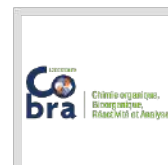


XL-CHEM

GRADUATE SCHOOL OF RESEARCH



1-Context



Graduate School of Research: continuum Master – PhD

➔ Towards *international recognition*

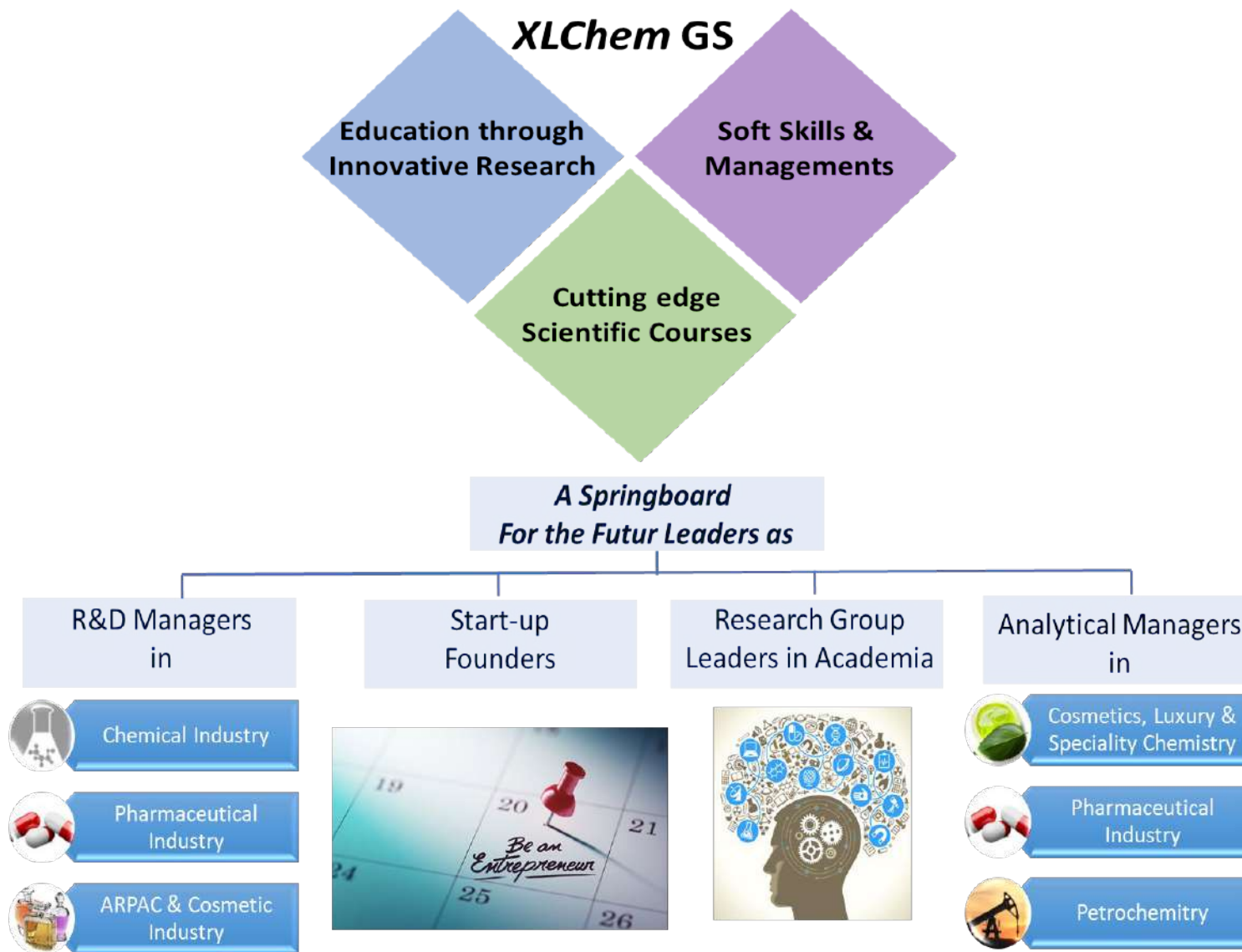
- ❖ To promote the **Graduate School** model in France
- ❖ **Linking education and research** at the highest level in a dynamic of excellence
- ❖ Enhance the **thematic strengths** of the institutions and sites
- ❖ Contribute to the **international influence and attractiveness of the country**
 - ✓ Strong international dimension
 - ✓ Association of universities and major research organisations
 - ✓ Strong links with economic actors > professional opportunities

2-Objectives of XL-Chem

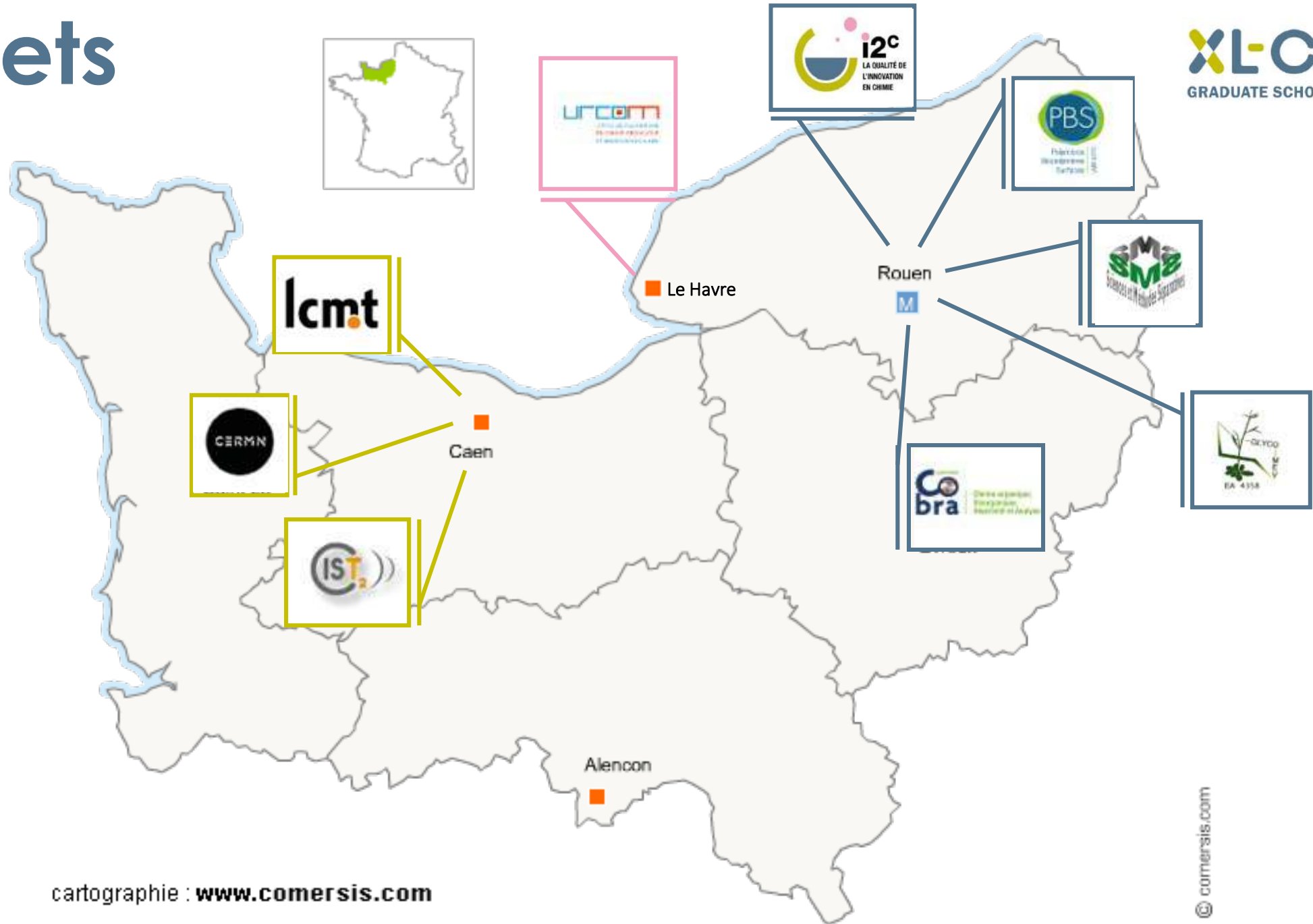
- ✓ Strengthen the **attractiveness** of Normandy
- ✓ Make the Normandy region a major **European research and training centre for molecular chemistry**
 - *Internationalisation of all chemistry courses*
 - *Setting up framework agreements and double degrees with renowned foreign universities (Florence, Montreal, etc.)*

*In order to train the managers of tomorrow, XL-Chem will offer **innovative "à la carte" Master's and Doctorate level courses**, combining **excellent research training** with **original certified training in entrepreneurship**, project management and management, in line with the candidate's professional project.*

2-Objectives of XL-Chem



3-Assets



3-Assets – Europe academic supports



3-Assets – Academic supports outside Europe



3-Assets – Industrial supports



4-Concept – Master level

- **Mentoring** (to guide the student in course selection and to supervise a research project with an international or industrial partner)
- **Chemistry courses and conferences of excellence given in English** by nationally and internationally renowned researchers
- **In-depth training in research by immersing students in internationally renowned laboratories** (M1 internship in Normandy / M2 in the partner's laboratory abroad)
- **Original certified training in entrepreneurship**, project management and management linked to the candidate's professional project
- **Excellence scholarships** (600€/month in Normandy - approximately; 1000€/month for M2 abroad)
- **Work-linked training** in the field of analytical chemistry



4-Concept – Master level

➤ An « à la carte » training of excellent scientific courses; **the student at the center of his training**

- Portfolio of courses in English chosen from all the chemistry master's courses, engineering schools and Norman master's courses at the interface.
- Choice of scientific courses with the mentor



**Polymers
and
surfaces**

Master of Chemistry – PS

- Polymer materials
- Aqueous formulation
- Polymers characterisation
- Surface analyses and properties

Master Drug design

- Applied organic chemistry for medicines and medicinal chemistry
- Natural products in medicinal chemistry
- Molecular modeling

Master of Chemistry – OS

- Natural products synthesis
- Pericyclic reactions
- Bioconjugate strategy
- Asymmetric synthesis
- Organometallic chemistry
- Medicinal chemistry
- Heteroatoms in organic chemistry

**Organic
Synthesis**



Master EcoBioValo

- Introduction to biotherapies
- Biomembranes and signaling
- Molecular microbial mechanisms

Master ImaCell

- Medical imaging technics
- Technologies for cell imaging
- Lasers and detectors

XLChem GS
PORTFOLIO of courses in English

Master of Chemistry - ARPAC

- Chemistry for aromas, perfumes and cosmetics
- Chemical, physico-chemical and sensory analyses
- Formulations for aromas, perfumes and cosmetics

Master of Chemistry – AS

- Analytical and applied electrochemistry
- NMR and Mass Spectrometry
- Chromatography
- Physical organic chemistry
- Quantum chemistry and molecular modeling

**Aroma,
Perfumes &
Cosmetics**



**Analysis &
Spectrochemistry**



4-Concept – PhD Level

- **International environment:** thesis in collaboration with a foreign partner
 - ✓ *18 months in France / 18 abroad*
 - ✓ *Co-financing of the thesis by Normandie University (Normandy Region grant) and by the foreign partner*
- Original certified training in **entrepreneurship, project management and management**
- **Access to courses offered to doctoral students**, via the doctoral school to which they are attached



5-Become an XL-Chem partner

➤ Become a partner of Normandie Université and its member institutions and partners:



➤ For the **Master level**

- **Excellent training** for high-level international students with a **level 6 diploma (licence, bachelor, etc.)**
- Training supervised by **a mentor per student**:
 - ✓ **Main referent** throughout the course (understanding of professional objectives, guidance in course selection, support and advice)
 - ✓ Involvement of the student in a **joint research project** between the mentor's laboratory and one of your laboratories
- Payment of a **monthly excellence grant** (600€) for the duration of the training (excluding the internship period)
- **Internship during the second semester of the Master 2 in one of your laboratories** (internship financed by the XL-Chem project, gratification and mobility grant included)
- Possibility to foresee:
 - ✓ **Student or staff exchanges** (mobility agreements, etc.)
 - ✓ **Excellence courses given in France by your researchers**
 - ✓ **Double degree agreements for Masters**

➤ For the **PhD level**

- **PhD co-financed 50% by Normandie Université** (via a grant from the Normandy Region) **and 50% by your institution**

NT : 50% of **salaries, scientific consumables, travel expenses for the student and his/her supervisors**... => 18 months spent in Normandy and 18 months (minimum) in your country

- PhD possible in « **simple** » collaboration, in **joint supervision**, in **double degree**

6-Become an XL-Chem student

➤ For the **Master 1** (Class of 10 students) and for the **Master 2** (Class of 15 students : 10 former M1 and 5 new students (Engineering Schools and foreign Universities)) :

- **January to March: pre-selection** of potential candidates: <https://www.xl-chem.fr/admission/spring-school/>
- **March/April : Spring School** for pre-selected candidates => presentation of the courses and mentoring topics
- **April to May: official application** on :
 - **e-candidat** for French students: <https://www.xl-chem.fr/admission/procedure/>
 - **Campus France** for foreign students: <https://www.campusfrance.org/en/application-etudes-en-france-procedure>
- **March to July: recruitment** process (application, audition)
- **August** : formation of **student/mentor pairs** – validation by the University of registration according to the chosen mentoring subject

Caen : <https://candidatures.unicaen.fr/ecandidat/>
Rouen : <https://ecandidat.univ-rouen.fr/>
Le Havre : <https://ecandidature.univ-lehavre.fr/>

➤ For the **PhD**

- **Application** via the various channels for disseminating offers, to the thesis directors
- **Selection on the basis of the candidate's file**, followed by an audition with the thesis supervisors
- Validation of the application by the **Doctoral School** after an **audition**
- **At the end of the first stages until October**: supply for documents to draw up the doctoral contract
- **October** : start of the thesis in the laboratory of affiliation, in France or abroad
- **IN PARALLEL with the setting up of the thesis project until the thesis start date**: negotiation of the collaboration and co-financing agreement linked to the thesis with the foreign partner => **MANDATORY prerequisite** to the signature of the doctoral contract (the doctoral contract can take effect between October 1st and December 31rd)