In order to acquire the visibility of a true world-class university, we must establish a common identity, a clear hierarchy of brands and highlight Grenoble’s excellent scientific environment, in particular the international research facilities.

This is one of the main goals of our IDEX project and the reason for which we are promoting UGA at all levels: researchers are first and foremost UGA researchers and must promote themselves as such in all settings, students are UGA students and companies work with UGA. Similarly labs, schools and faculties are UGA labs, UGA schools and UGA faculties.

The following actions are being implemented:

- **A unique and coherent communication strategy to promote the brand.** This means developing UGA’s communication tools: *i.e.* graphic identity, website, communication policy, always respecting the hierarchy of the brands. We have already specified how the brands of the schools and faculties, and the name of the laboratories will be used in order to ensure that they systematically enhance the UGA brand. In this respect, we follow classical examples of research universities worldwide¹. This action will rest on the coordination of all existing communication offices of all partners and will receive notable financial support. The promotion of UGA brand started in March

¹ For an example of a unified brand strategy, promoting the university’s identity throughout its components, see for instance University of Chicago’s *Identity guidelines*: <http://communications.uchicago.edu/sites/all/files/communications/identity/uchicago.identity.guidelines.pdf>

2014 when all partners of the IDEX agreed to a single scientific signature that excludes any mention of existing universities or schools.

- **Establish UGA within international rankings.** This means including UGA within international university rankings: the merger of the universities, on the 1st of January 2016, will enable UGA to be ranked instead of the existing universities. Our target structure will thus be ranked continuously from 2016 and this will reinforce the visibility of the university.
- **Set up specific actions towards current and prospective students.** Students are essential ambassadors of our brand. Starting 2016, student life strategy will be unique, and services integrated under UGA's banner. Students will get a UGA students card, be awarded a UGA degree, and will be invited to join the UGA alumni association. We will support the creation of UGA alumni chapters. To increase brand-awareness amongst future employers, we will set up actions such as an "innovation challenges" to increase visibility. (see Part 2, 6.4, and IDEX contract.)
- **Set up specific actions towards academic partners**
 - Our policy for the affiliation of scientific publications, adopted as early as 2014, is that all publications bear the brand UGA, thus reinforcing the UGA brand amongst our academic partners. (see IDEX contract.)
 - International agreements at an institutional level will be signed by UGA, following the strategy for international partnership outlined below in section 5. (see IDEX contract)
 - Our identity as an "innovation university", notably through such tools as the "innovation intensive universities network", will be an important distinguishing feature (see part 3).
- **Strengthen our collaboration with the European research facilities.** The four European facilities² in Grenoble are a major asset for Université Grenoble Alpes and its international attractiveness (see Appendix 2, Research). They attract about 8000 researchers yearly. We will develop specific actions to strengthen our collaboration (see Appendix 2, Research). The core of this strong collaboration will be 1.) a joint PhD programme, which means a significant number of cofounded and jointly supervised PhDs; 2) a common international network facilitating exchange of students and researchers and 3.) a higher level of sharing of platforms and equipment. Structural biology, big data and numerical simulation will be among the focus areas of collaboration.

1.2 Systemic approach to science, systems engineering and innovation

"Taking into account the achievements already made in innovation, consider expansion to systems innovation."

² Institut Laue Langevin, European Synchrotron Radiation Facility, Institut de radioastronomie millimétrique, European Molecular Biology Laboratory.

The IDEX project will enable us to build on the proven quality of Grenoble's innovation ecosystem (psd, p. 12, §1.3) by considering the innovation process globally and enhancing its coherence and efficiency.

We have integrated the different innovation actions geared towards job-creation and spin-off creation in the following figure:

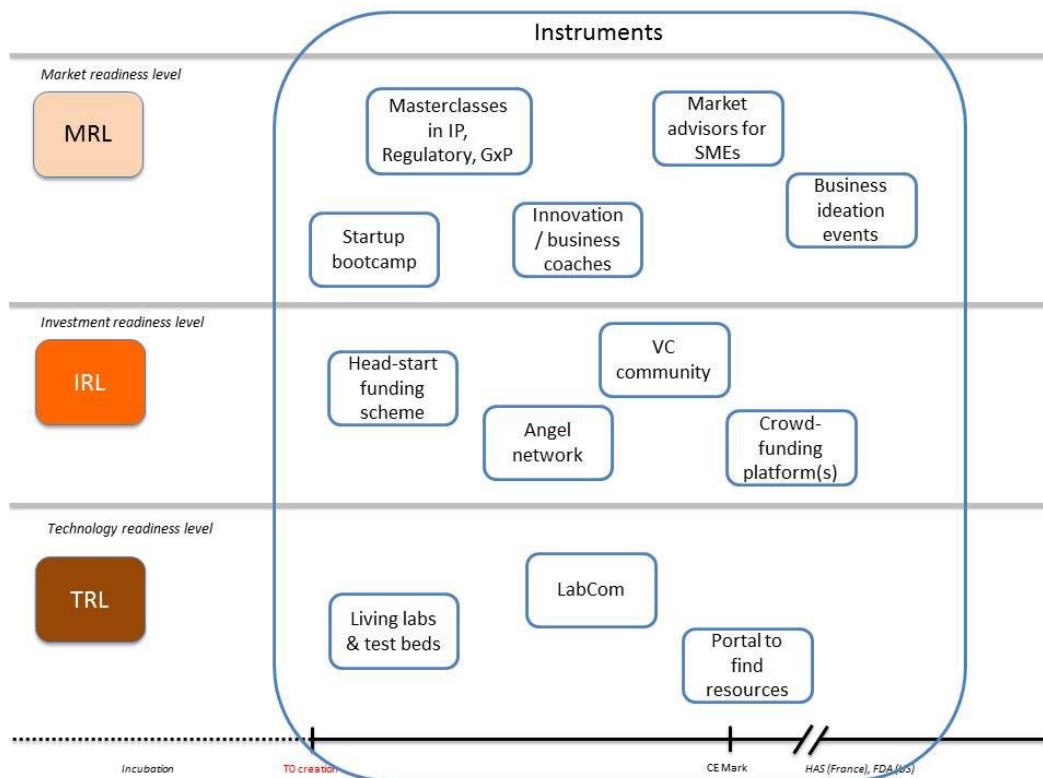


Figure 1: Innovation actions

These actions are themselves supported by our focus 2³ (interdisciplinary research) that aims to provide a systemic approach to the socio-economic challenges we have defined as our priorities (psd, p. 30, §3.1). This approach will be structured within different centres such as the Centre of Smartgrids, Centre for Embedded cybersecurity and Centre for Smart ecosystems. In particular, a stronger collaboration between our teams in the fields of micro- and nanotechnologies and embedded systems and software will allow us to develop an innovative approach to systems and place Grenoble as a main centre in the field of cyber-physical systems and their applications.

Another essential structuring action will concern the Carnot Institutes (CI). At a national level, the 34 existing CIs represent 55% and a turnover of 455 M€ of research contracts directly financed by Industries. Four of these Carnot institutes have their headquarters in

³ See Appendix 2 of the pre-submission file for a description of the global socio-economic challenges to which we are applying a systemic approach to innovation: Low Carbon Energy Systems, Environment & Society, Nanotechnologies and Applications, Smart Ecosystems, Health and its interfaces.

Grenoble and are led by IDEX UGA partners (CEA, CNRS, Grenoble-INP, UJF) but together these 4 institutes capture 32% of all CI contracts, or in other words 18% of the total of all industrial research contracts in France! UGA is also strongly involved in a fifth national CI, ICI (Inria). They cover 3 out of 4 socio-economic challenges addressed by the IDEX initiative. Since the CIs play such a major role, both to foster research towards more partnership with industry and to transfer the results of research in terms of TRL, IDEX UGA has decided to build upon them to enhance its transfer and valorisation programme. To do this we will create a new cooperation structure and shared virtual portal that will:

- optimize the management of industrial contacts and their orientation towards IDEX laboratories and research teams
- Increase the visibility of the CIs as well as their reactivity towards industrial partners;
- Develop interactions between the CIs;
- Sustain the CIs initiatives within the research community;
- Simplify communications with national institutional stakeholders (such as the ANR) and economic partners;
- Improve coordination with the SATT and the different valorisation subsidies included in the IDEX;
- Strengthen partnership with competitive clusters and increase the flow of projects;
- Increase the synergy between CI and PIA projects, notably Labex and the IRT Nanoelec.

This cooperation structure will constitute the backbone of our Industrial Liaison Program action.

1.3 Focus 1: developing Humanities and Social Sciences

Our focus 1 consists in improving the visibility of our research and education offer in the field of humanities and social sciences. We will rely on the following tools:

- Increase the role of national research organisms, to help laboratories become more competitive and acquire a critical size by implementing similar initiatives to that which has recently led to the creation of an UMR in Literature.
- Develop international exchanges of students and academic staff.
- Implement a change in publication policy focusing on highly recognized international journals.
- Develop MOOCs on topics where Grenoble has strong skills (e.g. corpus studies, Stendhal, etc.).
- Extend existing good practices for project application to humanities and social sciences.
- Rely on UGA HR policy to foster high-level international recruitments.
- Promote a data- and analytics-based approach. This corresponds to one of the main structuring actions (cf. section 6.1).

After a detailed analysis, we have identified **four thematic priorities**, building on existing strengths of UGA teams:

2. Artistic and literary creation
3. Cognitive processes
4. Territorial studies
5. Innovation in market studies

Our website presents, for each one of the four topics, the scientific questions and objectives it tackles, the method it relies on and the specific assets already present in Grenoble.

Researchers will be encouraged and supported to develop start-ups, demonstrators and initiatives with socio-economic and cultural partners in relation to our four socio-economic challenges.

2. Comments on the weaknesses indicated by the « C » ratings

Not relevant.

SECOND PART - RESPONSES TO REQUESTS ADDRESSED TO ALL PROJECTS

1. Structure of the group

LIST OF THE CONSORTIUM MEMBERS PARTICIPATING (PARTNERS) IN THE INITIATIVE (PROJECT LEADER EXCLUDED)

No changes

Higher education and research establishments	Research organisations	Others
Grenoble INP	CEA - Commissariat à l'énergie atomique et aux énergies alternatives	Centre hospitalier universitaire de Grenoble
Ecole nationale supérieure d'architecture de Grenoble	CNRS Centre national de la recherche scientifique	
Sciences Po Grenoble	Inria – Institut national de recherche en informatique et en automatique	
Université Pierre Mendès-France (U2)	Inserm - Institut national de la santé et de la recherche médicale	
Université Stendhal (U3)	Irstea - Institut national de recherche en sciences et technologies pour l'environnement et l'agriculture	
Université Joseph Fourier (U1)		

LIST OF PARTNERS EXTERNAL⁴ TO THE CONSORTIUM LEADING THE INITIATIVE

Additions appear in red.

Higher education and research establishments and research organisations	Socio-economic players ⁵	Others ⁶
Ecole supérieure d'art et design de Grenoble	Axelera	European Molecular Biology Laboratory
Grenoble École de management	Lyon Biopôle	European synchrotron radiation facility

⁴ See definition given in the call for proposals

⁵ For example: company, etc.

⁶ For example: *Conseil Régional* (Regional Council) etc.

Université Savoie Mont-Blanc	Minalogic	Institut Laue-Langevin
Institut de recherche pour le développement	Tenerrdis	Institut de Radioastronomie Millimétrique
Institut national de la recherche agronomique		

With respect to the preselection file,

- members and/or external partners added
 - Université Savoie Mont-Blanc (external partner)
 - European Molecular Biology Laboratory (external partner)
 - Institut de Radioastronomie Millimétrique (external partner)
- members and/or external partners removed
 - none

2. Selected PIA (Investments of the Future) Programme projects

4) *Selected Investments of the Future projects, other than LABEX and IDEFI, contributing to the scientific and results exploitation policy of the Initiative*

a) *Selected Investments of the Future projects, other than LABEX and IDEFI, managed directly by the Initiative and contributing to its scientific and results exploitation policy*

Tab. C. - Other PIA projects managed

Call proposals concerned	Project acronym	Project summary (80 signs) or keyword describing it
BioInformatics	RESET	Gene expression machinery in bacteria develops biotechnological applications.
DEN	X-DATA	Big data for individuals and organizations - energy and services.
EQUIPEX	AmiQual4HOME	Innovation and experimentation with smart technologies. Open research facility.
EQUIPEX	CLIMCOR-ice	Technological support for ice-core scientists,

		glaciologists, atmospheric chemists.
EQUIPEX	CRG\F	Instruments for <i>in situ</i> studies of nanostructures at ESRF.
EQUIPEX	EcoX	X-ray Molecular Environmental Science Facility at ESRF.
EQUIPEX	KINOVIS	Capture, analysis, interpretation and synthesis of shapes that can deform over the time.
EQUIPEX	LaSUP	Large superconducting magnet user platform.
EQUIPEX	NanoID	Nanoparticle identification platform dedicated to safety issues.
EQUIPEX	REFIMEVE+	Distribution over the RENATER network of a metrological level optical frequency.
EQUIPEX	RESIF-CORE	RESIF will build a national network of seismological and geodetic instruments.
EQUIPEX	ROBOTEX	National network of robotics platforms.
EQUIPEX	IMPACT	A quasi-in-situ characterization platform for full scale 200 and 300 mm.
FSN	CLOUDFORCE	Collaborative distributed applications to be deployed on multiple Cloud infrastructures.
FSN/ HPC	ELCI	Designs and provides software environment for very high performance computing.
IDEFI-N	REFLEXPRO	Resources for Flexibility in the Training and Professionalization of Students.
CARNOT Action 2012 "PME"	AVENEPME	Increase performance of CARNOT Institutes towards SME's
CARNOT Action 2015 "filieres économiques"	ENERGICS	Sustain innovation in SMEs and mid-cap companies
Infrastructures nationales de recherche en biologie et santé	ProFI	Creation of an infrastructure with a critical mass of expertise enabling innovation in Proteomics

IRT 2010	NANOELEC	Advanced technologies in microelectronics and application-oriented ICT.
PSPC/Robotics	ROMEO2	Humanoid Robot Assistant and Companion for Everyday Life

b) Selected Investments of the Future projects, including LABEX and IDEFI, not managed by the Initiative but in which it is a partner through the participation of one of its members, and which contribute to its scientific and results capitalisation policy

Tab. D. - Non-managed PIA projects

Does not apply: our strategy is to be partners only of projects that have a direct impact on the implementation of our projects.

5) Strategic projects of the Initiative

Tab. E. - Impacts of the PIA projects

PIA1 projects	Key developmental impacts	Synergies with the partners external to the Initiative	Other contributions of the project to the Initiative	Any enhancement of the project potential by the Initiative
Bioinformatics RESET	Developing biotechnological applications based on gene expression machinery control	Industrial partners	High level international research in partnership with industrial partners Disruptive technologies for environmental and biological applications	Visibility, national and international diffusion
DEN X-DATA	Big Data management including energy and consumption	Industrial partners	High level international research in partnership with industrial partners Disruptive technologies for energy management in big data services	Visibility, national and international diffusion
EQUIPEX	Platform for	Industrial partners,	High level	Visibility, national

AmlQual4HOME	construction and evaluation of smart objects and smart spaces.	in particular start-ups & SMEs.	international research, technology, knowhow and training diffusion	and international diffusion
EQUIPEX CLIMCOR	Improvement of equipment dedicated to ice core science	C2FN, IRD	High level equipment supporting the research on sustainable planet	Visibility, national and international diffusion. Synergy with projects such as Preserving ICE for Tomorrow's Science
EQUIPEX CRG\F	High level instruments on the French synchrotron beamlines at ESRF. Structural characterization in materials science, nanoscience and nanotechnology.	French and European users through ESRF and CRG calls for proposals. Strong links with industrial partners (SoiTec, ST Microelectronics...).	Access to world class instruments. Strong links with Labex LANEF and the members of the IRT Nanoelec through R&D projects.	Strengthened collaboration with ESRF.
EQUIPEX EcoX	Cutting-edge scientific instruments to speciate elements at high energy resolution and chemical sensitivity at a European research facility.	ESRF	Provide access to high performance X-ray instruments to researchers of the Initiative	Access to the Ciment computing infrastructure for high-performance parallel modeling
EQUIPEX KINOVIS	Capture, analysis, interpretation and synthesis of shapes that can deform over time (computer vision, intensive computation, computer graphics, anatomy and biometry)	Industrial partners, in particular SMEs	High level international research, technology, knowhow and training diffusion	Visibility, national and international diffusion
EQUIPEX LaSUP	Development of a new	No external partners	Maintainance of a large national	Visibility, national and international

	superconducting cable		research infrastructure at world class level	diffusion
EQUIPEX NanoID	Platform for the chemical identification and spatial localization of nanomaterials and nanoparticles	Universities: Leuven, Swansea, Lyon	Nucleus agent in the setting of SERENADE Labex.	Facilitates the co-advisorship of Ph.D. students using the common NM characterization platform.
EQUIPEX REFIMEVE+	Reference frequency for state of the art molecular spectroscopy in Grenoble		Local distribution of a ultra-stable reference frequency and frequency comb	
EQUIPEX RESIF-CORE	Develop the French seismometer network	National initiative involving 18 partners; European partners (EPOS, ESFRI project under implementation, Envri+, cluster of European infrastructures).	Increased role in the observation of natural hazards in the Alpine Region.	Strengthening of interdisciplinary approaches through enhanced cooperation between research teams.
EQUIPEX ROBOTEX	Set-up platforms for scientific work, exchanges and industrial partnerships in robotics	National project involving 15 laboratories; 13 are outside the initiative.	Set-up of local robotic equipment suitable for collaborations in mobile robotics, humanoid robotics and natural interactions and in medical robotics	Visibility, national and international dissemination
EQUIPEX ROBOTEX	Development of a 300 mm characterization platform	Strong synergy with equipment suppliers in the field of microelectronics	Impact in other fields of research than nano-electronics	Visibility, national and international dissemination
FSN CLOUDFORCE	Sustaining global cloud infrastructures	Industrial partners, future Internet applications	High level international research in partnership with industrial partners	Visibility, national and international diffusion
	Sustaining HPC environments	Industrial partners/technology transfer	High level international research in partnership with	Visibility, national and international diffusion

FSN/HPC ELCI			industrial partners. Coherence with HPC initiatives in IDEX	
IDEFI amàco	Educational resource center on material science for sustainable construction.	ESPCI ParisTech, Ecole des Ponts ParisTech, UNESCO UIA (Union internationale des Architectes) ETHZ, EPFL, Univ. Of Stuttgart, Mainz, Wismar, Linz, Yazd, PUCP, EPAU Alger, Ecole du Patrimoine Africain, IFDD	Global reflection on pedagogical tools and methods, especially experiential learning.	Extension of pedagogical research to new partners, to produce new educational contents and to disseminate them to a wider audience among the scientific community.
IDEFI ENEPS	Improve success of students with a vocational high-school diploma at university	Professional partners for contracts, jobs, work placements, worksite visits, trainings	Contributions to the other IDEFI	Visibility, national and international diffusion
IDEFI Innovalangues	Develop a personalised digital language learning environment.	University of Bologna; University of Naples L'Orientale; Université de Nice; Université de Toulouse 3.	Contribution to the IDEX objective of innovative pedagogy.	Visibility, national and international diffusion
IDEFI PROMISING	Development of creativity and innovation.	HEC Montreal, Bangkok University	Contribution to the IDEX objective of innovative pedagogy and innovation.	IDEX may scale up successful initiatives
IDEFI-N REFLEXPRO	Enhance flexibility of offer and improve professionalization of students.	CITIA, ERDF and experience Openclassrooms	Contribution to the IDEX objective of innovative pedagogy and innovation.	IDEX may scale up successful initiatives.
Infrastructure ProFI	Quantitative proteomics to decipher fundamental biological mechanisms with clinical applications	ProFI is a shared initiative between Toulouse, Strasbourg and Grenoble.	Contribution to the IDEX socio-economic challenge on health, well-being and technology.	The IDEX initiative will bring additional expertise in those fields to ProFI.
CARNOT	Improved	All SMEs in the	Commercial and	The IDEX initiative

Action 2012 "PME"	partnership with SMEs	"energy sector"	Innovation managers	will bring additional expertise
CARNOT Action 2015* "Filières économiques "	Improved partnership with SMEs and mid- cap industries in the "energy sector"	All SMEs and Mid- Cap "energy sector" National & international	Structuration of platforms. Access to research facilities for industry	The IDEX initiative will bring additional expertise + structuration of platforms
IRT NANOEEC	Applied R&D to increase industrial partnership and technology transfer for innovation in the sector of Microelectronics /digital technologies	Industrial partners members of the IRT consortium (e.g. STMicroelectronics, Schneider Electric, Mentor Graphics, ...),	- High level international R&D for technology transfer using large scale experimental platforms - New education curricula in response to industrial needs - Development of a strong IP portfolio	Visibility, national and international diffusion; better synergy
LABEX AE&CC	Heritage conservation; housing projects, experimentation of new technologies; spacialisation of energy transition	International agencies (UNESCO, ICCROM/ICOMOS, UNHabitat IFRC/CARITAS International Garden Cities Institute); National agencies (MCC, MAE, MEDDE AFD/AIMF/FAP ADEME); many local institutions; international universities and private partners (Schneider, Vicat, LafargeHolcim, etc.)	Contribution to other laboratories of the IDEX	Visibility, national and international diffusion ; improved potential for interdisciplinary research
LABEX AMIES	Develop new collaborations between math departments and companies, in particular SME.	48 companies	A special issue of the SEME programme will be organized in Grenoble in October 2016 by AMIES with Persyval and MaiMoSiNE.	Synergy with transfer actions and tools such as CI.
LABEX ARCANE	Develop new therapeutic technologies and new & sustainable	Bridge between basic research and Industry	Help better structure research in Chemistry. Address the following socio-	Interdisciplinary potential with physics (LANEF), biology (GRAL), and medicine (CAMI)

	sources of energy		economic challenges: a) Sustainable planet and society b) Health, well-being and technology	
LABEX CAMI	Develop computer Assisted Medical Interventions	Partnership with the French Academy of Surgery ; industrial partnerships (21 patents, 1 start-up company launched, 3 incubating projects in SATTs)	Strong impact in translational research, involving Grenoble University Hospitals and several French leading hospitals, including IHU MIXSURG	Fostering transdisciplinary research (possible "Health-Technology Institute", building on the expertise gathered in CAMI to develop bio-inspired living implantable medical robots)
LABEX CEMAM	Multidisciplinary competences in modelling, elaboration and characterization in materials science and engineering	RAFAM network (coupled with the competitiveness cluster VIAMECA)	High level international research in partnership with industrial partners	Training students on industrially-relevant themes Promoting technology transfer
LABEX ENIGMASS	Particle and astroparticle physics Higgs discovery and study Dark matter Extreme conditions detectors, high radiation low temperature	CERN, INFN, DESY, Orsay and Marseille, Observatories	Enhancement of the scientific synergies between four UGA laboratories (LAPP, LAPTh, LSM, LPSC) and improvement of the scientific impact and international visibility	Synergy with other Labex and IDEX actions
LABEX FOCUS	State of the art matrices of detectors. Multidisciplinary development of key technology enabling for future space and ground based large international programmes	Aix Marseille University ONERA . Broader synergies involved national collaboration for the preparation of future space mission (ESA, CNES) and ground based instrument (ESO). Connections with SME of the detection and of the instrumentation.	Training programmes on scientific detection for Master and PhD students. On going programmes with other LabEx (LANEF, OSUG2020, ENIGMAS).	Visibility, national and international diffusion

Labex GRAL	New insights into the molecular mechanisms of host/pathogen interactions and the physiology of chloroplast, and innovation in the treatment of infectious diseases and in the bio production area	Collaborations and/or services made available to biotech companies	Providing access to state of the art technologies	Reinforcement of multidisciplinary approaches dedicated to Integrated structural cell biology. Long term investment potential
LABEX ITEM	Social adaptation in a context of sustainability (mobility, energy ...) and its transferability from mountainous areas to marginal areas	DSI-7 Rhône-Alpes/Auvergne, Alpine convention. Academic partners, especially in the alpine AREA (Torino Politecnico, Geneva and Innsbruck universities, ISCAR).	Transfer possibilities in the field of human and social sciences. Contribution to the IDEX focus on environmental and energy challenges.	Creation of new interfaces with other sciences.
LABEX LANEF	Quantum engineering, electrical energy, smart Cities, nanosensors for healthcare	University of Tsukuba, AIST, NIST, EPFL	Recruitment of foreign PhD students and Chairs of Excellence Innovative alliances and links with R&D	Reinforced international collaboration (Tsukuba, I2U network)
LABEX MINOS LAB	Development of advanced CMOS devices for the microelectronics industry	Synergy with STMicroelectronics and equipment suppliers	Good synergy with EquipEx FD SOI and IMPACT and with IRT Nanoelectronics	Better coordination between applied and fundamental research thanks to the initiative
LABEX OSUG@2020	Enhancing the capacity of current long-term observing programs; integrating data and models; Advising public policies	Industrial partners for georesources (mineral resources, oil, wind), new observation techniques (interferometric techniques), policy makers (climate change impact, natural risks)	- Research-driven higher education - Develop international collaborations including developing countries - Outreach, research dissemination	Visibility, national and international diffusion
LABEX PERSYVAL	Boosting multi-disciplinary approaches and platforms to	Industrial partners	Backbone of the digital world axis Several industry collaborations	Increase of the number of excellent master and doctoral students in the

	cybersecurity and data science		thanks to the Labex which provides a unified interface between researchers and industrial partners	scope of the Labex thanks to excellence scholarship programmes
LABEX TECHXXI	Mechanical and process engineering	Competitiveness clusters and industrial partners	Tech transfer: initiatives to foster R&D activities with industry including Proof Of Concept actions, and, internally, to detect potential innovations	Visibility, national and international diffusion
PSPC/Robotics ROMEO2	Humanoid robotics	Industrial partners and social applications	Regional initiative on robotics	Visibility, national and international diffusion
SATT GIFT	10 years objectives: 600 licensing deals, 400 start-ups created, 8000 direct jobs created, 500M€ fund raising from venture capital, 600M € yearly startup turnover	Industrial partners	1 - Maturing technologies from TRL3 to TRL5-6 2 - Better connection with industrial partners 3- Initialization of long term R&D cooperation between public labs and start-ups 4 – Spreading of Enterprise spirit among students and searchers	- Detection of initial stage technological projects - Pre-maturation of tech concepts (from TRL1 to TRL3) - Efficient coordination of the Initiative partners, most of whom are SATT founders

3. Strengths and weaknesses

3.1. Human resources

Selection document: section 1.3.7

Weaknesses

In our analysis, we use the LERU researcher career path classification and data.

As shown in the graph below, UGA has few R1 researchers compared to other countries⁷. We consider this as a weakness: we need to attract more early-stage researchers within our research networks. Moreover, within the R2 layer, UGA has very few post-doctoral fellows

⁷ Even though, this conclusion needs to be mitigated, if one takes into account Ph.D. duration.

compared to other European countries. This lack of intermediate level researchers creates a bottleneck in our capacity to mentor students, supervise Ph.Ds. and manage projects.

Although the average take-home pay in France is comparable to other European countries, it is not possible to compete for top academic staff within the French civil servant employment system.

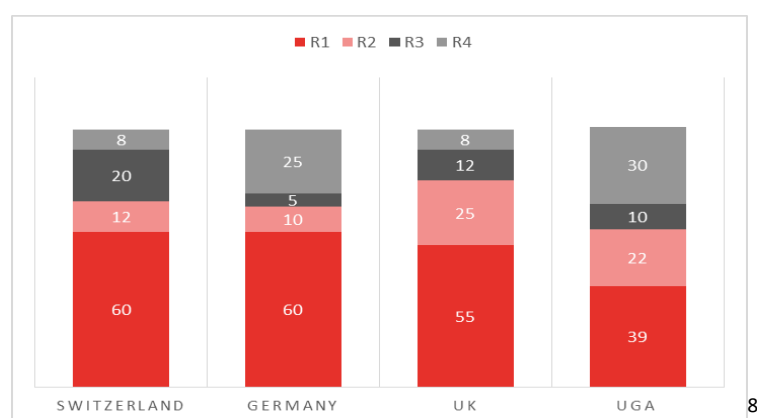
Currently, we don't offer sufficient support to our young researcher in terms of time, opportunities and mentoring. This limits their academic independence and therefore diminishes UGA's capacity for mentoring students and supervising PhDs.

Strengths

Thanks to the French civil servant employment scheme, we are able to offer permanent position to promising academic staff early in their career. This is not the case in other countries, such as Germany – which is why universities such as TUM implemented ambitious tenure-track systems. We consider this capacity as an asset, even if some argue that early permanent positions can lead to a decrease in motivation. We think that UGA's scientific environment and an adequate support to career development mitigate this risk.

The strong presence of national research organisms and of European instruments provides a rich scientific environment.

Many teams are recognized as being of high scientific quality.



3.2. Evolution of strengths

Selection document, section 1.3.8

Tab. F. - Main themes

Following the Research Excellence Framework (REF), « impact » refers to « an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia ». I.e., we prefer to concentrate on impact beyond academic metrics. We will implement a similar methodology as REF's approach

⁸ Data source: MORE2 project, final report.

based on illustrative demonstrators. This has several advantages notably involving our academic staff in a constructive and pragmatic approach to evaluating and enhancing the impact of our research.

		Current status	Situation in 4 years	Situation in 10 years
Chemistry & life sciences	Level	"Chemistry" QS, 151-200 ARWU 151-200 "Life and agricultural sciences" ARWU, 151-200	Increase by 10% the number of publications in quartile 1 (Q1) "Chemistry" ARWU 101-150 "Life and agricultural sciences" ARWU, 151-200	Increase by 20% the number of publications in quartile 1 (Q1) "Chemistry" ARWU, 76-100 "Life and agricultural sciences" ARWU, 101-150
	persons	730 faculty members and researchers, 410 PhD students for CBS department	Increase the number of post-doctoral position by 10%	Increase the number of post-doctoral position by 25%
	Impact	➤ Bio-motivated and bio-inspired chemical systems ➤ Structural and cellular biology ➤ Chronic diseases and cancer ➤ Neurosciences Medical technologies	spin-offs creation 10 impact demonstrators/yearly	spin-offs creation 20 demonstrators for impact/yearly
Engineering, ICT, maths	Level	"Mathematics" QS, 151-200 "Natural Sciences and Mathematics" ARWU, 76-100, "Engineering/Technology and Computer sciences" ARWU, 101-150	"Mathematics" QS, 151-200 "Natural Sciences and Mathematics" ARWU, 51-75, "Engineering/Technology and Computer sciences" ARWU, 101-150	"Mathematics" QS, 101-150 "Natural Sciences and Mathematics" ARWU, 51-75, "Engineering/Technology and Computer sciences" ARWU, 76-100
	persons	740 faculty members and researchers, 500 PhD students	PhD students: +5% Postdocs: +10%	PhD students: +10% Postdocs: +20%

	Impact	Modelling and simulation Digital world Data sciences Embedded systems and cyber security Systems engineering Eco-efficient manufacturing	spin-offs creation 10 impact demonstrators/yearly	spin-offs creation 20 impact demonstrators/yearly
Physics & mat. sciences	Level	"Materials Sciences", QS 101-150 "Physics" ARWU, 101-150	"Materials Sciences", QS 51-100 "Physics" ARWU, 76-100	"Materials Sciences", QS 51-100 "Physics" ARWU, 76-100
	persons	971 faculty members and researchers, 1200 PhD. students	PhD students: +7% Postdocs: +10%	PhD students: +7% Postdocs: +10%
	Impact	Advanced materials Nano and microelectronics Carbon-free energy systems Quantum engineering Instrumentation	spin-offs creation 10 demonstrators for impact/yearly	spin-offs creation 20 impact demonstrators/yearly
Earth sciences and environment	Level	"Earth and Marine Sciences" QS, 151-200, "Environmental Studies" QS, 101-150, "Life and agricultural sciences" ARWU, 151-200, "Life and earth sciences" CWTS Leiden, 37	"Earth and Marine Sciences" QS, 101-150 "Environmental Studies" QS, 51-100 "Life and agricultural sciences" ARWU: 151-200, "Life and earth sciences" CWTS Leiden, 37	"Environmental Studies" QS, 51-100 "Earth and Marine Sciences" QS, 51-100 "Life and agricultural sciences" ARWU : 101-150, "Life and earth sciences" CWTS Leiden, 37
	persons	496 faculty members and researchers, 400 PhD students	PhD students: +7% Postdocs: +10%	PhD students: +7% Postdocs: +15%
	Impact	Climate change and related societal changes Environment and natural hazards Socio-ecological transitions	spin-offs creation 10 impact demonstrators/yearly	spin-offs creation 20 impact demonstrators/yearly

Hum. & soc. Sc.	Level	1 ERC	Increase by 15% the number of publications in internationally recognised journals (e.g. quartile 1) 3 ERC	Increase by 30% the number of publications in internationally recognised journals (e.g. quartile 1) 7 ERC
	persons	1000 faculty members and researchers, 1200 PhD students	-	-
	Impact	Artistic and literary creation Education, languages and cognition Innovation in markets Political institutions and territorial organizations	spin-offs creation 10 impact demonstrators/yearly	spin-offs creation 20 impact demonstrators/yearly

4. Socio-economic partnerships

Selection document, sections 1.4 and 3.7.

4.1 Examples of partnerships

Tab. G. - Financial contributions of the socio-economic partners

Socio-economic sector	Digital systems
Research themes involved	Micro and nanotechnology, computer architectures, computer science, systems design, applied mathematics
Names of the partners within this sector	270 companies (89% SMEs), 15 local governments, 16 economic development organizations and other organizations, most of which are members of the Minalogic pole 2 Billion euros of R&D
Forms of partnership (framework agreement, contract, common laboratory, etc.)	UGA is member of the board of governors

Age of the partnerships	July 2005			
Example of a flagship result or achievement	IRT Nanoelec Easytech program The Easytech program, run by Minalogic, aims at shortening the time-to-market for SMEs by facilitating access to platforms and research labs. Specific teaching modules are developed within this program.			
Funding (including revenues) received from companies under these collaborations	2011	2012	2013	2014
	48366865 €	70172765 €	72703748 €	80618544 €

Socio-economic sector	Medtech and health
Research themes involved	Technology for health, chronic disease, e-Health, healthy ageing, smart data for health and well-being
Names of the partners within this sector	LyonBiopole and its members with 158 companies (154 SMEs) and Minalogic
Forms of partnership (framework agreement, contract, common laboratory, etc.)	UGA is member of the board of governors
Age of the partnerships	July 2005
Example of a flagship result or achievement	KIC Health, CLC France The goal of EIT Health is to contribute to increasing the competitiveness of European industry, improve the quality of life of Europe's citizens and the sustainability of healthcare system.

⁹ IP: Intellectual Property

Funding (including revenues) received from companies under these collaborations IP ¹	2011	2012	2013	2014
	9 761 409 €	9 916 082 €	9 843 773 €	10 394 062 €

Socio-economic sector	Energy			
Research themes involved	Smart grids and electricity storage, solar energy, biomass, hydrogen energy, hydropower, energy-efficient buildings			
Names of the partners within this sector	Tenerdis and its members with 188 companies (75% SMEs) 1,6 Billion euros of R&D			
Forms of partnership (framework agreement, contract, common laboratory, etc.)	UGA is member CEA is member of the board of directors			
Age of the partnerships	2005			
Example of a flagship result or achievement	Smart Grid Campus Rhône-Alpes A PIA project aiming at developing an experimental but real-size smart grid for education, research and industrial collaborations Creation of startups (spin off, entrepreneurship from researchers...)			
Funding (including revenues) received from companies under these collaborations IP ¹	2011	2012	2013	2014
	40843847 €	49484222 €	66004642 €	53450222,25 €

Tab. H. - Shares of contributions from the socio-economic partners

Year	2011	2012	2013	2014
Share of total funding received	49%	64%	73%	72%
Share of consolidated budget	8%	10%	11%	11%

4.2 Development of the partnerships

Tab. I. - Development of the partnerships

Socio-economic sector	Digital
Funding (including IP revenues) expected from companies under the "Target University" collaborations	7 000 000 €
Example of an expected result	A private-public center for the design of cyber-physical systems (based on Grenoble's Design center part of EuroCPS and the Labex PERSYVAL-lab) https://www.eurocps.org/design-centers/cea-france/
Expected 4-year growth of funding received	+5%

Socio-economic sector	Medtech and health
Funding (including IP revenues) expected from companies under the "Target University"	9 000 000 €

collaborations	
Example of an expected result	A center for integrative research in health: chronic, disease, healthy ageing and medical technology gathering research laboratories, the university hospital teams and industrial partners, and covering fundamental, translational and clinical research.
Expected growth of 4-year funding received	+5%

Socio-economic sector	Energy
Funding (including IP revenues) expected from companies under the "Target University" collaborations	5 000 000 €
Example of an expected result	Creation of a public-private Institute for Smartgrids
Expected growth of 4-year funding received	+5%

Tab. J. - Non-recurrent funding

	Funding (annual average in K€)	Expected growth for the 4 years to come (in %)
Direct research contracts with the companies	190000 (including Cea-Tech) 13 000 (excluding Cea-Tech)	5
CIFRE theses (sum of the salaries and the support contracts)	11 000	5
Subsidised collaborative research projects ¹⁰ (Europe, ANR, etc.)	327 000 (including Cea-Tech) 83 000 (excluding Cea-Tech)	15
Patronage	2300	23
Others (specify)	-	-
Total	530 300 (including Cea-Tech) 109 300 (excluding Cea-Tech)	-
Share of this total managed jointly by the consortium	6 % (including Cea-Tech) 28 % (excluding Cea-Tech)	50 % (excluding Cea-Tech)

Tab. K. - Flagship courses

Title of the course	Current headcount if applicable	Nature of audience	4-year target headcount	Nature of audience in 4 years	L, M, D or NQ
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¹⁰ Take the overall grant of the funding agreement.

Humanities and social sciences					
Master "Creative documentary films" Partner: Ardèche Images	17	CDC	20	CDC, SC	M
Master "Industries of Language" Partners: Objet direct; Xerox, ACTAO, HO2S, VOXYGEN, TecKnowMetrix.	40	CDC	50	CDC	M
Master "Techniques, Sciences & Decision" Partners: Ressource-Conseil, Schneider Electric	39	CDC, CL	50	CDC, CL	M
Master "Psychology" Partners: Foyers de l'enfance, fondation Rothschild, EHPAD, mutualité française Nord Pas de Calais	232	CDC, CL	200	CDC, CL	M
Sciences, technology, engineering					
IDEFI ENEPS Partners: Orange, Vinci-construction France, Schneider Electric, GFC construction, SPIE Batignolles	100	CDC	250	CDC	L
Master "Biology and marketing techniques" Partners: ACTAO, CREACELL, FABRILABO, Immunld, SYNAPCELL, Synthelis, VITAMIB	25	SC, CL	36	SC, CL	M
Master "Process chemistry" Partners: EAWAG Zürich, AIR LIQUIDE, Neotherm Consulting, Vicat, Téfal, IFPEN, Solvay, ST MICROELECTRONICS	156	CDC, CL	180	CDC, CL	M
Engineering apprenticeship Partners: Professional branches of metallurgy and paper	330	SC, CL	450	SC, CL	M
IFCEN: Franco-Chinese institute of Nuclear Energy (engineering school on Zhuhai campus) Partners: EDF, AREVA	100	CDC	100	CDC (Chinese students)	M

Law, economics, management					
Master "Private Law" Partners: AXA, GROUPAMA, CNP, MACIF	210	CDC, CL	256	CDC, CL	M
Master "Finance" Partners: IFACI (French institute of internal auditors), CRCC (Regional association of auditors), Crédit Agricole Sud Rhône Alpes, Schneider Electric, Hewlett Packard, Société Générale, BNP Paribas, Murex	220	SC, CDC, CL	240	SC, CDC, CL	M
Master "Economical engineering and business" Partners: Schneider Electric SA, Becton-Dickinson, Banque de France, ST Microelectronics, Renault-Trucks, Société Générale.	132	SC, CDC, CL	180	SC, CDC, CL	M

5. Ambition of the Initiative

Selection document, section 2.

Target in terms of international visibility

We will establish a strong UGA brand. In terms of communication strategy, we will follow the example of a university such as Aalto, whose brand has fully replaced that of the three institutions that merged to create Aalto University and, in less than five years, acquired a greater visibility than that of the previous institutions.

We will establish a clear hierarchy of brands, which is common practice in US research universities (cf. University of Chicago's identity guidelines).

We will improve our ranking: current estimates of the ranking of UGA are: for THE: 160-190; for QS: 180-200; for ARWU: 150-200¹¹. The pressure on rankings is constantly increasing, but we do have a strong margin of progression on the reputation criteria, which are particularly important for QS and THE rankings¹². We also believe that we can progress in thematic rankings. If we take as a comparison point the CWTS Leiden ranking, we aim to reach the top 30 in "life and earth sciences" (currently UJF top 37) and the top 100 in "Biomedical and health sciences" (currently UJF 113).

¹¹ Such assessments have been made by relying on the current methodologies of the rankings as described on their website, and taking as input the data corresponding to the whole perimeter of UGA.

¹² Simulations, relying on the progress of Strasbourg University on "Academic Reputation" in QS following their merger in 2010, indicate that we should be able to enter the top 200 and potentially the top 150 in QS. For THE, we will probably enter the top 150.

We will establish a reputation as an “innovation university”, notably through our i2u network. Interesting points of comparison are other universities, which have been able to cultivate such a positioning, in particular through their capacity at attracting private funding, such as Eindhoven University of Technology, Delft University of Technology, or Chalmers University of Technology (see CWTS ranking on private collaborations¹³). Good practices learned from these universities and from our instituts Carnot will be largely deployed within UGA.

Restructuring of the local landscape of higher education and research

The creation of UGA will simplify the institutional landscape both for insiders (staff and students) and for external collaborators (academic partners and private partners).

International sources of inspirations in this respect are:

For inside simplification: recent merger success stories such as *Manchester University*, which emphasised the utmost importance of administrative services restructuring. An interesting aspect of this merger is that Manchester University could rely on a long established background of collaborations, facilitating the administrative changes, as in our case.

For external simplification, with the creation of a unique entry point for external collaborations, the MIT “*industrial liaison program*” is a landmark. Established in 1948, the ILP has the mission to create and strengthen mutually beneficial relationships between MIT and corporations worldwide. For this reason, we will create a unique entry point for industrial collaborators¹⁴.

Organization and structure

UGA will have a particularly important impact on two aspects: (a) the setting up of efficient structures to steer the overall research and education strategy; (b) the fine-tuning of the resource allocation model, to support the institutional strategy and attract competitive funding.

Steering the overall research and teaching strategy

The recent creation of our 6 research departments has enabled us to improve and better integrate bottom-up input from the laboratories and strategic impulse from the top governing bodies of UGA. We aim to foster a similar balance by restructuring our teaching departments. In this respect, we are aiming at a model comparable to that of institutions such as Cornell University, where the 14 colleges and schools benefit both from the leadership of Cornell and other stakeholders such as SUNY, and from a strong autonomy, facilitating their reactivity and interactions with socio-economic partners.

Resource allocation models

For this strategy to be effective, the organization of research and education components must be reflected in the resource allocation models. We studied the evolution of the resource allocation procedure in international research universities over the last decades: most universities have switched from highly centralized procedures (e.g.: the University of

¹³ <http://www.leidenranking.com/ranking/2015> (type of indicator « Collaborations » ; ranking indicator « PP(industry) »).

¹⁴ <http://ilp.mit.edu/>

Chicago until 2004) to a de-centralized way of allocating resources (e.g.: Harvard University with its pragmatic motto “every tub on its own bottom”). Frequently, the budget is consolidated at the level of the University. The University is ultimately responsible for the definition of the main budgetary lines, whilst the components have a large autonomy in the way they use and get resources to implement the overall mission of the institution. UGA’s model of allocation resources will be inspired by such practices: UGA will provide its components with sufficient autonomy to implement their strategy, but on the basis of shared objectives. This model will be an adapted responsibility-center budgeting model that takes into account the level of autonomy and of capacity for attracting non-recurrent funding of the components¹⁵.

Choice of scientific and education priorities

UGA’s scientific and educational priorities reflect a clear choice to tackle socio-economic challenges that foster interdisciplinarity and promote social responsibility (Sustainable planet and society, Health, well-being and technology, Understanding and fostering innovation, Digital world).

This strategy is aligned with the regional domains of specialisation, the national research and innovation strategy (SNRI), the national higher education strategy (StraNES), and the model adopted by the European Union in the framework of its calls for projects. Such a model is frequent among research universities. For instance, the Freie Universität Berlin develops “Focus Areas” so that “scholars and scientists from different subjects, disciplines, and institutions at Freie Universität work together over a longer period on complex research topics related to subjects of great importance to society”. Specific initiatives are set up in order to allow the disciplinary-based departments to join forces to address transversal challenges.

Remarkable trajectory

In order to design an effective trajectory for UGA, we studied recent examples of integration of academic institutions. Successful trajectories always address a series of functional criteria:

- Early involvement of academic communities and progressiveness are key factors of success (example: the success of the integration of Institute of Education within University College London in 2014, vs. the failure of the Imperial-UCL merger proposal in 2003);
- Identity of mission and vision throughout the university, without any duplicates in terms of disciplinary coverage is key to ensure the solidity of the whole and minimize internal tensions (example: construction of Manchester University, vs. tensions between the campuses of University of Toronto with contrasting missions and similar disciplinary coverage).

¹⁵ For an analysis of the different resource allocation models in research universities, see for instance David Rodas, *Resource Allocation in Private Research Universities*, New York & London, Routledge, 2001.

- Adequate level of autonomy, delegation and responsibility for the components is key (cf. above, examples of Cornell and SUNY) and needs to be defined carefully – hence our proposal to devote 2 years to setting up teaching departments.
- Unity of location, with close and well-connected campuses, is a facilitating factor, as institutions struggle to maintain a common identity in distant locations.
- Strong guarantees in terms of decision-making and processes to ensure a unique strategy and brand are a necessary condition.

On the basis of these lessons, we built the trajectory presented in section 3.3 as well as the commitments presented in section 3.6.

Education

Our ambition is to:

- Boost attractiveness by creating highly visible diploma;
- Improve the interface with cultural and socio-economic partners in order, on the one hand to match their jobs and competence needs, and on the other hand to brainstorm on future demand;
- Support innovative teaching and learning practices by organizing resources (human resources as well as experimentation), financing projects and implementing a supportive HR politics;
- Establish UGA's Institute of Engineering as a key education center for engineers in France, with an international visibility in par with the fact that we currently train 5% of engineers nationally.

International collaborations

UGA's international strategy aims to:

A. Ensure that UGA becomes a major player in the European innovation ecosystem and strategy and is fully involved in defining innovation roadmaps and project calls at the European Commission. This relies mainly on the i2U network presented in detail in part 3 of the document.

B. Develop a limited number of strategic partnerships with institutions that share our priorities in research, innovation and education. These strategic partnerships will be developed at five levels:

1. European strategic partnerships focused on European funding: they will prepare teams on both sides to respond to European calls, foster information exchange and support joint lobbying actions. UGA has already established such a partnership with Swansea University. We are in the process of setting-up similar partnerships with the Universities of Barcelona and Karlsruhe Institute of Technology. In both cases, the institutions share with UGA a strategic priority on innovation, and extensive collaborations already take place at the level of individual researchers or research laboratories (KIC Health, KIC Raw materials, Cluster network, etc.).
2. Globally, strategic partnerships will be developed with universities with which our collaborations are broad enough to go beyond the scope of the single researcher or laboratory.

UGA aims to develop such partnerships, building on existing collaborations and looking for opportunities to scale them up. In particular, we will partner with universities developing top-level research relevant to Focus 1 and Focus 2. We consider that a target of 2 such new partnerships within the next 4 years and 4 during the next 10 years is both ambitious and achievable.

3. Thematic strategic partnerships will specifically support the development of focus 1 of University Grenoble Alpes, namely the internationalisation of humanities and social sciences. We will build up on existing partnerships with a series of universities fitting our own priority axes.

4. Privileged partnerships with Francophone Africa will be developed. The aim is to attract students from francophone Africa, where language gives us a competitive advantage, and building on active partnerships with African universities.(e.g., RESCIF network).

5. Finally, we will develop cooperations on the Alpine triangle to structure partnerships on the axis Lyon, Grenoble, Lausanne, Genève in particular through access to research facilities.



6. Actions

6.1 Research

Selection document, section 3.2.2

Research has been recently restructured in UGA through the creation of the six research departments.

Our instruments for implementing research actions are structured along calls for projects described below.

The IDEX will notably support through the CDRP call for projects the emergence of transdisciplinary **Centres** based on the strengths of our research departments, and

developing our two focuses (focus 1: H&SS, focus 2: 4 socio-economic challenges, see introduction of Section 3). Examples of such centres include: an institute for analytic H&SS, a private-public centre for smartgrids, a private-public centre for embedded cyber-security, etc. We are currently developing an infrastructure to pool human resources and equipment to support scientific computing and data treatment.

Funded projects need to have concrete plans for attracting extra-funding that goes beyond the period of IDEX funding. Each project must include concrete actions enhancing UGA's visibility and attractiveness. Such projects are in preparation since 2014.

For systemic innovation and technology transfer, see part 1, 1.2.

6.2 Education

Selection document, section 3.2.3.

Our main objectives are:

- Boost attractiveness by enhancing visibility (e.g., UGA Graduate school, summer schools, 8 teaching fields);
- Improve the interface with socio-economic and cultural partners in order to match jobs and skill needs, in particular, through interdisciplinary curricula.
- Support innovative teaching and learning practices by organizing the resources (human resources as well as platforms) and financing projects.

The creation of UGA's Institute of Engineering and Institute of Undergraduate technology studies are key examples of the on-going structuration of the target-university in the field of education.

Innovative pedagogy is at the heart of the project and we will rely on our 4 IDEFI, but also of our strong experience in learning-by-doing practices or in the field of Digital learning.

Tab. L. - Attractiveness to students

Brief description of the attractiveness measure	Target headcount in 4 years	Origins of targeted students	Level concerned (L or M)
Restructuring of academic programmes: 8 teaching fields; UGA Graduate School [structural measure]	NA	UGA students, international students	L, M, D
Master scholarship	320	International students	M
Short 3-6 week international academic programmes	300	International students	M, D

Language Centre	10 000	National and International students	L, M, D
MOOCS and innovative courses	20 000	National and International students	L, M, D

Tab. M. - Pedagogical innovations

Brief description of the pedagogical innovation	Target headcount in 4 years	Level L or M, or distribution between levels L and M
Centre des Nouvelles Pédagogies [steering structure]	NA	L, M, D
Coworking spaces	6000	L, M
Flipped classrooms	5000	L, M
Student-centered teaching	30 000	L, M
Modular multidisciplinary courses	10 000	L, M, D
Bachelor student mentoring	3000	L
Learning-by-doing platforms	10 000	L, M, D
Student entrepreneurship	400	M, D

7. Trajectory

Selection document, section 3.3

	SITUATION AT T ₀	T ₀ -T ₂	T ₂ -T ₄	T ₄ -T ₁₀
INSTITUTIONAL INTEGRATION (900K€/YEAR)	- UGA exists. - Research departments exist. - Doctoral college exists.	Academic departments and internal structures are defined.	- The implementation of the internal structures and academic departments is started. - If needed, UGA governance is revised. - UGA-target integrates all higher education partners. - UGA-target integrates the national research organisms to the extent allowed by their national mission. - Quality management office is up and running.	- Internal structures and academic departments are in place. - They continue to evolve in order to answer new challenges.
FUNCTIONAL INTEGRATION (900K€/YEAR)	- Unique brand is applied. - Unique communication policy is defined. - UGA brand appears on all diploma. - A unique HR policy is defined.	- Communication campaign to promote UGA is launched. - Unique international strategy is implemented. - Unique teaching strategy and offer is defined. - Student life is fully integrated. - Transfer structures are coordinated and simplified.	- Actions to ensure the international dissemination of the brand. - Services have been restructured. - Office of funds and grants is fully operational. - Industrial Liaison Programme is fully operational.	
SCIENTIFIC VISIBILITY (12M€/YEAR)	- UGA-target is ranked in ARWU 100-150. - Unique scientific signature has been adopted. - IDEX actions are launched.	3-4 UGA CDRP (Cross-Disciplinary Research Programs) centers are launched. - UGA Graduate school is set up.	8 CDRP and interdisciplinary research centers are up and running. 50% of programmes include digital learning. - Doctoral program with international instruments is up and running. 180 Ph.D., 120 post-docs have been recruited in our areas of excellence. - European funding is up 20%, private funding up 5%	- UGA ranked in top 100. - Nearly 100% of publications with UGA signature - ERCs grants are doubled. - Highly cited are up 50%. - UGA's economic impact is in the top 3 universities in France. - UGA has launched 150 spin-offs - European funding is up 50%, private funding up 15% 420 Ph.D., 300 post-docs have been recruited.

The situation at T₀

At T₀, thanks to the merger of Université Joseph Fourier, Université Pierre Mendès-France and Université Stendhal on January 1st, 2016, our “Target University”, Université Grenoble Alpes, will exist. It will not yet have reached its full perimeter neither its target internal structure, but it will already exist in terms of international visibility and ranking, as well as in legal terms. Its creation decree appeared on September 11th, 2015.

Several important and irreversible steps towards a common identity have been taken before or at T₀.

At T₀, the IDEX partners are thoroughly and dynamically coordinated through the Comue. Its statutes have been signed on July 16th, 2014 and the decree announcing its creation published on the 31st of December 2014. Currently, it is organised in three circles: members (UGA, G INP, CNRS and Inria), reinforced associates (IEP, ENSAG, USMB, CEA) and associates (Inserm, Irstea and others). There is no complete match between the circles of the Comue and the IDEX: the IDEX partners are only those members or associate who have taken a strong commitment to build the target structure, and to comply with the defined trajectory.

The Comue has explicitly been conceived as an instrument of transformation of the landscape. It is currently the place where the coherence of the overall strategy in research

and education is built and common services are provided. Its governance is composed of a board of administrators, an academic council and the council of members as defined by law. The decision-making in each of these bodies is by majority.

As explained in Section 4, the governance of the IDEX will rely on existing structures and governing bodies and avoid adding new institutional layers. And the decision-making process for IDEX actions and strategy rests mainly on the “IDEX steering committee” (Copil IDEX), advised by an International Scientific Committee.

The actions between T_0 and T_4

The emergence and development of a highly visible university from T_0 requires three lines of action:

1) At the institutional level, we *need to define UGA’s internal structure and academic departments between 2016 and 2018*. Indeed, at T_0 these will be simply the union of existing ones. To do so, we need to carefully define the level of autonomy, responsibility and delegation to academic departments, with the goal to join efficiency and accountability. ENSAG, IEP and G-INP will be among these academic departments. The statutes of UGA will be possibly need to be revisited in 2020, as well as its governance, to legally implement this new structure.

This governance will promote collaboration, shared decision-making, efficiency and accountability. Staff and academic members will have the majority in the board and students will be represented. It will provide strategic direction, accountability, communication & feedback loop, functional and technical expertise, policy & process decision-making, performance monitoring & tracking and transparency. The IDEX governance will be embedded into this new UGA governance.

2) A complete functional integration of UGA, materialized by the IDEX contract, and its partners in the IDEX will be achieved at T_2 . The contract is detailed in the section 3.6 Main commitments.

3) Concerning scientific activities, IDEX actions will foster UGA’s visibility, quality and reputation.

The institutional simplification and the creation of a unique brand, on the one hand; the actions to support excellence in research, transfer and education on the other should both foster UGA’s reputational scores within rankings, as well as bibliometric scores, and scores linked to international students and staff ratios.

Situation at T_4

At T_4 , Université Grenoble Alpes will be an EPSCP. Academic departments will be in place including an Institute of Engineering (that will allows us to rely on the reputation of Grenoble INP while merging our forces in the engineering field), an Institute of Undergraduate Technology studies and an internationally recognized Graduate school of management. UGA will be ranked, will deliver diploma, enroll students and hire staff.

Situation at T_{10}

Between T_4 and T_{10} , the IDEX actions will continue to support efforts to develop visibility along the same overall strategic lines and therefore to improve our assessment indicators. We will periodically revise and update our two focuses in order to ensure that UGA is one of the world's leading research universities (see appendix 5 for a list of indicators). Like in all universities, the structure of teaching and research will continue to evolve in order to answer new challenges.

8. Human resources

Selection document, section 3.5.

8.1 Talent attraction policy

Studies (cf. Janger & Nowotny 2013) concerning the attractiveness of a position to early and later stage academic staff show that several criteria are at play. Attractive early stage jobs combine early academic independence and career perspectives, while later stage jobs highlight the possibility to take up new lines of research, with adequate research funding. Both however rely on the overall quality of the scientific environment, efficient administrative procedures and an attractive human resource policy.

The **efficiency of administrative procedures** during recruitment is key, notably for early stage positions, when laboratories are competing for the best candidates. We will make sure that the administrative support is up to the task, and will commit to short delays so that the operational execution of IDEX actions can rely on swift processes. We will build on the successful practices of Labex projects (e.g. LANEF) and Nanosciences foundation for attracting and selecting the best PhD. students and postdocs.

The **quality of the scientific environment** is key at all stages of the career. We intend to foster our links with European instruments and develop joint positions with national research organisms to improve the attractiveness of our labs. Our remarkable scientific equipment and platforms allow UGA researchers to be competitive at the international level. We will improve their visibility and highlight them during negotiations with candidates.

Our talent attraction policy will focus on the following key actions:

1. For **early stage fixed-term positions such as PhD and post-doc**, we will set up a number of actions supporting early academic independence. For example, every postdoc hired by the IDEX will be offered the possibility of lecturing and supervising master thesis and integrated into a top-level international research environment. We will also emphasise the possibilities of early recruitment offered by the IDEX partners and of joint positions with national research organisms.
2. The question of **tenure-track** is complex, especially in the French context where, unlike in many countries such as Germany, permanent pre-professorship positions such as MCF exist. We will use the IDEX to create prestigious short-term fellowships and longer 4-5 year fixed-term positions. These positions will be reserved to "rising stars" and will aim to increase

competition at an R2 level and create a pool of potential R3 candidates, on a comparable model to that of “tenure track” but based on recruitment instead of promotion. They will be reserved to candidates outside the IDEX partners and Comue members and will focus on fields where UGA currently lacks expertise. We will build on our experience in some of the PIA projects and in the Nanosciences foundation¹⁶. To be attractive and depending on the project needs, UGA will provide the Fellows with:

- Specific funds for seminars, invitations and travel.
- The necessary space and administrative support.
- Access to a rich choice of platforms.
- Postdoctoral and PhD. fellowships.

3. For **early stage permanent academic staff**, support to apply for external funding and develop independent projects both in research and pedagogy is essential. We have tailored IDEX calls for this purpose.

4. Permanent staff will have access to 3 year Chairs. These will be offered on a competitive basis to members of UGA faculty who are internationally recognized and thereby give UGA the necessary visibility to attract other researchers. They will have reduced teaching and administrative duties. Postdoctoral fellowships and PhD grants will be part of the package.

5. Finally, in some cases, it may prove necessary to offer more attractive salaries in order to recruit **top-level academic staff**. This will be possible thanks to our foundations that have greater flexibility in terms of salaries thanks to their private statutes.

Tab. N. - Post-doc

The following measures will be applied to short-term post-doctoral positions (1-2 years).

Post-doc	
Recruitment procedure	Current: each laboratory or research team freely selects the post-doctoral fellow
	Future: an open call will be published for all positions. All eligible candidates must respect quality standards (international mobility, scientific production, quality of the PhD). To ensure fluidity and efficiency, administrative procedures will be guaranteed not to exceed pre-set time-frames.
Type of contract (and name of)	Current: fixed-term contract (employment by each institution)

¹⁶ The Nanosciences foundation has implemented a similar programme very successfully. Between 2007 and 2014, 32 short-term chairs have been offered to high-level researchers. Among these, four chair holders have been recruited as professors. A fifth recruitment is planned for 2016.

employer)	Future: fixed-term contract (employment by each institution or UGA in the period 2016-2020 and by UGA or research organisms from 2020 onwards)
Remuneration policy	Current: The salary of post-docs is not fixed by legal rules, contrary to PhDs or ATER positions. Salary varies according to the source of funding, with an average of 45k€ gross per year (variable according to institutions and disciplines).
	Future: UGA will provide career support to make sure that early-stage researchers are given the opportunity to acquire early academic independence (mentorship, opportunity to take part in the training of Master students, support to gain access to autonomous research funding). In exceptional cases, post-docs may be employed by foundations to allow for greater leeway in the salary range.

Tab. O. - Tenure-track

As mentioned above, we will not introduce a tenure-track system *stricto sensu* but we will implement the following actions to ensure an equivalent effect.

"Tenure track" actions or arrangements	
Recruitment procedure	Current: no specific scheme for 4-5 years position
	Future: open call for applications for fixed-termed positions of 4-5 years, with high quality standards, and guarantees on the length and efficiency of administrative procedure
Type of contract (and name of employer)	Current: n/a
	Future: When the target is reached, the contract will be a fixed-term contract, and the employer UGA-target or research organisms.
Duration of procedure	Current: n/a
	Future: 4-5 years positions
Remuneration policy	Current: n/a

	Equivalent to professor.
Career management	In some situations, exceptional salaries can be offered through our foundations and co-funding.
	Current: n/a
Planned environmental measures	Future: Specific mentorship to promote independence, support researchers to access competitive funding, support to access mobility funds. Potentially permanent contract in case of success.
	Present: n/a

Tab. P. - High scientific and technical potential

These measures apply to high level staff recruited on permanent positions within the French legal framework.

High scientific and technical potential	
Recruitment procedure	Current: usual French procedures for recruiting civil servants
	Future: idem, with extra quality standards throughout the university (e.g. international experience, quality of PhD, publication track-record, etc.) and systematic use of search committees to identify interesting candidates and inform them directly about the available position and the advantages of UGA.
Type of contract (and name of employer)	Current: permanent position (the employer can be any of the IDEX partners)
	Future: permanent position (the employer is UGA-target or national research organisms)
Remuneration policy	Possibility of joint positions will be explored
	Current: national salary scale

Career management	Future: salary scales are fixed on a national basis. Nevertheless, UGA will increase this basic salary by creating joint positions with research organisms, which will allow for more attractive salary ranges.
	In some situations, exceptional salaries will be offered through foundations and co-funding.
Planned environmental measures	Current: Staff who have potential for European funding (e.g. ERC) and Awards receive specific support to mature their projects. (Currently over 50 potential candidates to the ERC have been identified and are being supported).
	Future: Extension of current practices to early stage staff. Formalization of agreement between such high potential and the IDEX to plan funding of their research projects (including but not limited to IDEX funding).

8.2 Human resources policy: definition and implementation

Selection document, section 3.5.2

HR policy Definition. Since 2015, the discussion of profiles for new recruitments involves all IDEX partners, through the research departments. We will set up a multiannual recruitment plan to forecast needs and open positions both for administrative and academic staff.

HR policy Implementation. The staff employed on IDEX funds will be recruited by the ComUE during the 2016-2020 period, according to guidelines decided by the governing bodies of the IDEX as described in section 10 of the present document.

As part of the IDEX contract, all members have agreed to submit all positions (PhD, post-doc, permanent positions,...) to quality standards in terms of hiring process and quality of the candidates.

UGA IDEX will explore different ways of implementing joint positions with research organisms. Such positions will include a commitment to teaching.

All positions available within members of the IDEX will be defined according to the process described above, and will therefore directly contribute to the overall objectives of the IDEX.

9. Principal commitments

Selection document, section 3.6.

During the T₀-T₄ period, all partners commit to the following contract:

- The Comue UGA manages the IDEX.
- A unique communication strategy is defined over the IDEX perimeter. It is articulated to the communication strategy of the national research organisms.
- A hierarchical brand system is established: all higher education partners of the IDEX promote the brand “Université Grenoble Alpes”, which is added to all existing brands (components, laboratories, etc.). It is included in all communication documents both internal and external as well as on all websites. Similarly, all national research

organisms include the brand in all communications of their local laboratories in coherence with their national missions.

- All staff and students have an email address of the form @univ-grenoble-alpes.fr
- UGA is the only ranked higher education institution within general rankings (including ARWU, THE, QS) – to the exception of national research organism rankings.
- The IDEX partners and their components may appear in specific rankings, in coherence with the brand policy.
- The partners adopt a unique international strategy on the IDEX perimeter.
- Major collective international agreements are signed by Comue UGA and the implementation proceeds by subsidiarity.
- The partners adopt a single education strategy.
- The brand “Université Grenoble Alpes” appears on all student cards and diploma delivered by IDEX partners.
- The student life strategy is unique and services are integrated. This strategy must develop the feeling of belonging to UGA-target and its components.
- The partners adopt a single research strategy.
- All publications within the IDEX perimeter are signed “Univ. Grenoble Alpes” first, to the exclusion of any other higher education institution brand.
- The local partners of the IDEX adopt a unique HR strategy, in concertation with national research organisms, in order to implement the scientific strategy. Research departments and components prepare the strategy and job descriptions, which are submitted to the boards of the partners.
- All partners adopt a policy to develop HR attractiveness.
- Staff have a unique user card giving access to services (catering, cultural and athletic activities, documentary resources...).
- Digital strategy is defined and implemented by Comue UGA, its members and IDEX partners.

The principles that will guide UGA-target’s functioning and its relation with national research organisms are:

- UGA-target manages the IDEX.
- UGA-target ensures a multi-lateral coordination with national research organisms.
- The main identity is Université Grenoble Alpes. UGA-target coordinates its communication strategy with the national research organisms and its departments.
- UGA-target is the only ranked higher education institution within general rankings (including ARWU, THE, QS) – to the exception of national research organism rankings. Its departments may appear in specific rankings, in coherence with the brand policy.
- UGA-target coordinates its international strategy with the national research organisms.
- UGA-target defines a framework in which academic departments define their strategy.
- UGA-target delegates the registration of its students to the departments.
- The student life strategy and student life services are unique. This strategy must develop the feeling of belonging to UGA-target and its academic departments.

- UGA-target coordinates its HR policy with the national research organisms, in order to implement the scientific strategy. Research departments and components prepare the strategy submitted to the university boards.

Tab. Q. - Table of commitments

The following table gathers the commitments that echo the institutional trajectory and the content of our IDEX contract.

Specific commitments and indicators related to each IDEX action appear in the table of Appendix 5.

Nature of commitment	Description of the indicator	Target	Date of achievement
Structure	UGA exists	-	January 1 st , 2016
Structure	The structure and teaching departments of UGA are defined	-	2018
Structure	The implementation of the internal structures and academic departments is started.	-	2020
Structure	UGA-target has reached its full perimeter	IDEX partners	2020
Visibility	UGA is ranked	-	January 1 st , 2016
Visibility	Common brand is applied	IDEX partners	Defined 2016 Implementation: January 1 st , 2017
Visibility	UGA signature is applied to all scientific publications	IDEX partners	Defined: March 2014 Nearly 100% of all publication: 2017
Visibility / feeling of belonging	UGA appears on all diploma	100% of students of IDEX partners	2016
Feeling of belonging	All students receive a UGA student card	100% of students of IDEX partners	September 2017
Visibility / excellence	A common HR and attractiveness policy is applied	IDEX partners	2016
Feeling of belonging	All staff are employed by UGA-target or the	100% of staff	2020

	research organisms		
Visibility / excellence	UGA has recruited high-level early-stage researchers.	180 doctoral students 120 post-doctoral students	2020
Integrated functioning	I dex contract	I dex partners	2016

10. Governance, organization and management

Selection document, section 4.

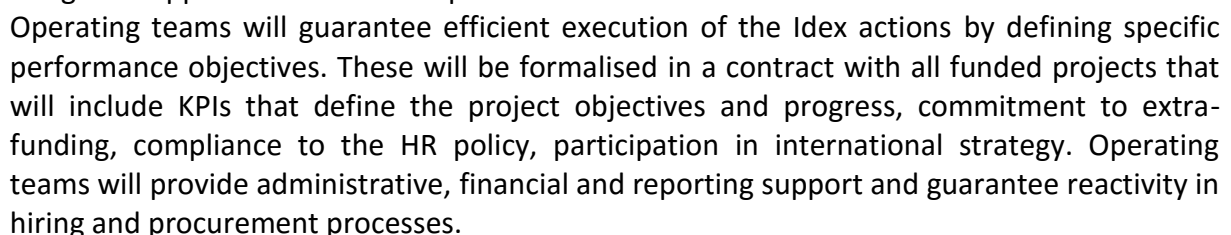
The governance of the IDEX is designed to ensure rapid decision-making capacity, constant focus on key objectives and effective implementation of I dex actions. It is based on three levels: strategic, executive and operational, and will evolve over time to match the institutional trajectory.

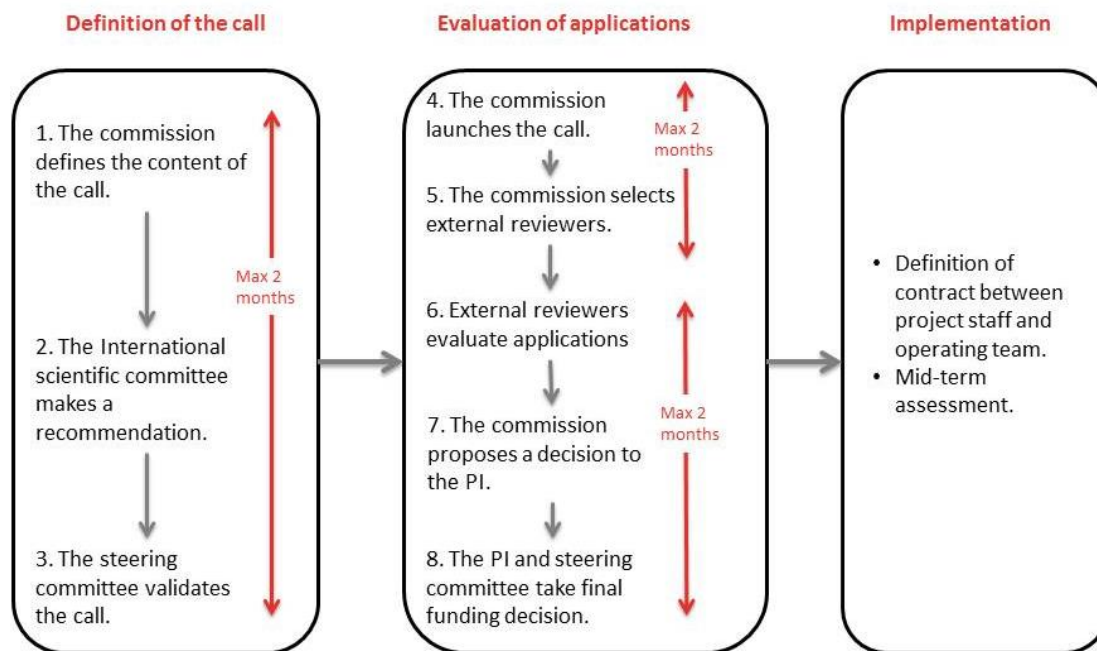
At T_0 .

Strategic governance. The steering committee of the IDEX, chaired by the PI, is in charge of the strategic governance. Its missions include:

- Steering the IDEX strategy and ensuring that commitments and objectives are fulfilled.
- Supervising the implementation of the actions and trajectory of the I dex.
- Supervising partner's adherence to the IDEX contract.

The steering committee is composed of the partners' representatives. Decisions are taken by majority, with no veto allowed. The International Scientific Committee (ISC) will provide informed guidance to the steering committee. The statutes of the Comue will be modified in order to include the steering committee.





At T₄, the governance of the IDEX project will be fully integrated within the structures of the target university. The composition of the steering committee will evolve accordingly ensuring a fair representation of all components of the university and IDEX partners.

THIRD PART – COMPLEMENTS LEFT TO THE DISCRETION OF THE PRINCIPAL INVESTIGATOR

See selection document, section 2.

Examples of UGA's ambition

Preserving ICE for Tomorrow's Science

Glacial ice, both in mountain glaciers and at the poles, contains the memory of Earth's climate and environmental changes in an encrypted language. It enables scientists at UGA, and around the world, to reconstruct the history of climate change and understand the impact of human activities. Fully decrypting this history will take decades and will rely on techniques that are still being developed, but humanity cannot afford losing this vital information ... Unfortunately, because of global warming, this invaluable scientific heritage is in danger and may simply disappear. Systematic summer melting followed by percolation of the meltwater through depth seems to be ineluctable at short and mid-term. This process will definitely alter information recorded in the ice.

This is why we are building and working to preserve intact ice cores to build a **world-wide Global Climate Legacy for future scientist generations** in the East Antarctic plateau, the safest (and natural) freezer in the World. Concordia Station, jointly run by France and Italy, is the only international station on the plateau.

The cores drilled by different international teams over the coming years, will be kept in a cave below the snow surface at temperature around -50°C. The ice cores will be the property of humanity. The long-term governance, ensuring preservation and appropriate use of these samples by future generations will be handled under the IPICS – *International Partnerships In Ice Core Science*- umbrella and further support from UNESCO, which has already labeled the initiative as part of its International Hydrology Program (IHP).

First drilling operations are already planned in 2016 and 2017. UGA's and Italian glaciologists will focus on glaciers that have already proved their potential for ice core science applications: glaciers in the French, Italian and Swiss Alps and Illimani in Bolivia. For each glacier, one core will be analyzed to provide a detailed reference for future scientists, and two untouched cores will contribute to the heritage repository.

This extremely important endeavor, led by UGA and the Italian Ca'Foscari University, requires international pledging. The UGA Foundation, together with UGA glaciologists, oversees this 3 M€ project: fundraising through private donors –*individuals to major companies*-, partnership with scientific organizations bringing in-kind contribution –*CNRS, IPEV*- as well as knowledge sharing with the French Oscar winning film maker Luc Jacquet.

"In decades to centuries from now, these samples will be incredibly valuable, especially in term of understanding the evolution of regional environments, but also for new scientific ideas that no one thought about so far. I fully support this project." (Dr. Jean Jouzel,

Climatologist, IPCC Scientific commission Vice President from 2002 to 2015). *“When I discovered the first air bubbles in the ice back 50 years ago in Antarctica, I could not imagine the fast and frightening disappearance of glaciers. I thank UGA’s team to endorse this responsibility for the coming generations.”* (Claude Lorius, glaciologist, Pioneer of ice science researches.)

Innovation Intensive Universities (i2U) network

Innovation is one of the main priorities of the European commission. UGA is at the heart of one of the main innovation systems in France and Europe. Our ambition is to help structure a European university-based innovation network that will create synergies between a limited number of highly innovative ecosystems. To achieve this objective, we will **create in 2016 a network of Innovation Intensive Universities (I2U-network)**.

I2U will be a think tank to identify and meet the challenges of tomorrow:

- share practices and experiences in the field of innovation and technology transfer,
- act as a facilitator to enhance visibility of the members, attract grants and talented students and staff, and create common projects between the actors of the respective ecosystems, and
- support the definition of national and transnational research policies in the field of innovation. I2U-network aims at reaching a strong and significant impact on innovation policy in Europe by promoting the role of innovation-intensive universities towards politicians, policy makers and opinion leaders.

The originality of the i2U network is its scale of operation and the concrete objectives that have been fixed. Instead of providing networking facilities, platforms and funding instruments connected to one academic institution, i2U will operate at a European scale. I2U will provide a cross-ecosystem package of instruments to support and accelerate innovation. For businesses, it facilitates the identification of partners and access to the European market; for universities, pooling resources and instruments guarantees a bigger visibility and impact.

The University of Barcelona and Swansea University have already expressed their interest in joining I2U. A presentation to the European commission of the network, its members, objectives and instruments, is planned. This allows us to establish a dialogue between I2U and Europe on the topic of innovation – a European priority because of its impact on job and value creation.

Since the network rests ultimately on the pooling of contacts, networks and funding instruments, the key to its construction is the mutual trust of the actors: they must be convinced that pooling resources will lead to an overall increase of innovation activities, and not a competition between members. Therefore, the construction of the network follows progressive steps, to allow for the establishment of trust and the exploration of the actions where the European scale is beneficial to all members of the network.

- Step 1 consists in sharing practices and opening the network of contact (e.g. portal to find resources).

- Step 2 consists in opening and sharing infrastructures (e.g. living labs and test beds) and setting up joint training actions (e.g. startup bootcamp, masterclasses).
- Step 3 consists in sharing investments instruments (e.g. VC community).