AMENDMENT N°1 TO THE MEMORANDUM FOR THE ESTABLISHMENT OF THE INTERNATIONAL SCIENTIFIC COORDINATION NETWORK (GDRI)

“Fostering the X-ray Free-Electron Laser User Community in France”

BETWEEN

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE, hereinafter referred to as CNRS, a public scientific and technological institution, with headquarters at 3, rue Michel-Ange, 75794 Paris Cedex 16, France, represented by its President, Mr. Alain FUCHS,

acting in its own name and on behalf of:
- Laboratoire de chimie physique - matière et rayonnement – LCPMR, UMR 7614, Director: Mr. Alain Dubois
- Laboratoire d’optique appliquée – LOA, UMR 7639, Director: Mr. Antoine Rousse

AND
UNIVERSITÉ PIERRE ET MARIE CURIE PARIS 6, hereinafter referred to as UPMC, a public scientific, cultural and professional institution, with headquarters at 4, place Jussieu, 75005 Paris, France, represented by its President, Mr. Jean CHAMBAZ,

acting in its own name and on behalf of:
- Laboratoire de chimie physique - matière et rayonnement – LCPMR, UMR 7614, Director: Mr. Alain Dubois

AND
ECOLE POLYTECHNIQUE, hereinafter referred to as EP, a public institution for higher education and research, headquartered at Route de Saclay, 91128 Palaiseau Cedex, France, represented by its Director, Mr. Jacques BIOT,

acting in its own name and on behalf of:
- Laboratoire d’optique appliquée – LOA, UMR 7639, Director: Mr. Antoine Rousse

AND
ÉCOLE NATIONALE SUPÉRIEURE DE TECHNIQUES AVANCÉES, hereinafter referred to as ENSTA ParisTech, a public institution for higher education and research, with headquarters at 32, boulevard Victor, 75015 Paris, France, represented by its Director, Ms. Elisabeth CRÉPON,

acting in its own name and on behalf of:
- Laboratoire d’optique appliquée – LOA, UMR 7639, Director: Mr. Antoine Rousse

AND
COMMISSARIAT A L’ÉNERGIE ATOMIQUE ET AUX ÉNERGIES ALTERNATIVES, hereinafter referred to as CEA, a French state-owned research entity with a scientific, technical or industrial activity duly organised under the laws of France, having its registered office located at Bâtiment Le Ponant D, 25, rue Leblanc, 75015 Paris, France, and declared at the Register of commerce and companies of Paris (“Registre du Commerce et des Sociétés de Paris”) under the following registration number : R.C.S. PARIS B 775 685 019, represented by the Director of the Fundamental Research, Dr. Vincent BERGER,
acting in its own name and on behalf of:
- Institut rayonnement matière de Saclay – IRAMIS, Head: Mr. Hervé Desvaux

AND
SOLEIL SYNCHROTRON, hereinafter referred to as SOLEIL, the French National synchrotron facility, a civil company, with headquarters at L’Orme des Merisiers, 91190 Saint-Aubin, France, represented by its Director General, Mr. Jean DAILLANT,

acting in its own name

AND
DEUTSCHES ELEKTRONEN-SYNCHROTRON HAMBURG, hereinafter referred to as DESY, a Research Centre of the Helmholtz Association, with headquarters at Notkestraße 85, D-22607 Hamburg, Germany, represented by the Chairman of the DESY Board of Directors, Mr. Helmut DOSCH, and the Director of the Photon Science Division, Mr. Edgar WECKERT,

acting in its own name

AND
EUROPEAN X-RAY FREE-ELECTRON LASER FACILITY GMBH, hereinafter referred to as EUROPEAN XFEL COMPANY, a non-profit limited liability company under German law, with headquarters at Holzkoppel 4, D-22869 Hamburg, Germany, represented by the Chairman of the Management Board, Mr. Robert FEIDENHANS’L, and the Administrative Director, Ms. Claudia BURGER,

acting in its own name

AND
ELETTRA - SINCROTRONE TRIESTE S.C.P.A, hereinafter referred to as ELETTRA, a joint stock company (Società Consortile per Azioni) established and recognised as a non-profit entity of national interest by Italian State Law, with headquarters at Strada Statale 14 - km 163,5 AREA Science Park, 34149 Basovizza, Trieste, Italy, represented by the President and Chief Executive Officer, Mr. Alfonso FRANCIOSI,

acting in its own name

Hereinafter referred to individually as the “Party” or collectively as the “Parties”.

CONSIDERING
- The Memorandum for the establishment of the international scientific coordination network (GDRI) “Fostering the X-ray Free Electron Laser User Community in France” signed on January 15, 2014, (hereinafter referred to as the “GDRI Memorandum”).
PREAMBLE

The goal of the network (GDRI) is to develop the French community interested in using X-ray Free Electron Laser sources, to strengthen its national and international visibility and thus to strengthen the international field of XFEL science in general. To achieve these goals, the network aims at structuring the existing community, acting as contact point for gathering of XFEL science related information and distributing it to the interested scientific community. This will facilitate obtaining up-to-date information about current performance parameters of the existing XFEL sources and current scientific programs, about existing scientific collaborations and their specific scientific goals as well as about upcoming meetings and other related events.

Experiments at XFEL sources are typically realized by collaborations of a larger number of scientists originating from several different laboratories. Together, they have the knowledge, experience, resources and man-power necessary to successfully conduct an experiment at one of these large scale facilities. The network therefore aims at facilitating for French scientists to initiate and lead new collaborations or to strengthen existing ones.

Furthermore, the network will document scientific activities and interests of the French user community. This will lead to an increased visibility, nationally as well as internationally, which will facilitate for funding agencies and international organizations, like the XFEL laboratories themselves, to identify the French XFEL user community and to get in contact with it.

Although primarily oriented towards the XFEL user community in France, XFEL users from abroad will benefit from this network as well, since network conferences and information distribution will be open to international participation. Furthermore, the network will search collaborations with other institutions and associations supporting science at XFEL sources to strengthen its international visibility, to exploit synergies of their respective activities and to avoid duplication of efforts.

The network will offer the participating XFEL laboratories a very efficient way to enlarge their user community, to keep their users informed about the newest trends and developments and to encourage them to participate in the definition and development of new experimental capabilities. It is therefore expected that the network will contribute nationally as well as internationally to ensuring that the best scientific use is made of these unique X-ray sources.

It has been agreed as follows:

ARTICLE 1 – Purpose of the Amendment N°1
The purpose of the amendment N°1 is:
- the renewal of the GDRI Memorandum for a term of four (4) years,
- the accession of one Party to the GDRI,
- the withdrawal of Article 9,
- the modification of the Article 2,
- the update of Annexes 1 to 5-B of the GDRI Memorandum,

ARTICLE 2 – Extension of the Memorandum

The Parties hereby agree to extend the GDRI Memorandum for a period of four (4) years, with effect from January 1st 2016.

ARTICLE 3 – Accession of one new Party

Ecole Polytechnique hereby agrees to accede to and adhere to the GDRI from its renewal date.

CNRS, UPMC, ENSTA ParisTech, CEA, SOLEIL, DESY, the EUROPEAN XFEL COMPANY, and ELETTRA accept the accession of this new Party to the GDRI.
A copy of the GDRI Memorandum is sent to Ecole Polytechnique, jointly to this Amendment No. 1.

ARTICLE 4 – Modification of an Article

The Article 2: Composition of the original Agreement is hereby replaced by

“The Network is composed of the laboratories listed below:

- Laboratoire de chimie physique - matière et rayonnement – LCPMR, UMR 7614 (CNRS, UPMC)
- Laboratoire d’optique appliquée – LOA, UMR 7639, (CNRS, ENS, ENSTA)
- Institut rayonnement matière de Saelay – IRAMIS (CEA)
- SOLEIL SYNCHROTRON
- DEUTSCHES ELEKTRONEN-SYNCHROTRON HAMBURG
- EUROPEAN X-RAY FREE-ELECTRON LASER FACILITY GMBH
- ELETTRA - SINCROTRONE TRIESTE S.C.P.A

The activities to be coordinated by the Network shall extend only to the scientific work inherent to the Network Theme of the member.

All personnel contributing to the Network activities shall remain assigned to their home laboratory.

For information purposes only, the list of the staff of the signatory Parties to the Agreement and of external interested participants is attached to the present Agreement (respectively in Annex 5-A and Annex 5-B).”

ARTICLE 5 – Withdrawal of an Article

The article 9 – Miscellaneous provisions is withdrawn.

ARTICLE 6 – Appendices

The Appendices 1, 2, 3 and 4 of the GDRI Memorandum have been updated and are appended hereto as ANNEX 1 (PROJECT DESCRIPTION), ANNEX 2 (COORDINATOR OF THE NETWORK AS OF 1 JANUARY 2016), ANNEX 3 (SCIENTIFIC COMMITTEE OF THE NETWORK AS OF JANUARY 1, 2016) and ANNEX 4 (NETWORK PROJECTED BUDGET FOR 2016). They shall replace respectively and in their entirety ANNEXES 1, 2, 3 and 4 of the GDRI Memorandum and constitute an integral part of the present Amendment.

ARTICLE 7 – Final provisions

All other articles of the GDRI Memorandum, non-modified by the present amendment, and which are not contrary to it, remain unchanged.

This Amendment is delivered in nine (9) originals in English.
Date 28/02/2017 Place Paris

For UNIVERSITÉ PIERRE ET MARIE CURIE PARIS 6

Pour le Président et par délégation
Le Vice-Président Europe et Partenariats internationaux

Serge FIDIDA

Jean CHAMBAZ, Président
For ÉCOLE POLYTECHNIQUE

ÉCOLE POLYTECHNIQUE
Pour le Président et par délégation
Hervé de BRUNHIN
adjoint de l'Enseignement et de la Recherche
par intérim

Jacques BIOT, Director
For ÉCOLE NATIONALE SUPÉRIEURE DE TECHNIQUES AVANCÉES

ENSTA ParisTech
828, Boulevard des Maréchaux
91762 Palaiseau Cedex

La Directrice

Elisabeth CRÉPON, Director
For COMMISSARIAT A L'ÉNERGIE ATOMIQUE ET AUX ÉNERGIES ALTERNATIVES

Vincent BERGER,
Director of the Fundamental Research
For SOLEIL SYNCHROTRON

Jean DAILLANT
Directeur Général

Jean DAILLANT,
Director General
For DEUTSCHES ELEKTRONEN-SYNCHROTRON HAMBURG

Prof Dr Helmut DOSCH, Chairman of the DESY Board of Directors
Prof Dr Edgar WECKERT, Director of the Photon Science Division
For EUROPEAN X-RAY FREE-ELECTRON LASER FACILITY GMBH

Robert FEIDENHANS'L,
Chairperson of the Management Board

Claudia BURGER,
Administrative Director

Date 16/01/2017 Place Schenefeld
1 6 AGO. 2016

Date.............................. Place..............................

For ELETTRA - SINCROTRONE TRIESTE S.C.P.A

Alfonso FRANCIOSI,
President and Chief Executive Officer
ANNEX 1

PROJECT DESCRIPTION

I Summary
The goal of the network 'Fostering the X-ray Free Electron Laser User Community in France', which has in France the status of a coordination Network (i.e. GDRI of the CNRS), is to develop and to structure the French user community of soft and hard X-ray Free Electron Laser sources and to strengthen its national and international visibility. To achieve these goals the network aims at structuring the existing community and acts as the point of contact for gathering XFEL science related information and for their distribution to the interested scientific community. For newly interested scientists this will facilitate obtaining up-to-date information about the current performance parameters of existing XFEL sources, their instruments and their scientific programs. It can also provide information about existing scientific collaborations and their specific scientific goals as well as about upcoming meetings and other related events.

Experiments at XFELs are typically realized by collaborations of a larger number of scientists originating from several laboratories. Together, they possess the knowledge, experience, resources and man-power necessary to successfully conduct an experiment at one of these facilities. The network therefore aims at facilitating French scientists to initiate and lead new collaborations or to strengthen existing ones. For scientists newly interested in XFEL science, this can offer the possibility to join an existing collaboration or to create a new collaboration around a common scientific interest. For scientists already involved in XFEL experiments, this network gives the possibility to strengthen their research team and can provide visibility to their activities. All participating scientists will obviously benefit from the exchange of experiences gathered by those who participated already in XFEL experiments.

Furthermore, the network will document scientific activities and interests of the French user community. This will lead to an increased visibility, nationally as well as internationally, which can facilitate for funding agencies and international organizations, like the participating XFEL sources themselves, the identification of the French XFEL user community and the means to communicate with it.

Staff scientists from existing or upcoming XFEL sources, which are today all located outside of France, can participate as international partners at this network. This will initiate and strengthen contacts between the French user community and the scientists driving the development of the experimental infrastructures and scientific programs at the XFEL sources. These privileged contacts can allow the French user community, despite the large geographical distance, to stay closely informed and involved in the ongoing developments and trends in this novel area of x-ray science.

In return, this network will offer the participating XFEL laboratories a very efficient way to enlarge their user community, to keep it informed about the newest trends and developments, to encourage them to participate in the definition of new experimental capabilities and to initiate the development of experimental setups enabling novel science. The network can thus contribute to ensuring that the best scientific use is made of these unique X-ray sources. In this regard it is important to note that, although primarily oriented towards the XFEL user community in France, XFEL users from abroad will also benefit from this network, since network conferences and information distribution will be open to international participation. To further strengthen its international visibility the network will search collaboration with other institutions and associations supporting science at XFEL sources, to exploit synergies of their respective activities and to avoid duplication of efforts.

II Scientific context
Over the past decade, the first XFEL sources have emerged and started their general user access programs. The scientific achievements realized at these facilities have exceeded all expectations, and first experiments not conceived prior to construction of these groundbreaking x-ray sources have been successfully conducted. Large and diverse user communities are developing around these sources. For example, the last « Joint European XFEL and DESY Photon Science Users’ Meeting » has attracted a
participation of roughly 1000 scientists from many different countries, which are active at the soft X-ray free electron laser FLASH and the synchrotron Petra III and/or intend to conduct experiments at the European XFEL, which will start user operation in 2017. One notes that the user communities are in particular strong in those countries that have developed these sources over the past decade. And a further strengthening of these local user communities is to be expected, since the continuous development of X-ray sources happens in close dialog with their users.

When regarding the participation of scientists from other countries, one notices that the participation of scientists from French laboratories has steadily grown over the past years. This development has been accompanied by (and may be the result of) a series of activities in France, which aimed at the mobilization and formation of the French user community. To cite a few examples, about 10 large-scale conferences and workshops have been organized, which received strong interest and attendance. In addition, an even larger number of smaller working group meetings around specific scientific topics has taken place. The large majority of these events has been organized, supported or stimulated by the GDRI XFEL-Science.

Today, scientists from French laboratories reply to the call for proposals of all four operational XFEL sources, covering all scientific domains pursued at these facilities. Their proposals have a competitive success rate and the obtained results are giving rise to publications in high-profile journals.

To ensure the continuation and further strengthening of this positive development is the primary motivation for the renewal of the XFEL-Science Research network for the upcoming four year period. This is furthermore motivated by the upcoming start of the European XFEL and the SwissFEL. It can be expected that the availability of these two XFEL facilities covering the entire spectral range of soft and hard X-rays will change the landscape of XFEL-Science profoundly. This is first of all due to the simple fact that two additional XFEL facilities operational in Europe will facilitate access to these unique sources, which has been the major bottleneck in the past. In addition, the superconducting nature of European XFEL will render possible yet another entirely new class of experiments. The specific goal of the GDRI XFEL-Science is therefore to prepare and accompany the French user community during this phase.

**III Missions of the network**
To support the growth of a strong XFEL user community in France, the following principal missions are envisioned for the XFEL-Science network. These are a combination of successful activities already foreseen for the last period, activities that developed over the past period and new actions related to the upcoming start-up of the European XFEL and SwissFEL!

**Distribute XFEL science related information**
One of the main difficulties scientists face when trying to get involved in XFEL science is the enormous speed with which everything advances. This applies to basic experimental parameters (like available photon energy ranges, pulse duration, intensity, etc...) to entirely new experimental capabilities (like new pump schemes, most notably the current development of mid-IR to THz pump systems) and breakthrough results opening new research areas (like the recent demonstration of non-linear X-ray science).

The network will address this issue by distributing links to XFEL-Science related news published by the facilities or other related organisations and communicate in particular to its members information on upcoming conferences, workshops as well as calls for beam time proposals. In addition, the network will organize a series of meetings and conferences to provide up-to-date information to its participants, which will provide the opportunity for informal discussions between scientists from French laboratories and staff scientists from the XFEL sources.

**Bring together the French XFEL science user community**
A second, major obstacle scientists face when trying to get involved in XFEL science is to find those who might also be interested. This is in particular the case in countries like France, where no national XFEL source exists. To bring together such newly interested scientists from French laboratories with those already participating in discussions, collaborations or having already performed XFEL experiments, the network will organize a general annual meeting, which will provide ample time for informal discussions. Part of this meeting will be the formal general assembly of the network.
To allow for a strong participation it is foreseen to organize this meeting in conjunction with another scientific meeting like, for example, the bi-annual school on XFEL Science.

Provide continuity of the bi-annual school on XFEL-Science
The first school on XFEL Science was held in October 2010 in Giens, France. During this 4 day-long meeting lecture-like presentations gave an introduction to the different areas of XFEL science, the different experimental techniques most commonly applied and an up-to-date overview of current developments. The diversity of presentations was particularly well appreciated by the participants and a continuation was strongly requested. This broad approach was thus kept for the following schools, which took part in Annecy and Saint Malo. To further encourage the participation of young scientists, the program was more clearly regrouped in two parts with the first days dedicated to basic, introductory lectures and the discussion of state-of-the-art experiments during the second half. The GDRI XFEL-Science network continues to take the responsibility of guaranteeing the continuity of this series, while the individual schools will be organized by changing groups of scientists.

Organize bi-annually a satellite meeting of an XFEL Users’ Meeting
To strengthen the relationship with the XFEL facilities, it is proposed that the network organizes in the years that the bi-annual school does not take place a satellite meeting of one of the Users’ Meeting of the participating XFEL facilities. These meetings aim at stimulating groups of scientists to get involved in experiments at that facility by motivating them to travel to the facility and to interact with other scientists already performing experiments at this facility. Such a meeting could for example take place at the upcoming facilities European XFEL or SwissFEL, or at the operational facilities FLASH or FERMI.

Organize transverse actions to foster exchange between researchers from different areas
XFEL experiments encounter independently of their specific field several common challenges. For example, at SASE XFELs all experiments have to cope with the up to 100% beam intensity fluctuations, energy fluctuations of the order of the spectral band width of a single pulse, X-ray pulse arrival time jitter of several 100’s of fs and enormous amounts of data rates, to name the most common issues. Over the past years, tremendous progress has been achieved in how to cope with these challenges, and the network will continue to support the organization of meetings to render this knowledge accessible to scientists from all scientific themes. Such meetings may also address transverse instrumentation issues like beam handling optics or detectors. One notes that these are areas of worldwide ongoing research activities to which still many breakthrough contributions are expected and needed to be made.

Stimulating exchange between user groups using similar experimental infrastructures
The network is envisioned to stimulate exchange between different scientific collaborations, which use similar or even identical experimental infrastructure at XFEL sources. This exchange will be in particular helpful for groups preparing their first experiment at an XFEL, since they can benefit from the experience of others.
In addition, these discussions may lead to the development of equipment at or for XFEL sources by scientists from French laboratories, optimized for their particular experiments. Since such contributions may imply a significant financial investment, the formation of larger groups supporting and justifying such an investment is needed. Here, the network could naturally play a key role in bringing these groups together.

Strengthen visibility of French XFEL Users
The network will support scientists from French laboratories to get involved in XFEL science related activities and will increase the visibility of their contributions and results. For this, the network will serve as a point of contact for external conference organizers interested in inviting scientists from French laboratories and also promote them actively.

Exploit synergies with other organizations fostering XFEL science
In order to achieve optimum results and to enhance the efficiency of the activities, the network will search close collaboration with other institutions and organizations, which aim at developing and supporting science enabled by XFEL sources. Currently, contacts exist with:
- FELs of Europe, a collaborative network of all free electron laser facilities in Europe;
- European Cluster of Advanced Laser Light Sources (EUCALL), a network between leading large-scale user facilities for free electron laser, synchrotron and optical laser radiation and their users;
- European Synchrotron and Free Electron Laser User Organization (ESUO), an organization with the aim of coordinating the synchrotron radiation user activities within Europe to guarantee the realization and access to the best beamlines in Europe.

Discussions have already started to jointly organize meetings with the aim of strengthening the international user community of these large scale research infrastructures.

IV Organization
Existing scientific collaborations, which goal is to perform experiments at XFEL sources, remain at the basis of the network. The next larger structuring unit will remain the established scientific themes which group Network members with similar scientific interests. Their definition along the lines of the scientific areas currently identified at XFEL sources as the main fields of XFEL science activities has proven successful and will thus be kept for the coming period. These scientific themes of the network are:
- Atomic, Molecular and Cluster Science;
- Soft X-ray Materials Science;
- Matter in Extreme Conditions;
- Coherent X-ray Imaging of small particles, clusters and bio-molecules;
- X-ray pump probe experiments of structural and electronic dynamics.
- Coherent scattering for probing dynamics in condensed matter systems

In addition to these structuring scientific themes, transverse actions will create links between scientists of these different areas. Such transverse actions will address practical issues of XFEL experiments (data handling, coping with XFEL fluctuations, x-ray arrival time jitter correction) as well as instrumentation topics like area detectors and optics for beam shaping.

The network itself will provide a unifying structure around these scientific themes. Its role is to provide the framework for fostering scientific exchanges and distributing information to the members of the network. It offers a point of access for scientists interested in participating in XFEL science as well as for national and international agencies (funding agencies, public relations agencies or scientific laboratories like the XFEL sources themselves).

V Preliminary schedule of Network meetings
Meetings between network members and interested external participants will play a key role for reaching the goals of the network. A general overview of the foreseen types of events can be found in section 3 'Missions of the Network' of the current document. Below is shown the current planning for meetings concerning all network participants. Smaller meetings, which concern only a sub-group of scientists and which are organized by representatives of these scientific themes or specific transverse topics are not listed here.

Fall 2016: Annual Meeting of the GDRI XFEL-Science Network
Orsay, France, organized by P. Zeitoun and colleagues from the Plateau de Saclay.
Specific goals of this meeting will be:
- Planning of activities for the renewal period
- Identification of network members to organize these activities

January 2017: Joint European XFEL and DESY Photon Science Users' Meeting
Hamburg, Germany
The network will encourage, support and accompany the participation of scientists from French laboratories at this largest annual meeting of the XFEL user community.
Spring 2017: XFEL-Science School
Next edition of the XFEL Science school.

Fall 2017: Annual network meeting
ANNEX 2

COORDINATOR OF THE NETWORK AS OF 1 JANUARY 2016

The Parties to the Amendment n°1 to the Memorandum for the establishment of the International scientific coordination network (GDRI) entitled “Fostering the X-ray Free Electron Laser User Community in France” hereby appoint Mr. Jan Lüning (Laboratoire de chimie physique - matière et rayonnement – LCPMR, UMR 7614) as Coordinator, and Mr. Philippe Zeitoun (Laboratoire d’optique appliquée – LOA, UMR 7639) as co-Coordinator of the Network as of January 1, 2016, for a period of four (4) years.
ANNEX 3

SCIENTIFIC COMMITTEE OF THE NETWORK AS OF JANUARY 1, 2016

- Jan Lüning, Laboratoire de chimie physique - matière et rayonnement – LCPMR, UMR 7614, Paris (CNRS/UPMC)
jan.luning@upmc.fr

- Philippe Zeitoun, Laboratoire d’optique appliquée – LOA, UMR 7639, Palaiseau (CNRS/ENSTA ParisTech/Ecole Polytechnique)
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- Hamed Merdji, Institut rayonnement matière de Saclay – IRAMIS, Laboratoire Interactions, Dynamiques et Lasers – LIDYL, Gif-sur-Yvette (CEA)
hamed.merdji@cea.fr

- Amina Taleb-Ibrahimi, Division « Expériences », Gif-sur-Yvette (Synchrotron SOLEIL)
amina.taleb@synchrotron-soleil.fr

- Elke Ploenjes-Palm, Department “Forschung mit Photonen (Experimente Betreuung FLASH)”, Hamburg (DESY)
elke.ploenjes@desy.de

- Michael Meyer, SOS Scientific Instrument, Hamburg (EUROPEAN X-RAY FREE-ELECTRON LASER FACILITY GMBH)
michael.meyer@xfel.eu

- Claudio Masciovecchio, Fermi, Trieste (ELETTRA - SINCROTRONE TRIESTE S.C.p.A.)
claudio.masciovecchio@elettra.eu


## ANNEX 4

### NETWORK PROJECTED BUDGET FOR 2016

<table>
<thead>
<tr>
<th>Country</th>
<th>Institution</th>
<th>In-cash funding</th>
<th>Amount (€) (include detailed budget allocation if known)</th>
<th>In-kind input (if applicable)</th>
<th>Type of staff</th>
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</table>
| FRANCE  | CNRS | □ Operations  
□ Equipment  
X Mobility | X Other conference organization | 15 000 | X Researcher  
X Postdoc  
X PhD  
X Support |
|         | UPMC | □ Operations  
□ Equipment  
X Mobility | X Other conference organization | 3 000* | Access to conference facilities - Management of the GDR  
X Researcher  
X Postdoc  
X PhD  
X Support |
|         | EP | □ Operations  
□ Equipment  
□ Mobility | Other conference organization | | X Researcher  
X Postdoc  
X PhD  
□ Support |
|         | ENSTA ParisTech | □ Operations  
□ Equipment  
X Mobility | X Other conference organization | 3 000 | Access to conference facilities  
X Researcher  
X Postdoc  
X PhD  
X Support |
|         | CEA | □ Operations  
□ Equipment  
X Mobility | X Other conference organization | 2 500 | X Researcher  
X Postdoc  
X PhD  
X Support |
|         | SOLEIL SYNCHROTRON | □ Operations  
□ Equipment  
X Mobility | X Other conference organization | 2 500 | Access to conference facilities  
X Researcher  
X Postdoc  
X PhD  
X Support |
| GERMANY | DESY | □ Operations  
□ Equipment  
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□ PhD  
X Support |
|         | EUROPEAN XFEL | □ Operations  
□ Equipment  
X Mobility | X Other conference organization | 2 500 | Access to conference facilities  
X Researcher  
□ Postdoc  
□ PhD  
X Support |
| ITALY   | ELETTRA SINCROTRONE TRIESTE | □ Operations  
□ Equipment  
X Mobility | X Other conference organization | 2 500 | X Researcher  
□ Postdoc  
□ PhD  
□ Support |

* This amount will come from the laboratory LCPMR, UMR 7614 (CNRS, UPMC).
ANNEX 5-A – STAFF OF THE SIGNATORY PARTIES (MEMBERS OF THE GDRI)

“The X-Ray Free Electron Laser User Community in France”

(only permanent staff is listed, in alphabetical order)

1- Laboratoire de Chimie Physique - Matière et Rayonnement (LCPMR), UMR7614
   Équipe Systèmes fortement corrélés - Matériaux magnétiques (Jan Lüning)
   Boris Vodungbo, Sorin Chiuzbaian, Renaud Dелаunay, Jan Lüning
   Équipe Interfaces, Multimatiériaux, Sources et Optique X (Philippe Jonnard)
   Jean-Michel Andre, Philippe Jonnard
   Équipe Relaxation de molécules excitées en couche interne (Marc Simon)
   Renaud Guillemin, L. Journel, O. Travnikova, T. Marchenko, M.-N. Piancastelli, Marc Simon
   Équipe Corrélations électroniques étudiées par coïncidence (Pascal Lablanquie)
   Lidija Andric, Jérôme Paladoux, Pascal Lablanquie, Francis Penent
   Équipe Évolution temporelle de systèmes quantiques en champs intenses (R. Taieb)
   Alain Dubois, Alfred Maquet, Richard Taieb

2- Members of Laboratoire d’Optique Appliquée (LOA), UMR 7639
   Équipe FLEX - Rayonnement X produit par plasma-laser (Philippe Zeitoun)
   Davide Boschetto, Julien Gautier, Guillaume Lambert, Kim Ta Phuoc, Antoine Rousse, Philippe Zeitoun

3- Members of Institut Rayonnement Matière de Saclay (IRAmIS), CEA
   Attophysics Group (Bertrand Carré)
   Marc Billon, Willem Boutu, Pierre Breger, Bertrand Carré, Vincent Favre-Nicolin, Marie Géléoc,
   Hamed Merdji, Henri Perez, Thierry Ruchon, Pascal Salières, David Garzella

4- Members of SOLEIL SYNCHROTRON
   Équipe Ligne ANTARES (Maria-Carmen Asensio)
   Maria-Carmen Asensio, Jose Avila
   Équipe Ligne CRISTAL (Pierre Ferty)
   Claire Lauchlé, Pierre Ferty
   Équipe Ligne GALAXIES (Jean-Pascal Rueff)
   James Ablett, Denis Céolin, Jean-Pascal Rueff
   Équipe Ligne PLEIADES (John Bozek)
   Xiaojing Liu, Denis Céolin, John Bozek, Paul Morin, Christophe Nicolas
   Équipe Ligne SEXTANTS (Nicolas Jaouen)
   Nicolas Jaouen, Horia Popescu, Maurizio Sacchi
   Équipe Ligne TEMPO (Fausto Sirotti)
   Fausto Sirotti

5- Members of Deutsches Elektronen-Synchrotron
   Josef Feldhaus

6- Members of European X-ray free-electron laser facility GmbH
   Christian Bressler, Anders Madsen, Adrian Mancuso, Michael Meyer

7- Members of ELETTRA Synchrotron Light Laboratory
   Carlo Callegari, Maya Kiskinova, Claudio Masciovecchio
ANNEX 5-B – NON SIGNATORY LABORATORIES WHOSE SCIENTIFIC ACTIVITIES ARE LINKED TO THE SCIENTIFIC THEME OF THE GDRI

(only permanent staff is listed, in alphabetical order)

Centre Interdisciplinaire de Nanoscience de Marseille (CINaM)
CNRS-CINaM, Campus de Luminy, Case 913, 13288 Marseille cedex 09

Équipe Structural and Electronic Dynamics at Surfaces (Guy Le Lay)
Guy Le Lay, Andrea Resta

Centre Lasers Intenses et Applications (CELIA)
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43 rue Pierre Noailles, 33405 Talence

Équipe Harmoniques et Application (Patrick Martin)
Henri Bachau, Fabrice Catoire
Équipe Sources X, Plasmas et Ions (Fabien Dorchies)
Benoît Chimier, Fabien Dorchies, Claude Fourment
Équipe Interaction, Fusion par Confinement Inertiel, Astrophysique (V. Tikhonchuk)
Vladimir Tikhonchuk, Olivier Peyrusse

Centre de Recherche sur les Ions, les Matériaux et la Photonique (CIMAP)
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Équipe AMA - Atomes, Molécules et Agrégats (Serge Bouffard)
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Franck Fortuna

European Synchrotron Radiation Facility (ESRF)
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Michael Wulff

Institut de Biologie Structural (IBS), UMR 5075
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Équipe Dynamique et Cinétique des processus moléculaires (M.Weik)
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Institut Fresnel, UMR 6133
Campus Saint Jérôme, Ave Escadrille Normandie-Niemen, 13397 Marseille

Équipe SEMO - Sonde ÉlectroMagnétique et Optique (Anne Sentenac)
Virginie Chamard

Institut des Nanosciences de Paris (INSP)
Université Pierre et Marie Curie, 4 place Jussieu, 75252 PARIS cedex 05

Équipe ASUR - Agrégats et Surfaces sous excitations intenses (Dominique Vernhet)
Emily Lamour, Christophe Prigent, Jean Pierre Rozet, Anna Levy, Dominique Vernhet

**Institut de Minéralogie, de Physique des Matériaux et de Cosmochimie UMR 7590**
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**Équipe Minéralogie des intérieurs planétaires (MIP) (Hélène Bureau)**
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**Équipe Matériaux et Nanosciences (Morineau Denis)**
Brice Arnaud, Marylise Buron, Hervé Cailleau, Marco Cammarata, Eric Collet, Alain Gellé, Maciej Lorenc, Marina Servol

**Équipe Astrochimie expérimentale (André Canosa)**
Sophie Carles, Jean-Luc Le Garrec, Brian Mitchell

**Institut de Physique et Chimie des Matériaux de Strasbourg (IPCMS)**
23 rue du Loess, BP 43, 67034 Strasbourg

**Équipe DynMag (Christine Boeglin)**
Christine Boeglin

**Équipe FemtoMag (Valérie Halté)**
Valerie Halté

**Équipe Spintronique Hybride (Eric Beaurepaire)**
Eric Beaurepaire

**Institut des Sciences Moléculaires d’Orsay (ISMO)**
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**Équipe Dynamique et ionisation des petits systèmes (Danielle Dowek)**
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**Institut Matériaux Microélectronique Nanoscience de Provence (IM2NP)**
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**Équipe Contraintes Mécaniques dans les Objets de petites dimensions (O.Thomas)**
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**Équipe Diffraction résonante de rayons X: ordres électroniques**
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**Laboratoire Aimé Cotton**
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**Équipe Théorie des systèmes quantiques: états excités des systèmes coul. à 3 corps (L. Malegat)**
Laurence Malegat

**Laboratoire de Physique des Interactions Ioniques et Moléculaires (PIIM)**
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Équipe DGP - Diagnostics dans les Gaz et les Plasmas (Roland Stamm)
Annette Calisti, Sandrine Ferri, Caroline Mosse, Bernard Talin, Angot Thierry, Jean-Marc Layet

Laboratoire de Physique des Solides (LPS)
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Équipe Lumière Ultrabrève, Cohérence et Electrons (Alexandre Moradpour)
Sylvain Ravy, Vincent Jacques, David Le Bolloc'h, Carlo Spezzani, Marino Marsi

Équipe Imagerie et dynamique en magnétisme (André Thiaville)
Evangelos Papalazarou, André Thiaville

Laboratoire pour l'Utilisation des Lasers Intenses (LULI)
CNRS, UPMC, École Polytechnique, CEA

Équipe PAPD - Physique atomique dans les plasmas denses (Frank Rosmej)
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Eric Galtier, Frédéric Petitdemange, Thibault Robert, Frank Rosmej

Équipe Sources de particules et de rayonnement brèves et intenses (P. Audebert)
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Paulo Angelo, Youcef Aouad, Patrick Audebert, Kamel Bennadji, Julien Fuchs, Arnaud Moinard

Équipe Physique de la matière à haute densité d'énergie par laser (A. Benuzzi-Mounaix)
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Michel Koenig

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Équipe FemtoARPES (Luca Perfetti)
Luca Perfetti

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Équipe Groupe de Dynamique Réactionnelle (Jean-Michel Mestdagh)
Jean-Michel Mestdagh

Observatoire de Paris - Laboratoire d'Étude du Rayonnement et de la Matière en Astrophysique (LERMA)
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Équipe AMPles - Atomes, Molécules et Plasmas dans l'Univers (Chantal Stehlé)
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