

Acronym of the project	IDEX-LSE
Titre du projet en français	UNIVERSITE DE LYON, IMAGINE : LYON/SAINT-ETIENNE, MÉTROPOLE D'INNOVATION ET DE CRÉATION
Project title in English	Université de Lyon, imagine: Lyon/Saint-Etienne, a center for innovation and creation
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Institution leading the project (Project leader)	Name : Université de Lyon
Capital grant requested M€ (a)	1 267 M€

This project was validated by the administration council of the Université de Lyon on November 29th, 2011.

Structure of the Idex partnership

Higher education and research institutions	Research institutes	Other ¹
Université de Lyon (UdL)	CNRS	Hospices Civils de Lyon
	INSERM	Competitive cluster Lyonbiopole
		Competitive cluster Axelera
		Carnot I@L
		Centre Léon Bérard

The Idex founding institutions are 13 universities, schools and institutes, all members of the PRES UdL.

Among the Idex founding institutions, the following can build on the validations by their Administration Councils which all voted in favor of the Idex project with at least a two-third majority (most of them decided to hold extraordinary sessions to submit the Idex project to their administration councils):

- Université Claude Bernard Lyon 1
- Université Lumière Lyon 2
- Université Jean Moulin Lyon 3
- Université-Jean Monnet Saint-Etienne
- Ecole Centrale de Lyon
- ENS de Lyon
- SciencesPo Lyon
- VetAgro Sup
- Ecole Nationale Supérieure d'Architecture de Lyon
- Ecole Nationale des Travaux Publics de l'Etat
- CPE Lyon

Two institutions already planned to submit the Idex project to their Administration Councils in the next days:

- Ecole Nationale d'Ingénieurs de Saint-Etienne
- INSA de Lyon

¹ Par exemple : CHU, Pôles de compétitivité, etc. / For instance : CHU, competitiveness clusters, etc.

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2. Additional file : operational measures

2.1 The I dex Lyon Saint-Etienne

Our I dex project is above all aimed at reinforcing a policy of excellence in research and training so as to make the area one of the most recognised academic centres in Europe and the world. The academic and economic context of the project is rich, but has not yet achieved the competitiveness and attractiveness which it should be able to attain, given its potential.

As France's second leading metropolis, Lyon Saint-Etienne plays a prominent role in France's dynamism, notably its economic dynamism. The metropolis, which is at the head of France's second greatest region, is the base of nearly 1.2 million jobs.

Not only does it enjoy enormous importance in France; Lyon Saint-Etienne is also among Europe's great metropolises. With roughly three million inhabitants and a surface of more than ten thousand square kilometres, Lyon Saint-Etienne can be ranked among such European metropolises as Barcelona, Frankfurt, Manchester, Munich, Turin or Zurich. And like those cities, Lyon Saint-Etienne, while not being a capital, is constantly enhancing its attractions as a great, dynamic and innovative European metropolis. Nonetheless, the metropolis' international attractiveness is still less widely perceived than is justified by its real influence, and the site should work on enhancing its visibility.

Our I dex project will constitute a catalyst for creating a new model of academic structures aimed at supporting our ambitions sustainably around six points:

1. A model of integration between schools and universities within a new university
2. A research programme of excellence around two major issues, Global Health and Society and Science and Engineering for sustainable development.
3. A diversified programme for excellence in education at undergraduate, graduate and doctoral levels aimed at opening education to all groups of society, internationally and among disciplines, working hand in hand with our partners in society and the economy.
4. An approach at pooling resources for developing value and a partnership with the IRT and the IEED to develop entrepreneurial culture.
5. A mediator for interaction between scientific development and the societal issues.
6. A catalyst for change towards a new university which is to rank among the world's leaders.

One of the objectives pursued by the PRES UdL, the project leader, is to structure the rich and diversified academic system of the Lyon Saint-Etienne area more effectively. The aim is to provide students with the richest and most coherent possible range in education and training in a system characterised by transparency and educational fluidity. For researchers, academic teaching staff and administrative staff within the institutions, the objective is to create a homogenous working environment so as to make it easier to move flexibly within a career and find work rewarding in an institution that enjoys recognition nationally and internationally.

The creation of a new university will achieve synergies in research and educational activities and generate a community spirit which will project a consistent image of our university.

13 universities, schools and institutes, which are the I dex founding institutions, already

committed themselves to engage this large-scale Transformation Process. Their commitment can build on validations by their administration councils.

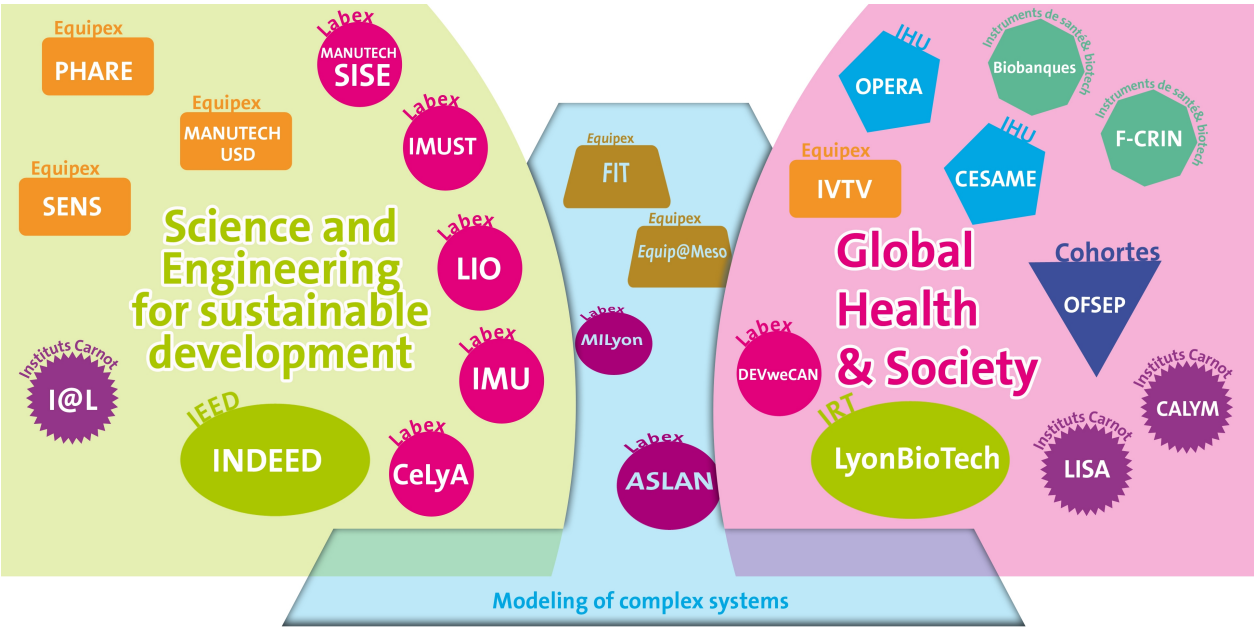
An *Institut des Hautes Etudes de Lyon Saint-Etienne* (IHE-LSE) will be founded by those 13 institutions as the embodiment of the IDEX project and as a first structuring step of the Transformation Process.

2.2 The power and academic intensity of the perimeter of excellence

The scientific and academic strategy behind the IHE-LSE, which is the embodiment of the IDEX project, is to a large extent based upon the initiatives of researchers and academic teaching staff in the area who have responded to LabEx and EquipEx calls for proposals. An appraisal of these projects led us to define two major fields for scientific intervention by the IHE-LSE, on the one hand “Science and Engineering for sustainable development” and on the other hand “Global Health and Society”

Most of our best laboratories are to be found within these two major subject areas. This strategy was validated by the IDEX jury last July.

The scientific policy of IHE-LSE will therefore mainly be embodied in “laboratories of excellence” which were validated and the budget of which is an integral part of the budget allocated to the IDEX project. These LabEx are a reflection of the present perimeter of excellence defined by the IDEX project and in which all those projects validated within the framework of the investment for the future programme will participate (the complete list of those projects which have been validated and those which are being examined is to be found in section 5.2.3.) This perimeter is summarised in the following graph.



The second scientific objective behind the IHE-LSE is to invigorate and expand this perimeter. To do so, the IHE-LSE will provide financial support to emerging subjects.. The concept of LabEx will thus be extended behind the call for projects from the French State.

Our assets

The main strength of this approach is to focus on two main subjects related to the major societal stakes for which the Lyon Saint-Etienne area has proved its potential through a large number of successes in the framework of the investments for the future programme.

The human resource policy will also be a priority and characterised in particular by two actions:

- 16 packages are to be created so as to attract the best academics to the site by offering them substantial resources in terms of human resources (since each four-year package will make it possible to recruit one senior or one promising junior member of staff for whom payroll funding for two Ph.D. candidates, one post-doctorate researcher and one engineer will be allocated, as well as an operating budget). The European and international recruitment of academics from elsewhere will be a priority.
- Every year, ten percent of the budget for vacant positions within the founding institutions (including academic teaching staff and administrative and technical personnel related to research) will be devoted to research profiles related to the scientific policy of the IHE-LSE, particularly for supporting LabEx and the EquipEx. Recruitments will remain the responsibility of each founding institution.
- Financial support for a few innovative projects will make it possible to invigorate the perimeter of excellence (financial support equivalent to twenty-five per cent of the budget devoted to the LabEx).

Present-day challenges

Nevertheless, our system still requires completion. For incontestably, we need strong support for research on the subject of global health (including the subject of biology) by way of LabEx structures. This is why we have availed ourselves of the second wave of the LabEx call for projects by focusing our projects on this subject:

- CORTEX in the field of the neuro-sciences related to the human and social sciences
- PREVENT which is intended as the counterpart in this call for projects to the EquipEx IVTV which has already been validated and is focused on taking account of handicaps
- ECOFECT which through its actions in basic research will support the IRT's work on the subject of infectiology
- PRIMES is focused of applications of physics to healthcare
- "Shape of life", which aims at exploring basic aspects of life, whether human, animal or vegetal.

This focussing of our answers is the first proof of the emergence of a scientific policy for the area.

2.3 Our four-year target for various criteria for analysing our project

Criterion 2. Quality of our scientific ambition

By taking the same approach we adopted in the LabEx call for projects, we are proposing the setting up of a **real prospective blueprint for research** for the area. The IHE-LSE and in the long run the *Université nouvelle de Lyon Saint-Etienne* will aim at making this blueprint its own and breathing life into it.

Our collective approach, which has repeatedly been asserted in various calls for projects, is *de facto* our main asset.

Obviously, we must ensure that this collective policy does not lead to an impoverishment of our perimeter of excellence. It must remain vital and in order to ensure that this remains the case, we must continue to support innovative projects. This does not mean that we have to support just any type of project; we therefore require expertise and the objective view of an outsider regarding the development of our area. The setting up of an external committee for strategic and scientific orientation will thus be a priority.

Our four-year objectives:

- We must dispose of a prospective research blueprint.
- We must have set up a SSC (strategic and scientific committee) which is completely operational and has a real influence on reflection on the area's institutions through its prospective deliberations.
- We must increase the number of successes in terms of national distinctions (members of the *Institut Universitaire de France*) and international distinctions (ERC)
- We must increase the number of doctoral candidates who have done their thesis in research teams with the best evaluations (at present 2/3 of Ph.D. candidates are carrying out research in research teams with an A+ rating, and this rate must gradually be raised to 75%).

Criterion 4. Teaching: ambition and innovation

Priorities in the field of training will focus on setting up a new sort of undergraduate studies. There is no need to emphasize that undergraduate studies are the weakest point in the range of educational courses in the French system of further education, when compared with postgraduate and doctoral training. We propose a new type of undergraduate studies that will present a diversification of courses for young people who have just finished secondary school qualifications.

This programme will be a **bachelor program in science and the humanities**, based upon a mixed programme of courses and strong links to research. These undergraduate studies will lead mainly to continuing studies in the master's degree programmes of the I dex founding institutions. This project will be based upon the following concepts:

- **Multidisciplinarity:** the aim will be to train students to perceive major issues from a multidisciplinary vantage.

- A course of studies that is constructed by the student and evolves: the student is to become an actor in designing his course of studies upon the basis of his personal and professional aspirations.
- A crossing over of training offered by the various institutions: the possibility of crossing over from one institution to another can lead to obtaining double degrees. The objective is to allow those students, who are sufficiently able, to pursue education simultaneously at two of institutions member of the PRES UdL. By way of example, a student might pursue a dual training programme in engineering and health, or social and human sciences and engineering, as well as pursuing the approach of the Manutech-School.
- A broad appeal to the sense of initiative of students carrying out personal projects in a spirit that is likely to develop their sense of enterprise;
- A strong link with research activities: educational activities will be closely linked with research activities so as to develop the students' sense of personal investigation and their own analytical intellectual approach;
- Internationalisation: teaching is to be organised in such a way as to promote a very broad opening to foreign students, and on the other hand to develop the mobility of students based upon their own educational objectives.

We will be particularly vigilant in ensuring that this project provides a real added value to existing courses, which is why we will be particularly attentive to these three points:

- avoiding social selection which would lead to these undergraduate programmes being reserved to too limited a category of students;
- avoiding impoverishing existing courses of study when setting up this new course of study;
- avoiding a situation in which these bachelor's degrees would inevitably lead to studying for a master's degree, by instead offering innovative degree programmes with a dual course of study and follow-up to assist access to the employment market.

Our four-year objectives:

This new course of studies **will open as of the academic year commencing in 2013** for an initial intake of 100 students who will expect degrees in June 2016. The course of studies will be stepped up over three years so as to achieve an enrolment level of roughly 400 students from the academic year commencing in 2015.

Criterion 5. Economic partnerships, result exploitation and technology transfer

Our I dex project has attracted unwavering support from the socio-economic world, in particular from the site chambers of commerce, from competitiveness clusters and from many companies.

5.1 The development of valorisation and technology transfer

One of the founding criteria of the I dex project has been to pool the approach to developing value and transferring it to society and the economy. This will naturally take place within the SATT (*Société d'Accélération du Transfert de Technologies* or Company for Accelerating Technology Transfer) which is being finalised. This pooling will be based mainly on the functions of maturing, management and intellectual property.

Our strong points:

The wealth of structures for adding value to the area and the experience of the *Lyon Science Transfert* (LST) service in the PRES UdL are incontestably our **strong points**. The LST approach has proved the advantages of pooling, the return on investment of which is significant both in terms of finances and in terms of the quality of management procedures for maturation processes. These strong points will make it possible to pursue this pooling to a greater degree.

The risks:

Nevertheless, the functions of valorisation and technology transfer requires the proximity of researchers which we will have to maintain within a structure which because of its regional vocation may lead them to move farther away from the field. The challenge of striking a balance between transparency and proximity is thus complex and time will have to be taken to allow the project to mature if we wish to find the optimal organisation for guaranteeing this proximity.

5.2 Support for entrepreneurship

The IHE-LSE's objective is to allow for a real inclusion of entrepreneurship within the courses of studies from undergraduate studies onwards. The project of the bachelor in science and the humanities offered by the IHE-LSE will integrate this awareness-raising. For courses leading to a master's degree, the IDEA project (submitted to the Idefi call for projects) will be one of our main projects. The IHE-LSE will also set an annual call for proposals in order to support projects in relation to entrepreneurship. Finally, this range of courses will be completed at the level of the doctorate in complementary training offered to doctoral candidates.

5.3 Partnerships in training

The objective of the IHE-LSE is to develop ties between the academic and the economic worlds within the perimeter of excellence. This is the aim of our activities with the IRT LyonBioTech and the IEED IDEEL for developing a range of specific training. Beyond this, the IHE-LSE will support training programmes, notably in continuing education and in advising managerial teams in the transition from small and medium sized enterprises to midcap companies.

More generally, the IHE-LSE will propose setting up a council for economic partnership at the metropolitan level aimed at offering a blueprint to define priority actions on subjects such as awareness-raising and the orientation for secondary school pupils, sandwich courses (for undergraduate and graduate training), the importance of entrepreneurship in training, continued education, the processes of providing degree recognition for professional experience from undergraduate to doctoral training, etc.

Our four-year objectives:

- We propose to dispose of an operational and pooled structure for valorisation and technology transfer (to be set up by the end of 2012)
- We will seek to offer new educational opportunities based upon innovation and entrepreneurship (the first awareness-raising modules offered for undergraduates will be implemented in September 2014, and the first graduate class for master's degrees in 2015,

with the first modules for doctoral candidates being offered in September, 2012)

- We will deploy an offer for management in SMEs on the transition from SMEs to midcap companies in 2013
- We will set up a council for economic partnership in 2013

Criterion 6. International and European policy

Objective: to capture the international mobility of talents

The IHE-LSE's international strategy aims at asserting the Lyon Saint-Etienne academic area's position within the world's leading institutions of higher education and research. International activity today obviously crosses all boundaries: it feeds as much into research as it does into training, the dissemination of knowledge and technology transfer.

The IHE-LSE's international and European policy will reinforce the visibility and attractiveness of the Lyon Saint-Etienne area among researchers and students of the highest quality, who are to be recruited internationally to the area. To do so, the IHE-LSE will seek support through coherent partnerships within its perimeter of excellence; the legitimacy of these partnerships reposes on an **integrated policy of research** cooperation structured within shared international laboratories and joint or complementary **educational** curricula, particularly at the level of Masters' degrees and doctorates.

The I dex project thus aims at putting an end to the dispersion of international development. It designs and implements an integrated policy, based upon reciprocity and interaction within a network of partners limited in number (not exceeding a dozen). It will thus deepen research and educational links with these selected partners, but will also broaden the spectrum of its collaboration: **the border between academia and industry will open** as has been the case in the Rhodia international mixed "green chemistry" research unit in Shanghai (ENS de Lyon, CNRS, ECNU, Rhodia).

Operational measures:

- **The launching of an international alliance:** this network of partners will bring together a limited number of very high level universities that share common values in terms of cooperation that integrates research and education. The universities which have been identified for starting to construct this alliance are: the University of Tokyo (*ARWU*: 21st), University Tohoku (*ARWU*: 97th), East China Normal University (Shanghai), University of Ottawa (*ARWU*: 200-300th), EPFL (Lausanne, *ARWU*: 102-150th).

- **The construction of a transalpine university platform:** the integrated research-training policy is the pedestal for the transalpine university platform around Lake Geneva which is to be highly competitive for Europe. It will involve universities in Geneva, Lausanne, Neuchatel and Turin. A strong link with the **Grenoble** area may contribute to a major European complex for research and training.

- **The creation of the executive agency, *LSE Campus*:** as the operator of international strategy for the area, it will be in charge of information and orientation for the public as well as the promotion

of the university, particularly by way of cultural events, working in partnership with the *Cité des Savoirs*. The agency will implement the policy for mobility of students and academic staff both coming from and going abroad, and will personally attend to members of the international alliance. It will welcome a representative office from each of the partner universities of the alliance, thereby facilitating reception and mobility as well as ties between the partners for elaborating and following up joint projects. In the same spirit, a representative office of the *Université nouvelle de Lyon Saint-Etienne* will be set up in each of the network's institutions, as is already the case at the ECNU (Shanghai).

Risks:

Excessive geographic and scientific focussing may make it more difficult to detect emerging targets. This is why the component members of the *Université nouvelle de Lyon Saint-Etienne* will pool efforts in the IHE-LSE's network of partners (according to the logic of the UdL brand) while pursuing international cooperation projects autonomously. This will make it possible to maintain a constant pool of future potential partnerships.

Our four-year objectives:

- To create an international alliance (2013) and to translate it into effective actions, notably shared international laboratories, student exchanges in new courses of study at the UdL, the construction of joint or complementary courses.
- To create the joint transalpine university platform (2013): creating joint laboratories and setting up joint training programmes.
- To set up the agency, *Agence Campus LSE* (to be launched in 2013) and have it installed as an operator of international strategy for the area.

Criterion 8. Governance: ambition, identity, transformation and structure

The heart of our project for transforming the academic area consists in re-founding the University of Lyon benefiting from its most vital forces by betting on the complementary character of the area's institutions. The potential of the Lyon Saint-Etienne area is an incontestable asset. Nevertheless, the process of re-founding the university must be one in which all the personnel (teachers, academic teaching staff, researchers, administrative staff) and the students become stakeholders. If governance is to be clear and efficient, it cannot be based upon a clear division between decision-makers and other employees. A process of consultation based upon understanding is therefore a priority in a project that is irreversible.

The charter for participating in the I dex project and the project for restructuring the academic landscape in the Lyon Saint-Etienne area is the first tangible translation of this political commitment since the proposal was submitted.

The I dex project is intended to be a catalyst for change and the creation of the *Université Nouvelle de Lyon Saint-Etienne*, capable of ranking among the world best universities. To achieve this ambition, the process of transformation consists of several stages and will take place within the framework of two five-year contracts (2011-2020).

Our objective in the coming years (a detailed schedule is attached to this submission):

2012, from the moment the I dex project is validated

- 1/ The establishment of a Foundation for Scientific Cooperation (FCS) which will be the bearer of the I dex programmes, entitled Institut des Hautes Etudes Lyon Saint-Etienne (IHE-LSE).
- 2/ The setting up of a preparatory process of a united university entitled *Université nouvelle de Lyon Saint-Etienne* bringing together universities and schools wishing to be a real part of a process of global recomposition.
- 3/ The evolution of the PRES UdL, which will maintain its structure and include competencies, particularly in the field of valorisation and documentation policy.
- 4/ Alignment of the PRES UdL, the FCS and the preparatory process to ensure overall consistency.

2012-2015

Throughout this period, which leads to the end of the present-day five-year contract, the objective will be to pursue I dex actions on the one hand, and to propose the first transfers of competencies within the framework of the Transformation Process.

- 1/ Implementation of the I dex project by the Foundation for scientific cooperation (FCS) IHE-LSE with transfer of missions and means defined above.
- 2/ Construction of the new university and implementation of the missions with which the preparatory device has been entrusted. The Administration Councils of the founding institutions will be consulted in 2014 on the general organisation and in 2015 on the statutes of the new university.
- 3/ The PRES UdL will maintain its activity in cooperation between the institutions in the area.

2016-2020

- 1/ The creation of the institution, *Université nouvelle de Lyon Saint-Etienne* in which the institutions which are directly involved in the preparatory process will enter (either recomposed upon the bases defined above or as such), as well as institutions which have decided to join the restructuring process (i.e. which adhere to the compulsory specifications)

The internal process of restructuring must be finalised at the end of the five years that correspond to the new five-year contract which has been jointly elaborated (2015-2020).

- 2/ The IHE-LSE will be part of the new institution. It will continue its action in piloting activities planned in the I dex project (management and traceability). Its other competencies (piloting the scientific strategy) will become an integral part of the missions of the new institution, *Université nouvelle de Lyon Saint-Etienne*.
- 3/ The PRES will be re-founded and repositioned taking into account the new academic landscape of the metropolitan area.

Criterion 11. Quality of resource allocation

When considering the process of resource allocation, attention to two aspects is essential:

For the IDEX own funds, we will set up Foundation for Scientific Cooperation named IHE-LSE. It will be hosted by the Foundation for the University of Lyon and this structure will make it possible to ring-fence the IDEX project's own funds.

Nevertheless, these specific means will not be the main part of financial investment necessary for the real deployment of the restructuring project. It is therefore necessary that the system be able to dispose of funding from the founding institutions of the IDEX project on a recurrent and reliable basis. Given the autonomy of these institutions, it is illusory to set up a system based upon constraint. Instead, a real political will must be expressed in each of the institutions. This is the aim of acting in consultation with partners. On this position, the PRES UdL has shown in recent years that its main asset is precisely its ability to reach political agreement between its institutions while respecting autonomy.

This approach already translated into strong political commitments through a charter and will require new commitments at the moment of the effective creation of the new university. This will be the main condition for maintaining such and such an institution within programmes which enjoy the political and financial support of the IDEX project.

Our four-year objectives:

- To create a Foundation for Scientific Cooperation (IHE-LSE) by 2012
- To set up an (external and independent) audit committee parallel to the establishment of the Foundation
- To validate all the funding allocation procedures by the financial and audit committee in 2012. This validation might be one of the aspects of establishing contracts with the French National Research Agency.
- To carry out financial audits of the Foundation every year.

2.4 Operational measures with schedule

The IDEX encompasses a set of programmes and is propelled by the desire to be the driving force behind structural and institutional transformation. As for this second part, detailed plans for operations were described in the preceding section. Here, we indicate the main measures related to the programmes.

Fields/ action	Schedule	Indicators	Objectives
Organizational			
Setting up the FCS (Foundation for scientific cooperation) together with governance and its audit committee	2012 (depending upon publishing of the decree)	Scaling system of the steering impact of the IDEX An evaluation every six months and a financial audit every year	Achieving an optimal leverage effect
Setting up the Strategic Orientation and Scientific Committee	2012	The existence of and compliance with a work programme	Producing a regular strategic audit on the process of change
Launching the preparatory process of the new university	September, 2012	The production of specifications for the new institution	Creation of the new university on January 1st, 2016
Setting up general indicators for piloting the site	September, 2012		Operational availability of the scoreboard in January, 2013
Research			
Piloting LabEx	2011	Progress of systems pooling Project monitoring Number of shared programmes set up	Recognition of the coordination function in the convention with the ANR Greater visibility for the LabEx Effective scientific and financial follow-up of the projects
Hosting Packages	September, 2012	Number of foreign researchers/ total number of researchers Number of ERC grants or equivalent	Opening of first packages in September, 2012 16 packages operational after four years ERC grant (or equivalent) among guest researchers

Job pooling	September, 2012	Proportion of pooled HR	10% of pooled HR An efficient joint strategy on research profiles for available jobs
First innovative call for projects	September, 2012	A+ laboratories /researchers, Percentage of researchers depending upon the perimeter of excellence	An evolving perimeter of excellence Four emerging clusters supported
Doctorate			
Transfer of payroll costs of Ph.D. candidates to the IHE-LSE	September, 2013	% of payroll costs transferred	Pooled management of the PhD student payroll
International mobility	September, 2012	Number of Ph.D. candidates benefitting from the mobility programme	30 foreign students studying locally and 30 local students studying abroad every year on IDEX project funding
Training			
Bachelor program in science and humanities	September, 2013	Rate of pursuit of further education, Success rate	Initial intake of 100 students in 2013 and 400 students in 2015 Success rate higher than the national average and of the area
New master's degrees	September, 2013	Number of new courses of studies Number of foreign students in the master's degrees	7 new master's degrees created in four years
New courses offered related to IRT and IEED	September, 2013	Rate of job access following graduation Number of recruiting companies involved in the process	Employment rate over 95%
Development of courses in continuing education	September, 2014	Number of interns hosted	Respond to needs of SMEs and mid-cap companies
Opening of the Manutech-school programme	September, 2014	Rate of job access following graduation and pursuit of further education	100% (aggregate of employment and further studies)
International			
Setting up an international partners' alliance	2013	Number of joint or complementary programmes	10 joint or complementary programmes (2 with each

		Number of international research units	partner) 5 international research units (1 with each partner)
		Number of Ph.D. candidates and researchers among institutions in the alliance % of foreign Ph.D. candidates and researchers above all within the alliance	
Setting up of transalpine university platform	2013	Number of joint or complementary programmes	8 joint or complementary programmes (2 with each partner)
		Number of international research units	4 international research units (1 with each partner)
Launch of the LSE Campus agency	2013	Percentage of foreign Ph.D. candidates and academics, particularly within the international alliance	50% of Ph.D. candidates and 30% of academics from the international alliance
		Progress of the implementation of correspondents of partner institutions in the alliance	Enhancing the visibility and attractiveness of the site by improving the reception
World's highest ranking scientific event related to the LabEx	2015	Success rate/ applications of candidates for stays	Attracting major congresses to the area: 2 congresses per year
Valorisation and socio-economic partnerships			
Establishment of a <i>Société d'Accélération du Transfert de Technologie</i> (Technology Transfer Company)	January, 2012	Financial volume to be generated through intellectual property	7 million Euros per annum in 10 years
		Number of patents related to the perimeter of excellence	
		Number of businesses founded related to the perimeter of excellence	
Awareness-raising for entrepreneurship in the bachelor programmes	September, 2013	Number of students attending the module	300 per year permanently in the bachelor's degree system
Awareness-raising for entrepreneurship in the doctoral programmes	September, 2012	Number of students attending the module	100 students per year attending the module
Setting up of a Council of economic partnership	January, 2013		Elaboration of a blueprint for September, 2013

Campus life and access to knowledge			
First call for innovative projects from students	January, 2012	Number of projects submitted	3 new campus life projects per year
Setting up Université de Lyon publishing house	September, 2013	% of rise in sales/ turnover Number of proposals made for publications	
Unified documentation master plan	January, 2013	Quality of service for users Number of available resources	Setting up of a single Common Documentation Service in January, 2015
Datacenter project	January, 2012	Quality of service for users	Offering a set of shared, secure, highly available services
Science and Society			
Science Shop	January, 2013	Number of projects supported	Developing leading-edge projects based on public demand
<i>Cité des Savoirs</i>	Programme in January, 2013	Quality of financial support	Developing interaction with civil society
Public debates	January, 2013	Participation of general public	

3. Résumé opérationnel

Le projet I dex est avant tout un projet destiné à renforcer une politique d'excellence en matière de recherche, de formation et de valorisation, pour inscrire le site parmi les centres universitaires les plus reconnus au niveau européen et mondial. Il s'inscrit dans un contexte universitaire et économique local riche mais qui n'a pas encore atteint le niveau de compétitivité et d'attractivité qu'il est en droit d'attendre compte tenu de son potentiel.

3.1 Le site métropolitain Lyon Saint-Etienne

- **Lyon Saint-Etienne, second site économique et scientifique français**

Seconde métropole française, Lyon Saint-Etienne joue un rôle de premier plan dans la dynamique du pays, et plus particulièrement dans sa dynamique économique. Leader de la deuxième région du pays, la métropole concentre près de 1,2 millions d'emplois.

Riche d'une forte tradition industrielle, Lyon Saint-Etienne fait preuve d'une bonne dynamique entrepreneuriale, notamment à travers ses PME. Le site compte 112 000 entreprises, dont plus de 10 000 PME industrielles². Les activités de production conservent une place importante et font du site le cœur de la 1^{ère} ou 2^{ème} région industrielle française selon les secteurs : pharmacie, chimie mécanique, textile, plasturgie. Le site concentre 7% des emplois industriels français³.

Au poids économique du site font écho la grande richesse et la diversité de son paysage d'enseignement supérieur et de recherche. Lyon Saint-Etienne rassemble 160 000 étudiants répartis dans une variété d'établissements supérieurs unique en France en dehors de Paris.

Cette densité se traduit aussi au niveau d'une recherche d'excellence puisque le site compte un récent prix Nobel de chimie (R. Chauvin 2005), une médaille Fields en 2010 (C. Villani), 6 membres de l'académie des sciences, 56 lauréats à l'IUF⁴ et 11 médailles du CNRS durant les 5 dernières années.

- **Lyon Saint-Etienne, métropole européenne innovante à fort potentiel**

Forte de son importance sur le territoire français, Lyon Saint-Etienne compte également parmi les grandes métropoles européennes. Avec près de 3 millions d'habitants et une superficie de plus de 10 000 km², Lyon Saint-Etienne se positionne au niveau de métropoles européennes telles que Barcelone, Francfort, Manchester, Munich, Turin ou Zurich.

Tout comme ces « villes-cousines », Lyon-Saint-Etienne, sans être une capitale, renforce constamment ses atouts de grande métropole européenne dynamique et innovante. Toutefois, l'attractivité internationale de la métropole jouit encore d'une perception inférieure à son rayonnement réel⁵, et le site doit travailler à gagner en visibilité, notamment pour attirer les centres de décision, mais aussi les talents, chercheurs et étudiants de haut niveau qui dynamisent le développement économique.

Des dynamiques reconnues dans des domaines comme la chimie (46% des brevets européens déposés par le site) ou l'infectiologie (1^{er} centre mondial de production de vaccins) et un bon

² Livret Blanc pour une nouvelle ambition industrielle dans la région Lyonnaise, 2009

³ Livret Blanc pour une nouvelle ambition industrielle dans la région Lyonnaise, 2009

⁴ Institut Universitaire de France

⁵ Opale (Observatoire Partenarial Lyonnais en Economie, La région urbaine de Lyon dans l'Europe des métropoles

potentiel technologique assurent à la métropole des bases solides pour s'affirmer dans les réseaux européens de l'innovation. Son positionnement doit pour cela encore être amélioré dans les thématiques scientifiques émergentes, le périmètre scientifique de l'initiative d'excellence y contribuera fortement.

3.2 L'initiative d'Excellence Lyon Saint-Etienne

Le potentiel scientifique du site a été reconnu dans diverses initiatives récentes de l'Etat. Ainsi dans la compétition nationale, le site a obtenu deux RTRA⁶ respectivement en infectiologie et en SHS, 3 CTRS⁷ dans les domaines de la santé, 4 instituts Carnot dans divers domaines de l'ingénierie et de la santé. Ce potentiel scientifique se développe dans un environnement économique des plus riches laissant une large place à l'innovation.

Les interactions entre les acteurs économiques et universitaires sont intenses et ont été concrétisées récemment dans la création d'un IRT en infectiologie et d'un IEED sur le développement des écotechnologies. C'est sur la base de ce potentiel que le projet IDEX ambitionne de porter le site universitaire Lyon Saint-Étienne au meilleur niveau de reconnaissance et de rayonnement international. Cette ambition se décline sur plusieurs niveaux qui concernent tout autant poursuite de l'excellence en recherche, formation et innovation, développement économique et sociétal de la connaissance.

L'IDEX constituera le catalyseur de la création d'un nouveau modèle de structuration universitaire destiné à soutenir durablement ces ambitions. Il s'incarnera dans un Institut des Hautes Etudes Lyon Saint-Etienne (IHE-LSE).

Le projet est porté par les fondateurs IDEX : 13 universités, écoles et instituts qui se sont engagés dans un ambitieux processus de restructuration. Parmi les fondateurs, 6 établissements constituent un noyau dur et une puissante force d'entraînement. Ils représentent à eux seuls près de 84% des apports des établissements au budget du projet IDEX.

1 - Un modèle d'intégration entre écoles et universités

Le PRES UdL couvre tous les domaines fondamentaux des sciences, des lettres, des sciences humaines et sociales et du droit, de la médecine, de l'ingénierie, des arts et de la culture. Cette universalité s'appuie sur la richesse et la diversité des établissements du site, dont 4 universités, des écoles d'ingénieur, des instituts spécialisés, et une grande école généraliste, l'ENS de Lyon. Jusqu'à présent, l'historique, les structures et les missions de ces établissements ont également pu limiter leurs synergies. Cependant, dans le cadre de l'IDEX, ces établissements, porteurs de projets d'excellence, ont décidé d'unifier des compétences déterminées et de mutualiser des moyens.

L'ambition de notre projet IDEX est de permettre l'intégration intellectuelle et fonctionnelle de ses établissements fondateurs.

Cette intégration vise d'une part à mieux structurer le tissu de recherche autour des laboratoires

⁶ Réseau Thématique de Recherche Avancée

⁷ Centre Thématique de Recherche et de Soins

notés A et A+ par l'AERES⁸, qui regroupent 82% des chercheurs et enseignants-chercheurs du site. Elle vise aussi au développement de formations universitaires partagées entre ces établissements dans l'objectif de fournir aux futures générations d'étudiants une offre de formation nouvelle, diversifiée, personnalisée et adaptée à la compétitivité du monde économique.

2. Une stratégie internationale enfin à la hauteur du potentiel

Conscients de la relative faiblesse du rayonnement international du site universitaire LSE, le PRES et ses partenaires entendent faire de du projet I dex un instrument d'affirmation d'une stratégie internationale ambitieuse. A partir d'une étude précise des partenariats existants, nous avons décidé de focaliser cette stratégie sur quelques sites mondiaux majeurs et sur quelques actions puissantes (création d'une alliance, constitution d'un système coopératif transfrontalier, création de l'agence Campus LSE). Ces actions ont pour objectif de déboucher sur des coopérations de très haute intensité (laboratoires communs de recherche, codiplomation) et de développer significativement les mobilités.

Cette stratégie permettra de rationaliser et d'amplifier le rayonnement et l'attractivité du site, et de capter la mobilité internationale des talents, chercheurs et étudiants de haut niveau. Pour ce faire, notre projet I dex s'appuie sur des partenariats cohérents avec son périmètre d'excellence et légitimés par une politique intégrée : des coopérations de recherche structurées au sein de laboratoires internationaux partagés et des cursus de formation conjoints ou complémentaires.

Notre projet I dex approfondit les liens de recherche et de formation avec des universités partenaires sélectionnées, mais élargit également le spectre de ses collaborations : la frontière monde académique/industrie s'ouvre, comme dans le cas de l'unité mixte internationale « chimie verte » Rhodia à Shanghai (ENS de Lyon, CNRS, ECNU Shanghai, Rhodia).

3 - Un programme de recherche d'excellence

Notre projet I dex est en premier lieu un programme de soutien à une recherche compétitive, innovante et d'excellence. Le périmètre de ce projet sera articulé autour de deux thématiques principales : « **Santé globale et société** », « **Science et ingénierie du développement durable** ». Ce périmètre se traduit d'ores et déjà par 8 LabEx, 3 EquipEx, un IRT, un IEED et d'autres succès au programme investissements d'avenir. Ces deux grands questionnements feront appel à des développements transversaux dans les domaines respectifs de la modélisation et de la simulation numérique, et des approches associant sciences et société.

L'ambition de notre projet est de faire vivre et d'élargir ce périmètre d'excellence en favorisant l'émergence de projets innovants, dans un champ de connaissance ouvert, laissant une forte capacité d'initiative aux chercheurs les plus brillants et prometteurs. L'objectif sera d'explorer et de repousser les frontières de la connaissance, notamment au travers d'approches interdisciplinaires. Le développement de nouveaux fronts de la connaissance fera du site un lieu recherché de formation de pointe et constituera la base de développements économiques innovants et compétitifs.

L'IHE-LSE sera le garant de la pérennité de l'excellence scientifique de la métropole par son soutien et son animation de la réflexion stratégique à l'échelle du site.

4 - Un programme de formation d'excellence et diversifié

Le développement économique et scientifique ne saurait se concevoir sans une implication majeure de l'IHE-LSE, dans la formation des acteurs à tous niveaux de la chaîne d'acquisition et de diffusion de la connaissance. L'interdisciplinarité, l'ouverture intellectuelle et l'initiative individuelle seront

⁸ Agence d'Evaluation de la Recherche et de l'Enseignement Supérieur

les moteurs de la formation de générations nouvelles d'étudiants, et de l'enrichissement intellectuel des acteurs déjà établis dans le métier.

L'IHE-LSE développera une formation nouvelle de premier cycle (*undergraduate*) de très haut niveau destinée à pourvoir les établissements fondateurs de l'Idex en étudiants *graduate* à fort potentiel. Le développement de formations croisées entre ces mêmes établissements permettra de former des talents adaptés aux évolutions et aux ruptures de nos sociétés. L'Idex soutiendra le développement de formations spécifiques de master très largement ouvertes au niveau international et qui contribueront au rayonnement mondial du site.

Grâce à ce nouveau premier cycle, à ces masters de très haut niveau, ainsi qu'à une formation doctorale largement appuyée sur des laboratoires d'excellence, l'Idex développera une plate-forme intégrée d'études avancées de haut niveau.

L'IHE-LSE participera au développement de formations nouvelles soutenant une culture de l'innovation et de l'entrepreneuriat. L'IHE-LSE jouera également un rôle majeur dans la reconnaissance par le monde économique de la valeur des diplômés universitaires. En développant des liens plus étroits entre recherche amont et transferts économiques, l'IHE-LSE valorisera le doctorat dans les carrières industrielles. Le développement de nouveaux types de formation en lien avec le secteur économique assurera une meilleure reconnaissance des diplômés de licence (*undergraduate*). Exemple emblématique, le projet Idex propose une approche intégrée autour de la démarche Manutech qui se décline sur un EquipEx (manutech-usd), un LabEx (manutech-sise) et une offre de formation de niveau L (manutech-school).

L'IHE-LSE aura pour objectif de placer l'étudiant comme acteur responsable de son devenir tant au niveau de sa formation, que de ses capacités d'entreprendre.

5 – Un acteur majeur du développement économique et entrepreneurial

En développant une formation et une recherche innovante, l'IHE-LSE constituera un levier majeur du développement économique du territoire. Par la reconnaissance de ses formations universitaires, par la qualité de sa recherche et par les interactions fortes avec le monde industriel, l'IHE-LSE constituera un outil de référence pour les acteurs économiques nationaux et internationaux.

L'IHE-LSE sera également acteur du développement d'une culture entrepreneuriale qui favorisera tout autant l'esprit d'entreprendre dans le domaine d'une recherche fondamentale innovante que dans la création d'entreprises compétitives et génératrices d'emplois. En ce sens, l'IHE-LSE participera à la sensibilisation à la dimension entrepreneuriale aux trois niveaux de formation (licence, master – notamment par le projet IDEA⁹ et doctorat). L'IHE-LSE sera aussi le porteur de programmes innovants à destination des équipes dirigeantes des PMI autour de la thématique de la transition PME/ETI¹⁰.

Par ailleurs, l'IHE-LSE constituera, pour le secteur économique, et en premier lieu pour l'IRT et l'IEED, un interlocuteur unique et reconnu pour la structuration des actions de développement scientifique et leur transfert économique. Le développement de carrières croisées de chercheur et d'enseignant-chercheur avec l'IRT et l'IEED renforcera l'attractivité du site pour les meilleurs scientifiques mondiaux.

⁹ Innovation, Design, Entrepreneurship and Arts

¹⁰ Petites et Moyennes Entreprises / Entreprises de Taille Intermédiaire

L'Idex contribuera au développement économique du territoire et renforcera son autonomie décisionnelle quant à son devenir.

6 - Un médiateur des interactions entre développement scientifique et problématiques sociétales

L'IHE-LSE jouera un rôle majeur dans le développement sociétal de l'action universitaire. Au niveau de la vie universitaire, il assurera le développement d'une vie de campus attractive, dans le prolongement du projet Lyon Cité Campus¹¹. L'accueil des étudiants étrangers, le soutien à une vie associative étudiante dynamique et l'accompagnement social de certaines populations d'acteurs des campus donneront au site un caractère attractif et dynamique dans ses composantes humaines.

A un second niveau, l'IHE-LSE facilitera les appropriations sociétales du progrès de la connaissance pour renforcer le rôle citoyen des acteurs de la connaissance. Cela se traduira par la mise en place de la Cité des Savoirs qui au-delà de sa fonction « science shop » (soutien à des études spécifiques émanant de la demande sociale), sera un lieu de référence pour l'interaction entre la science et la société, à l'image de la « Science Gallery » de Dublin.

7 - Un catalyseur de transformation vers une université nouvelle au meilleur rang international.

Un objectif majeur, de notre projet, est de créer les conditions d'une véritable transformation du paysage de l'enseignement supérieur et de la recherche du site Lyon Saint-Etienne, donnant naissance à une structuration plus intégrée et plus attractive du dispositif universitaire du site Lyon Saint-Etienne, riche et diversifié. Pour les étudiants, l'objectif est d'offrir une offre de formation cohérente, la plus riche possible dans un dispositif où la lisibilité et la fluidité de la formation seront assurées. Pour les chercheurs, les enseignants-chercheurs et l'ensemble des personnels des établissements, l'objectif est de créer un environnement de travail homogène afin de faciliter les évolutions de carrière et les épanouissements au sein d'une institution de renommée nationale et internationale.

Le projet Idex sera le catalyseur d'un processus de transformation du paysage universitaire du site Lyon/Saint-Etienne. Ce processus conduira à la création d'une Université nouvelle de Lyon Saint-Etienne unissant les établissements fondateurs de l'IHE-LSE.

Le PRES, fort de ses acquis, s'affirmera comme lieu de mise en cohérence de la politique de site avec l'ensemble des partenaires de cette nouvelle université, tant avec les établissements d'enseignement supérieur et de recherche et les organismes nationaux de recherche non fondateurs de l'IHE-LSE qu'avec les autres acteurs du territoire.

¹¹ Projet du PRES UdL qui représente plus de 400 Meuros d'investissements sur le site de Lyon.

3. Executive Summary

The IDEX project is above all aimed at reinforcing a policy of excellence in research, training and development so as to ensure the site becomes one of the most widely recognised academic centres in Europe and the world. It is part of a rich academic and economic context, which however has not yet attained the level of competitiveness and attractiveness that it should be expected to achieve, given its potential.

3.1 The Lyon Saint-Etienne metropolitan area

- **Lyon Saint-Etienne, France's second leading economic and academic centre**

As France's second leading metropolis, Lyon Saint-Etienne plays a leading role in the country's dynamism, and more particularly in its economic momentum. The metropolis, which is at the head of the country's second largest region, is a base for nearly 1.2 million jobs.

With its rich and strong industrial tradition, Lyon Saint-Etienne benefits from a vibrant entrepreneurial dynamism, particularly through its SMEs. There are some 112,000 businesses in the area, ten thousand of which are industrial SMEs. Production activities continue to play a substantial role and make the area the heart of the first or second leading industrial regions in France, depending upon the sector – pharmacy, chemistry, mechanics, textiles or plastics. Seven percent of jobs in French industry are concentrated in the area.

The area's economic weight is mirrored by the great wealth and diversity of its academic and research environment. Lyon Saint-Etienne is home to 160,000 students in a variety of higher education institutions which is unique in France outside Paris. .

This density is also reflected in the quest for excellence, since the area has produced a recent Nobel laureate for chemistry (R. Chauvin in 2005), a Fields medal laureate in 2010 (C. Villani), six members of the *Academy des Sciences*, 56 members of the *Institut Universitaire de France* and eleven winners of CNRS medals over the past five years.

- **Lyon Saint-Etienne, an innovating European metropolis with strong potential**

Lyon Saint-Etienne is not just important for France, but is also one of Europe's great metropolises. With almost three million inhabitants and a surface area of more than ten thousand square kilometres, Lyon Saint-Etienne ranks among European metropolises such as Barcelona, Frankfurt, Manchester, Munich, Turin or Zurich.

Like these other cities, Lyon-Saint-Etienne, although not a capital, is constantly enhancing its assets as a great dynamic and innovative European metropolis. Nevertheless, the international attractiveness of the metropolis is noticed less than its real influence would justify,¹² and the area will have to work to improve its visibility, particularly to attract decision-making centres, as well as talents, researchers and students of high quality to boost the dynamism of the economic development of the area.

Recognised dynamism in fields such as chemistry (46% of European patents were registered by the area) or infectious disease control (the world's leading centre in vaccine production) and good technological potential guarantee that the metropolis has solid bases for asserting itself in European networks of innovation. This is why its position needs to be improved in emerging scientific subject

¹² Opale (Observatoire Partenarial Lyonnais en Economie, La région urbaine de Lyon dans l'Europe des métropoles

areas, and the academic area of the excellence initiative will make an important contribution.

3.2 The Lyon Saint-Etienne initiative of excellence

The area's scientific potential has been recognised in various recent initiatives of the French State. For instance, two RTAs¹³ were awarded to the area, one in infectiology, and one in the social and human sciences, as were three CTRS¹⁴ in the field of health, and four Carnot Institutes in various fields of engineering and health. This scientific potential is developing in one of the richest economic environments, leaving a large place open for innovation.

Interaction between economic and academic actors is intense and has recently led to the creation of an IRT in infectiology and an IEED on the development of eco-technologies. It is on the basis of this potential that the I dex project is aimed at ensuring that the Lyon Saint-Etienne academic area attains the highest levels of recognition and international influence. This ambition is to be found at various levels, related to the pursuit of excellence in research, training and innovation, economic development and the development of a knowledge society.

The I dex will be the catalyst for creating a new model of academic structures aimed at providing sustainable impetus to this ambition. It will be embodied in an *Institut des Hautes Etudes Lyon Saint-Etienne* (IHE-LSE).

The project is driven by the I dex founding institutions: 13 universities, institutes and schools which decided to engage an ambitious Transformation Process. Among them, 6 institutions constitute a powerful driving force of the Transformation Process and account for over 84% of the support from institutions to the I dex budget.

1 – A model of integration between schools and universities

The PRES UdL covers all the fundamental fields of the sciences, the humanities, the human and social sciences and law, medicine, engineering, arts and culture. This universality is based upon the wealth and diversity of the area's academic institutions, which include four universities, engineering schools, specialised institutes and a prestigious institute of higher education, the *Ecole Normale Supérieure de Lyon*. Until now, the histories, structures and missions of these institutions also acted as limits to achieving synergies. However, within the framework of I dex, these institutions, with their projects for excellence, have decided to unite certain competencies and to pool resources.

The ambition of our I dex project is to allow for the intellectual and functional integration of its founding institutions.

This integration aims on the one hand at better structuring the activities and resources of research around research laboratories with an A and A+ rating from the AERES¹⁵, bringing together 82% of researchers and academic teaching staff in the area. It also aims at developing academic training between the institutions with the aim of giving future generations of students a new, diversified, and personalised range of courses suited to the competitiveness of the economic world.

13 Réseau Thématique de Recherche Avancée: thematic network of advanced research

14 Centre Thématique de Recherche et de Soins: thematic centre for research and treatment

15 Agence d'Evaluation de la Recherche et de l'Enseignement Supérieur: Evaluation Agency for Research and Higher Education

2. An international strategy that finally lives up to the potential

Given the relative weakness of the international influence of LSE's academic institutions, the PRES UdL and its partners intend to turn the Iindex project into an instrument with which to assert an ambitious international strategy. On the basis of a precise study of existing partnerships, we have decided to focus this strategy on a few leading areas in the world and a few powerful actions (such as creating an alliance, setting up a cross-border system of cooperation, creating the LSE Campus agency). These actions aim at leading to highly intense cooperation (such as joint research laboratories, the awarding of joint degrees) and at significantly developing mobility.

This strategy will make it possible to rationalise and to amplify the influence and attractiveness of this academic pole, and to capture the international mobility of talents, researchers and students of high quality. To do so, our Iindex project is based upon coherent partnerships within its perimeter of excellence and legitimised through an integrated policy – research cooperation which is to be structured in shared international laboratories and joint or complementary training programmes.

Our Iindex project will deepen ties in research and training with selected academic partners, but will also broaden the spectrum of its collaboration: the borders between the academic and industrial worlds are opening, as can be seen in the case of the mixed international “green chemistry” Rhodia research unit in Shanghai (ENS de Lyon, CNRS, ECNU Shanghai, Rhodia).

3 – A programme for seeking out excellence

Our Iindex project is above all aimed at supporting competitive, innovative and excellent research. The scope of this project is to be articulated around two main themes: “Global Health and Society” and “Sciences and Engineering for sustainable development”. The scope has already been established through 8 LabEx, 3 EquipEx, one IRT, one IEED and other successes in the investment programme for the future. These two broad fields of investigation will make use of cross-disciplinary developments in the fields of modelling and digital simulation, with approaches linking sciences and society.

The ambition behind our project is to invigorate and broaden our perimeter for excellence by promoting the emergence of innovative projects in an open field of knowledge, allowing for broad areas in which the most brilliant and promising researchers can take initiatives. The objective will be to explore and roll back the borders of knowledge, particularly through interdisciplinary approaches. The development of new fronts of knowledge will turn the area into a desirable venue for state of the art training and will serve as the basis for innovative and competitive economic development.

The IHE-LSE will ensure the scientific excellence of the metropolis by supporting and leading strategic reflection at the level of the metropolitan area.

4 – Excellence and diversity in the training programme

Economic and scientific development would be inconceivable without the substantial involvement of the IHE-LSE in training actors at all levels of the chain of knowledge acquisition and dissemination. Interdisciplinarity, the opening of intellectual horizons and individual initiative are to be the motors for training new generations of students and for the intellectual enrichment of actors who are already established in their professions.

The IHE-LSE will develop very high quality undergraduate education aimed at providing Iindex'

founding institutions with graduate students of great potential. The development of training across these institutions will make it possible to train talents adapted to developments and upheavals in our societies. IDEX will support the development of specific master's degree programmes which are very open at an international level and will contribute to the area's influence throughout the world.

Thanks to these new undergraduate studies and these high-level master's degrees, as well as doctoral training which will be broadly supported by laboratories of excellence, IDEX will develop an integrated platform for high-level advanced studies.

The IHE-LSE will participate in the development of new training supporting a culture of innovation and entrepreneurship. The IHE-LSE will also play a major role in the recognition of the value of academic degrees in the economy. By developing close relationships between research upstream and economic transfers, the IHE-LSE will promote doctorates in industrial careers. The development of new types of training in cooperation with the economic sector will enhance recognition of undergraduate degrees. One emblematic example is that the IDEX project is offering an integrated approach surrounding the Manutech approach in the context of an EquipEx (manutech-usd), a LabEx (manutech-sise) and courses in undergraduate studies (manutech-school).

The aim of the IHE-LSE is to make the student responsible for his or her future in terms of training and entrepreneurial capacities.

5 – A major actor in economic and entrepreneurial development

By developing innovative training and research, the IHE-LSE will offer substantial leverage in the economic development of the region. Through the recognition of its academic training, the quality of its research and intense interaction with industry, the IHE-LSE will be a tool which will set standards for economic actors throughout France and abroad.

The IHE-LSE will also be an actor in the development of an entrepreneurial culture that will promote the entrepreneurial spirit as much in innovative fundamental research as in the creation of competitive businesses that will generate jobs. In this sense, the IHE-LSE will participate in awareness-raising for the entrepreneurial dimension at the three levels of training (bachelor's, master's – notably through the IDEA project¹⁶ - and doctorate). The IHE-LSE will also promote innovative programmes for the management of small and medium-sized industries on the subject of the transition from SMEs to mid-cap companies.¹⁷

What is more, for the economy, and particularly for the IRTs and IEED, the IHE-LSE will be a unique partner recognised for structuring actions for scientific development and their transfer into the economy. The development of mobility oriented careers for researchers and teaching staff engaged in research with the IRT and the IEED will enhance the attractiveness of the area for the best academics and scientists in the world.

The IDEX will contribute to the economic development of the area and reinforce its autonomy in taking decisions related to its future.

¹⁶ Innovation, Design, Entrepreneurship and Arts

¹⁷ Petites et Moyennes Entreprises / Entreprises de Taille Intermédiaire

6 – A mediator for interaction between scientific development and the issues of society

The IHE-LSE will play a major role in the social development of academic activities. With regards to university life, it will guarantee the development of an attractive campus life, extending the Lyon Cité Campus¹⁸ project. The reception of foreign students, support for dynamic student organisations, and social care for certain groups of people on campus will render the academic environment attractive and dynamic in human terms as well.

At a second level, the IHE-LSE will make it easier for society to gain access to progress in knowledge so as to enhance the civic role of actors in the process of knowledge production. This is realised through the setting up of a “*Cité des Savoirs*” or “City of Knowledge”, which beyond its function of a “science shop” (with support for specific studies carried out upon the basis of social demand) will be a standard-setting forum for interactions between science and society, similar to the “Science Gallery” in Dublin.

7 – A catalyst of transformation towards a new university with the highest international rank.

One major objective in our project is to create the conditions necessary for a true transformation of the landscape of higher education and research in the Lyon Saint-Etienne area, so as to achieve more integrated and attractive structures for the rich and diverse academic system in the Lyon Saint-Etienne area. For the students, the objective is to provide a coherent range of training with the greatest possible diversity in an educational system marked by transparency and fluidity. For researchers, academic teaching staff and all the other staff, the aim is to create a homogenous working environment so as to make career developments easier and to enhance job satisfaction and personal development in a nationally and internationally renowned institution.

The I dex project will be the catalyst for a Transformation Process of the academic landscape of the Lyon/Saint-Etienne area. This process will lead to the creation of the *Université nouvelle de Lyon Saint-Etienne* which will unite the founding institutions of the IHE-LSE.

Upon the basis of its past achievements, the PRES UdL will assert itself as the place in which cohesion is established between the policy of the area and that of all of the new university's partners, whether in higher education and research, or among the national research bodies that were not among the cofounders of the IHE-LSE, or other institutions.

18 The PRES UdL project; accounting for more than 400 million Euros in investments in the Lyon area.

4. “Delta document” : answers to the questions and recommendations of the jury

4.1 General developments

General appraisal

The application reflects strengths in high-quality research, innovative teaching proposals and commitment to entrepreneurship. Nevertheless, the proposal lacks a transformative vision within a focused perimeter which builds on the core competencies of the region to distinguish the university in the international context.

The IDEX project which we herewith submit is a new version which has been remodelled to a great extent. On the one hand, it responds to the comments and recommendations expressed by the panel. On the other hand, it offers new and innovative initiatives, particularly in the field of training, to which more attention has been devoted in this project. In particular, our project is based upon a platform of education and training of excellence which largely integrates undergraduate, graduate and doctoral training.

The international strategy has been targeted to a greater extent and is more consistent with the objectives of excellence and the attractiveness of the project.

Finally, the interface with the economy has been vastly reinforced through the development of entrepreneurship and new types of training related to the economic sector.

The role of IDEX in the transformation of the area becomes very clear, with precise milestones, tangible commitments from the partner institutions and a clearly defined objective for structuring the institutions.

1- IDEX will serve to amplify joint and common strategies, which are being pursued on a larger scale with greater intensity. It will allow us to move from the logics of declarations of subsidiary cooperation to the logics of effective systemic cooperation, which will make it possible to effectively implement the restructuring of the area.

2- On the basis of our planned actions, IDEX will involve the pooling and sharing of resources, and will thus be a forum for experimenting on the basis of our capacity to amplify potential for working together. IDEX will therefore anticipate the future functioning of the new university, and working upon the basis of cooperation practices launched by the PRES UdL, will turn a decisive corner.

3- The governance of the IHE-LSE (*Institut des Hautes Etudes Lyon Saint-Etienne*), which is the embodiment of the IDEX project in the form of a Foundation for Scientific Cooperation (*Fondation de coopération scientifique*), will be strongly involved in the designing and the governance of the process of transformation.

The perimeter of the IHE-LSE, limited and focused on the 13 institutions which are driving it, will make it possible to transform the heart of the project in depth, while at the same time initiating dynamics of change for the entire area. The process of transformation has been defined through precise stages which will make it possible to give birth to a new structure on January 1, 2016 at the latest.

Recommendations

Re-evaluate whether the Grande Université Fédérale de Lyon, as presented, sufficiently **concentrates** the core research and higher education competencies in the greater Lyon area. The appropriate actors, well aligned, could ensure the cohesion and coherence necessary to **leverage the IDEX resources** to achieve fundamental change and raise international visibility

Work carried out since the first wave of the Initiative of Excellence made it possible to launch an ambitious process of change, focussing on the key institutions in the area, with strong commitments which should lead to a real re-foundation of the University of Lyon.

The credibility and the transforming capacity of the process have been reinforced through the adoption of a charter of political commitment, which is appended to this document, and signed by the founding institutions of the Initiative of Excellence. The most strategic transfers of competence have been clearly defined in this charter so as to lead to the optimal valorisation of the wealth of the Lyon Saint-Etienne area and to reinforce its attractiveness. IDEX as a project will be the melting pot of this transformation through its programmes which will promote a greater pooling and optimal use of resources within the perimeter of excellence.

An **overall roadmap** with explicit milestones and targets should be established showing how the transformation will take place over time.

The process of transformation in the area is to be based upon the definition of precise stages which are scheduled to coincide with the five-year contracts of the constituent institutions.

- In spring, 2012, the preparatory process of the new university will be launched. As soon as the Initiative of Excellence is accepted, the IHE-LSE will be set up to act as bearers of the activities of the IDEX project.
- In 2016, the new institution, *Université Nouvelle de Lyon Saint-Etienne* will be officially created. The IHE-LSE will be included in the new institution from the moment of its creation.
- In 2020, the process of restructuring the components of the Université nouvelle will be completed.

These stages (see Figure “Structural change” page 31) will be accompanied by decision-making bodies involved in consultation on the process of transformation, which will be set up from spring, 2012 onwards. Moreover, precise objectives for this process of transformation have been defined.

Carry out **benchmarking** to ensure that international recruitment packages are **competitive**.

Within the framework of the policy of attractiveness of the area, a benchmarking study has allowed us to specify the framework of references to be used for ensuring that our recruitment policy complies with existing international standards. The benchmarking exercise will be made permanent so as to ensure that the recruitment policy of the new university meets with the standards of the world’s greatest universities. So as to ensure coherence with the international strategy presented in the initiative of excellence, this benchmarking exercise will attach particular attention to the institutions in the transalpine and Lake Geneva regions.

Weaknesses of the proposal:

Overall potential is higher than the stated ambitions, which generally target incremental change rather than a **true transformation**. The **existing foundations of the PRES** have not been sufficiently leveraged.

The redefinition of the strategies of the IHE-LSE has largely been based upon established cooperation agreements within the PRES UdL. The executive committee of the PRES UdL has been convened as a follow-up committee so as to prepare the new proposal. In the process of transformation of the area initiated by our project, the PRES UdL will retain its structure but above all will evolve by taking on new common policies. The institutions of the PRES UdL have thus entrusted it with the following new remits:

- taking responsibility for the policies of valorisation of the UdL through the creation of a single structure
- creating a single publishing house for Lyon Saint-Etienne
- elaborating and implementing a single documentary policy using a single Common Documentation Service.

The PRES UdL will also be the operator of the I dex regarding part of its activities, particularly its activities in the field of education and training. The effective link between the I dex and the PRES UdL will be established by way of contract. The I dex project now proposes a real transformation towards the creation of the *Université Nouvelle de Lyon Saint-Étienne* and the PRES UdL will evolve taking into account this process.

Despite the existence of a range of international partnerships, **the underlying internationalisation strategy is unclear**. A successful I dex proposal would necessarily include a strategy to increase international visibility and attractiveness of the university to top researchers and students

The new I dex proposal contains a more ambitious and better structured strategy for capturing the international mobility of talents, researchers and students at a high level. This strategy is based upon partnerships which are consistent with the perimeter of excellence of the I dex; the legitimacy of these partnerships is founded on an integrated policy of research cooperation structured within shared international laboratories and joint or complementary educational curricula, particularly at the level of Master's degrees and doctorates.

The project thus deepens links between research and training with selected partners, but also broadens the spectrum of collaboration: the border between academia and industry will be opened, as has been the case in the Rhodia international mixed "green chemistry" research unit in Shanghai (ENS de Lyon, CNRS, ECNU, Rhodia).

Three new operational measures will guarantee the implementation of this international and European policy:

1. The launching of an "international alliance": this network of partners will bring together a limited number of very high level universities that share common values in terms of

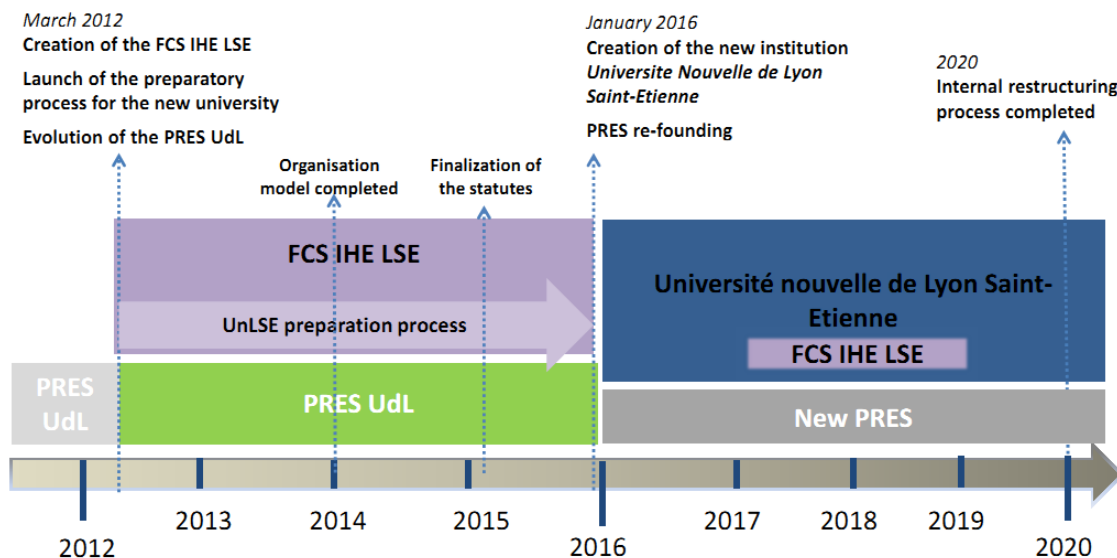
cooperation which integrates research and education.

2. The construction of a transalpine university platform: the integrated research-training policy is the pedestal for the transalpine university platform around Lake Geneva which is to be highly competitive for Europe. A strong link with the **Grenoble** area may contribute to a major European complex for research and training.
3. The setting up of the executive agency, LSE Campus: as the operator of international strategy for the area, it will be in charge of information and orientation for the general public as well as the promotion of the university, particularly by way of cultural events.

Although progress has been made in focusing on the essentials, the present conception of the I dex is not convincing as a **driving force for transformation of the entire university**.

The new I dex proposal is based upon strong commitments expressed in a charter appended to this document so as to set up a new university capable of asserting itself on the international scene. The I dex will be the real driving force at the heart of this Transformation Process. This process of transformation is now defined by precise stages which will make it possible to give birth to the new structure on January 1, 2016 at the latest (which is a schedule that coincides with the five-year contracts of the institutions). These stages will be summarised in the following graph.

Structural change



Charter for participating in the I dex project and the restructuring process of the area

In order to participate in the Initiative of Excellence Lyon/Saint Etienne, the signing member institutions of the PRES UdL commit themselves to setting up the structures described in the present charter and to proceeding to the transfers of competencies stated herein according to the schedule laid out in the annex.

Par. 1. L'Institut des hautes études de Lyon-Saint Etienne

Art. 1. L'Institut des hautes études de Lyon-Saint Etienne (IHE-LSE) shall be created in the course of the year 2012 in the form of a scientific cooperation foundation. Its mission is to act as bearer of the I dex projects and to contribute to the development of the Lyon/Saint Etienne area.

Art. 2. The founding members of the IHE-LSE are those institutions which participate actively and significantly in the I dex projects and subscribe to the present charter.

Art. 3. The Foundation for scientific cooperation (*Fondation de coopération scientifique*) IHE-LSE shall be based at the Fondation pour l'Université de Lyon.

Art. 4. The Administration Council shall allow for the fair representation of the founding institutions, the researchers and academic staff as well as outside personalities.

Art. 5. The President is designated by the Administration Council. He or she shall direct the IHE-LSE.

Art. 6. A Council for Strategic and Scientific Orientation at the IHE-LSE shall be established. This council shall coincide with that of the *Fondation pour l'Université de Lyon*.

Art. 7. The President shall be supported by an executive board for managing the IHE-LSE.

Par. 2. The preparatory structure of the Université nouvelle de Lyon-Saint Etienne

Art. 8. A preparatory structure of the *Université nouvelle de Lyon-Saint Etienne* shall be created in the course of 2012 in the form of a non-profit organisation consisting of those institutions which are really and globally committing themselves to a process of the restructuring of the Lyon Saint Etienne area and subscribe to the present charter.

Art. 9. It shall pursue the following objectives:

- to put forward a master plan for restructuring the Lyon/Saint-Etienne area on the basis of broad disciplinary or thematic complexes (Faculties, schools), and/or restructuring upon the basis of the same sort of training (school for engineers, vocational training, etc.), and/or restructuring around the principle of geographic coherence (campus). This restructuring should guarantee improved territorial linkage throughout the area;
- to elaborate specifications for the new institution;
- to ensure the convergence of support functions (human resource management, property, finances, etc.) with a view to establishing the future institution;
- to define joint research and training policies;
- to prepare the transfer of supervisory authority over research units, which is at present being carried out by the institution, to the new university, working together with national research bodies;

- to provide impetus and coordinate the elaboration of the next joint five-year contract to be complied with by all the institutions committed to founding the new institution.

Art. 10. The preparatory structure shall be given statutory organs (President and Constituent Assembly) and shall rely on consultative bodies.

Art. 11. The Constituent Assembly shall consist of representatives of the Administration Councils of the founding institutions, within their respective responsibilities.

Art. 12. The Academic Senate shall allow for a broad representation of the university community, and notably of all staff and of the diversity of disciplines and institutions. The Student Senate shall represent the community of users while taking account of the diversity of courses of study (at undergraduate, graduate and doctorate levels), and the structures which are stakeholders in the process of transformation.

Art. 13. A consultative committee open to organisations which represent the personnel shall provide an institutional forum for debates on social issues.

Par. 3. L'Université nouvelle de Lyon-Saint Etienne

Art. 14. L'université nouvelle de Lyon-Saint Etienne shall be created on January 1, 2016 and shall be an EPSCP (scientific, cultural and professional public establishment). It shall bring together the institutions which are members of the preparatory structure, either as such or restructured upon the basis laid down in article 9, as well as those institutions which wish to join the process of restructuring and comply with the specifications "nouvel établissement" for a new institution laid down in article 9. L'université nouvelle de Lyon-Saint Etienne shall be a federative structure. Its components may have real autonomy (particularly that which is presently provided for by article L719.10 of the French Code of Education).

Art. 15. The internal process of restructuring is to be achieved at the latest at the end of the jointly elaborated five-year contract (December 31, 2020).

Par. 4. LabEx and EquipEx

Art. 16. The IHE-LSE, i. e. its founding members shall be entrusted with scientific piloting and operational aspects of the LabEx and the EquipEx, in close partnership with national research bodies.

Art. 17. Ten percent of budgets for vacant positions (including academic staff and administrative and technical staff related to research) shall be allocated to research profiles related to the IHE-LSE's scientific policy, particularly for supporting LabEx and EquipEx. Recruitment shall remain the remit of each founding institution.

Art. 18. The scientific strategy of the research units (UMR), which shall for the most part depend upon the perimeter of excellence (LabEx/EquipEx) of the founding institutions, shall be defined at the IHE-LSE in close partnership with the national research agencies which supervise the UMR. Operational monitoring shall be carried out by the institutions which host those research units.

Art. 19. A new master plan for research at Lyon Saint-Etienne shall be elaborated by the IHE-LSE in close partnership with national research bodies.

Par. 5. I dex and Idefi offers in education and training

Art. 20. The IHE-LSE shall be responsible for piloting the new courses offered in undergraduate and graduate training elaborated within the framework of the I dex project. Degrees shall be awarded

ded under the authority of the Université de Lyon.

Art. 21. Projects related to the Idefi project shall be piloted and implemented by the IHE-LSE.

Par. 6. The doctorate, Doctoral School and doctoral contracts

Art. 22. The IHE-LSE shall be entrusted with piloting the doctorate of the Université de Lyon. The doctorate shall be awarded under the authority of the Université de Lyon, which during the period of construction of the nouvelle Université de Lyon shall delegate the awarding of doctorates to the member institutions authorised to award doctorates.

Art. 23. Management of the Doctoral Schools is to be transferred to the IHE-LSE. A doctoral college shall bring together all of the institutions which are effectively participating in doctoral training.

Art. 24. Payroll of all free doctoral contracts (i.e. renewed contracts) within the perimeter of excellence is gradually to be transferred to the IHE-LSE.

Art. 25. Competencies of the IHE-LSE for the doctorate, Doctoral Schools and doctoral contracts shall be transferred to the Université nouvelle de Lyon-Saint Etienne as soon as it is created.

Par. 7. Development and promotion of value

Art. 26. The policy for developing and promoting value at the Université de Lyon shall be implemented by a single structure (SATT), in conformity with specifications and its statutes.

Par. 8. Publishing and documentation

Art. 27. A federation of UdL publishing houses shall be created under the aegis of the PRES. It prepares the single publishing house of the Université nouvelle de Lyon Saint-Etienne

Art. 28. A common documentary policy shall be created under the aegis of the PRES UdL. This policy shall be managed by the Université nouvelle de Lyon Saint-Etienne as soon as it is created. Particularly, this policy will lead to a single Common Documentary Service (SCD).

4.2- Specific answers

Attractivity and coherence of the teaching offer : B	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - a still limited coherence in education and training offered - lack of transparency in the training offered in the area 	<ul style="list-style-type: none"> - Commitment to creating cohesion in the education and training offered among the founding institutions of the IHE-LSE in the form of an integrated platform of excellent training with a generalist undergraduate study programme, an international graduate program and an international PhD program
References to amended sections: 5.3.4	

Teaching: ambition and innovation: B	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - lack of proposals in training - no innovation in undergraduate studies - the partnerships of LabEx, EquipEx have not been sufficiently developed and promoted 	<ul style="list-style-type: none"> - a general repositioning of the training and educational strategy within the IHE-LSE - a new innovative training project for undergraduate studies (Bachelor in Science and Humanities) and the Manutech-School
References to amended sections:5.3.4	

Economic partnerships, result exploitation and technology transfer: B	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - poor promotion of existing partnerships - measures to enhance these partnerships have been insufficiently developed 	<ul style="list-style-type: none"> - reinforcement of policy for supporting entrepreneurship and ambition in socio-economic partnerships - development of an offer in training related to economic needs - rationalisation of valorisation in the area using a single structure
References to amended sections:5.3.5	

International and European policy: C	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - lack of clarity of the overall international strategy - weakness of targets - border partnerships underexploited 	<ul style="list-style-type: none"> - a strategy aimed at capturing the international mobility of talents, based upon 3 strong actions: - an international alliance, - a transalpine university platform, - an executive agency, LSE Campus
References to amended sections:5.3.1	

Governance : Credibility and efficiency : C	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - lack of clarity in planned governance - lack of clarity in the links between various organisational structures 	<ul style="list-style-type: none"> - the creation of a Foundation for scientific Cooperation to guarantee the effective management of the I dex strategic operations - clarification of the links between the IHE-LSE, the PRES UdL and the process of transformation
References to amended sections: 5.4	

Governance: ambition, identity, transformation and structure: C	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - vagueness of the structural development of the area that is being aimed at - lack of clear commitment on the part of the institutions in the restructuring process 	<ul style="list-style-type: none"> - the definition of preparatory process and the strengths of the development strategy - the subscription to a charter by the I dex founding institutions
References to amended sections:5.1.3 and 5.4	

Quality of the roadmap, planning and associated milestones : B	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - a lack of ambition and precision in the schedule and the Transformation Process - a lack of an completed plan for the various actions 	<ul style="list-style-type: none"> - the definition of precise stages for structural change and for the Transformation Process - the definition of an operational schedule for the various actions
References to amended sections:5.1.3	

Procedures and management : C	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - a lack of tools for effective project management - the auditing process needs improvement 	<ul style="list-style-type: none"> - the creation of a Project Management Unit - the setting up of an audit committee - a procedure for monitoring and assessing the projects
References to amended sections:5.4	

Resource allocation system: B	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - a lack of clarity in the process of resource allocations specific to the Idex - the effectiveness of governance has to be enhanced for allocating resources 	<ul style="list-style-type: none"> - ring-fencing of the Idex funds within a Foundation for Scientific Cooperation - reinforcement of the governance with a strong executive
References to amended sections:5.4	

HR policy: B	
Identified weaknesses	Main developments
<ul style="list-style-type: none"> - a lack of international references for defining hosting packages 	<ul style="list-style-type: none"> - setting up a benchmarking exercise for improving the attractiveness of HR policy
References to amended sections:5.6	

5. The project

To make the reading of the updated proposal easier, the updated text is colored in black while the blue text comes from the former proposal.

5.1 - Ambition and Strategy of the project

Our IDEX project is primarily intended to boost a research and educational policy of excellence, with a view to positioning the site as one of the most widely-recognized university centers at both European and international levels. It already forms part of a rich university and economic context, but has not yet achieved the level of competitiveness and appeal it deserves, given its potential.

5.1.1 THE LYON-SAINT-ETIENNE METROPOLITAN SITE

- *Lyon-Saint-Etienne, France's second-most important economic and scientific site*

As France's second largest urban center, Lyon-Saint-Etienne plays a leading role in the country's dynamics, and especially its economic dynamics. The leading urban area within the country's second-most important region, there are nearly 1.2 million jobs based here.

Lyon-Saint-Etienne has a strong industrial heritage, and can demonstrate an impressive entrepreneurial dynamic, especially in the form of its SMEs. The site is home to 112,000 companies, including more than 10,000 industrial SMEs¹⁹. Manufacturing is still an important industry here, and the site forms the heart of France's leading or second-most important industrial region, depending on the industry concerned: pharmaceuticals, chemical engineering, mechanical engineering, textiles and plastics technology. The site accounts for 7% of all industrial jobs in France²⁰.

The site's economic significance is reflected in the great wealth and diversity of its higher education and research landscape. The site is home to a variety of higher-education institutions that is unique in France, outside of Paris. With its 160,000 students, Lyon-Saint-Etienne is the leading site for higher education in France outside of Paris.

This density is also reflected in its level of excellence, as scientists based on the site have won a variety of awards, including a recent Nobel Prize in Chemistry (R. Chauvin in 2005) and a Fields Medal in 2010 (C. Villani); it is also home to 6 members of the French *Académie des Sciences*, 56 IUF²¹ prize winners (over the period 2006-2010) and 11 CNRS silver medals have been awarded here over the past 10 years.

- *Lyon-Saint-Etienne, an innovative European center with high potential*

Confident of its own importance in France as a whole, Lyon-Saint-Etienne is also one of Europe's major urban centers. With nearly 3 million inhabitants and covering an area of more than 10,000 km², Lyon-Saint-Etienne is on a par with European cities such as Barcelona, Frankfurt, Manchester, Munich, Turin and Zurich.

Like these "cousin cities", Lyon-Saint-Etienne, although not a capital, is constantly enhancing its

19 White Paper for a new industrial ambition in the Lyon region, 2009

20 White Paper for a new industrial ambition in the Lyon region, 2009

21 Institut Universitaire de France

assets as one of Europe's major urban centers, characterized by its dynamic and innovative nature. Nevertheless, the perception it enjoys as a metropolis, in terms of its international appeal, is still not commensurate with its actual influence²², and the site needs to work on improving its visibility, especially with a view to attracting decision-making centers, as well as the high-level talent, researchers and students needed to stimulate economic development.

Recognized dynamics in fields such as chemical engineering (46% of European patents have been filed here) and infectious diseases (it is the world's leading center for the production of vaccines), coupled with excellent potential in terms of technology provide the center with sound foundations for asserting itself within European innovation networks. If it is to achieve this goal, its positioning must be further improved within the emerging scientific subjects, and here, the scientific scope of the initiative of excellence will make a major contribution.

5.1.2 THE LYON-SAINT-ETIENNE INITIATIVE OF EXCELLENCE

The IDEX project submitted by the PRES UdL²³ is based on substantial intellectual and economic potential. The Lyon-Saint-Etienne site has the highest concentration of university institutions and research laboratories in France, outside the Ile-de-France region. This scientific potential has already been recognized by the various initiatives taken by the State over the past 5 years. In national competition, the site secured two RTRA (research thematic networks based on excellence), in infectious diseases and social sciences respectively, 3 CTRS (Research and care thematic network), and 4 Carnot Institutes awards in various engineering and healthcare fields. In 2008, the PRES UdL was chosen to create two campus sites. This scientific potential is developing within an extremely rich economic environment: the Rhône-Alpes Region is the second-most important economic site in France after the Ile-de-France, with a strong emphasis on innovation, notably via the LyonBiopôle global competitiveness cluster, and the Axelera (chemical engineering) and Lyon Urban Truck (transportation) competitiveness clusters.

There are a wealth of interactions between economic and university stakeholders and these have recently delivered concrete results in the form of the creation of an IRT in infectious diseases and an IEED in the development of eco-technology. Based on this potential, the IDEX project has set itself the ambition of elevating the Lyon-Saint-Etienne university site to the highest level of international recognition and influence. This ambition is apparent at several levels: there is an equal focus on the pursuit of excellence in research, education and innovation, and on the economic and societal development of knowledge.

This project will be the catalyst for the creation of a new structuring university model, intended to sustain these ambitions in the long term.

1 - A model of integration between schools and universities

The PRES UdL groups together all the basic fields of science, literature, social sciences and law, human and veterinary medicine, engineering, arts and culture. This universal provision is delivered via a multitude of higher education institutions with a variety of different and sometimes specialized structures and missions, including 4 universities and a *grande école* offering non-specialized courses (*ENS de Lyon*), engineering schools and specialized institutes.

This diversity constitutes a unique asset within the French higher education system. However, thus

22 Opale (Observatoire Partenarial Lyonnais en Economie), *La région urbaine de Lyon dans l'Europe des métropoles* ['The Lyon urban region in relation to Europe's other urban areas']

23 *Pôle de Recherche et d'Enseignement Supérieur* ['Research and Higher Education Cluster']

far, the different histories, structures and missions of these institutions have hampered their ability to achieve synergies.

Now, our IDEX project has set itself the goal of enabling its founding institutions to achieve intellectual and functional integration. These founding institutions are the initiators of projects of excellence, as evidenced by their participation in laboratories of excellence that will pool specific competences.

The goal of this integration is firstly to enhance the structuring of the research activities and resources through the numerous laboratories given an A or A+ rating by the latest AERES assessment in 2010, which account for 82% of the site's researchers and teacher-researchers. It also aims to develop university training courses that are widely shared among these institutions, with a view to offering future generations of students a new, diversified and personalized educational provision capable of meeting the economic sector's requirements in terms of competitiveness.

This integration will make it possible to rationalize and expand the influence and appeal of the site, and allow it to tap into the international mobility of top-level talent, researchers and students. To this end, the *Institut des Hautes Etudes Lyon Saint-Etienne (IHE-LSE)* will be the incarnation of the IDEX project. It will draw on coherent partnerships with its perimeter of excellence, legitimized by an integrated policy consisting of structured research co-operation arrangements within shared international laboratories and joint or mutually complementary degree courses.

The IDEX project will create stronger research and educational links with selected university partners, and will also broaden the spectrum of its collaboration projects: the boundaries between the worlds of academia and industry will disappear, as with Rhodia's international combined "green chemistry" unit in Shanghai (in which ENS de Lyon, CNRS, ECNU Shanghai and Rhodia are all involved).

2 - A research program of excellence

Our IDEX project is first and foremost a program to provide support for competitive, innovative and excellent research. The scope of this project will revolve around two main themes: "Global Health and Society" and "Science and Engineering for Sustainable Development". This scope has already translated into 8 LabEx, 3 EquipEx, an IRT, an IEED and numerous other success stories in the future investment program.

IDEX's ambition is to bring this perimeter of excellence to life by promoting the emergence of innovative projects, within an unlimited field of knowledge, leaving plenty of scope for initiative to the most brilliant and promising researchers. The objective will be to explore and push back the barriers of knowledge, using broadly interdisciplinary approaches. Opening up these new frontiers in terms of knowledge will make the site a much sought-after center for advanced-level education and will constitute the basis for innovative and competitive economic developments.

3 - An excellent and diverse educational curriculum

A significant level of involvement on the part of the IHE-LSE in training stakeholders at all levels of the chain of knowledge acquisition and dissemination will become a must in terms of economic and scientific development. IDEX will be a catalyst for the development of new training courses that must sustain a philosophy of innovation and entrepreneurship. Interdisciplinary productions, intellectual openness and individual initiative must be the driving forces behind the education of

new generations of students, and the intellectual enrichment of established stakeholders. The IHE-LSE must therefore act both as a catalyst for new training initiatives and as a benchmark for established degree courses.

Here, the IHE-LSE will develop a new undergraduate program that is both non-specialized and very advanced; its aim will be to provide all of the IDEX founding institutions with a supply of high-potential graduate students. The development of boundary-crossing educational courses among these institutions will produce talent trained to deal with the changes and breaks with the established order taking place in the intellectual and economic worlds, at both national and international levels. The IHE-LSE will support the development of specific master's degree courses, open at the international level and will contribute to the site's global influence.

By virtue of this structure, which will include specific high-level undergraduate and master's degree courses, together with PhD courses heavily reliant on the laboratories of excellence, the IHE-LSE will develop a high-level integrated platform of advanced studies.

The IHE-LSE will also play a major role in the economic sector's recognition of the value of university degrees. By developing closer ties between basic research and economic transfers, the IHE-LSE will exploit the benefits of PhD programs in industrial careers. Developing new types of training in association with the economic sector will provide better recognition for undergraduate degrees. As a perfect example of this, the IDEX project offers an integrated approach centered on the Manutech initiative, which takes the form of an EquipEx (manutech-usd), a LabEx (manutech-sise) and undergraduate training (manutech-school). Lastly, the IHE-LSE will be the preferred partner for the training courses offered by the IRT LyonBioTech and IEED IDEEL²⁴ programs.

In terms of its general philosophy, the IHE-LSE will aim to position the student as a stakeholder responsible for his or her own future, both in terms of education and training, and of entrepreneurial skills.

4 - A major player in economic and entrepreneurial development

By developing training and innovative research, the IDEX project will give vital impetus to the region's economic development. By means of the increased recognition of its university courses, the quality of its research and its substantial interaction with the world of industry, the IDEX will constitute a benchmark tool for both national and international economic stakeholders. The stated objective of our project is to help to enhance the appeal and expansion of businesses based in the Lyon-Saint-Etienne urban center. The IHE-LSE will also be a catalyst for entrepreneurship. Developing an entrepreneurial culture will also help to promote this spirit, both in the field of innovative basic research and through the creation of competitive businesses that will generate employment. For the economic sector, and in the first instance for the IRT and the IEED, the IHE-LSE will provide a single point of contact that is recognized for its ability to structure scientific development actions and oversee their economic transfer. Developing crossovers in the careers of researchers and teacher-researchers with the IRT and the IEED will aim to enhance the site's appeal in the eyes of the world's best scientists.

Support for the Manutech-School and for innovative projects like IDEA (Innovation, Design, Entrepreneurship and Arts) will facilitate the development of an educational provision firmly focused on entrepreneurship.

²⁴ Institut pour le Développement des Ecotechnologies et des Energies Décarbonnées de Lyon [‘Lyon Institute for the Development of Ecotechnologies and Low-Carbon Energies’]

The IHE-LSE will contribute to the region’s economic development and boost its future autonomy in terms of decision-making.

5 - A mediator in interactions between scientific development and issues facing society.

The IHE-LSE will play a major role in the societal development of university action on two levels. Firstly, in terms of structuring university life, it will take measures to ensure that life on campus is as pleasant as possible, as an extension of the action taken by the PRES UdL via the Lyon Cité Campus project²⁵. These actions will boost the development of university sites created as part of the Campus Plan. Hosting foreign students, supporting an integrated community life for students and providing social support for some populations of stakeholders on campuses will be some of the objectives set for the IHE-LSE, to make the site appealing and dynamic, from a very human perspective.

Secondly, the IHE-LSE will enhance society’s perception and appropriation of the progress of knowledge. The objective is to boost the citizenship role played by knowledge stakeholders. This will translate into the creation of the *Cité des Savoirs* [‘City of Knowledge’] which, in particular with its “science shop” (providing support for specific studies emanating from social demand), will be a benchmark forum for interaction between science and society, especially in terms of public debates and exhibitions, rather like Dublin’s Science Gallery.

5.1.3 A TRANSFORMATION TOWARDS A NEW TOP RANKING INTERNATIONAL UNIVERSITY

One major objective sought by the PRES UdL, the initiator of the I dex project, is to permit a fully-fledged transformation of the higher-education and research landscape of the Lyon-Saint-Etienne site, which involves structuring university provision on the Lyon-Saint-Etienne site, which is rich and diverse in a more integrated and appealing manner. As far as students are concerned, the objective is to provide them with a coherent educational provision, which is as rich as possible, but also as legible and fluid as possible. In terms of researchers, teacher-researchers and all the staff of these institutions, the aim is to create a standardized working environment, which will allow their careers to progress and flourish, within an institution of national and international renown.

This is why the I dex project will be the catalyst for the process of transforming the Lyon-Saint-Etienne site’s university landscape. This process will lead to the creation of the *Université Nouvelle de Lyon Saint-Etienne* (UnLSE), uniting the founding institutions of the IHE-LSE.

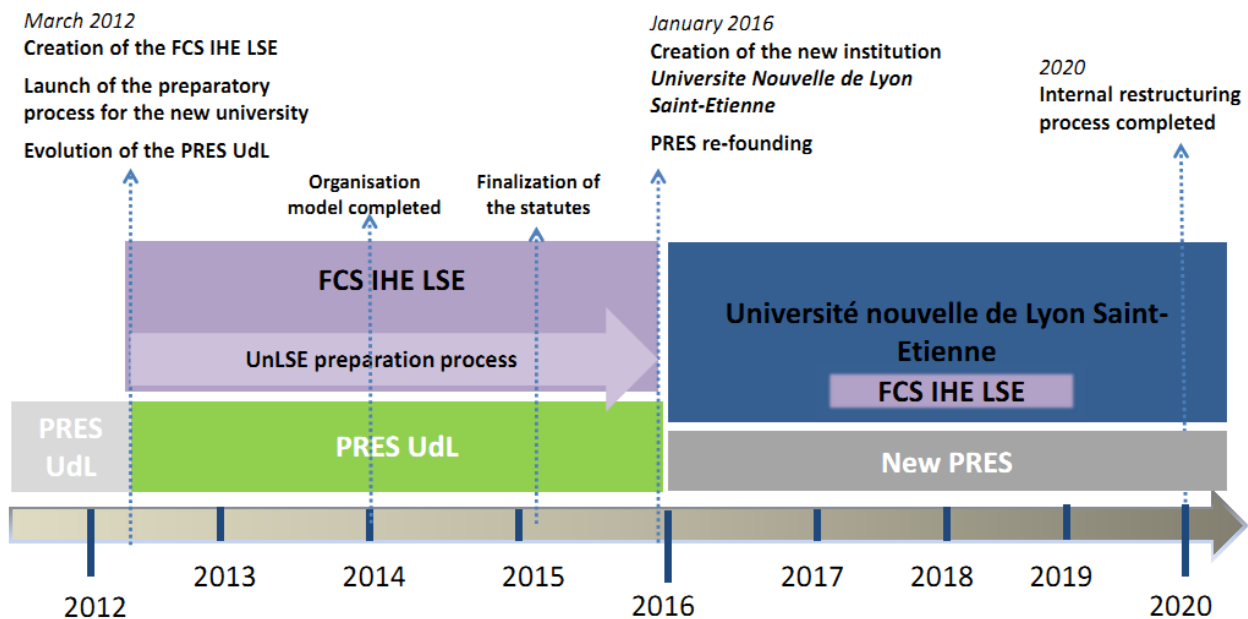
The PRES UdL, drawing on all its experience, will assert itself as the place where the site establishes a coherent policy, to be implemented by all of the new university’s partners, be they higher education and research institutions, national research bodies that are not founder members of the IHE-LSE or other stakeholders, such as the local authorities.

This transformation relies on two main elements: a charter setting out the undertakings entered into by each institution, and a process that is broken down into several stages and will unfold over the term of two five-year agreements (2011-2020).

The schedule for this transformation is summarized in the following diagram:

²⁵ Representing over 400 million euros’ worth of investments on the Lyon site.

Structural change



The charter of participation in the Idex project and in the process of restructuring the site sets out the content of these various stages and the undertakings entered into by participating institutions.

Charter for participating in the Idex project and the restructuring process of the area

In order to participate in the Initiative of Excellence Lyon/Saint Etienne, the signing member institutions of the PRES Université de Lyon commit themselves to setting up the structures described in the present charter and to proceeding to the transfers of competencies stated herein according to the schedule laid out in the annex.

Par. 1. L'Institut des hautes études de Lyon-Saint Etienne

Art. 1. L'Institut des hautes études de Lyon–Saint Etienne (IHE-LSE) shall be created in the course of the year 2012 in the form of a scientific cooperation foundation. Its mission is to act as bearer of the Idex projects and to contribute to the development of the Lyon/Saint Etienne area.

Art. 2. The founding members of the IHE-LSE are those institutions which participate actively and significantly in the Idex projects and subscribe to the present charter.

Art. 3. The Foundation for scientific cooperation (*Fondation de coopération scientifique*) IHE-LSE shall be based at the Fondation pour l'Université de Lyon.

Art. 4. The Administration Council shall allow for the fair representation of the founding institutions, the researchers and academic staff as well as outside personalities.

Art. 5. The President is designated by the Administration Council. He or she shall direct the IHE-LSE.

Art. 6. A Strategic and Scientific Committee at the IHE-LSE shall be established. This council shall coincide with that of the *Fondation pour l'Université de Lyon*.

Art. 7. The President shall be supported by an executive board for managing the IHE-LSE.

Par. 2. The preparatory structure of the *Université nouvelle de Lyon-Saint Etienne*

Art. 8. A preparatory structure of the *Université nouvelle de Lyon-Saint Etienne* shall be created in the course of 2012 in the form of a non-profit organisation consisting of those institutions which are really and globally committing themselves to a process of the restructuring of the Lyon Saint Etienne area and subscribe to the present charter.

Art. 9. It shall pursue the following objectives:

- to put forward a master plan for restructuring the Lyon/Saint-Etienne area on the basis of broad disciplinary or thematic complexes (Faculties, schools), and/or restructuring upon the basis of the same sort of training (school for engineers, vocational training, etc.), and/or restructuring around the principle of geographic coherence (campus). This restructuring should guarantee improved territorial linkage throughout the area;
- to elaborate specifications for the new institution;
- to ensure the convergence of support functions (human resource management, property, finances, etc.) with a view to establishing the future institution;
- to define joint research and training policies;
- to prepare the transfer of supervisory authority over research units, which is at present being carried out by the institution, to the new university, working together with national research bodies;
- to provide impetus and coordinate the elaboration of the next joint five-year contract to be complied with by all the institutions committed to founding the new institution.

Art. 10. The preparatory structure shall be given statutory organs (President and Constituent Assembly) and shall rely on consultative bodies.

Art. 11. The Constituent Assembly shall consist of representatives of the Administration Councils of the founding institutions, within their respective responsibilities.

Art. 12. The Academic Senate shall allow for a broad representation of the university community, and notably of all staff and of the diversity of disciplines and institutions. The Student Senate shall represent the community of users while taking account of the diversity of courses of study (at undergraduate, graduate and doctorate levels), and the structures which are stakeholders in the process of transformation.

Art. 13. A consultative committee open to organisations which represent the personnel shall provide an institutional forum for debates on social issues.

Par. 3. L'Université nouvelle de Lyon-Saint Etienne

Art. 14. L'université nouvelle de Lyon-Saint Etienne shall be created on January 1st, 2016 and shall be an EPSCP (scientific, cultural and professional public establishment). It shall bring together the institutions which are members of the preparatory structure, either as such or restructured upon the basis laid down in article 9, as well as those institutions which wish to join the process of restructuring and comply with the specifications "nouvel établissement" for a new institution laid down in article 9. L'université nouvelle de Lyon-Saint Etienne shall be a federative structure. Its components may have real autonomy (particularly that which is presently provided for by article L719.10 of the French Code of Education).

Art. 15. The internal process of restructuring is to be achieved at the latest at the end of the jointly elaborated five-year contract (December 31, 2020).

Par. 4. LabEx and EquipEx

Art. 16. The IHE-LSE, i. e. its founding members shall be entrusted with scientific piloting and operational aspects of the LabEx and the EquipEx, in close partnership with national research bodies.

Art. 17. Ten percent of budgets for vacant positions (including academic staff and administrative and technical staff related to research) shall be allocated to research profiles related to the IHE-LSE's scientific policy, particularly for supporting LabEx and EquipEx. Recruitment shall remain the remit of each founding institution.

Art. 18. The scientific strategy of the research units (UMR), which shall for the most part depend upon the perimeter of excellence (LabEx/EquipEx) of the founding institutions, shall be defined at the IHE-LSE in close partnership with the national research agencies which supervise the UMR. Operational monitoring shall be carried out by the institutions which host those research units.

Art. 19. A new master plan for research at Lyon Saint-Etienne shall be elaborated by the IHE-LSE in close partnership with national research bodies.

Par. 5. Iindex and Idefi offers in education and training

Art. 20. The IHE-LSE shall be responsible for piloting the new courses offered in undergraduate and graduate training elaborated within the framework of the Iindex project. Degrees shall be awarded under the authority of the Université de Lyon.

Art. 21. Projects related to the Idefi project shall be piloted and implemented by the IHE-LSE.

Par. 6. The doctorate, Doctoral School and doctoral contracts

Art. 22. The IHE-LSE shall be entrusted with piloting the doctorate of the Université de Lyon. The doctorate shall be awarded under the authority of the Université de Lyon, which during the period of construction of the nouvelle Université de Lyon shall delegate the awarding of doctorates to the member institutions authorised to award doctorates.

Art. 23. Management of the Doctoral Schools is to be transferred to the IHE-LSE. A doctoral college shall bring together all of the institutions which are effectively participating in doctoral training.

Art. 24. Payroll of all free doctoral contracts (i.e. renewed contracts) within the perimeter of excellence is gradually to be transferred to the IHE-LSE.

Art. 25. Competencies of the IHE-LSE for the doctorate, Doctoral Schools and doctoral contracts shall be transferred to the Université nouvelle de Lyon-Saint Etienne as soon as it is created.

Par. 7. Development and promotion of value

Art. 26. The policy for developing and promoting value at the Université de Lyon shall be implemented by a single structure (SATT), in conformity with specifications and its statutes.

Par. 8. Publishing and documentation

Art. 27. A federation of UdL publishing houses shall be created under the aegis of the PRES. It prepares the single publishing house of the Université nouvelle de Lyon Saint-Etienne.

Art. 28. A common documentary policy shall be created under the aegis of the PRES UdL. This policy shall be managed by the Université nouvelle de Lyon Saint-Etienne as soon as it is created. Particularly, this policy will lead to a single Common Documentary Service (SCD).

The consultation process

In addition to the programs it offers, the IDEX project will conduct the structural transformation of the site as set out in this document. In order to do this, the IHE-LSE is intended to facilitate the consultation process. A reform of this scope requires the broadest possible consultation process. This consultation should not be limited to the academic community (in all senses, both as a community of institutions and a community of individuals). This is why this process will also include an outside perspective (the Strategic Steering Committee – SSC) and a regional perspective represented by the Foundation of UdL.

As a precursor of the system to come, we will create a “constituent committee” mandated to coordinate all the preparatory work for the future federative university system and *in fine* to propose its configuration which will be put to the vote of the administration councils of UdL and of the institutions involved in the process. Given the importance of this work, the group will include the Presidents and directors of institutions, 25 members elected from the members’ boards and invited members (with no right to vote) representing UdL’s partners.

The **constituent group** will be based on five **working groups** of 25 people (on organization and governance, higher education and training, research and technology transfer, attractiveness and partnership, student life and campus life) formed from the boards of the member institutions and enhanced with outside experts who will suggest strategic topics for constituent group debates and votes.

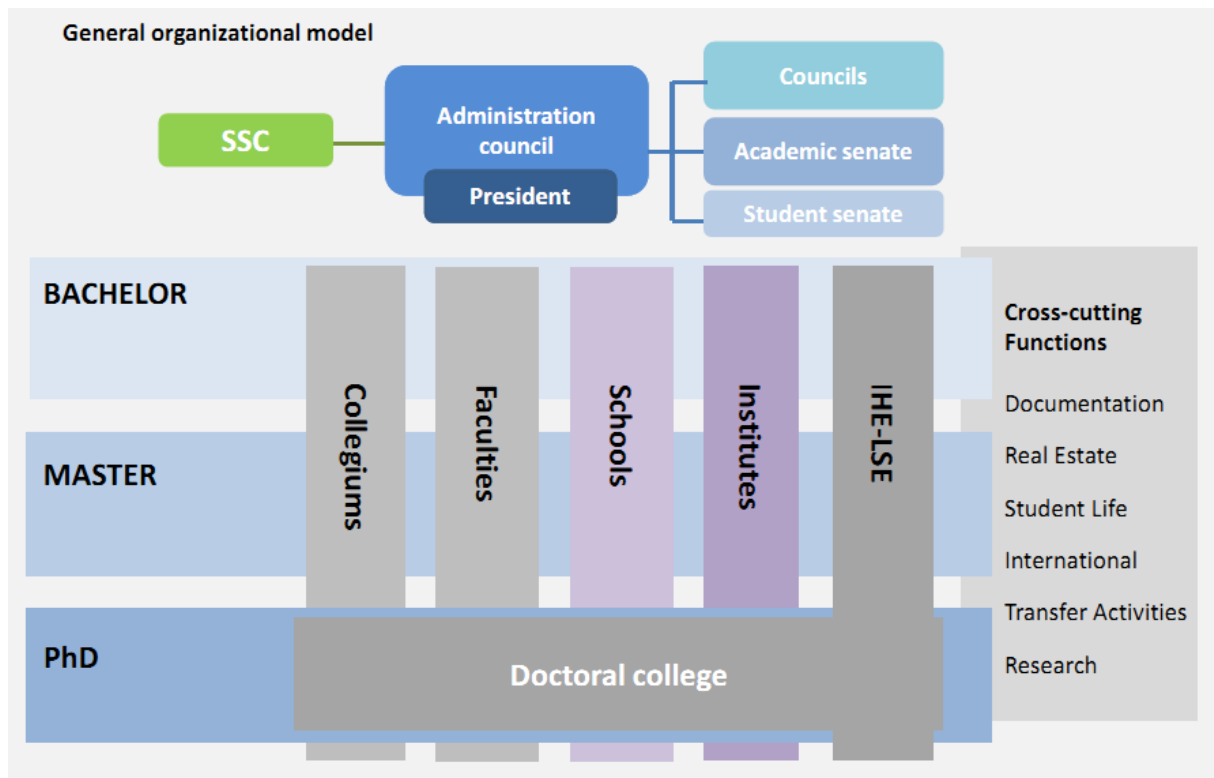
We will also create a cross-sector working group, a “**social action group**”, composed solely of UdL managers and trade union representatives from the member institutions, to debate labor relations.

We will also set up an **academic senate** to involve the university community more closely in the debate and the actions implemented. This senate can be composed of all the working groups with an additional part in order to better represent the diversity of the institution sector of this reform.

Finally, we will set up a **student senate** in order to make the student community an active partner during the elaboration of the *Université Nouvelle de Lyon Saint-Etienne*. This senate will be composed of students from all the degrees (L, M and D) and from all the partner institutions of the IDEX project. The exact composition will be tuned so as to represent this diversity as well as the actual size of the institutions. Apart from the Transformation Process, the student Senate will also be the main place for the IHE-LSE’s governance to interact with the students.

The site Transformation Process will be steered by a project officer appointed by the IDEX founding members. The project officer will be attached to the IHE-LSE and will report to the PRES UdL Administration Council. The IHE-LSE will organize logistical arrangements for the consultation on the Transformation Process.

An organizational model which could be a working basis for the creation of the new university is presented in the chart below.



5.2 Structure and characterization of the Initiative of Excellence

5.2.1 PRESENTATION OF THE PROJECT LEADER UNIVERSITÉ DE LYON

The PRES *Université de Lyon* (UdL) is the most important French University site outside the Paris region. It has 130,000 students, 11,500 teacher-researchers, 5,700 PhD students and 180 public laboratories. The *Université de Lyon* brings together in a unifying structure 18 higher education and research institutions of the Lyon/St Etienne metropolitan area. The *Université de Lyon* is a public institution officially created by a ministerial decree in March 2007.

Missions:

The PRES UdL is a research and higher education consortium (PRES – *Pôle de Recherche et d’Enseignement Supérieur*) created under the legal form of a Public Institution for Scientific Cooperation (*EPCS - Etablissement Public de Coopération Scientifique*²⁶). In addition to its missions set by the French research code, the *Université de Lyon* has initiated strong cooperation between its member institutions. It takes the lead on infrastructure projects (the bid for the “*Campus*” operation) and particularly intricate joint strategies (setting up joint-ventures, joint bidding on national or European projects, ambitious international initiatives), and negotiations with key partners.

The statutes of the University, approved by the ministerial decree, specifically include:

1. The management of PhDs and doctoral schools attributed by the relevant member institutions
2. The international promotion of its activities
3. The joint signature of scientific productions with firstly *Université de Lyon*, followed by the signature of the member institution
4. The attribution of Master’s Degrees, on the joint recommendations of member institutions.
5. The follow-up of the strategy of the Lyon-based advanced Discipline oriented Research Networks and for the Lyon Institute for Advanced Studies; the definition of institute or campus projects to federate research, in partnership with the research organizations and in conjunction with the competitive clusters.
6. The implementation and management of facilities that are shared between its members
7. The follow-up of the integration of graduate students into the world of business
8. The transfer of technologies obtained from joint research activities
9. A policy for the recruitment of foreign teacher-researchers and of post-doctorate students
10. The implementation of common projects

The PRES UdL is taking its place as a forum for planning a joint policy on higher education and research and getting the greatest possible value out of that policy. Its training programs are now backed by all partners of the Lyon/Saint Etienne metropolitan area. Various structural entities, including the *CTRS* (Thematic Research and Healthcare Center), the *RTRA* (Advanced Thematic Research Network), and the competitive clusters, pertaining to projects involving large numbers of public and private research partners, systematically include the metropolitan area’s higher education

26 A more detailed presentation of this public institution has been included on the previous version of the document.

and research institutions.

Education and research potentials of the Université de Lyon:

The Lyon-Saint-Etienne site was assessed by AERES²⁷ in 2010 for its education, research and institutional policies. This assessment highlights strengths and weaknesses of the site. The data that have been made available to us are not sufficient for in-depth comparative analysis on a national scale. Even so, here are some of the assessment's findings:

Education

64% of the PRES UdL specialties are rated A or A+ at master's level. This only includes nationally-recognized master's degrees and compares with the 54%, again for A or A+ specialty, of all AERES assessments from the previous three years, which attests to the quality of training available on the site. The site also offers several *Erasmus Mundus* master's degrees, whose quality is recognized at the European level.

The Lyon/Saint-Etienne site is special in that it offers engineering students a very clear path to master's studies for engineering degrees (about 12% of French engineering students), management and business schools or through the Sciences Po Lyon degree, the degree awarded by the Lyon National Advanced School for Architecture, and the veterinarian degree awarded by VetAgroSup. These schools account for 35% of the site's master's degrees and 25% of UdL's doctoral students. These schools' curricula are not always assessed by AERES but are accredited by national or international commissions recognized by the Ministry of Higher Education and Research and by their supervising ministries. Note that many French and European rankings often give priority to Lyon and Saint-Etienne engineering programs and *grandes écoles*. While these rankings are to be taken with precaution, they do reflect the excellent reputation of the site's engineering and management schools, based on the quality and variety of the courses they offer, the extent of the relationships they have formed with companies, their active and influential alumni networks, the professional opportunities that they create, and the intensity of their international partnerships. The *Ecole Normale Supérieure de Lyon*, meanwhile, saw the quality of its courses recognized in the Times Higher Education ranking, where it is ranked 141th in the world and 4th in France after three institutions located in Paris.

Similarly, healthcare training is not assessed by AERES, while the Lyon/Saint-Etienne site includes two university hospitals, including the largest in France outside Paris, with 17,000 students enrolled in healthcare, and France's top facility after Paris for the annual number of doctorates in medicine and the top site in the number of dual degrees (doctorate in pharmacy/engineering or management). In addition to sheer volume, the site is also ranked in the top two in national rankings for medicine and pharmacy internships.

On the whole, UdL offers exceptionally high levels of educational potential and is the top French higher education site after Paris.

Doctoral training

While 82% of the site's researchers and teacher-researchers (i.e., more than 3,800 persons) are part of a team or unit ranked A or A+, this is the case for only 74% of our doctoral students. Similarly, only 62% of our doctoral students are part of a doctoral school ranked A+ by AERES for scientific impact. Our project, which has chosen the doctorate as one of its main means of leverage, will

²⁷ Agence d'Evaluation de l'Enseignement Supérieur et de la Recherche, - Agency for Evaluation of Higher Education and Research

therefore aim to raise this rate by providing as many doctoral students as possible with an environment that is recognized at the very highest levels.

Research

More than 80% of the site's researchers and teacher-researchers are part of a research team or unit rated A or A+. Among them, almost 90% are considered "producing"²⁸ as defined by AERES.

The STRATER system set up by the *MESR* (Ministry of Higher Education and Research) provides us with a scale for ranking the Lyon/Saint-Etienne site based on the number of research producers and various national criteria²⁹:

- 2nd in Humanities and Engineering Sciences;
- 4th in Physics, Chemistry, Agronomy and Ecology;
- 5th in Mathematics and Biomedicine;
- 6th in Social Sciences.

These raw figures are supplemented by the index of the impact of scientific publications in these broad disciplines (source: *OST*³⁰), which found that the site ranks above the national average in particular in mathematics, medical research, engineering sciences, biology and ecology (HSS data were not provided).

We might add that, based on the number of nominations to the *Institut Universitaire de France* from 2006 to 2010, UdL ranked third with 57 nominations (out of 575), just behind the Sorbonne Université *PRES* (61 nominations) and Sorbonne Paris Cité (59 nominations), and far ahead of the fourth-place finisher (which had just 41 nominations).

5.2.2. EXCELLENCE PERIMETER, ENVIRONMENT, PROSPECTS AND ADDED VALUE

1) *Achieving excellence in a dynamic system*

Our decision as presented in this I dex proposal is to build up an architecture of processes and levers which, together, make it possible to maintain and develop the current recognized level of excellence and also allow for the emergence of new forums for excellence, all the while focusing on the emergence of approaches that combine education, research and innovation. Our capacity for risk-taking is at the heart of our approach.

Taken as a whole, the eight LabEx projects encompass 35% of the Lyon/Saint-Etienne site's researchers and teachers-researchers. This choice aims to foster the emergence of so-called "nodes of excellence" led by one or several disciplines, working on a key area of research. These projects include 61% of permanent staff who are part of a team or unit rated A+ in the recent AERES assessment (or about 840 persons), as well as 28% of those who are part of an A-rated team or unit (about 520 persons). Our choice is based on our wish to draw out genuine leverage for the entire academic community. It will also ensure the major scientific themes that form the basis of our research, training and innovation efforts and hence our attractiveness and reputation are given optimal coverage.

²⁸ Researchers or teacher-researchers are considered to be "producing research and technology transfer" when their A-rated scientific production over a period of four years is at least equal to a nationally defined threshold and that reflects the status of the person being assessed and his/her discipline.

²⁹ Data of november 2010.

³⁰ *Observatoire des Sciences et Techniques/Science and Technologies Observatory*

This approach emphasizes that UdL is a broad-spectrum scientific site that is far from having a single scientific focus. It is both the strength of our project (we are closer to the goal of fully mastering the chain of knowledge) and its relative weakness (it is harder to identify a single aspect from the outset). We have chosen to focus on the breadth of our fields of knowledge, as we believe that scientific progress requires a cross-disciplinary approach that is possible only within the comprehensive framework provided by the major academic institutions, amongst which we hope to rank

2) An evolutive perimeter based on two main fields

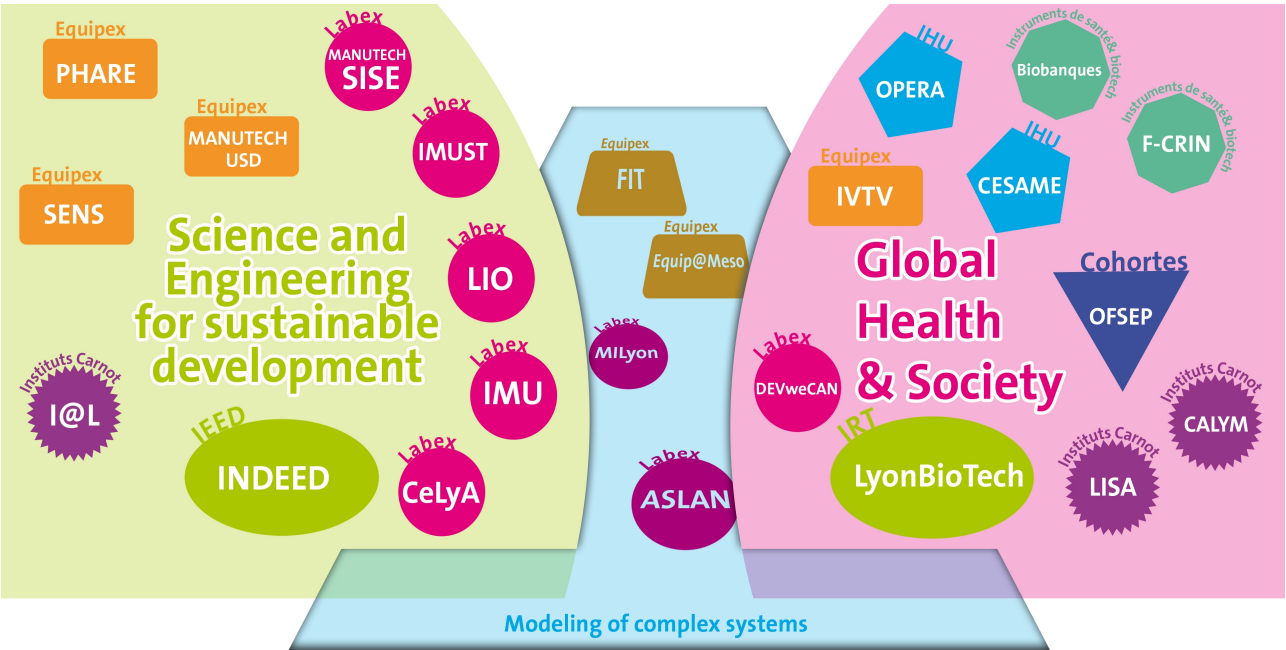
In recent years the PRES UdL member institutions have demonstrated an ability to work together and develop innovative programs which has encouraged them to further their involvement in other projects under the Investments for the Future framework (see section 2.2). The PRES UdL is a key stakeholder in each of these projects. In particular, it has headed proposals for EquipEx, LabEx and SATT calls for projects and has actively supported the IRT, IHU, IEED, and health and biotechnology facilities proposals.

The results from the first set of calls for proposals, comments from the IDEX jury, and our ongoing internal process have lead us to reformulate this signature to focus on two main issues:

- Global health and society
- Science and engineering for sustainable development.

These two issues naturally relate to the modeling of complex systems which remains our main boundary-crossing theme. They also sit at the crossroads of sciences, engineering and humanities.

The following figure presents this new signature and shows our current success in the Investments for the Future program.



1- Science and engineering for sustainable development

This issue demands a systemic vision which encompasses every aspect of the damaged relationship between society and the environment which has broken down and needs to be rebuilt. By its very nature, Sustainability Science is a platform for multidisciplinary research in areas that require expertise for tackling issues such as energy management, the design and planning of the post-carbon city, the preservation of biodiversity, the development of green technologies, and engineering a new ethic for man and his environment. The network of campuses on the Lyon/Saint-Etienne site is an emblematic example of urban ecology. On this network, environment, transport and energy management issues can be analyzed as in a large-scale laboratory with a new culture and ecological policy. The issue of Science and engineering for sustainable development presents numerous advantages.

- it concentrates around 35% of the site's higher education and research potential, which has been measured using high-level indicators of scientific productivity.
- it participates in five UdL-led LabEx and covers all scientific disciplines.
- it constitutes a forum for exchange between the sciences, engineering, the humanities and the social sciences.
- it impacts a large number of institutions and research bodies whose specificities are recognized and encompasses numerous areas of cooperation.
- it forms the foundation of relationships with corporations (major groups and SMEs) and the socio-economic sector.

As leader on a national level, this powerhouse of research in Sustainability Science has a major impact on several economic sectors including: transport, the aeronautics and space industries, chemical industry, urban planning, machines, energy, new functional materials, design and manufacturing, entrepreneurship and innovation etc. As such, these fields encompass education, research and innovation and unite the natural and social sciences in addressing the major challenges facing society. The building blocks already exist and have been recognized, in particular under the Investments for the Future program.

NEW INSTRUMENTS UNDER THE INVESTMENTS FOR THE FUTURE (IFP)

The LabEx projects submitted in the broad field of Sustainability Science have all been awarded recognition by international review panels. They present the advantage of grouping together numerous laboratories rated A+ and A from across the local academic landscape. The project will benefit from exceptional coverage of all the fundamental science subjects:

- iMUST pools potential for excellence in physics, material sciences and engineering, i.e. from particles to materials to the design of new functional, sustainable objects.
- MANUTECH-SISE specializes in the characterization and functionalization of surfaces and offers the specific advantage of forming an interface between engineering platforms in Lyon and Saint Etienne.
- CELYA is concerned with research into environmental nuisances and their links with the health sector and the humanities.
- IMU adopts a multi-disciplinary and innovative approach to analyzing the political, social, technical, economic and ecological aspects of urban environments from global down to local scales.

- LIO and CLERVOLC connect fundamental physics, astrophysics and observations of space and the planets, emphasizing theoretical aspects and means of observation, and also volcanic hazards in the case of CLERVOLC.

The Investments for the Future program has also provided the Lyon Saint Etienne scientific community with four new sector-related facilities of excellence (EquipEx).

- MANUTECH USD, a facility for the three-dimensional and multi-scale characterization of materials and surfaces, leading on to the design of functional surfaces.
- PHARE, a platform for optimizing the design and performance of the rotating machines of the future, the goal being to control environmental risks.
- IVTV, a platform equipped with innovative tools to explore the effects of ageing on human tissues, at the interface between the physics of matter and the biological sciences.
- SENS will make it possible to equip the center for ultra-high-field nuclear magnetic resonance with specialized devices for studying solids and molecular systems.

In addition to these EquipEx, there is also a network of accredited facilities with direct links to the EquipEx system including the ECOX (Lyon – Grenoble), a construction project at ESRF for a new generation analytical line for the characterization at molecular and atomic scales of metallic elements, metalloids and noble metals in the natural environment.

A project corresponding to industrial needs and designed to meet the needs of society in terms of employment and services

The emergence of a green technology that can overcome experimental limitations to power genuine industrial developments implies changes in social, political, economic, scientific, technical and industrial practices. This break with past practices is vital for fostering the emergence of a greener industrial capacity. It means we must reformulate environmental issues to include political, social, urban, economic, scientific and technical issues. **The practice of scientific pluralism, which means involving the social sciences and humanities, features at the heart of this change as it fuels greater hopes for reformulating these environmental issues and consequently producing technical and industrial innovations.** This leap constitutes a major technical and scientific challenge. Nurturing deep-rooted innovation involves input from both the economic sector and society. The connection between the academic campus (IHE-LSE) and the technological campuses (IDEEL) helps to develop an integrated approach to meet the needs of modern and future societies, which involves setting production objectives for the “factory of the future”. The connection between IHE-LSE and IDEEL will thus constitute an organic link for value creation. The one provides the other with discoveries which will accelerate the marketing of innovation, and the other provides a permanent supply of questions and issues to be resolved by the academic community. The whole will constitute an emblematic melting pot of innovation and no doubt provide leverage for attracting talent to such a major site as the UdL for experimentation.

2- Global Health and Society

Tackling health issues is a social and economic priority on an ageing continent. Conceptual and technological innovations in this area require interaction between a variety of disciplinary fields and in return provide fuel for developments in all other fields. Investment in this sector would involve experimental, engineering and social sciences and the humanities. It would be focused on

understanding (psychopathology) and treating major pathologies (notably cardiovascular, cancerous, neurological, nutritional and infectious diseases) and would be based on original, multidisciplinary scientific approaches, the development of innovative investigative medical tools, and strengthened links between biology and health, engineering sectors and economic, social and political studies. The latter will allow us to address issues concerning the relationship of individual subjects to prevention (environment, nutrition, and lifestyle) and to healthcare, but also to innovate with respect to the organization of health systems.

The Lyon Saint Etienne site currently offers numerous advantages, among which the instruments for scientific collaboration that were born out of the 2005 law on research. These new tools enhance the rich potential on the site around its two teaching hospitals and the presence of prestigious institutions such as the Center Léon Bérard, and the BSL4 laboratory J. Mérieux and the IARC (International Agency for Research on Cancer), as well as a dense industrial fabric (BioMérieux, Merial, Sanofi Pasteur) of companies working together, notably in the international competitive cluster 'Lyonbiopole'. Finally, the diversity of academic activities across Lyon Saint-Etienne means original approaches at the interface between engineering, SSH and the health sector can be developed.

NEW INSTRUMENTS UNDER THE INVESTMENTS FOR THE FUTURE PROGRAM

The issue of "Global Health and Society" had a wide range of projects accepted under the IFP, which confirms the depth of potential across the site of Lyon Saint-Etienne in relation to the following themes:

Oncology

The DEVweCAN LabEx project ("Development, Cancer and targeted therapies") aims to develop outstanding basic cancer research and focus its findings on original targets and markers causally involved in the progression of cancer, as well as an oncology education program unique to France at master's and doctoral levels.

Infectious diseases

HIDDEN / BSL4: This national infrastructure reinforces the position of LSE as coordinator of the European research infrastructure on highly pathogenic micro-organisms ERINHA.

The IRT LyonBioTech project also confirms the strength of Lyon on the international scene of research in infectious diseases. The main objectives of IRT are to:

- Create a pipeline of biotechnological innovation for the medical sector;
- Provide top level technologies and services to the whole of the bio-health community;
- Act as a catalyst for the implementation of an integrated real estate program on the Gerland site, at the heart of the C. Mérieux campus.

This IRT project will be reinforced by the LabEx project **Biosciences**, which will be presented in the second submission.

Transplantation

IHU **OPERA** (Organ ProtEction and ReplAcement): this project, recently labeled "*IHU Prometteur*" (university hospital of promise) aims to combine intensive fundamental research, a clinical transfer infrastructure, and medical expertise and facilities to diagnose and treat patients in the field of regenerative medicine and organ repair.

Neurosciences

IHU CESAME (Cerveau et Santé Mentale, i.e. Brain and Mental Health): this recently accredited project aims to improve the organization and integration of clinical and fundamental neurosciences with the *Neurocampus de Lyon Est* as its focal point, and to reinforce ties with the Vinatier psychiatric hospital. A LabEx project, CORTEX, is also being submitted in order to emphasize the research part of this topic.

The Investments for the Future program has also served to:

* Accredite the LabEx **ASLAN** (Advanced Studies on Language complexity): this program promotes a multidisciplinary approach which integrates the complexity of language and languages. One of its key areas focuses on the relationships between language and health.

* Launch the project **Cohort OFSEP**: this will maintain and expand the nationwide cohort of PwMS (Persons with Multiple Sclerosis) in France. Thanks to the possibility of breaking down the cohort into nested cohorts, each with a specific aim, it will also maintain and develop existing cohorts and implement new ones. This will make it possible to address specific questions such as the pharmaco-epidemiology of recently introduced DMTs and the cost-effectiveness of DMTs. Thirdly, the data currently available for this cohort are mainly clinical and therapeutic. They must be enriched with more systematic biological sampling and imaging data. This will render the cohort more suitable for **translational research**.

* Furthermore, we emphasize that the LSE site is part of the national network put implemented by the Investments for the Future program: the **F-CRIN** and **Biobanques** infrastructures, and the federations of cohorts **RADICO** and **CDK-Rein**.

From wealth to wealth creation

This wealth of tools is a formidable asset for the site but they must be used in synergy in order to constitute a genuine source of wealth creation (in terms of employment, services and other spin-offs). The IHE-LSE must meet this challenge, notably through an active participation in governance of the IHE-LSE by the main structures spearheading these tools. This approach has already been implemented to encourage the coupling of LabEx and EquipEx, and to forge closer links between the IRT project and the LabEx ECOFECT.

Such wealth should also act as a catalyst for broadening the curriculum base and attracting more students. The policy on doctoral courses and the commitment to emblematic master's degrees also provides a reference frame for greater coherence between institutions. Further opportunities for cooperation will be pursued with the intention of creating new course pathways that bring together universities and schools in new diploma-awarding cycles. These will be designed to promote cross-cultural approaches open to major knowledge issues of the future. The first program of this kind on the theme of oncology will be proposed shortly (in support of our LabEx DEVweCAN): it will include a master's program in oncology and will allow exchange programs with prestigious institutions such as the MIT, Imperial College London or Johns Hopkins University. These programs will be closely linked to our site's PhD courses in order to be able to offer integrated PhD pathways connecting master's and PhD programs.

Supporting new approaches through Modeling and numerical simulation

The two main fields of research developed above will widely rely upon new developments in modeling and numerical simulation. These new developments have been made jointly between

several institutions of the UdL during these last years. They include an Institute of Complex systems, Federation Camille Jordan of Mathematics, Lyon Federation of Modeling and Computational Sciences and the Center Blaise Pascal for Modeling in Chemistry. They will be joined soon by the creation of the European Institute for Systems Biology & Medicine. As a whole all these initiatives will have to be organized within the IDEX to constitute a powerful task force.

The needs relating to the modeling of complex systems are found in all disciplinary fields as shown by the numerous LabEx across the site which refer explicitly to this, in the field of health (**DEVweCAN**), engineering (**iMUST**), humanities (**ASLAN**) and the analysis of urban environment (**IMU**). Beyond the knowledge models for components, the integration of modeling and the platforms of full systems must necessarily be developed, in order to give Lyon - Saint Etienne a methodological head start, legitimized by its long history of industrial activity (an innovative approach to engineering, industrial ecology and health processes). The **MILYON** mathematics LabEx will bring crucial added-value to this approach. The EquipEx **Equip@meso** national plan for acquiring supercomputers to work as a network across the country will also provide us with the computing power required.

The role of Humanities and Social Sciences within the *Université de Lyon*

Humanities and Social Sciences (HSS) within the Université de Lyon is a boundary-crossing field which has shaped the scientific and social trends of the 21st Century:

Environment and society: knowledge, health, engineering. Sustainability Science and health sciences are different from other sciences as they are not just a reductionist appreciation of physical processes: these also integrate thinking on the values man places on his environment and health. They therefore touch on issues pertaining to HSS. This dialogue between science and values constitutes the singularity of studies of the environment which at the UdL focus on three fundamental aspects:

The internal environment, i.e. the human body, a complex environment which functions in the same way as an ecosystem (clinical and medical aspects); the mind (a mental and cognitive environment); and how these systems respond to the impacts or external contexts of the modern world: aging, epidemiology, physical and chemical pollution, responses to the world of digital images (from an educational and cognitive perspective), as well as their impact on the socio-demographic profile of 21st century society.

The external environment, i.e. understanding the natural environment (atmosphere, hydrosphere, biosphere, lithosphere). It is now recognized that ecosystems are not just mechanisms regulated by cycles: They have a history. Furthermore, they have been impacted by human activity for far longer and far more intensively than previously thought. The process of geographers, archeologists, paleo-environmentalists, ecologists and ethno-anthropologists providing their contribution to understanding the present day and past dynamics in “natural” systems (in fact socio-ecological and technico-economic) has a long and rich history on our site. It will take on a unique importance, unparalleled in France, following the 2nd wave of the EquipEx, with **ARCHEX** (major interdisciplinary archeology facility) and **TeC-Image**, the two centers that will structure HSS on the site, and which will build on the excellence of the UMR (mixed research units) of which they are composed (A and A+ rated).

Finally, the **social environment** *lato sensu*, an evolving system which impacts on internal and external environments (*sensu supra*) but which also reacts and adapts retroactively to the processes

operating within it. The study of this environment relates to environmental uses, practices, perceptions and representations (images, discourse) and has become one of the **IMU** LabEx's fundamental thematic areas of interest. Furthermore, the tracing of the ethnographic and social history of science and technologies, a task which goes far beyond the task of narrating major discoveries and the biographies of great scholars, has only just begun, even when considered at the international level. Aware of what this type of approach to the sciences thinking about themselves can offer, the HSS contribution to this emerging discipline has, for the first time, been given a prominent cross-disciplinary position, which has been unanimously accepted when developing new research clusters (ARC) in the Rhône-Alpes region – in particular the Environment ARC (the largest in terms of personnel) and the Health ARC.

5.2.3 APPLICATION TO THE ACTIONS OF THE PROGRAM « INVESTISSEMENTS D'AVENIR »

List of public acronyms used in this section. Others acronyms refer to private companies.

Acronym	Extended name	Acronym	Extended name
Cetim	Center technique des Industries mécaniques	Chu-SE	Center Hospitalo-Universitaire de Saint-Etienne
CLB	Center Léon Bérard	Cnrs	Center National de la Recherche Scientifique
Cnsmd	Conservatoire National Supérieur de Musique et de Danse	Cpe	Ecole Chimie, Physique, Electronique
Cstb	Center Scientifique et Technique du Bâtiment	Ecl	Ecole Centrale de Lyon
Enise	Ecole Nationale d'Ingénieurs de Saint-Etienne	Ens	Ecole Normale Supérieure de Lyon
Ensadse	Ecole Nationale Supérieure d'Arts et Design de Saint-Etienne	Ensai	Ecole Nationale Supérieure d'Architecture de Lyon
Ensase	Ecole Nationale Supérieure d'Architecture de Saint-Etienne	Ensatt	Ecole Nationale Supérieure des Arts et Techniques du Théâtre
Ensm-SE	Ecole Nationale Supérieure des Mines de Saint-Etienne	Entpe	Ecole Nationale des Travaux Publics de l'Etat
EPHE	Ecole Pratique des Hautes Etudes	GAIA	Grands Ateliers de l'Ile d'Abeau
Grame	Center National de Création Musicale	HCL	Hospices Civils de Lyon
Ifpen	Institut Français du Pétrole et des Energies Nouvelles	Ifsttar	Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux
Inra	Institut National de la Recherche Agronomique	Inrap	Institut National de Recherches Archéologiques Préventives
Inria	Institut National de la Recherche en Informatique et Automatique	Insa	Institut National des Sciences Appliquées de Lyon
Inserm	Institut National de la Santé Et de la Recherche Médicale	Lyon 1	Université Claude Bernard Lyon 1
Lyon 2	Université Lumière Lyon 2	Lyon 3	Université Jean Moulin Lyon 3
SciencesPo Lyon	Institut d'Etudes Politiques de Lyon	UdL	Université de Lyon
UJM	Université Jean Monnet Saint-Etienne	VetAgroSup	Institut d'enseignement supérieur et de recherche en alimentation, santé animale, sciences agronomiques et de l'environnement

- Selected Laboratories of excellence*

<i>Project acronym</i>	<i>Field</i> ³¹	<i>Name of the project manager</i>	<i>Project leader</i>	<i>Consortium/ implicated partnership (on the site Lyon/Saint-Etienne)</i>
ASLAN	SHS	F. Pellegrino	UdL	Lyon 2, Ens, Cnrs
CeLyA	SIMI	D. Juvé	UdL	Lyon 1, Ecl, Insa, Enise, Entpe, Ifsttar, Cnrs, Inserm
DEVweCAN	SVSE	P. Mehlen	UdL	Lyon 1, Cnrs, Inserm
IMU	SHS	J.Y. Toussaint	UdL	Lyon 1, Lyon 2, Lyon 3, UJM, Ens, Ecl, Insa, SciencesPo Lyon, Entpe, VetAgroSup, Cnrs, Inra, Ensai, Ensase, Ensadse
iMUST	SIMI	M. Broyer	UdL	Lyon 1, UJM, Ens, Insa, Ecl, Enise, Cpe, Cnrs, Ifpen, Rhodia
LIO	SVSE	B. Guiderdoni	UdL	Lyon 1, Ens, Cnrs
MILyon	SIMI	B. Remy	UdL	Lyon 1, UJM, Ens, Insa, Ecl, Cnrs, Inria
MANUTECH-SISE	SIMI	C. Donnet	UdL	UJM, Insa, Ecl, Ensm-SE, Enise, Cnrs, HEF R&D, Impulsion, Sciences et Surfaces
CLERVOLC	SIMI	P. Schiano	Cnrs	UJM
HASTECC	SHS	P. Hoffmann	Cnrs	UJM

- Other Laboratories of excellence presented in the Idex project, to be submitted to the second LabEx call*

<i>Project acronym</i>	<i>Field</i>	<i>Name of the project manager</i>	<i>Project leader</i>	<i>Consortium/ implicated partnership</i>
COMOD	SHS	P. Moreau	UdL	Lyon 2, Lyon 3, UJM, Ens, SciencesPo Lyon, Cnrs
CORTEX	SVSE	H. Kennedy	UdL	Lyon 1, Lyon 2, UJM, Ens, Cnrs, Inserm
ECOFECT	SVSE	D. Pontier	UdL	Lyon 1, Ens, Insa, VetAgroSup, Cnrs, Inra, Inria, Inserm
PREVENT	SVSE	M.H. Lafage-Proust	UdL	Lyon 1, Lyon 2, Lyon 3, UJM, Ecl, Ens, Ensm-SE, VetagroSup, Enise, CNRS, Inserm, HCL, CHU-SE
PRIMES	SVSE	F. Peyrin	UdL	Lyon 1, Lyon2, UJM, Ecl, Insa, Cnrs
Shape of Life	SVSE	L. Viriot	UdL	Lyon 1, UJM, Ens, Cnrs, Inra

31 SIMI : Information, matter and engineering sciences
 SVSE : Life, health and ecosystems sciences
 SHS : Humanities and social sciences

- Selected Investissements d'avenir projects related to the perimeter of Excellence (apart from LabEx)

<i>Call for proposal</i>	<i>Project acronym</i>	<i>Name of the project manager</i>	<i>Project leader</i>	<i>Consortium/ implicated partnership, only local institutions</i>
EQUIPEX	MANUTECH-USD	F. Pigeon	UdL	UJM, Ecl, Ensm-SE, Enise, Insa, HEF R&D, Impulsion, Cetim
	IVTV	T. Hoc	UdL	Lyon 1, UJM, Ecl, Ens, Ensm-SE, , Enise, VetagroSup, Cnrs, Ifsttar, Cinnov, HCL, CHU-SE, Techtera, Pierre Fabre, Covidien, Evolutis 42, Serf, Servier, BASF Beauty Care, Ceries, Peritesco
	PHARE	F. Thouverez	UdL	Lyon 1, Ecl, Insa, Ens, Cnrs, EDF R&D, SNECMA
	SENS	L. Emsley	Cnrs	Lyon 1, Ens, Cnrs
	Equip@MESO		Genci	Lyon 1, Ens
	FIT	S. Fdida	Paris 6	Ens, Insa, Cnrs, Inria
	ThomX		Cnrs	Cnrs - In2p3
	ECOX		UJF	Cnrs
IHU	CESAME	F. Mauguères	HCL	UdL, Lyon 1, Lyon2, Cnrs, Inserm
	OPERA	M. Ovize	HCL	Lyon 1
Carnot	I@L	A. Combescure	Carnot I@L	Lyon 1, Ecl, Insa, Cnrs, Ecam
	LISA	M. Lagarde	Carnot LISA	Lyon 1, Insa, Cnrs, Inra, Inserm
	CALYM	G. Salles	HCL	Lyon 1, Ens, HCL
Health and bio.	F-CRIN	O. Rascol	CRN-CIC	Lyon 1, HCL, Inserm
	Biobanques	G. Dagher	Inserm	Chu-SE, HCL, CLB, UJM
Cohortes	OFSEP	C. Confavreux	HCL	UdL, CHU, Lyon 1, Inserm
	RADICO		Inserm	HCL
	CDK-Rein		Univ. Paris Sud	Lyon 1, Lyon 3
IRT	Lyon BioTech	P. Archinard		Inserm, Cnrs, Inria, HCL, UdL, CEA-LETI, Insitutit Pasteur, Inra, Lyonbiopole, Danone Research, Institut Mérieux, Sanofi-Aventis R&D,
IEED	IDEEL	S. Jullian	IFPEN	UdL, Insa, Ensm-Se, GDF-Suez, Rhodia, PEP, Sita, Arkema, Cnrs

- *Investissements d'avenir projects related to the perimeter of excellence (apart from LabEx) submitted or likely to be submitted.*

<i>Call for proposal</i>	<i>Project acronym</i>	<i>Name of the project manager</i>	<i>Project leader</i>	<i>Consortium/ implicated partnership</i>
IEED	SuperGrid	B. Luscan	Alstom	Lyon 1, Insa, Ecl, Nexans, RTE, Edf, Elia
EquipEx2	ACCES	JM Lancelin	UdL	Lyon 1, Ens, Cnrs, Cemagref, Arkema
	ARCHES	L. Arnaud	GAIA	UdL, Ensai, Entpe, Ensase, Cnrs, Cstb
	ARCHEX	A. Schmitt	UdL	Lyon 1, Lyon 2, Lyon 3, Ens, Ecl, Ensai, Enise, Inrap, Cnrs
	CAPRI	D. Boutigny	Cnrs	UdL, Cea, IBM
	CHL	M. Fontoynt	UdL	Entpe, Inserm, HCL, Philips
	CISTEA	B. Reynard	UdL	Lyon 1, Lyon 2, Lyon 3, UJM, Ens, Ecl, Enise, Axelera, Carnot I@L , Cnrs
	CITENIUM	C. Goerges	UdL	Lyon 1, Lyon 3, Insa, Cnrs
	CLEAR	R. Perkins	UdL	Lyon 1, Ecl, Insa, Cnrs
	CLYMEXP	T. Epicier	UdL	Lyon 1, UJM, Insa, Ecl, Ens, Ensm-SE, Cnrs
	DS2H	D. Zighed	UdL	Lyon 1, Lyon 2, Lyon 3, UJM, Ens, Insa, Ecl, SciencesPo Lyon, Cnrs
	EVOLEX	A. San Miguel	UdL	Lyon 1, Insa, Ens, Cnrs
	EXPLOR3D	J. Vannier	UdL	Lyon 1, Lyon 2, Insa, Ens, Ecl, Cnrs
	HOVI	X. Xie	UdL	UJM, Ensm-SE, Insa, Cnrs
	IBEX	G. Chanfray	UdL	Lyon 1, Insa, Cnrs, Cea
	LILI	O. Nertrand	UdL	Lyon 1, Insa, Inserm, Cnrs
	LOECC	L. Vacheri	UdL	Lyon 1, Lyon 2, Insa, Ecl, Ensatt, Grame, Cnrs, Cnsm, Imaginove
	MAP-SILCO	C. Seassal	UdL	Lyon 1, Insa, Ecl, Cpe, Cnrs, Cea, St Micro, Riber, Pholine, Soitec
	MAPP	J. Trass	UdL	Lyon 1, Ens, VetAgroSup, Cnrs, Inra, Inria, Cirmad, Bayer, Biogema
	NANOPLAT	A. Errachid	UdL	Lyon 1, Insa, Cpe, Ecl, Cnrs
	PHENOCAM	L. Schaeffer	UdL	Lyon 1, Ens, Insa, Cnrs, CLB, HCL, Inserm, Inra, Genoway, Biotech
	PIPACAM	P. Mélinon	UdL	Lyon 1, Cnrs
	PLIBAT	S. Pélissier	Ifsttar	UdL, Insa, Ecl, Entpe, Cnrs, LUTB
	POLYFECTIOUS	F.L. Cosset	UdL	Lyon 1, Ens, VetAgroSup, Cnrs, Inserm, Inra, IRT, Institut Pasteur
	SEDAQUA	P. Marmonier	UdL	Lyon 1, Entpe, Cnrs, Inra, Cemagref

	SYMBIOTRON	F. Vavre	UdL	Lyon 1, Insa, Cpe, VetAgroSup, Cnrs, Inra, Inria, EPHE, Bayer
	TEC-IMAGES	M. Rautenberg	UdL	UJM, Lyon 1, Lyon 2, Lyon 3, Cnrs, Cité du Design,
SATT	SATT-RRA	M. Legal		Cnrs, Inserm, Grenoble, Lyon-Saint-Etienne

5.3 Project and perspectives

5.3.1 INTERNATIONAL AND EUROPEAN POLICY

Actions:

- International alliance of UdL partners
- Transalpine University Platform
- Executive Agency “LSE Campus”

Objective: to capture international talent

The IHE-LSE’s international strategy aims to secure the site’s position in the global higher education and research sector. The international activity is now naturally boundary-crossing and not only bolsters research but also education, knowledge dissemination and technology transfer.

The IHE-LSE's international and European policy will reinforce the visibility and attractiveness of the *Université nouvelle de Lyon Saint-Etienne* (UnLSE) among top level researchers and students who remain our chief target if we intend to attract international talent. In order to achieve this, the IHE-LSE will rely on coherent partnerships within its perimeter of excellence, legitimized by an integrated policy offering structured research cooperation within international shared laboratories and joint or complementary educational courses, particularly at master’s and PhD level.

1) The international alliance

The IHE-LSE hopes to put an end to the disjointed efforts in international development that has been observed in numerous European universities. In order to do this, we are designing and implementing a detailed, integrated policy, based on reciprocity and interaction within a limited circle of partners. Such an “integrated policy”, implies a partnership that should incorporate:

- structured research cooperation within international shared laboratories;
- joint or complementary educational courses, particularly at master’s and PhD level.

The international alliance of partners will therefore group together a limited number of universities (no more than a dozen) with which the IHE-LSE (subsequently the *Université nouvelle de Lyon Saint-Etienne* - UnLSE) shares common values. This network will be guided by an integrated policy towards high level research and education. In this network of partner institutions, researchers, teacher-researchers and students will be able to circulate easily within a framework of coordinated programs.

Belonging to this network implies a strong commitment from the partners (covering the validation of educational courses, tuition fees, and reciprocal recognition of diplomas). Thanks to this network, students at the UnLSE will have access to complementary educational courses in addition to those currently offered on the site.

Based on the principle of reciprocity, the international alliance will develop a robust policy for attracting academic and student members of the network. It therefore represents a tool that can be used to attract the best international talent. To this end we will develop a number of UdL-labeled master’s programs consistent with the scope of the I dex, together with master’s and *Erasmus*

Mundus PhD programs (see 5.3.3 and 5.3.4). The current percentage of foreign PhD students (42% within the UdL's doctoral schools) could also be improved by developing a systematic policy of joint PhD programs. Such an internationalization of our training programs would involve a more widespread use of teaching in English.

The international alliance will strengthen research and educational links between its partners and will also increase the range of co-operations by opening up to the industrial and corporate sector. The recent inauguration of the Rhodia "green chemistry" international mixed unit in Shanghai by the *ENS de Lyon*, the CNRS, the ECNU and Rhodia is an example of how the borders between academia and the industrial sector are opening up at the international level.

An overly-narrow geographic and scientific focus may well hamper the detection of emerging targets. That is why the entities which make up the UnLSE will pool their efforts within the IHE-LSE partner network (branding approach) whilst continuing to pursue, independently, their international collaborations. This will ensure a constant supply of potential future partnerships.

Based on these principles and strong ongoing partnerships, the alliance network will start with the following selective map of high level international partner universities:

- University of Tokyo: 21st in the Academic Ranking of World Universities (ARWU)
- Tohoku University (Sendai): 97th (ARWU)
- East China Normal University (Shanghai)
- University of Ottawa: 200 - 300th (ARWU)
- EPFL (Lausanne): 102 - 150th (ARWU)

This first snapshot of the members of the international alliance will be completed, after reinforcing integrated research-education cooperation.

2) The Transalpine University Platform

Our IDEX project will reflect the geographical connections and historical traditions of our site through the foundation of a transalpine university platform involving Swiss and Italian universities on either side of the Alps (Geneva, Lausanne, Neuchâtel, Turin). Once again, an integrated research and education policy forms the foundation for the development of this platform. The intention is to develop the seat of a highly competitive university center in Europe.

The development of this platform will notably grow out of the long standing and strong relationship between the *ENS de Lyon* and EPFL in research and education (reciprocal student enrolment, creation of joint master's, inter-institution courses between ENS students and EPFL engineers and a project for creating joint laboratories).

In the long-term, the development of a highly coordinated policy with the Grenoble university site could also contribute to turning this transalpine platform into a major European Education and Research Center on a scale set to rival American university structures such as those in California or Massachusetts.

3) An executive agency – LSE Campus

Steered by the IHE-LSE (subsequently the UnLSE), the executive agency LSE Campus will implement a policy to promote the UnLSE and a policy on the incoming and outgoing mobility of students and academics. It will be responsible for providing information and advice to the general public but also for promoting the university, notably through cultural events and conferences, in

partnership with the “*Cité des savoirs*” (see 5.3.6). Personalized services will be offered to members of the international alliance.

The agency will host an office for each of the member universities which make up the network, thereby facilitating student/staff exchanges while also encouraging links between partners to develop and monitor joint projects. In the same way, the UnLSE will set up an office in each of the partner institutions along the lines of what has already been achieved at the ECNU (Shanghai).

The Campus LSE agency will serve as a tool for developing the international visibility and attractiveness of the site. It will encourage both the incoming and outgoing mobility of academics and students through public relations exercises and, most importantly, by maintaining a visible presence within its partner institutions.

The agency will implement a strategy for integration and recruitment in order to ensure that the best talents among students and academics will choose our campus as a place to study, work, and fulfill their ambitions.

This strategy will be organized around a global integration policy that incorporates all the different facets and is commensurate with the talent we wish to attract here, either on a selective or permanent basis, and around a promotional policy for the site as a whole.

This strategy will be supported by the Foundation for Udl, whose mission will be to connect with local businesses involved in the IDEX project’s research and training partnerships.

This policy is particularly aimed at three types of target population:

- Master’s and PhD students who in time will become UnLSE ambassadors around the world,
- junior and postdoctoral students who are accommodated for a limited period of time (3-4 years) and will themselves constitute future points of contact within the network,
- and finally seniors and young French expatriate or foreign researchers who can rapidly secure a prestigious ERC-type contract such as the ANR *chaire d’excellence*.

This should make it possible to reach within 4 years the figure of 50% of foreign Master's and Ph.D. students in each of the scientific themes relevant to the IDEX perimeter of excellence and drawing on the scientific potential of the LabEx. This would also significantly increase the number of foreign researchers and lecturers affiliated to institutions belonging to our international network

Over the 2012-2015 period, the new talent recruitment policy will take the form of two flagship initiatives:

* **Creation of 16 four-year packages to host junior and senior researchers** within the sectors of the perimeter of excellence. Recruitment will call upon an international jury, based on an **international call for applicants**. The call will specify the requirement and in particular the obligation to obtain an ERC contract over the period.

* **The mobilization of a significant number of jobs** among the grouping’s member institutions **in favor of Investments for the Future programs and emerging themes** (see 5.6.2).

The policy of attracting talented master’s and PhD students will be implemented via the following actions between 2012 and 2015:

- creation of 60 specific UnLSE grants for hosting PhD students; these grants are intended to nurture the strategic areas of the IDEX project and particularly the LabEx. The grouping’s members have undertaken to fund third of these doctoral theses as part of their overall HR commitment (see

section 5.6.2);

- boosting of incentives for short-term mobility amongst our PhD students and master's degree students to attend courses in foreign institutions;
- the widespread delivery of teaching in English in our international master's programs, with the aim of delivering 80% of modules in English within three years, this being a key criterion for earning the "UdL masters" label;
- introduction of international pathways for master's and PhD courses, drawing both on our UnLSE master programs and the development of jointly awarded PhDs, particularly when these are connected with the LabEx projects.

The recruitment policy for all these target populations will be supplemented by integration arrangements to facilitate the assistance to be provided by the I dex project, as described in detail in section 5.6.1.

Budget (basic rules)

International alliance: 1 FTE to run the alliance.

Transalpine platform: 1 FTE to run the platform.

Campus LSE Agency: 3 FTE to run the agency and respond to solicitations from the general public

Each of these tools will also be allocated an operating budget.

Furthermore, 5 FTE will be recruited in order to integrate the network of member universities and to represent Lyon-Saint-Etienne within it.

5.3.2 PhD PROGRAM

Actions :

- Pooled management of the PhD student payroll
- Developing the quality and reputation of the UdL PhD
- Support for the professional integration of PhD holders
- Reinforcing links with society
- Coordinating international mobility

Challenges and objectives

A UdL PhD can and must be an international benchmark both in terms of its academic standards and the employability of its holders. This initiative will help boost all the academic courses, with the PhD as the lynchpin (the PhD - master's - bachelor's ethos).

As a first step toward the *Université nouvelle de Lyon Saint-Etienne*, partners of the IDEX project decided to transfer their PhD program to PRES UdL giving rise to a unique Ph. D. Diploma.

This is reflected in a set of objectives, some of which are at the heart of our approach with regard to our future five-year site contract with the state (notably following up on UdL PhD holders). However, the framework of the IHE-LSE enables us to go even further by creating new PhD programs arising directly from our perimeter of excellence working as pilot sites for these initiatives. Deploying them to cover all disciplines and doctoral schools will help to create the desired leverage within the IHE-LSE.

Initiatives

- **Pooled management of PhD student payroll**

Along with the transfer of the authority for awarding the Université de Lyon PhD, responsibility for PhD student payroll will also be progressively transferred. These members of staff will be supervised scientifically by the IHE-LSE in support of its scientific policy, notably to support the LabEx.

- **Develop the quality and enhance the profile of the 'Université de Lyon PhD' label**

The UdL PhD will come in the form of a qualification and an add-on skills record in order to improve the synergy between academic and professional recognition and to encourage transparency and international recognition. Indeed, in France, the lack of recognition and the undervaluing of the PhD is a widespread problem and the information provided on the certificate is not sufficiently clear. The PhD diploma itself will state the general field of study (for example, Philosophy, Chemistry or Economic Sciences). The add-on will come in the form of a skills record providing information about all the knowledge and skills gained during the PhD course, linked to the research work itself and also to boundary-crossing training courses taken during the period of study (extra-disciplinary studies, supplementary activities and languages, for example), and whether they were compulsory or voluntary. These skills need to be carefully defined in close collaboration with the directors of the pilot doctoral schools and in consultation with student, staff, business people and employer representatives.

- **Facilitate integration of PhD holders into the job market**

As soon as young researchers start their course, they need to determine what they want to do with their PhD and the professional research experience acquired along the way. Then they should realistically analyze the future professional opportunities available to them. Working with UdL, the directors of the doctoral schools, the academic supervisors and with the support of professional stakeholders, the IHE-LSE will introduce initiatives to improve the employability of PhD holders, in particular by developing the Doctor-Consultant scheme launched by UdL. This scheme enables young PhD holders, who have received prior training in innovation from the UdL, to join an SME on a minimum six-month contract complete with funding. The assignment with which the PhD holder is tasked must be linked to their real PhD skills (non-academic skills, but rather those linked to their understanding of innovation processes).

- **Encourage links with society**

The concept of a new chapter to the doctoral thesis was introduced several years ago in order to allow each future PhD holder to describe, without necessarily using scientific terminology, the skills acquired whilst working on their PhD. In line with this initiative, each PhD student has to produce a document intended to contextualize the link between the knowledge produced through the PhD and the lay public, but with no specific utilitarian purpose. This article should be written in such a way that a secondary school pupil could understand it. An internet site will be set up to provide free access to these documents.

- **Encourage international mobility**

As the aim is to harmonize PhD holder recruitment policies across the Lyon/Saint-Etienne site, the IHE-LSE will develop its work on coordinating **the international mobility of PhD students** and holders by providing funding for the recruitment and hosting of PhD holders on the LabEx themes. The IHE-LSE will offer programs for PhD students (benefiting from the general hosting policy) and for the outgoing mobility of our PhD students and holders. The IHE-LSE will work to develop more *Erasmus Mundus* PhD programs (only 13 at European level) and to extend the first attempts at DMKM (Data Mining and Knowledge Management - as a continuation of the EM master's program) and THRUST+ (Turbomachinery Aeromechanics University Training) linked to the EquipEx PHARE).

Budget (basic rules)

* Strengthening PhD policy: two FTE (notably for monitoring integration), an operating budget, notably for coordination and communications work on the recognition of PhD qualifications and for the task of putting together and updating the individual PhD skills records.

* 20 Doctor-Consultant packages (50% of the six-month internship covered by the company) of which 10 will be funded by the IDEX partners. The goal is for 100% of the funding to be covered by external resources at the end of the first four-year period.

* Incoming international mobility: 30 semesters of provision for hosting PhD students in conjunction with the LabEx and the *Erasmus Mundus* programs.

* Outgoing international mobility: 30 semesters for site PhD students in conjunction with the LabEx and the *Erasmus Mundus* programs.

5.3.3 RESEARCH

Actions:

- Support for the Laboratories of Excellence
- Emerging research programs
- Human resources support policy
- Hosting policy

Objective: to strengthen the perimeter of excellence and to renew it

Our project is clearly centered on the “perimeter of excellence” as defined in section 5.2.2. The scientific policy of the IHE-LSE will widely rely upon the LabEx which encompass the whole scope of the scientific strategy described above. However, if the LabEx are the excellence of today, the Idex project must also focus on the future regeneration of its perimeter of excellence and in that sense be the promoter of emerging projects and research fields. Interdisciplinarity and tackling emerging and competitive advances in science will be the challenge of Idex policy.

Support for the LabEx

UdL has submitted 14 projects to the LabEx call for proposals, eight of which have been approved in the first round of the LabEx call for proposals, 6 have been submitted to the second round. These projects will receive annual funding as defined by the state but this funding is only part of the overall funding through other actions of the Idex project. Indeed, all actions are preferentially focused on the LabEx projects such as the package for setting up and operating new research groups. The IHE-LSE will ensure that the LabEx procedures and undertakings are respected. The IHE-LSE will draw on its scientific bodies in order to scientifically supervise the LabEx with regard to site policy whilst respecting their need for independence.

Support for emerging research programs

As already stated, the IHE-LSE will ensure the regeneration of its ‘perimeter of excellence’. It will offer financial and logistics support for up to four emerging clusters in accordance with proposal of the strategic steering committee and the recommendations of the international scientific and strategic committee.

The academic senate and the SSC in particular will be solicited for broad proposals and pre-labeling consultation on these emerging matters.

Through supporting new emerging and promising fields of research, the IHE-LSE will also promote young talented scientists who might not yet be included in LabEx. This policy will also ensure an effect of emulation on research groups who might not yet have reached the criteria of excellence. Then the IHE-LSE will fully play its role of promoting excellence and bringing the research community together by this means. This supporting program will receive an overall budget equivalent to 25% of the LabEx program.

Human resources support policy

The structures which support the Idex project and notably the stakeholder projects, will rely upon

structuring human resources policy. Indeed, the human resources these structures possess and their capacity to use them strategically are one of their key strengths. With the aim of progressively implementing a more integrated university system, a defined percentage of the annual available vacancies in the research area (PhD students, academic, administrative and technical staff) will be pooled within the IHE-LSE. These positions will concern the actions implemented by the IHE-LSE.

For the purposes of information, this commitment will represent an average of 24 statutory teacher-researcher positions devoted to the IHE-LSE each year. As regards to the technical and administrative staff, this will result in a pool of 12 positions annually. For PhD students, this will represent 20 new students each year and based on an average 3 year-PhD term this would result in an increase of 60 PhD students over the LabEx and EquipEx supported by the I dex project.

The positions which are earmarked up for the IHE-LSE will still be employed by the institutions which make them available. However, the job profiles will first be determined by the IHE-LSE governance. The Strategic and Scientific Committee and the Academic Senate will be mobilized to draw up the human resources strategy.

Hosting policy

A site can be attractive but not have a truly comprehensive hosting policy that reflects all internal (relating to professional practices, training and education, technology transfer, documentation, and digital infrastructures) and external aspects (accommodation in the literal sense of the term, room and board, education, integration into the metropolitan area, culture, sport, etc.). The LabEx projects filed by UdL provide for the accommodation of 40 additional post-doctoral students and 80 additional doctoral students across the site. These new arrivals will have to have the best possible scientific environment as well as the best accommodation on campus.

An attractiveness policy dedicated to students and academic staff includes:

- * Packages for setting up and operating a research group in its initial stages (amount to depend on the discipline and research topic and on the practices of the competing foreign universities): this theme is a priority LabEx policy. The IHE-LSE will nonetheless handle accommodation logistics (with a budget covering rental, operation and maintenance) for the new teams in “project centers”³² designed under *Opération Campus*, while the LabEx will provide the scientific operating budget;
- * Scientific packages for a full time equivalent professor, two post-doctoral positions, one PhD grant, financial support for a technician and of course a recurrent operating budget (one post-doctoral position and PhD Grant provided by the LabEx);
- * Support for bringing in part-time professors from the corporate sector;
- * Support for bringing in post-doctoral students funded under the framework of the scientific policy (LabEx and emerging clusters);
- * Making research and teaching space available: this will mainly take the form of the “project centers” on the LyonTech-La Doua and Charles Mérieux campuses;
- * Salary adjustments, including repatriation bonuses for expatriate doctoral and post-doctoral students at Lyon/Saint-Etienne, help fitting in, etc.;
- * Information on accessible shared resources, such as research infrastructure, platforms, documentary resources, etc.;

32 Four project centers are planned under *Opération Campus* around four themes: sciences of the complex, science and society, language and culture, science and technology.

- * Social assistance (spouse, schooling, child care, housing), including a precautionary fund for access to housing in liaison with local and regional governments within the Foundation for UdL;
- * Assistance with legal and administrative formalities;
- * Political, operational and promotional assistance by local and regional government, academic institutions and the social and economic sector (competitive clusters, Thematic Advanced Research Network, Foundations, etc.).

Budget (basic rules)

- Support for the LabEx: total funding for the projects selected the first round and the ones proposed in the second round of the LabEx call for proposals (about €10 million a year).
- Support for emerging clusters: the overall budget is tuned to the fourth of the LabEx funding budget.
- Scientific Packages: the hosting policy goal is to offer 16 packages a year (starting with four the first year and four more each year). The average cost is about €1.3 million a year (70% being allocated to human resources).
- Support for the project centers: The average cost is €2.5 million a year.

5.3.4 EDUCATION

Actions :

- Bachelor's degree program in science and humanities
- International master's course (international graduate program)
- Professional courses in partnership with IRT, IEED and the Manutech-school approach
- Training of trainers
- Support for pedagogical innovation

Strategy

The IHE-LSE will run and support specific courses leading to an awarding of Université de Lyon diplomas. These courses will be based on a number of fundamental principles designed to allow UdL students who wish to be involved in educational courses that open up new competitive and original pathways adapted to new needs and in doing so can provide attractive career prospects, notably in terms of managerial and entrepreneurial opportunities. The overall philosophy of the I dex is to consider the student as an informed stakeholder, responsible for his or her future both in terms of education and entrepreneurial projects.

The IHE-LSE will therefore create an integrated advanced studies platform based on the following criteria:

- **interdisciplinarity**: teaching students to look at major issues from an interdisciplinary perspective;
- **evolving and structured pathways**: the student should hold a stake in building his or her own path according to his or her own personal and professional projects;
- **dual institutional courses**: possibility to take cross-cutting courses with the awarding of dual diplomas, the aim being to offer capable students the opportunity to take simultaneous courses run by two different PRES UdL institutions. Examples of such dual courses include cross-disciplinary courses between engineering and health, administration and human or veterinary medicine, HSS and sciences, the Manutech-School approach etc.
- **focus on personal initiative**: work on personal projects, with the aim of developing an entrepreneurial spirit;
- **strong links with research activities**: the educational courses will cultivate close links with research activities from a very early stage, in order to develop an analytical capacity for investigation.
- **internationalization**: teaching will be organized to allow the greatest possible access for overseas students, and the greatest possible mobility for our students depending on their educational objectives. This will be achieved with the alliance of international partners and through the LSE Campus executive agency.

Furthermore, the IHE-LSE will operate with a view to provide the economic sector with students who possess the skills most in demand and whose professional career prospects are best adapted to the needs of the corporate sector. Finally, the measures for ensuring equal opportunities for students from all backgrounds who wish to engage in these new educational pathways will be maintained

and even extended by means of procedures that have already been tried and tested under the current PRES UdL.

1. Bachelor's program in science and humanities

The development of nanosciences, biotechnologies, molecular engineering, progress in decoding the living genomes, issues regarding the health system amidst an ageing population, and environmental and sustainable development: all these big issues for the 21st century generate questions scientists need to address. They also raise numerous ethical, political, legal and social problems. The **Bachelor of Science and Humanities** project is based on the finding that the watershed between the exact sciences and the social sciences, which currently dictates the streaming of students at bachelor course level, is increasingly irrelevant. What is needed are innovative courses that break with traditional approaches where it is assumed that developments in science on the one hand, and the aspirations of society on the other, are distinct and unrelated.

This program of "excellence" involving reinforced supervision and an additional contingent of teaching hours will be characterized by:

- High levels of interdisciplinarity,
- A selection of federative themes provided by the Lyon-Saint-Etienne academic matrix,
- Innovative and dynamic pedagogical methods,
- The use of a problem-based and project-based approach,

The course will be structured around three cycles:

- An initial broad, multidisciplinary 2-semester cycle,
- A further 2-semester cycle dedicated to personal project,
- A final cycle of 2 semesters with greater specialization to ensure that the students reach the level of competence required to enter a master's course or a specialized school.

The compulsory core curriculum will include:

- A module focused on the student's personal and professional project
- An initiation to how knowledge is produced, disseminated and transferred,
- An introduction to entrepreneurship
- An international experience covering one semester

Careers guidance will be provided for each student throughout the duration of his or her course and will be used as a basis for constructing the preparatory pathway when the students start their master's degree or join a specialized school.

Three priority themes have been selected: "**Engineering sciences**", "**Humanities and Health Sciences**" and "**Environment and Sustainable Development**". The curricular pathways proposed within these three themes, will exploit the enormous potential of the Lyon-Saint-Etienne site for preparing students to continue their studies in specialized schools or through master's courses, by means of the links with its LabEx and competitive clusters.

The IHE-LSE will provide students with personalized guidance regarding professional placement strategies. Guidance would also provide for students leaving higher education after their Bachelor's

degree, would deliver opportunities to undertake an additional semester on a sandwich course under a professional contract, and would also advise students who decide to interrupt their studies. The course will admit an initial intake of 100 students (30 to 35 per theme) to reach 400 after 3 years. Admissions would follow an application and interview-based process.

2. International graduate program

Since 2007, the PRES UdL has developed a policy offering an "International Master's" label. The label is awarded to courses that meet the following criteria:

- At least 80% of teaching occurs in English,
- At least 30% of places are made accessible to foreign students by means of incentives to attract such students,
- An internship abroad is mandatory,
- Structured, inter-institutional pathways are developed with overseas institutions (to be established under the framework of the international network of partner universities).

The IHE-LSE will pay particular attention to the programs that already have or could obtain *Erasmus Mundus* status. Indeed, we must develop our current provision (only 4 **Erasmus Mundus** master's courses³³ out of the 60 in which at least one French institution is involved).

In addition to this international component, the PRES UdL wishes to incorporate its training courses into the research / social and economic sector development scheme, notably by ensuring strong links with the RTRA (Thematic Advanced Research Network), CTRS (Thematic Research and Healthcare Centers) and competitive clusters.

Four international master's degrees already exist within the PRES UdL:

- Biosciences (in conjunction with the Lyonbiopole competitive cluster, the IRT LyonBioTech and the Ecofect and Shape Of Life LabEx).
- Nano-scale engineering (in conjunction with the iMUST LabEx)
- Materials sciences (Erasmus Mundus ATOSIM)
- Administration of research and knowledge dissemination institutions.

The goal is to reinforce and develop this approach to support the perimeter of excellence with a focus on the following subjects:

- Altereurope
- Transport and mobility (in support of the IMU LabEx, the LUTB competitive cluster and our emerging transport cluster).
- Cancer research (in support of our LabEx DevweCan).
- Imaging (in support of the Imaginove competitive cluster).
- Alterville (in support of the IMU LabEx and the emerging transport cluster).
- Nuclear power (in support of the iMUST LabEx).

³³ ATOSIM (Atomic Scale Modelling in Physical, Chemical and Bio-molecular Systems) coordinated by ENS Lyon, CIMET (Color in Informatics and Media Technology), and MACLANDS (Master of Cultural LANDScapes) coordinated by UJM and DMKM (Data Mining and Knowledge Management) coordinated by University Lyon 2.

- Cleantech (in support of the iMUST, MANUTECH-SISE and CeLyA LabExs, the Axelera competitive cluster and the IEED IDEEL).

These programs will be closely linked with our site's PhD courses in order to be able to define integrated PhD pathways connecting master's and PhD programs.

3. Professional training courses

Partnership with the IRT and IEED

The IHE-LSE has developed a strong partnership with the IRT and IEED, with substantial output in the field of education. This partnership will constitute a valuable means of enhancing the site's range of educational courses tailored to the requirements of the socio-economic sector. To this end, the IRT and IEED have begun extensive work towards identifying market needs in relevant economic sectors, particularly by engaging with their partners among the competitive clusters. The IRT is also monitoring the educational initiatives implemented by other centers of excellence, notably abroad. The IHE-LSE will contribute to enhancing the training programs in line with this approach.

Beyond this approach, the IDEX project, under section 4.3.5 proposes other actions in the area of professional training, in connection with the corporate sector.

Manutech-School

The objective of the Manutech- School is to offer an integrated set of initial training courses at *baccalaureat* level reaching right up to PhD level in the areas of expertise of the MANUTECH-USD EquipEx, the MANUTECH-SISE LabEx and the Viaméca competitiveness cluster.

With the Bachelor's degree in engineering, the first two years will be organized around the DUT MPH program³⁴ (in partnership with the IUT members of the PRES UdL), with significant reinforcement of the scientific aspects. Various pathways can then be followed with a return to the DUT MPH during the first 2 years, departure to take up a professional position after 2 years with the DUT, or preparation after the first 2 years for a professional degree. This means that this cycle offers a secure pathway which will allow each student to find their own way. The intention is that this course will qualify the *Figure*³⁵ network label. This cycle can also be used as an integrated preparatory cycle for participating schools and can supply a relevant engineering cycle as described above.

4. Training of trainers

Recent developments in the field of trainer training and vocational training mean that there is an urgent need to deploy new trainer training tools and methods, drawing on social science research and technological innovation. The IHE-LSE will make Lyon into the European test-bed for trainer training by making possible ambitious projects of the following types:

* Innovation in curricular-organization through the setting-up of hybrid training programs combining distance and on-campus learning, and aiming to achieve "high educational quality" and targeting trainers from the French state education system, or with a background in the higher education system and professional training, and, in a wider sense, those involved in education in its

³⁴ Diplôme Universitaire de Technologie en Mesures Physiques (Technological University Diploma in Physical Measurements)

³⁵ National network of engineering courses

different forms (for example, health education and popular education).

* Technological innovation, harnessing the region's laboratories and businesses (new uses, new terminals, serious games etc) for a world of education made up of increasing numbers of digitally literates.

* Social innovation, focusing on reflexivity and stakeholders working together, with emerging schemes that aim to ensure equal educational opportunities being discussed in particular. The ENS's *Institut Français de l'Éducation* (IFE - French Education Institute), the *Institut des Sciences et Pratiques d'Éducation et de Formation* (Institute for Education and Training Theory and Practices) and the *Académie de Lyon IUFM* (Lyon Regional Education Authority University Teacher Training Facility-Lyon 1) will implement these projects in conjunction with the S2HEP, Triangle, ECP, and ICAR laboratories, CERPHI (Center for Research on Rhetoric, Philosophy and the History of Ideas), CRTT (Center for Research in Terminology and Translation) and the INSA Humanities Center. One of the first steps taken to inaugurate this partnership project is the creation of a Lyon 2 / Lyon 1 jointly accredited master's degree on trainer training in partnership with the IFE and ENS. Likewise, via the IFE, we will support the creation of a UNESCO 'Training trainers in the 21st century – a French-speaking research and teacher training network' chair, bringing together several French-speaking universities and institutions around the world.

5. Support for educational innovation

The IHE-LSE supports several projects presented as part of the Idefi call for projects. These will genuinely add value to our site's educational choice range and its pedagogical identity.

- The Graduate School of Public Affairs project: SciencesPo Lyon is spearheading an Idefi project proposed by the national network of Political Studies institutes. The project plans to set up a Graduate School of Public Affairs. This highly innovative school is intended to respond to clearly identified needs and to train the public-sector managers and decision-makers of the future. The themes addressed, relate to our site's perimeter of excellence. Given that the scope of this project is national, it does not form an integral part of the Idex project.

- The Team num. project: this project aims to develop the concept of digital textbooks, to demonstrate its capacity for pedagogical innovation on a selected number of courses and to illustrate the possibilities for generalizing this approach to all teaching courses. The Team num. project will facilitate the research input into the project and will also promote boundary-crossing transfer across all the LabEx. This is why it is being integrated into this Idex project.

- The SupAction project: Doctoral students are potential lecturers. They need be systematically trained for their future tasks through appropriate pedagogical tools. Through a blend of video sessions and in situ seminars with senior colleagues, SupAction capitalizes on the NeoPass experience (aimed at primary and secondary education) to build a program of induction at the higher education level. Given that the scope of this project is multi-sites, it does not form an integral part of the Idex project.

Furthermore, in order to enhance the educational choice range and to complement the course curricula that are already part of or supported by the Idex, the IHE-LSE will launch an annual call for projects in the field of pedagogical innovations. This internal call for projects will modeled on the Idefi call for projects and will promote the most innovative local educational projects.

Budget (basic rules)

Bachelor program in science and humanities: The average cost is about €9.2 million based on an average number of 600 students and on the average per capita cost of enrolling students in the French higher education system (this ratio is increased in order to take into account the high level framework proposed by this project). 50% of the overall budget will be covered by the partners of IHE-LSE.

Support for international master's degrees: for each master's course, ½ FTE for administration, an operating budget to cover international communications, the additional cost of involving international academic staff, and an investment budget for launching the program. Scholarships for international students: 10 scholarships (lasting 10 months) per master's course offered as an incentive. The local authorities are expected to support the overall program. The cost of delivering the training will be borne by the institutions taking part in the master's course (around €0.3 million/year).

Professional training courses: The overall budget will be €0.10 million a year.

Support for the training of trainers: Ensuring a diverse intake.

Support of innovative projects: Via a call for proposals based on a scenario of four projects selected every year, with an average allocated annual budget of around €0.50 million and the requirement that the institutions must make a larger contribution (factor 2).

5.3.5 VALORIZATION AND CORPORATE PARTNERSHIPS

Actions :

- Valorization and technology transfer
- Support for entrepreneurship
- Support for lifelong learning in collaboration with the economic sector

Objectives

The Iindex project is intended to provide momentum for the university to continue its growth as a stakeholder in economic development. Our strategy in this area will be linked to the perimeter of excellence and implemented with support from our partners in the investments for the future program, notably the IRT, IEED and the Carnot institutes. This policy will naturally be implemented across the operational range of the Iindex projects. The IHE-LSE, working in partnership with chambers of commerce and employer's organizations (see attachment), will support several actions such as: developing the links between laboratories and SMEs, supporting the entrepreneurship, student initiatives to create activities or businesses, orientation initiatives at the secondary school level... The focus will be on the three following areas: valorization, support for entrepreneurship and lifelong learning.

Valorization and technology transfer

The policy of the IHE-LSE is to streamline research transfer and valorization by creating a single, dedicated body for all IHE-LSE institutions. This body is currently being set up and will either take the form of a regional SATT (Society for Accelerating Technology Transfer), or another structure to be defined. This structure's remit is the maturation, management and promotion of the intellectual property of UdL institutions.

The SATT will also operate as a service provider for research laboratories, institutions and agencies, notably those that are shareholders in the structure. These will be set up as a simplified joint stock company (*SAS*).

The IHE-LSE will offer a range of basic research tools through its LabEx. However, for some of these the connection with the finalized research tools already exists. They include the links between the Carnot institute I@L and the iMUST LabEx, and the Manutech approach which links the Manutech-Sise LabEx and the Manutech-Usd EquipEx. The Iindex will support the generalization of this forward-looking approach, across all its LabEx with the aim of increasing these links with existing Carnot institutes but also anticipating projects for future institutes coupled with the LabEx. As part of this action, and in partnership with the economic sector, the IHE-LSE will offer to fund mixed public-private sector jobs within the LabEx, in order to sow the seeds of a partnership between these LabEx and the economic sector.

Support for entrepreneurship

The IHE-LSE will develop a policy to support entrepreneurial initiatives promoted by research stakeholders, notably by providing relevant training. This action will in particular be implemented through the IDEA (Innovation, Design, Entrepreneurship, Arts) project which has been submitted

under the Idefi call for projects.

This new system will play a role in deploying and reinforcing the three key stages of value creation through innovation and entrepreneurship in order to bring about a triple transformation:

- To progressively crystallize an idea, concept or technological solution into a marketable product or business model;
- To train project initiators and gradually help them to become genuine entrepreneurs;
- To bring together and consolidate a group of persons (project team) into a genuine entrepreneurial organization.

This will be deployed as a network across the four Lyon and Saint-Etienne campuses hosted in open innovation neighborhoods including the IDEA school project which will set up a school of innovation and entrepreneurship and a new-generation post-incubation technological system.

The IHE-LSE will also aim to contribute to improving cooperation between the different tools already in place across the site, such as the campus creation competition (competition open to groups of students from different UdL institutions, who present a project for setting up a company), the INSA de Lyon engineering and entrepreneurship course, the Inelse program³⁶ and the programs supported by the RUCHE project run by the Université Lyon 3.

However, it is important that the entrepreneurial approach is not limited to students reaching the end of their course at master's level. This is why the concept will be introduced in an initial module as part of the bachelor of sciences and humanities course as presented in section 5.3.4, and also as part of the complementary training provided for PhD students who have not previously benefited from this type of course.

To mainstream this approach, the IHE-LSE will launch an **annual call for proposals** in order to support projects in relation to entrepreneurship.

Support for lifelong learning in collaboration with the economic sector

As part of its role in managing PhD provision, the IHE-LSE will be responsible for developing links with businesses under the framework of the complementary training courses offered to PhD students. In the same way the IHE-LSE will support the “Doctors in Business” approach. Upstream of this, the “Doctor-Consultant” scheme set up by the PRES UdL will be developed amongst SMEs in order to encourage collaborative innovation.

As previously stated, through its programs the IHE-LSE will support initiatives developed in collaboration with its partners. This will broaden the choice range among professional training programs, with induction courses for company directors in R&D and Innovation, management, optimization and lean management. The IHE-LSE will specifically provide support for programs intended to support senior management teams through the SME³⁷/Mid cap³⁸ transition. Such changes are key to ensuring the dynamic re-industrialization of France. This transition generally involves diversifying a company's activities, branching out into new fields or expanding into new international markets. This requires expertise in new knowledge areas, new management processes and new managerial approaches. The IHE-LSE member institutions possess the required expertise in those areas. Under the framework of this dedicated program, the training delivered will be

³⁶ Innovation, Entrepreneurship Lyon Saint-Etienne

³⁷ Small and Medium-sized Enterprises

³⁸ Mid caps are companies with an intermediary level of market capitalization.

tailored to the requirements of SMEs looking to expand, and cross-sector expertise between the economic sector and academia on this issue will constitute a genuinely innovative offer across the territory.

More generally speaking, the IHE-LSE will contribute to setting up a council for economic partnership in 2013, which operates in a way similar to the professional development advisory committees that currently provide counseling for a large number of vocational courses. The council will produce a master plan outlining the priority actions concerned with matters such as career guidance for secondary school pupils, choice range of sandwich courses (at Bachelor's and Master's levels), opportunities for entrepreneurship within educational courses, apprenticeship opportunities available on the market, the accreditation of prior experience at Bachelor's through to PhD level, etc.

Budget (basic rules)

Support for entrepreneurship: The IHE-LSE will allocate €3 million to the annual call for projects assuming that the institutions submitting the project provide a financial support at least equivalent.

Lifelong learning for businesses: The IHE-LSE will support several teaching program for an amount of €2,5 million/year. The overall budget of this action must be partially taken into account by the partners (the external contribution must attain the same amount).

5.3.6 SCIENCE AND SOCIETY

Initiatives:

- *Cité des savoirs*
- Museum of university research collections
- International outreach

Challenges and objectives

As those who observe and monitor what exists and evaluate what is possible, academics are a key point of contact for political decision-makers and the creators of future inventions. The general public, who elect decision-makers and rely on academic analysis, are also a link in this chain. Moreover, in a context in which the public authorities are tending to devolve many regional, educational, mediation and cultural management remits to the association sector, researchers and association stakeholders are finding themselves occupying similar positions with regard to decision-makers, albeit all too often in parallel universes. This blurs the standards for expert assessments. Association sector work is similar to action research but often remains sector-based. Nevertheless, the knowledge it builds does fuel academic research because of the willing participation of the public, for example patients in the world of medicine, networks of environmental campaigners and citizen mappers, through which the citizen voluntarily produces scientific information (geo-tagging). There are many paths of knowledge but popular knowledge is losing its way in a world in which technocrats, academics, amateurs and journalists overlap and get lost in a whirlwind of information. However, science involves organizing and disseminating knowledge.

In this context, the IHE-LSE proposes to create entities designed to cross-fertilize knowledge and mediate with society in the widest sense of the term (**Cité des Savoirs**) and to develop scientific heritage (**Musée des Collections de la Recherche Universitaire**).

Initiatives

1. The Cité des Savoirs (CDS): In a centrally located and busy place, this CDS (Knowledge City) will constitute a showcase and a means for UdL to interact with civil society, creating a forum in which different scientific cultures co-habit, practices are compared and skills that lead to innovation are shared. Based on a system of governance inspired by Dublin's Science Gallery, it will create a unique forum for interaction and developing projects with the different social stakeholders involved, namely the corporate sector, designers, researchers, public sector workers and citizens. The CDS will have a shop, café, auditorium and flexible spaces that can be adapted depending on the type of usage required. The Cité will be truly multi-faceted being a center for science, a forum for associations, an art and design gallery, a careers fair for students and an exhibition center for businesses in a PRES that has now been expanded to include art and design institutions. Its program will specially include common open themes that can be taken up by most of the disciplinary fields (e.g. the concept of risk) and themes linked to the globalization of science and social issues. We aim to develop high school students' taste for study, welcome a mixed public and increase people's willingness to become voluntary producers of scientific information by permanently showcasing the sciences, arts and design.

The CDS will also be home to a **science shop** in line with those existing in many European

universities (including Cambridge in the UK and Groningen in the Netherlands). The aim is to develop a culture of leading-edge type projects in the science shop conducted by academia and based on public demand. A budget will be allocated to this type of project in response to the requests made by the association sector (non-solvable) with a course credit validation system for students and a career development scheme for researchers who devote their time to these partnerships.

Finally, the CDS will become the natural place for **reporting back on ANR type research programs**. Indeed, the results dissemination component of these programs involves interacting with the public and all practitioners.

2. Museum of university research collections The most suitable scheme for the Lyon Saint-Etienne urban area will be a multi-site museum which respects the history of the collections and the legal status of French museums. The existing buildings will be renovated, the collections will be gradually restored, positions will be created and increased public outreach work will be done. This network of museums will showcase the science collections (comparable to the collections of the Paris National Museum of Natural History for herbariums, animals and minerals but which are little known), arts (*Musée des Moulages* and *Maison de l'Orient*) and medicine (Hôtel-Dieu project). The *Musée des Moulages* (museum of plaster casts) is already owned by Université Lyon 2 and receives strong backing from the city. It will play an important role as its size enables it to host temporary exhibitions in a central and socially mixed area.

The creation of knowledge forums will be accompanied by more targeted measures (as a reminder, please see the request made to PhD students to contextualize their work for non-specialists, the creation of the exact science / humanities and social sciences course, support for festivals, and initiatives aiming to boost the regions as part of the Urban Social Cohesion Contracts). The creation of a Sciences and Society vice-chancellorship at UdL will ensure that management of the scheme is clearly defined.

An international city of science

The Lyon-Saint-Etienne Metropolitan Area has all the ingredients needed to position itself in the top flight of 'cities of science'. These cities have sought to base their development on a strong innovation dynamic between research, industrial development, stakeholders in the creation process, public policy and the involvement of ordinary citizens in knowledge sharing.

Our enhanced profile in these European networks will enable us to continue to put in applications when EU calls for tenders are made. The EU already funds scientific and cultural initiatives, with this being an essential source of additional funding for the IDEX project's new structures. This will be deployed within the framework of the Campus LSE agency, drawing on the network of UdL partners.

Showcasing the collections and more generally our site's positioning will enable us to become involved in European science, innovation and social programs and calls for projects. We will also draw on our international partnership strategy.

Budget (basic rules)

The IDEX project will contribute to the CDS overall project by an annual grant of €2 million, €0.5 million of it being allocated to the Science shop project mainly to support the call for proposals procedure.

5.3.7 KNOWLEDGE ACCESS

Initiatives:

- United Library
- Digital library and archives
- Research corpora, data and sources platform
- Joint publishing house
- Two knowledge centers
- Datacenter Project

General objective

Build a **United Library** bringing together knowledge production and dissemination stakeholders and linked to higher education and research. The library will draw on the PRES UdL institutions and is being designed in partnership with the regional authorities and more specifically with the Lyon and Saint Etienne municipal libraries. The new library is aimed at the general public and at students and teacher-researchers. In the long term, the United Library will be a resource for the *Université Nouvelle de Lyon–Saint-Etienne* (UnLSE).

Challenges and objectives

Access to knowledge and processing scientific and technical information are an essential component of our project so that the IHE-LSE's strategic objectives and, more generally, those of our site policy, can be achieved. We believe that there is no large world-class university without a major resource project and without purpose-built knowledge access structures. Lyon-Saint-Etienne is a resource site of national importance, as it holds over eight million volumes (half of which are in university library collections). However, as underlined by the February 2010 report published by the United Library Inspectorate, the ratio of 'books per student', spending per student and the digital resource offering remain far below European standards and light years away from North American standards. Moreover, until recently, the structures on our site were fragmented (each member institution had its own library service) and there was a lack of dialogue between them.

We therefore want to bring the Lyon-Saint-Etienne site's resource policy up to the best international standards. This strategy naturally exceeds the boundaries of the IHE-LSE framework and, taking into account the national context, requires partnerships to be forged with the large municipal libraries of Lyon (France's largest library outside of Paris in terms of its collections) and Saint-Etienne (which has already signed a highly ambitious agreement with the Université Jean Monnet).

Since 2009, the PRES UdL has successfully implemented the first phase of this strategy. We have created and institutionalized a permanent working group bringing together all the head librarians from the site's universities and schools in order to work on converging initiatives and then defining and implementing our global Lyon Saint-Etienne United University Library project. This United Library should provide universal access to knowledge and to all types of resources for all the target groups - students, who are the prime targets, teacher-researchers, and the residents of the metropolitan area.

A resource roadmap has been started and will lead to the creation of a single resource operator, which will be incorporated into the *Université Nouvelle de Lyon-Saint-Etienne* as soon as it is founded. The operator will provide the United Library with administrative, technical and academic support.

Planned initiatives

- **Set up a one-stop resource portal** accessible to all, designed to quickly cement the existence of the United Library project. This complex project is already underway. It is the counterpart of another initiative currently underway to harmonize induction conditions on the PRES' different resource sites.

- **LSE digital library and archives Plan** to digitize the site's resources (heritage collections, map library, scientific collection and laboratory documents and images) in partnership with the site's shared structures (Persée, MOM, ISH) and the libraries themselves.

- **Using Persée as a basis**³⁹, set up a platform for humanities and social science research corpora, data and sources but also with a multidisciplinary perspective.

- Based on a reorganization of two existing structures, **develop two knowledge centers** using the learning center model. The centers will gather together printed volumes and digital resources acquired by subscription and published at UnLSE. The knowledge centers will make joint working and user training possible (pursuing the program already started by the university libraries) in conjunction with a cultural activities policy designed to showcase research. These two knowledge centers will be located on two Lyon Cité Campus sites:

- Campus Charles Mérieux: Bibliothèque Denis Diderot unifiée (Combined Denis Diderot Library) (interinstitutional resource center created by ENS, université Lumière and Université Jean-Moulin, and specializing in humanities and social sciences).
- Campus Lyon-Tech, La Doua, using the recently renovated université Claude-Bernard's library as the foundation and specializing in experimental sciences.

These two knowledge centers will be the first step towards creating a network of interlinked centers located on the different campuses. The United Library will therefore be a networked structure, creating a network across the metropolitan area. We are also developing a highly ambitious project with the Greater Lyon Urban Area. The project involves creating a new learning center alongside the renovated municipal library in the Part-Dieu area of Lyon, accompanied by a shared collections storage area for the municipal and university libraries. The Part-Dieu district is home to Lyon Part Dieu railway station and is France's second most important business district after Paris La Défense. Creating this shared storage³⁹ area is now acknowledged to be an absolutely vital part of Lyon's resource policy.

- **Moving towards a joint publishing house** : we will create a new organization bringing together the existing university presses (Lyon 2 PUL, Lyon ENS and PUSE presses) because working with resources is also about disseminating the knowledge produced by research on the site. The new publishing press will firstly be tasked with merging routine operations, such as creating a shared sales portal, a common collections catalogue, unification of the publishing processes, common dissemination and distribution processes. However, it will primarily enable an original publishing policy to be designed, based on the joint publication of printed works and their digital versions (offering indexing, full text search and annotation functions), intended to substantially enhance the profile of publications. The PRES UdL has already received two strategic reports on these issues

³⁹ Humanities and social science periodicals portal (in 2012, it will become a CNRS UMS, PRES UdL, ENS de Lyon).

(Kempf report on harmonization and Figuiet report on innovative publishing objectives) which will enable us to support this unifying initiative. This dynamic will lead to the creation of a shared publishing press for the new Université Lyon-Saint-Etienne.

These programs will also take advantage of the development of IT infrastructure and, first and foremost, the Datacenter project.

Datacenter project: The objectives of UdL ACDC (A Cloud of Datacenters) are

* Put forward a proposal to set up a cloud of four data centers on the LyonTech/La Doua, Charles Mérieux/Gerland, Lyon Ouest Ecully and Saint-Etienne campuses. The centers' logistics and technical resources and the performance and professional development of the teams tasked with running them must match the institutions' IT infrastructure requirements.

* Provide an optimal hosting environment for the institutions' strategic Information Systems resources.

* Guarantee excellent service availability and the introduction of an effective business continuity plan in the event of a major incident on one of the sites by interconnecting the UdL datacenter resource units to the LyRES network distribution points.

* Offer different service levels: hosting or physical servers, task schedulers, virtual operating systems, digital services and sector applications.

The cloud will draw on the four main sites' existing IT structure which will be updated or optimized and will offer a set of shared, secure, 'highly available' services, including common management procedures for all UdL member institutions. The project will be gradually implemented in order to enable the candidate institutions to prepare and manage changes in use over the course of several years. This is one of the conditions upon which the success of the project hinges.

Budget (basic rules)

- **United Library project:** All of the projects will receive funding to help the existing potential on the site to be synergized and think about the real estate aspects (with the help of the relevant PRES UDL department). A sizeable operating budget will allow the most operational projects to be initiated. Funding has not yet been secured for real estate investments. Talks with the local authorities and the Université de Lyon Foundation will be held on this issue.
- **Combining the university publishing houses:** The combined press will primarily use existing resources. However, the press' staff will need to be reinforced, with the recruitment of a director and an IT specialist, who will implement the publishing press' digital roadmap.
- **Cloud of Datacenters:** Involvement in the running and investment. Payroll costs will be covered by the institutions.

5.3.8 CAMPUS LIFE

Initiatives:

- Regional involvement
- Student senate
- Projects platform for students initiatives
- Student entrepreneurship

Objectives

The I dex project aims to generate new momentum in reshaping university-related lifestyles and services. This revitalization of campus life remains rooted in the region, and operates within the span of *Lyon Cité Campus* project and the university master plan. The aim of the initiatives presented in this section is to allow students to engage actively with their region and in a dynamic partnership with the other users of the university campuses and with the city. The new scheme should:

- encourage the time spent in training and higher education to also be a period of civic interaction and community living based on multilevel partnerships and entrepreneurship;
- widen the concept of student life to that of campus life, which takes account of how all categories of staff operate and interact;
- ensure that staff and students are better integrated into the campus matrix, that the campuses are better integrated into the city, and that the city interacts more with its own campuses.

Regional involvement

The university master plan aims to reinforce synergies between higher educational institutions, the corporate sector and civil society. It emphasizes the value of pro-active consolidation and networking undertaken by UdL in order to manufacture a strong identity for each of its campuses:

- **Charles Mérieux Campus:** a multipolar campus dedicated to nurturing a crossover culture between the biosciences, the humanities and the social sciences;
- **LyonTech-La Doua Campus:** this campus will endeavour to open up to the city and strengthen its reputation as an international hub of excellence centered on environmental technologies and post-carbon engineering;
- **Lyon Healthcare Est Campus:** a cluster of European stature for biomedical training and research;
- **Porte des Alpes Campus:** a powerhouse for developing synergies between the humanities and territorial planning;
- **Lyon Ouest-Ecully Campus:** the UdL's "sciences-business-innovation entrepreneurship" campus;
- **Vaulx-en-Velin Campus:** a campus focused on urban design and management;
- **Saint-Etienne Campus:** devoted to the study of manufacturing processes, and a cradle for the creative industries of the future.

The events that are currently unfolding, including the broadening of the scope to include the greater Lyon/Saint Etienne metropolitan area and Investments for the Future policy, provide a more solid framework for the academic strategy, with obvious and attractive anchors that bring together key elements, including thematic focus, first-rate facilities, the optimization and quality of services, urban organization and synergies with local and regional stakeholders.

Its location within the greater Lyon metropolitan area reflects UdL and its members' commitment to a regional policy, as set out in the Regional Higher Education and Research master plan. This plan is led and funded massively by the Rhône-Alpes region (which also funds real-estate operations via a *CPER* (central/regional government contract) and supports the *Opération Campus* initiatives and complementary projects). Finally it should be noted that UdL entered into and signed a partnership agreement in December 2010 with the Rhône administrative *département*, which also supports our infrastructure strategy (along with our policy to foster dialogue between science and businesses).

Initiatives

- A representative consultation forum for the student population: the Student Senate (see the section on governance).
- A projects platform, in other words a forum (online and physical) for pooling / harmonizing student entrepreneurial and project initiatives, with initiatives involving, as a compulsory requirement, students from several site institutions (exchange of information, ability to put together proposals for calls for projects, administrative support to help student projects emerge and develop).
- Synergize site campus events.
- Development of host services in the LSE Campus Agency (see section 5.3.1).
- Prioritizing student entrepreneurship specifically via the management of campus leisure facilities (bars, restaurants, theatres and auditoriums), which would be managed by and for students (and open to others, naturally).

This policy will be implemented by a specific department within the PRES UdL with funding from the I dex project. The PRES UdL member institutions will undertake to harmonize their student support policies. Likewise, the local authorities will pledge to pool their funding at PRES UdL level.

Budget (basic rules)

- Support for student initiatives: €0.25 million a year via a call for proposal jointly managed by the student senate and the project management unit of the IHE-LSE.

5.4 Governance, organization and steering

5.4.1 IHE-LSE GOVERNANCE

The IHE-LSE is developing the I dex project in the form of an academic cooperation foundation. The governance of IHE-LSE is independent from that of the PRES UdL but several operational links will be forged with it. The founding members of the IHE-LSE are the 13 I dex founding members and two national research institutions, CNRS and INSERM.

EXECUTIVE GOVERNANCE

President: The president directs the IHE-LSE and has the same prerogatives as those of University Presidents. He or she is elected by the administration council and is a figure with acknowledged academic achievements and with the necessary capacity to govern the institution.

Administration council: biannual meetings

Role: The Administration Council administers the IHE-LSE and decides upon the strategic policy. It votes on the IHE-LSE's budget.

Composition It will be made up of some 20 members including:

- Representatives of all the FCS founding institutions.
- Five figures from the socio-economic sector.
- The PRES president and the president of the UdL Foundation.
- Three seats reserved for the partner institutions (national research bodies, HCL, CLB, Carnot, competitiveness clusters).
- Two teacher-researcher representatives for the LabEx.

The Administration Council is headed by the **IHE-LSE president**.

Executive Board: bi-monthly meetings

Role: The Executive Board prepares the AC decisions and designs the strategy. It decides on each I dex program's strategic implementation framework and has a strategic management remit. It provides the link between the IHE-LSE, the PRES UdL and the preparatory process.

Composition: It will be made up of nine people including:

- The IHE-LSE president and the PRES UdL president.
- 6 representatives of the institutions having the strongest involvement in the actions of the I dex project
- 1 representative of the National Research Institutions

The site **Transformation Process** officer (see section 5.1.3) and the I dex project manager will be standing invitees to the board.

Since the **Transformation Process** is crucial, the Transformation Process officer will be appointed by the I dex founding institutions and will be attached to the IHE-LSE. He will report to the PRES Administration Council.

STRATEGIC SUPERVISION

The strategic and scientific committee

Role: The committee’s role is to help the council and board in their strategic decision-making and when defining the academic policy. It is a joint committee between the IHE-LSE, PRES UdL and *Fondation pour l’Université de Lyon*.

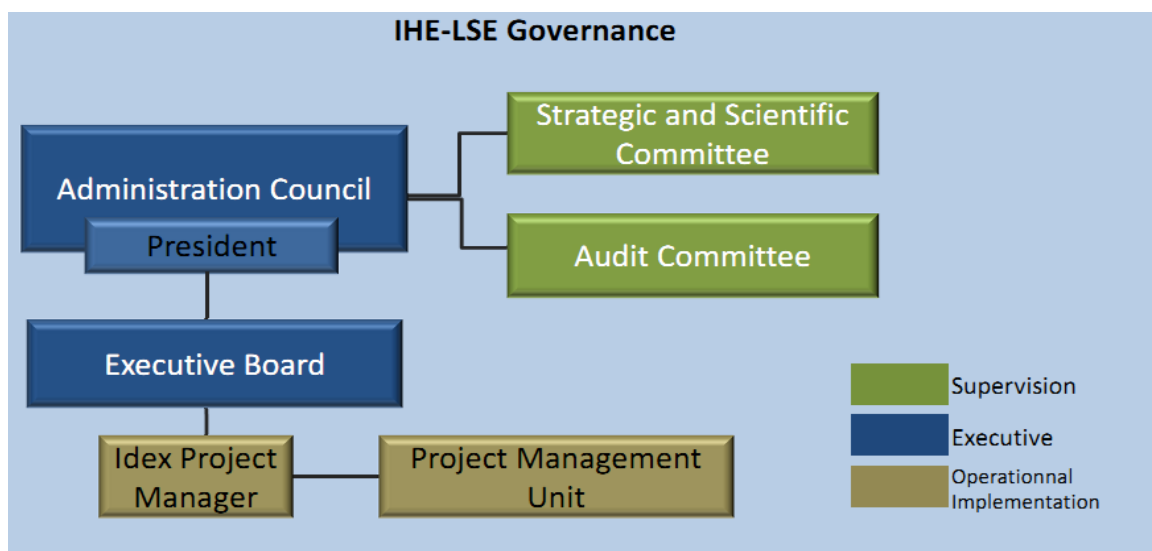
Composition Nine qualified external figures who are not part of the IHE-LSE founder institutions and who come from the socio-economic and academic worlds in France and abroad. The members are appointed by the Board of the Université de Lyon Foundation following a proposal by its president, the PRES president and the president of the IHE-LSE.

The Audit Committee

Role: The committee’s role is to provide the Administration Council with information and overall evaluation. It approves resource allocation procedures at the start of the process. The Audit Committee conducts two annual evaluations to examine whether the operational implementation of projects is coherent with the strategic objectives and procedures set by the Executive Board.

Composition: Three external personalities with extensive research project and higher education management expertise.

The organizational structure of the governing bodies is set out in the following diagram.



5.4.2 IDEX PROJECT MANAGEMENT

1- Operational implementation

The Idex project’s programs are operationally implemented via effective project management directed by the Idex Project Manager and making use of the Project Management Unit in particular.

Idex Project Manager: The Idex Project Manager is appointed by the Executive Board and has an advisory role on the Administration Council. The manager is responsible for the operational

implementation of the IHE-LSE's different programs and actions and is helped by the PMU.

Project Management Unit (PMU): The PMU is led by the IDEX Project Manager and brings together the IDEX program coordinators and makes use of support functions. A program coordinator is appointed by the Executive Board for each major operational program planned by the IHE-LSE.

The IDEX Project Manager and the PMU are primarily responsible for the following operational areas:

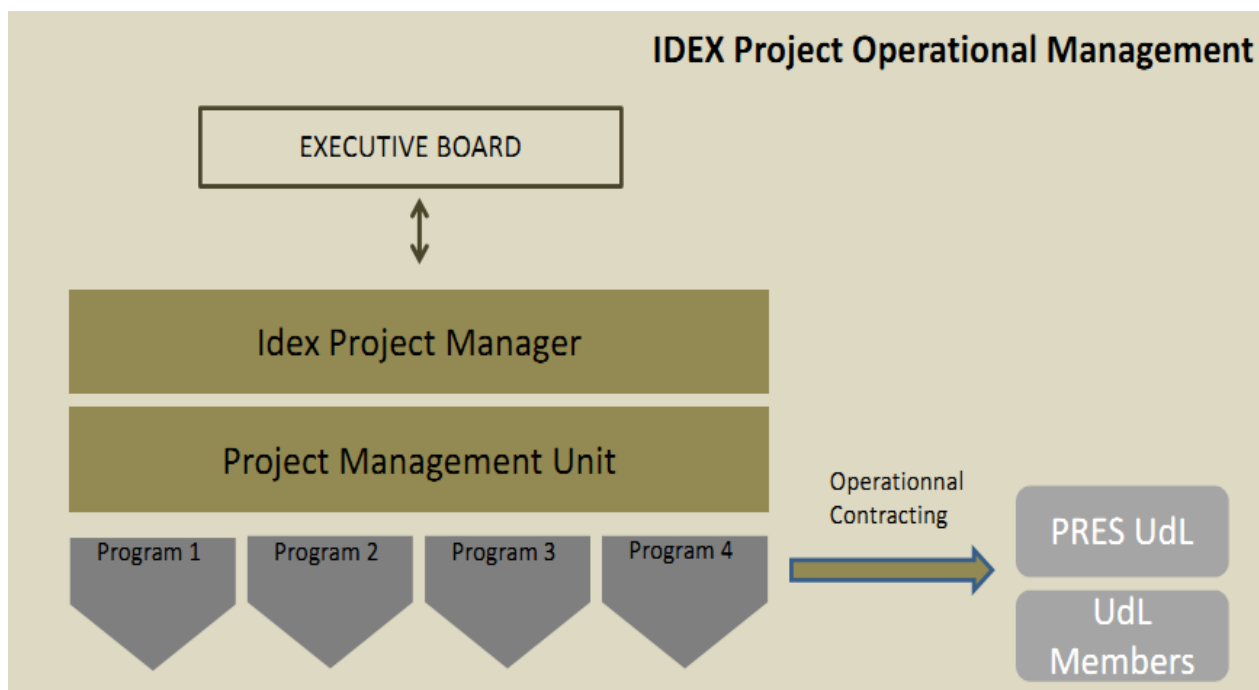
- Defining detailed procedures for the implementation of initiatives in accordance with the frameworks set by the Executive Board.
- Operational implementation of the various initiatives.
- Operational monitoring of the coordination and contracts signed with institutions for the implementation of specific initiatives.
- Management of the information and data needed for monitoring and evaluation and for ANR evaluations.

Operational implementation

The implementation of the IHE-LSE program will draw on site institutions for some initiatives. The operational implementation will therefore lead to contracts being signed in order to guarantee that the objectives and procedures decided on by the IHE-LSE as part of its contract with the ANR are respected. Contracts could be signed with:

- The PRES UdL, which has extensive shared project implementation experience on the site.
- Founding institutions (as is currently the case for the EquipEx).

The IDEX's operational implementation structure is summarized in the following diagram.



2- Process for allocating funding

The IHE-LSE is the legal recipient of the IDEX funds provided by the French government. IHE-LSE is in charge of allocating and monitoring this funding. However, IDEX is mainly funded by the consortium's member institutions.

The Executive Board's strategic planning is reflected in

- **multi-year commitments** on the main themes (LabEx, in particular)
- **annual commitments for each program.**

The Project Manager splits the strategy into a provisional budget through overall allocations for each activity. This budget is approved by the IHE-LSE Administration Council. Each activity supported by the project divides its funding into a budget, which is approved by the Administration Council after final review.

To steer the development of new innovative project, part of the funding will be allocated through **calls for proposals launched by the IHE-LSE**. The IHE-LSE will notably launch a call for proposal devoted to innovative training programs. Other calls for proposal will be scheduled on emerging scientific themes.

5.4.3 AUDIT AND MONITORING

1. IDEX program monitoring and evaluation process

The PMU will put in place a process for program monitoring and evaluation. The indicators listed in this document for each major IDEX program will be supplemented and broken down in order to create an operational grid for monitoring each initiative.

The PMU will be tasked with gathering the information needed for the evaluation conducted by the ANR during the IDEX trial period.

An annual review will be carried out by each program coordinator in his or her area of responsibility, in order to submit to the Executive Board a **map of major risks** and a related **control plan**. Action maps will be consolidated, summarized, and included in the annual activity report submitted to the IHE-LSE administration council.

2. Audit

The IDEX audit procedure will be based on the work of both the audit committee, as per the IHE-LSE governance structure, and on external audits.

Audit Committee: The Audit Committee conducts two annual evaluations to examine whether the operational implementation of projects is coherent with the strategic objectives and procedures. The evaluations are submitted to the Administration Council.

External audit: An external financial audit will be commissioned by the Administration Council once a year. The audit committee may commission any other audits that it deems necessary.

3. General control mechanisms

A general project control framework has also been designed to ensure effective regulation. The mechanism conforms to the Framework of France's Financial Markets Authority and is based on four main levels:

Level 1: Clear project governance that explicitly defines responsibilities and powers

A **detailed organizational and governance framework**, presenting the bodies and rules encompassing decision-making will be formalized within three months of the creation of the foundation. An independent review will be mandated over a two-year trial period in order to **assess the functioning of the governance bodies** and to make any adjustments necessary. This review will cover the basic themes for the smooth running of the project.

Level 2: An efficient system of communications that makes it possible for all stakeholders to exercise their responsibilities

A website has been designed to communicate with all stakeholders and the general public on the Idex project (<http://imagine.universite-lyon.fr>). A secure platform ensures the dissemination of relevant and reliable information to project stakeholders in a timely fashion. It manages and **disseminates basic documents**, such as organization charts and the chain of command, job descriptions and responsibilities, organizational notes, etc.

Level 3: Monitoring of the main risks likely to affect the meeting of the project objectives

Within three months after notification, the **basic procedures** for running the project shall be laid out and formalized by the PMU, then approved by the Executive Board. In particular, the procedures for organizing and implementing the critical processes of **budgeting, funding commitments and financial monitoring of activities** will be developed and shared with all stakeholders.

Level 4: Ongoing monitoring of the control mechanism as well as a regular review of its operations

Project supervision, in particular of its financial and management system, is based on three levels of control:

- * **self-inspection** by operational personnel in charge of implementing activities;
- * **vigilance** of activity leaders in exercising their role of **supervising** the proper execution of activities, in accordance with the policies and rules set by the Board;
- * **self-assessment** process implemented by the **Idex Project Manager**

5.5 Means

Our project can be characterized by some global ratios. First of all, the excellence perimeter (EP), by means of the LabEx funding, represents about 39% of the total budget. The other actions focused on the EP also represent about 41% of the budget. Finally, 20% of the budget is devoted to the leverage effect we want to create thanks to the I dex project on the overall academic community.

Human resources policy is a budget priority in the LabEx strategy and the additional specific human resources policy of the I dex project. It will allow the EP to benefit from about 100 new researchers positions (which means +7% of the current number of EP's academics) and about 160 new Ph.D. positions (+10% of the current number of Ph.D. associated to the EP). The overall number of new positions including these categories and the support and management positions adds up to about 270.

Among all the actions planned, some are a priori affected 100% to the EP. This is for instance the case of governance, communication policy, links with society... This is why these actions appear both on tables 3 and 4 in section 6. However, we decided that the effect on the perimeter of excellence should be emphasized and we decided an *a priori* global assessment of 75% on the perimeter of excellence.

The resources for this project are being requested on a short-term basis. Extending the budget to cover a 4-year period only takes into account inflation (2%/year). Given the planned structuring effect, it is impossible to predict the following 4 years the nature of resources both in terms of income and expenditure, in the same way as the project partner institutions are unable to forecast their own financial investments. The project partner institutions are making a political commitment which also involves making a financial investment as a basic principle.

Our project focuses on levers which will primarily use I dex funds. The contributions from the IHE-LSE member institutions will mainly be allocated to four areas:

- Support for the excellence perimeter as per the various LabEx applications submitted by the UdL.
- Support for the project proposed by the IHE-LSE governance by means of human resources principally as explained in next section.
- Covering the cost of delivering training leading to the national bachelor and master's degrees (only the specific cost is covered by the I dex project).
- Implementation of the I dex projects by the project partner institutions.

5.6 Human Resources

The IHE-LSE will put into place an innovative human resources policy across the site, which will not only offer comprehensive packages for hosting researchers but also define a significant annual allocation of collective positions.

5.6.1 HOSTING POLICY

A site can be attractive but not have a truly comprehensive hosting policy that reflects all internal (relating to professional practices, training and education, technology transfer, documentation, and digital infrastructures) and external aspects (accommodation in the literal sense of the term, room and board, education, integration into the metropolitan area, culture, sport, etc.). The LabEx projects filed by the PRES UdL provide for the accommodation of 40 additional post-doctoral students and 80 additional doctoral students across the site. These new arrivals will have to have the best possible scientific environment as well as the best accommodation on campus.

An attractiveness policy aimed at students, researchers and teacher-researchers includes:

- * Packages for setting up and operating a research group in its initial stages (amount to depend on the discipline and research topic and on the practices of the competing foreign universities): this theme is a priority LabEx policy. The IHE-LSE will nonetheless handle accommodation logistics (with a budget covering rental, operation and maintenance) for the new teams in “project centers”⁴⁰ designed under *Opération Campus*, while the LabEx will provide the scientific operating budget;
- * Scientific packages for a full time equivalent professor, two post-doctoral positions, one PhD grant, financial support for a technician and of course a recurrent operating budget (one post-doctoral position and PhD Grant provided by the LabEx);
- * Support for bringing in part-time professors from the corporate sector;
- * Support for bringing in post-doctoral students funded under the framework of the scientific policy (LabEx and emerging clusters);
- * Making research and teaching space available: this will mainly take the form of the “project centers” on the LyonTech-La Doua and Charles Mérieux campuses;
- * Salary adjustments, including repatriation bonuses for expatriate doctoral and post-doctoral students at the Lyon/Saint-Etienne, help fitting in, etc.;
- * Information on accessible shared resources, such as research infrastructure, platforms, documentary resources, etc.;
- * Social assistance (spouse, schooling, child care, housing), including a precautionary fund for access to housing in liaison with local and regional governments within the Foundation for UdL;
- * Assistance with legal and administrative formalities;

Political, operational and promotional assistance by local and regional government, academic institutions and the social and economic sector (competitive clusters, Thematic Advanced Research Network, Foundations, etc.).

⁴⁰ Four project centers are planned under *Opération Campus* around four themes: sciences of the complex, science and society, language and culture, science and technology.

5.6.2 HUMAN RESOURCES SUPPORT POLICY

The structures which support the IDEX project and notably the project stakeholders, will commit to a supporting human resources policy. Indeed, the human resources these structures possess and their capacity to use them strategically are one of their key strengths. With the aim of progressively implementing a more federative university system, a percentage of the **annual vacancies open** (PhD students, researchers, teacher-researchers, administrative staff and technical staff) will be pooled. These positions will reinforce the actions implemented by the IHE-LSE. The target figure of 10% of the total positions has been approved by all institutions.

For the purposes of information, this commitment will see an average of 24 statutory teacher-researcher posts devoted to the IHE-LSE each year. As regards the technical and administrative staff, this will result in a pool of 12 positions annually. For PhD students, this will represent 20 new students each year.

The positions which are flagged up for the IHE-LSE will still be employed by the institutions or institutions which make them available. However, the job research profiles will first be determined by the IHE-LSE governance and then gradually overtime by the new university. The external structures of the IHE-LSE, Foundation, SSC and Academic Senate will be used to draw up the human resources strategy and in the annual decisions to be made.

6. Key data and financial planning

Table 1 : Proportion of faculty and students involved in the excellence Initiative

Table 1.1	Excellence perimeter	All partner institutions of the Idex
Number of academics	1357	3834

The number of academics of the excellence perimeter is the current number of academics involved in the LabEx projects already labeled or under submission. It only refers to permanent positions.

Table 1.2	Idex perimeter	All partner institutions of the Idex
Number of students	8160	130000

The exact number of students in the excellence perimeter is hard to estimate. This number is based on the new bachelor program (1 000 students at the end of the first four year period the new master degrees (11 x 60), the entrepreneurship projects (500 students as a mean for the first 4 years period) and the overall Ph.D. Program (6000). This does not take into account the students which will benefit from senior scientists recruitments at bachelor and master's levels, neither the new degrees related to socio-economic links.

Table 2 : Capital grant requested (in millions of euros)

Capital grant requested	1267
Yearly expected interests from the capital grant (based on a 3.413% rate)	43,25

Presentation of the different actions

The document presents each operation in detail. This section only includes the IDEX funding allocated to each action. If not specified, any funding is supported by the IDEX specific funding.

Most of the budget is devoted to human resources which are based on a civil service pay scales (overall cost for one year salary):

- Technician and administrative: 60 K€
- Ph.D.: 35 K€
- Postdoctoral position: 50 K€
- Senior position: 130 K€

1. International and European policy

1.1 International Alliance

- 1 FTE for coordination and 5 FTE located at the international partners.
- Annual operation costs : 100 K€

1.2 Transalpine university platform

- One administrative FTE and 150 K€ of annual operating costs.

1.3 Campus LSE agency

- 3 FTE and 250 K€ of annual operating cost. The international service of UdL will be integrated in the new agency.

2. Research

2.1 LabEx

- The overall funding of the 8 LabEx (already labelled) on the IDEX funding is about 6.7 M€ per year. We hope to increase this funding by +25% based on the second round of the LabEx call for proposals.

2.2 Emerging clusters

- The four potential emerging clusters are funded on a basis of 75% of the mean funding of a LabEx. The same ratio is required on other contributions.

2.3 Hosting package

- A mean of ten hosting packages including one invited senior researcher, one technician, a postdoc and 100 K€ of annual operating costs. The complementary salary of the hosting package (one PhD grant and a postdoc) is supported by the LabEx projects).
- Two main investments of 500 K€ each over the four years.

2.4 Hosting policy

- two administrative FTE and annual operating costs of 20 K€ (covered by UdL)
- Rent for the average sixteen hosting staff evaluated to 2 M€ a year
- Contribution of territorial authorities and the State to the project centers and the International Center for Culture and Language, evaluated to 47.8 M€ over the four years

3. Ph.D. program

3.1 UdL Ph. D. label

- One administrative FTE and 80 K€ of annual operating cost

3.2 Inclusion work

- One administrative FTE
- 150 K€ of annual operating cost
- 20 “docteur conseil” positions, half of them supported by external partners (territorial authorities)

3.3 Ph.D. Grants

- 60 Ph.D. Grants, 20 of them supported by higher education institution partners of the IDEX

3.4 International mobility

- One administrative FTE
- 30 annually incoming grants of 6 months each (2.9 K€/month)
- 30 annually outgoing grants of 6 months each (600 €/month)

4. Education

4.1 Bachelor in sciences and humanities

- The average number of students is estimated as 600. The mean cost per student is 12 K€, half of it is the contribution of the partner institutions of the IDEX project

4.2 International master's degrees

- 11 master's degrees (4 already existing, 7 to be in 2012)
- For each masters degree
 - ½ administrative FTE
 - 30 K€ of annual communication cost
 - 30 K€ of annual cost for visiting professors
 - 50 K€ of investment the first year
 - 10 grants of 6 months
- Non IDEX funding for each master's degree are
 - 680 K€ of annual operating costs supported by higher education institutions partners of the IHE-LSE
 - 220 K€ annually for the 11 master's degree from the LabEx projects
 - 15 K€ from territorial authorities

4.3 Training of trainers

- 100 K€ per year if the partners institutions contribute to four times the amount of the grant allocated by the IDEX action.

4.4 Innovative programs

- 500 K€ per year if the partners institutions contribute to twice the amount of the grant allocated by the IDEX action. Half of the funding will be focused on the Manutech-School program.

5. Valorization and corporate partnerships

5.1 Entrepreneurship

- 3 M€ will be allocated within a call for proposal assuming a large contribution of the partners institutions.

5.2 Life-long learning

- 2,5 K€ will be allocated to support life-long learning programs, assuming an equivalent contribution from the economic partners.

5.3 Links with IRT and IEED

- 500 K€ will be allocated to develop new teaching programs with our partners, assuming an equivalent contribution from IRT and IEED.

6. Science and society

6.1 Science shop

- 3 administrative FTE
- 25 K€ of annual operating costs
- 250 K€ of annual funding for social innovation projects
- 250 K€ of annual other funding
- 150 K€ of investments per year

6.2 Cité des savoirs

- One annual event (150 K€)
- 4 FTE
- 500 K€ of annual operating costs
- 250 K€ of annual investments

7. Knowledge access

7.1 United library

- 1 FTE and 300 K€ of annual operating costs

7.2 Publishing policy

- 2 FTE and 400 K€ of annual operating costs

7.3 Cloud of datacenter

- 2.94 M€ of investments over the four years
- 960 K€ of operating costs over the four years
- 9.78 M€ of salaries over the four years, supported by the partners of the IDEX project

8. Campus life

- 250 K€ operating cost for an annual call for proposal

9. Governance

8.1 Management team

- President and project manager (senior positions)
- 2 program managers
- 1 performance supervisor
- 2 administrative FTE

8.2 Operations

- 250 K€ of annual operating costs

8.3 Programme supervision

- 150 K€ of annual operating costs

8.4 Communications and events organisation

- One administrative FTE
- 150 K€ of annual operating costs

8.5 Organisation of committees

- 50 K€ of annual operating costs

10. Management costs

The management costs represent 4% of the overall IDEX funding.

Table 3 : Presentation of the resources and expenses of the actions of the perimeter of excellence of the I dex – total over 4 years (in millions of euros).

I dex scope of excellence budget (€ million over 4 years)							
Initiatives	Incomes				Outcomes		
	I dex funding	Other funding IF	Partner institutions funding from their own budgets	External income	Invest. Including real estate	Operating budget	Human resources
International and european policy	3,54		0,42	0,98		2,94	2,01
International alliance	1,39					0,31	1,08
Transalpine university platform	0,64					0,46	0,18
« Campus LSE » agency	1,52		0,42	0,98		2,17	0,75
Research	62,83	13,82	214,65	62,08	69,06	118,12	166,2
LabEx	40,2	13,82	214,59	26,2	32,43	109,08	153,3
Emerging cluster							
Hosting package	11,02				0,75	3,07	7,2
Hosting policy	11,61		0,06	35,88	35,88	5,97	5,7
Ph.D. Program	9,62		3,86	0,72		2,82	11,38
UdL Ph.D. Label	0,43					0,25	0,18
Inclusion work	1,36		1,06	0,72		2,42	0,72
Ph.D. Grants	5,6		2,8				8,4
International mobility	2,23					0,15	2,08
Education	21,17		38,34	0,31	0,41	39,28	20,13
Bachelor	14,73		14,73			14,73	14,73
International masters	4,64		19,41	0,31	0,41	21,56	2,4
Training for trainers	0,3		1,2			1,5	0
Innovative programs	1,5		3		0	1,5	3
Corporate partnership	18,5	10,25	11,92	15,82	1,5	49,44	5,55
Development of results		8,25		2,36		8,96	1,65
Entrepreneurship	9		11,92	5,96	1,5	21,47	3,9
Lifelong learning	7,5			7,5		15	
Links with IRT and IEED	2	2	0			4	0
Science and society	6,08		0,15	0,6	1,2	4,37	1,26
Science shop	2,15		0,15	0,6	0,45	1,92	0,54
Cite des Savoirs	3,92				0,75	2,45	0,72
Knowledge access	6,03		13,01		2,21	4,52	12,32
United Library	1,31					0,92	0,39
Publishing policy	1,8		5,68			2,88	4,59
Cloud of datacenter	2,92		7,34		2,21	0,72	7,34
Campus life	0,75					0,75	
Supporting students projects	0,75					0,75	
Governance	4,33					1,84	2,49
Management team	2,31						2,31
Operations	0,77					0,77	
Programme supervision	0,46					0,46	
Communication and events	0,64					0,46	0,18
Organisation of committees	0,15					0,15	
Management costs (4%)	5,31					5,31	
Total	138,17	24,07	282,35	80,52	74,38	229,4	221,33

Table 4 : Presentation of the resources and spending of the other I dex actions - total over 4 years (in millions of euros)

Other I dex actions budget (€ million over 4 years)							
Initiatives	Incomes				Outcomes		
	I dex funding	Other funding IF	Partner institutions funding from their own budgets	External income	Invest. Including real estate	Opera-ting budget	Human ressources
International and european policy	1,18		0,14	0,33		0,98	0,67
International alliance	0,46					0,1	0,36
Transalpine university platform	0,21					0,15	0,06
« Campus LSE » agency	0,51		0,14	0,33		0,72	0,25
Research	17,59	0	53,67	18,51	19,94	29,01	40,83
LabEx							
Emerging cluster	10,05		53,65	6,55	7,73	25,99	36,53
Hosting package	3,67				0,25	1,02	2,4
Hosting policy	3,87		0,02	11,96	11,96	1,99	1,9
Ph.D. Program	1,34		0,35	0,24		0,94	0,99
UdL Ph.D. Label	0,14					0,08	0,06
Inclusion work	0,45		0,35	0,24		0,81	0,24
Ph.D. Grants							
International mobility	0,74					0,05	0,69
Education	2,15		7,87	0,1	0,14	8,19	1,8
Bachelor							
International masters	1,55		6,47	0,1	0,14	7,19	0,8
Training for trainers	0,1		0,4			0,5	0
Innovative programs	0,5		1		0	0,5	1
Corporate partnership	5,5	2,75	3,97	5,27	0,5	15,15	1,85
Development of results		2,75		0,79		2,99	0,55
Entrepreneurship	3		3,97	1,99	0,5	7,16	1,3
Lifelong learning	2,5			2,5		5	
Links with IRT and IEED							
Science and society	2,03		0,05	0,2	0,4	1,46	0,42
Science shop	0,72		0,05	0,2	0,15	0,64	0,18
Cite des Savoirs	1,31				0,25	0,82	0,24
Knowledge access	2,01		4,34		0,74	1,51	4,11
United Library	0,44					0,31	0,13
Publishing policy	0,6		1,89			0,96	1,53
Cloud of datacenter	0,97		2,45		0,74	0,24	2,45
Campus life	0,25					0,25	
Supporting students projects	0,25					0,25	
Governance	1,44					0,61	0,83
Management team	0,77						0,77
Operations	0,26					0,26	
Programme supervision	0,15					0,15	
Communication and events	0,21					0,15	0,06
Organisation of committees	0,05					0,05	
Management costs (4%)	1,34					1,34	
Total	34,83	2,75	70,39	24,66	21,71	59,42	51,5

Table 5: Total budget over 4 years – resources and spending (in millions of euros)

	Resources mobilized for the actions of the I dex project	Total of the resources of the I dex partners
Financements apportés par les Investissements d'avenir (A) et (B)		
Investissements d'avenir : amount of the requested funding for the I dex (A)	173	Sans objet
Other fundings within Investissements d'avenir which could affect the I dex (B)	26,82	Sans objet
Funding obtained (b1)	15,82	Sans objet
Pending fundings (1st and 2 nd wave) (b2)	11	Sans objet

(b2) only refers to the SATT project.

Contribution of the higher education I dex partners (C)		
Université de Lyon (UdL)	2,70	112
Université Lyon 1	88,88	1493
Université Lyon 2	22,54	502
Université Lyon 3	11,55	373
Université StEtienne	21,38	520
ENS	33,05	499
EC Lyon	22,4	176
INSA Lyon	31,97	528
SciencePo Lyon	3,96	36
VetAgroSup	2,07	109
ENISE	1,88	51
ENSA Lyon	1,09	23
ENTPE	5,95	95
CPE	2,12	50
Others higher education members of UdL	10,87	591
Total	262,41	5158

The institution full partners of the I dex project contribute to about 94% of the overall contribution.

Contribution of the research institutes within the I dex partners (D)		
CNRS	74,86	908
INSERM	11,16	180
Total	86,02	1088

Contributions of other partners (E)		
CLB	4,31	586
Total	4,31	586

Some partners of the consortium do not actually have direct contribution to the IDEX project but will mainly contribute for the in-service training programme.

Contribution of the territorial authorities (F)		
Grand Lyon	22,48	Sans objet
Région Rhône-Alpes	23,49	Sans objet
Total	45,98	Sans objet

Contribution of the territorial authorities is not focused on a single project but really on several actions including the Ph.D. Programme, link with society, entrepreneurship...

Contribution of the private sector (G)		
HEF R&D	2,44	Sans objet
Others	30,29	Sans objet
Total	32,73	Sans objet

Many companies are under contact to fund the IDEX actions. Main part of the line « Others » corresponds to the entrepreneurship and socio-economic project.

Other contributions (H)		
Inria	6,13	Sans objet
IFPEN	2,26	Sans objet
lfsttar	2,35	Sans objet
MESR	8,5	Sans objet
Other higher education institutions outside the site	7,23	Sans objet
Total	26,46	Sans objet

Contributions from the research institutes are mainly focused on the LabEx projects and confirmation of this can be founded in LabEx documents. The contribution from MESR is focused on one operation included in the project Lyon Cité Campus and which will be strongly related to our project of accomodation package for international researchers.

TOTAL (I)		
TOTAL of the resources mobilized for the actions of the IDEX project	657,73	Sans objet

Table 6: Distribution of the expenses according to the nature of the 4 year budget (in millions of euros)

	Requested funding for the I dex	Resources mobilized for the actions of the I dex project	Ratio Requested/O verall (%)
HR (including permanent staff)	58,55	272,83	21,5%
Equipment	12,29	96,09	12,8%
Operating costs	102,16	288,82	35,4%
Total	173	657,73	26,3%

As it is emphasized in the document, the priority of the I dex project is human resources (which represents 43% of the total resources mobilized for the action of the I dex project). However, the ratio of the requested funding for human resources is not the highest as we get a high funding quota mainly from the six higher education institutions constituting the core of the PRES UdL contribution. Equipment ratio is low as this is the main line of contribution from territorial authorities (partially due to the *Lyon Cité Campus* project which is linked to the I dex project).

Table 7 : Distribution of the expenses by activity of the 4 year budget (in millions of euros)

	Resources mobilized for the actions of the Idex project	Resources mobilized for the Idex project	% action	% projects
Research	66,43	309,18	38,4%	47,0%
Training	32,37	146,26	18,7%	22,2%
Development of results and relations to the economic sphere and society	41,95	135,09	24,2%	20,5%
Governance	5,77	5,77	3,3%	0,9%
Infrastructures	8,04	25,39	4,6%	3,9%
International policy	8,27	10,14	4,8%	1,5%
Other	10,17	25,91	5,9%	3,9%
Total	173	657,73		

The LabEx and emerging clusters funding is split between research, training and relations with economic sphere and society based on the LabEx documents and similar ratios for the potential emerging clusters (61% on research, 22% on training, 12% on valorization and 5% on others). The doctoral action is also divided according to the exact content of each sub-action. The links to society action is grouped together with actions linked with economic sphere.

The research policy for instance is mainly tuned for international so the international policy ratio is largely under-estimated. We are striving to improve our international attractiveness based on research, education.

% action indicates the ratio of the corresponding action regarding the overall specific Idex funding.

% projects indicates the ratio of the resources mobilized from the Idex project for this specific action regarding the overall resources mobilized for the Idex project.

7. Attachment: Letter of support from the socio-economic partners



CHAMBRE DE COMMERCE
ET INDUSTRIE TERRITORIALE
SAINT-ETIENNE MONTBRISON



CHAMBRE
DE COMMERCE D'INDUSTRIE

LYON



MEDEF
} LYON-RHÔNE {



CGPME®
Rhône



Mouvement
des Entreprises de France
MEDEF Loire



CGPME®
Loire



Chambre de Métiers
et de l'Artisanat



Chambre de Métiers
et de l'Artisanat

Loire - Saint-Etienne
Montbrison

Monsieur le Président du PRES UNIVERSITE DE LYON
A l'attention de Monsieur Michel LUSSAULT, Président
Monsieur Jacques SAMARUT, Président du Comité
IDEX
Monsieur Alain BONMARTIN, Président de la
Commission Economie
UNIVERSITE DE LYON
Caserne Sergent Blandan
37, rue du repos
69361 LYON CEDEX 07

Lyon, le 28 novembre 2011

Objet :

Soutien des acteurs économiques au projet « IDEX » déposé par le PRES de Lyon/Saint-Etienne

PJ : 1

Monsieur le Président,

Les institutions économiques ont salué la création du PRES Université de Lyon Saint-Etienne dont elles soutiennent le développement, certaines d'entre elles siégeant en son conseil d'administration. Le pôle est indispensable pour :

renforcer le lien Enseignement Supérieur-Recherche-Entreprises,
renforcer le message au niveau régional du lien étroit entre le développement économique, le développement du savoir et des compétences et le développement des responsabilités de chacun pour l'équilibre de la société,
donner une visibilité internationale à nos points forts.

Les institutions économiques considèrent l'IDEX « Lyon/Saint-Etienne, métropole d'innovation et de création » comme un outil de développement majeur : le projet prend en compte le tissu économique métropolitain ; il répond aux enjeux de son avenir industriel.

La CCI de Lyon, la CCI de Saint-Etienne/Montbrison, les CMA du Rhône et Loire Saint-Etienne Montbrison, le MEDEF Lyon-Rhône, le MEDEF Loire, la CGPME du Rhône, et la CGPME de la Loire composent les institutions représentatives de plus de 120 000 entreprises sur leurs territoires respectifs. Elles tirent leur légitimité du processus électoral démocratique dont elles sont issues et des textes législatifs qui régissent leur activité.

L'ensemble des institutions que nous représentons soutient très fortement le dossier IDEX du PRES de Lyon Saint-Etienne qui a été élaboré en concertation avec les acteurs économiques. Ceux-ci sont en effet convaincus que l'Université et ses laboratoires représentent un levier de croissance indispensable aux entreprises implantées sur ce bassin métropolitain quelque soit leur taille ou leur secteur d'activité. Leur contribution figure en annexe du dossier et nous avons le plaisir de vous transmettre ce document.

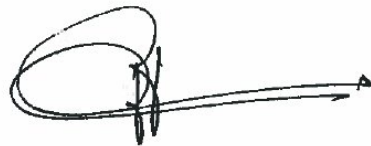
Nous vous prions d'agréer, Monsieur le Président, l'expression de notre haute considération.



André MOUNIER
Président de la CCI de
Saint/Etienne Monbrison



Philippe GRILLOT
Président de la CCI de Lyon



Bernard FONTANEL
Président du Medef Lyon-Rhône



Eric Le JAOUEN
Président du Medef Loire



Daniel VILLAREALE
Président de la CGPME Loire



François TURCAS
Président de la CGPME Rhône



Alain AUDOUARD
Président de la CMA du Rhône



Jean-André PORTENEUVE
Président de la CMA de la Loire

Copie : Monsieur Michel Mercier, Garde des Sceaux, Président du Conseil Général du Rhône, Monsieur Jean-François Carencu, Préfet de la Région Rhône-Alpes, Préfet du Rhône, Madame Fabienne Buccio, Préfète de la Loire, Monsieur Roland Debbash, Recteur d'Académie, Chancelier des Universités, Monsieur Jean-Jack Queyranne, Président de la Région Rhône-Alpes, Monsieur Bernard Bonne, Président du Conseil Général de la Loire, Monsieur Gérard Collomb, Président du Grand Lyon, Monsieur Maurice Vincent, Président de Saint-Etienne Métropole, Monsieur Bruno Lacroix, Président du CESER Rhône-Alpes, Monsieur Jean-Paul Mauduy, Président de la CCIR Rhône-Alpes, Monsieur Eric Froment, Président de la Fondation Scientifique de Lyon et Sud-Est, Monsieur Olivier de Marignan, Président de la Fondation Rhône-Alpes Futur.



Contribution des acteurs économiques au projet IDEX

L'entreprise apprenante et l'université entreprenante



Introduction

L'IDEX « Lyon/Saint-Etienne, métropole d'innovation et de création » est considéré par les acteurs économiques comme un enjeu de premier plan pour l'économie du territoire et notamment l'avenir de son industrie.

Les institutions économiques ont salué la création du PRES Université Lyon/Saint-Etienne dont elles soutiennent le développement, certaines d'entre elles siégeant en son conseil d'administration. Le pôle est indispensable pour :

- ✓ renforcer le lien Enseignement Supérieur-Recherche-Entreprises,
- ✓ renforcer le message au niveau régional du lien étroit entre le développement économique, le développement du savoir et des compétences et le développement des responsabilités de chacun pour l'équilibre de la société,
- ✓ donner une visibilité internationale à nos points forts.

Les institutions économiques considèrent l'IDEX « Lyon/Saint-Etienne, métropole d'innovation et de création » comme un outil de développement majeur : le projet prend en compte le tissu économique métropolitain ; il répond aux enjeux de son avenir industriel.

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Le PRES de Lyon/Saint-Etienne a souhaité intégrer le monde économique à la constitution du dossier de candidature qu'il présente dans le cadre du concours IDEX devant décider de l'affectation des fonds du grand emprunt.

Compte tenu de l'importance de l'enjeu, toutes les organisations consulaires et interprofessionnelles mentionnées ont décidé d'unir leurs analyses et leur volonté afin de transmettre une réflexion commune du monde économique pour contribuer à l'élaboration du projet déposé par le PRES de Lyon/Saint-Etienne.

La présente contribution porte à la fois sur une vision du concours lui-même et de ses enjeux, d'une part, et d'autre part sur les attentes du monde économique liées à ce projet.

Enfin, seront abordées dans cette note les propositions plus opérationnelles des entreprises notamment sur la question de la formation initiale (alternance) et continue.

1 – La vision du monde économique sur les enjeux liés à l'IDEX

L'intitulé même de ce programme parait aux acteurs économiques hautement signifiant. Il s'agit bien de mettre en avant des initiatives qui doivent démontrer leur capacité à innover. Ensuite, la référence à la notion d'excellence conduit les porteurs lyonnais et stéphanois à inscrire leur démarche dans une vision sélective des projets.

Nouveautés et choix semblent ainsi représenter les éléments fondamentaux qui ressortent de la définition de ce concours.

Ensuite, la forme d'un appel à projet évalué par un jury international fait entrer de facto le monde de l'enseignement supérieur dans un environnement de concurrence plus marquée et d'une ouverture sur le monde renforcée.

C'est donc collectivement que le principe de compétition sera intégré dans ce dossier, non seulement dans le cadre de l'IDEX, mais plus généralement par rapport à une organisation mondiale émergente structurée par des grands pôles de connaissances et qui vont rivaliser entre eux (classement de Shanghai, Prix Nobel, etc).

De plus, le monde de l'entreprise considère qu'il est de sa responsabilité de faire en sorte que l'esprit d'entreprise soit intégré toujours davantage aux formations dispensées par le monde académique. C'est la condition première qui entrainera la continuité entre les leviers de l'apprentissage et de la formation et ceux de la création de richesses économiques. L'emploi des habitants de ce territoire, véritable finalité de ce système, en est l'enjeu principal.

Par ailleurs, l'esprit d'entreprendre n'est pas inné ou donné, mais il se construit. Plus largement, il s'agit d'amener l'étudiant à être acteur, à entreprendre sa vie, à avoir une bonne estime de soi, et ce quelque soit son parcours professionnel, dans le sens d'une possibilité d'ouverture personnelle et professionnelle valorisante. Dès la première année, il s'agira de mettre les étudiants en **situation d'entrepreneurs** dans toutes les activités individuelles et collectives du cursus de formation, par co-construction en lien avec les acteurs économiques. Cet apprentissage doit s'enrichir d'un **métissage** de cursus, de profils et de nationalités. Il peut leur permettre d'appréhender le **côté positif d'un échec**, la notion de tâtonnement et les horizons ouverts par la **prise de risque** qui nourrissent la cohérence de l'ensemble du parcours des étudiants.

Enfin, et à l'occasion de cet appel à projet, il convient de compléter la finalité de l'enseignement supérieur en y incluant dans son processus

d'offre de formations la notion de réponse à un besoin, ce qui induit des nouvelles maquettes pédagogiques.

Il s'agit donc bien, à l'heure où le chômage coexiste avec des métiers en tension, de déterminer les apprentissages universitaires qui permettront aux étudiants de satisfaire, par leurs compétences et leurs qualifications, à la demande d'embauche des entreprises comme des institutions publiques. Dans cette perspective, la capacité d'entreprendre devient une **compétence transversale** en Master.

2 – Le cadre des propositions opérationnelles qui permettront de rapprocher le monde universitaire et le monde économique

Les points de fragilité de l'industrie régionale illustrent l'apport potentiel de l'IDEX :

- **Un taux insuffisant de transformation de la R&D en innovation industrielle et création de valeur.**
- **Un segment « moteurs de l'innovation » en dessous du niveau français.**
- **Des secteurs en « équilibre instable » et « fortement exposés » très présents sur le territoire (segmentation Mac Kinsey)**
- **Une désaffection des jeunes pour l'industrie qu'un enseignement d'excellence peut guérir.**
- **Un tissu industriel principalement composé de TPE et PME.**

Les points forts de l'industrie régionale confortent la pertinence de l'IDEX :

- **Une industrie forte et diversifiée, portée par les secteurs traditionnels.**
- **Des services à l'industrie en progression et un tissu de sous-traitants important et de qualité.**
- **Attractivité de la région Rhône-Alpes.**
- **Première région française d'accueil de pôles de compétitivité et le nombre de grappes d'entreprises au sens de la DATAR ; solides potentiels de R&D.**

Avant d'évoquer plus en détail les différents projets qui sont considérés par le monde économique comme permettant de répondre aux enjeux de l'IDEX, il semble utile de rappeler **quelques traits du bassin économique** de Lyon/Saint-Etienne.

Il s'agit tout d'abord de souligner **la diversité du tissu économique** et notamment de sa base industrielle ainsi que les enjeux liés à la **création comme à la reprise** d'entreprises. Ensuite, ce tissu est composé certes de grands groupes, mais surtout de PME/PMI, vecteurs de croissance et d'innovation. De plus, de nombreuses entreprises de taille intermédiaire (ETI) dynamiques, sont leaders sur leur marché et concourent directement au renouvellement du tissu industriel territorial. Enfin, c'est grâce à la diversité et à la richesse de ce tissu de PME/PMI que pourront apparaître, dans l'avenir, d'autres ETI porteuses de développement et d'innovation.

Les PME, notamment de sous-traitance industrielle, ont souvent des marges qui sont parfois insuffisantes pour libérer des investissements

notamment dans la R et D. De ce point de vue, l'IDEX représente une opportunité d'apporter à ce tissu d'ETI et de PME les moyens d'innover et d'accroître la valeur de leur production, et d'accroître leurs chances de succès à l'exportation grâce à une offre différenciée.

Le nombre d'entreprises maîtrisant une spécialité donne à l'innovation des potentialités singulières. En effet, le monde économique considère que les innovations dans le cadre de **la fertilisation croisée de technologies et de procédés** apporteront à l'avenir davantage de résultats que celles, toujours nécessaires, issues de chaque secteur d'activité.

L'histoire industrielle du territoire illustre particulièrement cette capacité à proposer des inventions sur la base du croisement de techniques et de compétences.

Enfin, **la gouvernance économique** du territoire initiée en 2001 par la création de Grand Lyon Esprit d'Entreprise démontre la capacité des acteurs à travailler de concert et à développer des programmes spécifiques qui ont placé l'agglomération dans les 10 premières métropoles européennes notamment en ce qui concerne l'entrepreneuriat : le GLEE a favorisé l'émergence de Lyon Ville de l'Entrepreneuriat (LVE) dont la mission a été pérennisée dans le contrat d'agglomération qui a été signé entre le Grand Lyon et la Région Rhône-Alpes. Par ailleurs, l'Université Jean Monnet, prépare actuellement un guide de compétences en Licence, en étroite collaboration avec le monde économique, pour le territoire stéphanois. De plus, avec CREA FIL, Saint Etienne Métropole a mis en place en 2009 une politique volontariste tournée vers l'entrepreneuriat.

Au-delà de ce système de gouvernance, un certain nombre d'initiatives ont été menées parfois depuis plus de 10 ans dans l'esprit même qui préside à la mise en place de l'IDEX :

- relations écoles entreprises
- doctor'Entreprise
- gestion prévisionnelle et territoriale des emplois et des compétences

Les projets mis en avant par le monde économique tiennent compte de ce contexte et de ses acquis et souhaitent cibler prioritairement les PME et les PMI en faisant davantage appel à l'alternance dans l'enseignement supérieur et au tutorat sénior dans l'entreprise.

3 – Les projets proposés par les acteurs économiques pour contribuer au dossier de l'IDEX

Objectifs : Il s'agit d'exprimer la volonté de rompre l'isolement respectif des entreprises et de l'université au profit de l'avenir des jeunes par la recherche systématique de solutions partagées.

Plus précisément, les acteurs engagés dans l'IDEX souhaitent mettre en application les principes des programmes européens EFTLV Evaluation/ Formation tout au long de la vie pour favoriser l'avènement d'une

société de la connaissance fondée sur les échanges, l'instruction et la mobilité.

Sur le plan global, **les institutions économiques s'engagent** :

- en termes d'employabilité des jeunes, à apporter leur connaissance des besoins des entreprises en matière de formation, prenant en compte les évolutions et les mutations des métiers. Elles contribueront ainsi à la pertinence des enseignements dispensés.
- en termes de professionnalisation, à favoriser le plus large accueil par les entreprises des étudiants à tous les stades de leur formation, via les stages, l'alternance et l'apprentissage.
- en termes d'innovation, à susciter un grand nombre d'appels à projets concrets afin de faire émerger les besoins des entreprises et provoquer les sauts technologiques.
- A être des relais pour l'accès concret et efficace à ces moyens extraordinaires aux TPE et PME.

Dans ce cadre, les institutions économiques proposent de décliner les actions suivantes :

Les projets concrets suivants :

- Développer conjointement **les actions d'orientation** visant les classes de premières et de terminales pour diminuer le taux d'échec et d'abandon initiaux (objectif principal : Faire mieux connaître les débouchés réels offerts par les différentes filières de formation dans un souci d'employabilité),
- Accroître le nombre de masters qui font appel à **l'alternance** en lien avec les CFA, les branches, les pôles et clusters animés par les entreprises (possibilité d'une année de césure au cours du master) en les orientant vers davantage de recherche appliquée (vs Recherche Fondamentale),
- **Promouvoir l'esprit d'entreprise** dans le corps des formations dispensées d'une part (cf. innovations pédagogiques notamment par des bachelors d'excellence qui combinent sciences exactes et humanités en favorisant les passerelles entre les cursus par le biais de diplômes mixtes) et bien au-delà d'autre part dans l'ensemble du cursus de l'étudiant qui doit être « entrepreneur de sa vie » ; cette démarche exemplaire traduit bien la dimension d'université entreprenante.
- **Renforcer l'entrepreneuriat** par la création d'un incubateur du PRES de Lyon/Saint-Etienne réunissant les 3 incubateurs existants (INSA, EM, ISARA) et s'articulant avec les projets de fin d'études des écoles d'ingénieurs et le placement des doctorants dans les PME-PMI, enfin avec le concours Campus-Création et l'octroi de bourses post Erasmus pour les doctorants à l'international en partenariat avec ERAI et les clubs export ; ce regroupement donnerait à l'incubateur du PRES une dimension tout à fait innovante et permettrait un véritable parcours de l'étudiant dans sa démarche d'entrepreneuriat.
- **Intégrer des compétences de l'entreprise** dans l'enseignement universitaire : la VAE et notamment au niveau doctoral, l'intervention de professionnels expérimentés issus de l'entreprise pour dispenser certains modules de formation à côté des enseignants avec une qualification universitaire, la

participation de ces professionnels dans les jurys universitaires la co-construction des référentiels de formation (Guide des compétences au niveau licence) et la reconnaissance de l'entreprise comme instance apprenante, (mise en place d'un tutorat-coaching dans une entreprise pendant 6 mois/1 an et du mentoring au sein de l'Université), le renforcement des programmes globaux de coopération ; afin d'assurer une meilleure réactivité entre l'évolution des métiers et les diplômes sanctionnant les qualifications nécessaires à leur exercice, il serait proposé d'engager des unités de formation universitaires avant même leur validation par le RNCP qui ensuite pourrait sanctionner celles-ci par une reconnaissance de qualification. Intégrer dans les maquettes pédagogiques de master un module « entreprenariat » identifié comme compétence transversale (comme c'est le cas pour les architectes et les avocats) pourrait s'envisager.

- Créer une école doctorale (A l'instar de l'école doctorale de l'économie à Toulouse) ; intégrer les enseignants du supérieur qui le souhaitent (sous la forme du volontariat) pour des stages d'immersion dans les PME pour une durée de 1 à 3 jours.
- **Innover dans le management de projets** au niveau du projet personnel, du projet de création d'entreprise ou du projet stratégique d'entreprise pour concourir à sa croissance notamment dans les domaines d'excellence retenues autour de santé et société, éco-innovations et énergies décarbonées.
- **Promouvoir la formation continue pour les dirigeants d'entreprises** notamment en matière de R&D et d'Innovation, de management et de gestion, d'optimisation et de Lean Management.
- **Mettre en place des passerelles pour rendre les laboratoires du PRES** accessibles aux PME et compréhensibles pour les dirigeants afin qu'ils puissent saisir les opportunités offertes par leurs travaux, pour franchir des paliers de croissance, et, pour certaines d'entre elles, accéder au statut d'ETI, et réciproquement pour que les entrepreneurs expriment leurs besoins en recherche auprès des laboratoires; un guichet unique ou une fonction d'interface serait proposé pour faciliter cette action dans le prolongement des filiales de valorisation engagées par exemple à Lyon I et Lyon III ; par ailleurs, il s'agira de concevoir une méthodologie d'accompagnement à la R&D visant les PME/PMI ; création d'un groupe d'analyse et de proposition multidisciplinaire permettant de rendre plus efficient les débouchés potentiels de la recherche fondamentale (Ex : la technologie de l'écran plat et de la carte à puce sont le fruit de la recherche régionale mais pas leur mise en production).
- **Mettre en place à l'Université un laboratoire d'idées** qui permet de détecter et révéler les talents.

Partenaire : Université de Lyon

Prénom : Michel

Nom : LUSSAULT

Qualité : Président

Ayant le pouvoir d'engager juridiquement l'établissement ci-dessus, je déclare:

- avoir pris connaissance du dossier de sélection du présent projet et du règlement relatif aux modalités d'attribution des aides « Initiatives d'Excellence » et souscrire aux obligations qui en découlent, notamment à des fins d'évaluation globale de l'action ;
- m'engager à mettre en œuvre tous les moyens nécessaires à la réalisation du projet dans les conditions prévues par le règlement relatif aux modalités d'attribution des aides « Initiatives d'Excellence ».

Signature :



Partenaire : CNRS

Prénom : Alain Nom : FUCHS

Qualité : Président

Ayant le pouvoir d'engager juridiquement l'établissement ci-dessus, je déclare:

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Signature :



Partenaire : INSERM

Prénom : André Nom : SYROTA

Qualité : Président Directeur Général

Ayant le pouvoir d'engager juridiquement l'établissement ci-dessus, je déclare:

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Signature :



Pr. André Syrota
Président-directeur général

Partenaire : Lyonbiopole

Prénom : Philippe

Nom : ARCHINARD

Qualité : Président

Ayant le pouvoir d'engager juridiquement l'établissement ci-dessus, je déclare:

- avoir pris connaissance du dossier de sélection du présent projet et du règlement relatif aux modalités d'attribution des aides « Initiatives d'Excellence » et souscrire aux obligations qui en découlent, notamment à des fins d'évaluation globale de l'action ;
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Signature :



Partenaire : Axelera

Prénom : Pierre-Henri

Nom : BIGEARD

Qualité : Président

Ayant le pouvoir d'engager juridiquement l'établissement ci-dessus, je déclare:

- avoir pris connaissance du dossier de sélection du présent projet et du règlement relatif aux modalités d'attribution des aides « Initiatives d'Excellence » et souscrire aux obligations qui en découlent, notamment à des fins d'évaluation globale de l'action ;
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Signature :

A handwritten signature in black ink, appearing to read 'P. Bigeard', written over a horizontal dashed line.

Partenaire : Hospices Civils de Lyon

Prénom : Daniel

Nom : MOINARD

Qualité : Directeur Général

Ayant le pouvoir d'engager juridiquement l'établissement ci-dessus, je déclare:

- avoir pris connaissance du dossier de sélection du présent projet et du règlement relatif aux modalités d'attribution des aides « Initiatives d'Excellence » et souscrire aux obligations qui en découlent, notamment à des fins d'évaluation globale de l'action ;
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Signature :

Le Directeur Général,



D. MOINARD

Partenaire : Centre Léon Bérard

Prénom : Sylvie

Nom : NEGRIER

Qualité : Directeur général

Ayant le pouvoir d'engager juridiquement l'établissement ci-dessus, je déclare:

- avoir pris connaissance du dossier de sélection du présent projet et du règlement relatif aux modalités d'attribution des aides « Initiatives d'Excellence » et souscrire aux obligations qui en découlent, notamment à des fins d'évaluation globale de l'action ;
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Signature :



**Professeur Sylvie NEGRIER
Directeur Général**

Partenaire : Institut Carnot Ingénierie@Lyon

Prénom : Alain Nom : COMBESCURE

Qualité : Président

Ayant le pouvoir d'engager juridiquement l'établissement ci-dessus, je déclare:

- avoir pris connaissance du dossier de sélection du présent projet et du règlement relatif aux modalités d'attribution des aides « Initiatives d'Excellence » et souscrire aux obligations qui en découlent, notamment à des fins d'évaluation globale de l'action ;
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Signature :

