



## Deliverable 5.3.

**Guideline – Mobility programs at European level. Forestry sector.** 

March 2016





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## 1. Introduction

The overall objective of Work Package 5 is the development of mechanisms needed to enable joint funding of trans-national research activities dealing with the understanding of sustainable forest management and multifunctional forestry and to secure a long lasting coordination of forest related research. Beside this, other objectives of this work package are to promote joint activities among international research centres in the forest sector.

As the result of the mapping of research programs activities, groups, mobility programs and capacities in the EU and partner countries, relevant to sustainable forest management and multifunctional use of forest resources done by work package 2, **Mobility Programs** have been identified as the most important capacity building action for transnational collaboration. Conclusions reflect that mobility should support access and movement of human resources and know-how between research institutions and between other public and private institutions involved in forest management and policy making. Not just for junior researchers, also including research professors, policy makers and practitioners (industry and forest owners). Favour inclusion of visiting professors in national research projects.

Actions proposed in deliverable 2.3 are to increase mobility through transnational research schools and visiting professors from other countries. Implementation of policy and management exchange programs between professions and researchers – policy makers – industry – forest owners, would be an interesting instrument for the harmonisation of practices.

Considering the importance of mobility, *deliverable 5.3 Guideline – Mobility programs at European level. Forestry sector* aims to gather information about European programs in the field of mobility and other national programs. Researchers and Research Centres would be able to identify in this deliverable the different grants and mobility programs funded by the European Union, and the procedures.



## 2. Results in previous work packages

## 2.1. Work Package 2

Work package 2 was in charge of mapping research programs activities, groups, mobility programs and capacities in the EU and partner countries, relevant to sustainable forest management and multifunctional use of forest resources.

As the result of the work done, three deliverables were produced:

- D 2.1 Summary report of mapping exercises and clustering initiatives
- D 2.2 Country reports on major research programmes, mobility programmes, actors and capacities
- D 2.3 Priorities for transnational research needs and requirements for sharing research capacities

## 2.1.1. Deliverable D.2.1. Summary report of mapping exercises and clustering initiatives

It includes a short description of seven mapping exercises of other European programs related with the forest area (FORESTERRA, WoodWisdom, EFI/INFRI, InnovaWood, INRA bibliometric analysis, FAO Russian outlook study, Finnish study).

# 2.1.2. Deliverable D.2.2. Country reports on major research programmes, mobility programmes, actors and capacities

It is a report of a survey of research capacities and priority research areas, which was sent to research organizations on the scope of Sumforest. It served as the basis for a workshop on transnational research capacities and research priorities.

The survey was responded by 95 research organisations from 17 countries.

## 2.1.3. Deliverable D.2.3. Priorities for transnational research needs and requirements for sharing research capacities

The final exercise of WP 2 was a workshop on transnational research needs and requirements for sharing research capacities. The different group sessions of the workshop identified several categories of capacities. And clearly among the workshop participants, **mobility programs** in the forest sector in research as well as in policy and practice was seen as a major type of capacity building for increased transnational collaboration.

Conclusions regarding priorities for transnational research needs and requirements for sharing them are:

- Access to databases and long term experimental plots and sites need for organisation, harmonisation and standardisation of data storage, formats and protocols. Creation of metadatabases.
- Mobility programs not just for junior researchers, also including research professors, policy makers, practitioners (industry and forest owners). Favour inclusion of visiting professors in national research projects.
- Networking for infrastructures, researchers-practitioners (policy, industry, forest owners), including development of a multilingual platform for communication and dissemination.

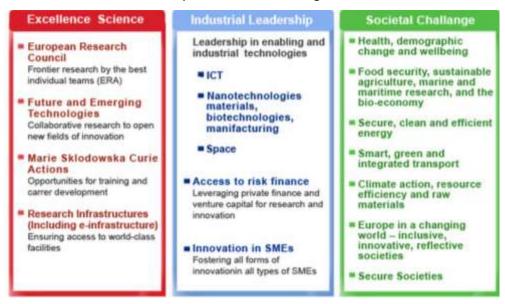


- Research areas for collaboration: assessment of values of forest products and services including trade-offs in management (sustainable and multifunctional forest management).
- Research areas for collaboration: forest and forestry under climate change adaptation and mitigation.



# 3. European Mobility Programs. Horizon 2020 – Excellence Science

Horizon 2020 is the financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. It supports two kinds of projects: research projects and innovation projects. Three pillars compose the program: Excellent Science, Industrial Leadership and Societal Challenges.



Horizon 2020 pillars (source www.apre.it)

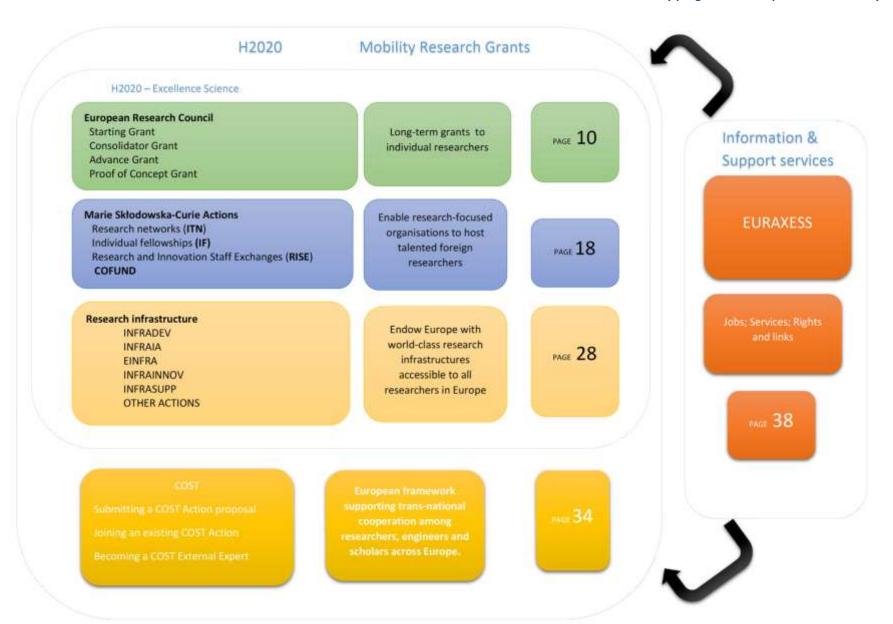
Mobility programmes are covered in **Excellence Science**, which has four main specific objectives:

- 1. **The European Research Council (ERC)** will provide attractive and flexible funding to enable talented and creative individual researchers and their teams to pursue the most promising avenues at the frontier of science, on the basis of Union-wide competition.
- 2. Future and emerging technologies will support collaborative research in order to extend Europe's capacity for advanced and paradigm-changing innovation. They will foster scientific collaboration across disciplines on radically new, high-risk ideas and accelerate development of the most promising emerging areas of science and technology as well as the Union-wide structuring of the corresponding scientific communities.
- 3. **Marie Skłodowska-Curie Actions** (MSCAs) will provide excellent and innovative research training as well as attractive career and knowledge-exchange opportunities through cross-border and cross-sector mobility of researchers to best prepare them to face current and future societal challenges.
- 4. **Research infrastructure** (including e-infrastructures) will develop European research infrastructure for 2020 and beyond, foster their innovation potential and human capital, and complement this with the related Union policy and international cooperation.

Considering the relevance for the ERA-NET Sumforest this guideline identifies the main aspects of ERC, MSCA and Research Infrastructures programmes.



Deliverable 5.3. Guideline – Mobility programs at European level. Forestry sector.





## 3.1. European Research Council



European Research Council

The European Research Council supports frontier research, cross disciplinary proposals and pioneering ideas in new and emerging fields which introduce unconventional and innovative approaches. The ERC's mission is to encourage the highest quality research in Europe through competitive funding and to support investigator-driven frontier research across all fields of research, on the basis of scientific excellence. A total

budget of 13.095 million Euro is available for the implementation of the ERC funding schemes under Horizon 2020.

The ERC awards long-term grants to individual researchers of any nationality and age from anywhere in the world who wish to carry out their research projects in a host organisation based in Europe. Excellence is the sole evaluation criterion.

There are four types of ERC grants:

- Starting Grant
- Consolidator Grant
- Advance Grant
- Proof of concept grant

#### 3.1.1. Step by step

ERC grant applications can be submitted only in response to a 'Call for Proposals'. Calls for the ERC funding schemes are published on the ERC website, the Participant Portal and in the Official Journal of the European Union.

## Proposal preparation

Before the call is published on the Participants Portal, researchers have to check out which ERC grant and which call is the most convenient for them. Identify a host institution, and get in touch with the National Contact Point (NCP) to receive technical support during the whole submission process.

Once the Call has been opened, guidance documents for applicants must be read carefully and researchers have to contact their future host institution and gather all the concrete details needed for completing the applications forms. Proposals should be written early enough to submit it to external opinions. NCP might be able to do a "pre-screening" and give feedback.

Once the proposal is submitted, applicants will get an "acknowledgement of receipt" by email, confirming it.

### Evaluation

The ERC will first check whether the proposal meets the eligibility criteria that apply to the call. External experts will then evaluate all the proposals.

About 4-5 months after the call deadline, researchers will receive from the ERC a letter giving an "initial information" on the evaluation of the proposal.

#### 3.1.2. Call for proposals

Calls for proposals for the ERC grant schemes are published annually on the ERC website, the Horizon 2020 Participant Portal and in the Official Journal of the European Union. Grant applications can be submitted only in response to a call for proposals via the Electronic Proposal Submission Service (EPPS) within the deadline specified in each call.

#### http://erc.europa.eu/callforproposals

The ERC calls are extremely competitive. Only exceptional proposals are likely to be funded and the number of applications has generally risen faster than the available budget. In order to maintain the quality and integrity of ERC's evaluation process the Scientific Council has therefore applied restrictions on applications since 2009.

#### 3.1.3. ERC Grants

Grant	Description	Qualifications	Funding	Duration
CORE GRANT S	SCHEMES			
Starting Grant	For Early-Career researchers to develop their career and establish their own team	PhD + 2-7 years' experience	Up to €1.5 million + Up to 0,5 million additional	Up to 5 years
Consolidator Grant	For researchers to consolidate their own research team or programme	PhD + 7-12 years' experience	Up to €2 million + Up to 0,7 million additional	Up to 5 years
Advance Grant	For well-established researchers to develop a new and outstanding project	10-year excellent scientific track record	Up to €2.5 million + Up to 1 million additional	Up to 5 years
ADDITIONAL GRANT SCHEMES				
Proof of concept grant	For ERC grantees to bridge the gap between research and marketable innovation	Holders of previous ERC grant	Up to € 150.000	Up to 18 months

#### 3.1.3.1. ERC Starting Grant

ERC Starting Grants aim to support up-and-coming research leaders who are about to establish a proper research team and to start conducting independent research in Europe. The scheme targets promising researchers who have the proven potential of becoming independent research leaders. It will support the creation of excellent new research teams.

ERC Starting Grant (StG)		
OBJECTIVES	ERC Starting Grants are designed to support excellent Principal Investigators (PIs) at the career stage at which they are starting their own independent research team or programme.	
FINANCING	Starting Grants may be awarded up to a maximum of EUR 1.500.000 for a period of 5 year. Up to 0,5 million additional.	
ELIGIBILITY	<ul> <li>The Principal Investigator shall have been awarded their first PhD at least 2 and up to 7 years prior to 1 January 2016 (ERC Programme 2016).</li> </ul>	



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ERC Starting Grant (StG)			
	<ul> <li>The host institution (Located in one of the EU Member State or Associated Countries) must engage the Principal Investigator for at least the duration of the project, as defined in the grant agreement.</li> </ul>		
REQUIREMENTS	<ul> <li>At least one important publication without the participation of their PhD supervisor.</li> </ul>		
	<ul> <li>PIs shall spend a minimum of 50% of their total working time in an EU         Member State or Associated Country and a minimum of 50% of their total         working time on the ERC project.</li> </ul>		
PROFILE	Applicant Principal Investigators must demonstrate the ground-breaking nature, ambition and feasibility of their scientific proposal.		
	A competitive Starting Grant Principal Investigator must have already shown the potential for research independence and evidence of maturity.		
TIMESCALE	Announced in the Annual ERC work programme: <i>ERC Work Programme 2016</i> of 28 July 2015		
	StG - Call for proposals is currently closed (February 2016)		

## 3.1.3.2. ERC Consolidator Grant

ERC Consolidator Grants are designed to support researchers of any nationality at the stage of consolidating their own research team or programme. This grant scheme will strengthen recently created independent and excellent research teams.

The ERC Consolidator Grant is a way of addressing the fact that researchers face challenges when they are consolidating their independent careers in Europe. The current situation limits or delays the emergence of the next generation of researchers in Europe. This grant offers researchers a unique opportunity to consolidate their position.

ERC Consolidator Grant (CoG)			
OBJECTIVES	ERC Consolidator Grants are designed to support excellent Principal Investigators at the career stage at which they may still be consolidating their own independent research team or programme.		
FINANCING	Consolidator Grants may be awarded up to a maximum of EUR 2.000.000 for a period of 5 years. Up to 0.75 million € additional.		
ELIGIBILITY	<ul> <li>The Principal Investigator shall have been awarded their first PhD over 7 and up to 12 years prior to 1 January 2016 (ERC Programme 2016).</li> <li>The host institution (Located in one of the EU Member States or Associated Countries) must engage the Principal Investigator for at least the duration of the project, as defined in the grant agreement.</li> </ul>		
REQUIREMENTS	<ul> <li>Several important publications without the participation of their PhD supervisor.</li> </ul>		



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ERC Consolidator Grant (CoG)			
	<ul> <li>PIs shall spend a minimum of 50% of their total working time in an EU Member State or Associated Country and a minimum of 40% of their total working time on the ERC project.</li> </ul>		
PROFILE	Applicant Principal Investigators must demonstrate the ground-breaking nature, ambition and feasibility of their scientific proposal.		
	Principal Investigators at the career stage at which they may still be consolidating their own independent research team or programme.		
TIMESCALE	Announced in the Annual ERC work programme: <i>ERC Work Programme 2016</i> of 28 July 2015.		
	CoG - Call for proposals is currently closed (February 2016)		

#### 3.1.3.3. ERC Advanced Grant

ERC Advanced Grants provide an opportunity to well-established and outstanding scientists of any nationality to pursue innovative, high-risk research that opens new directions in a field of their choice. The ERC supports frontier research that opens new directions and breakthroughs and encourages unconventional approaches and investigations at the interface between disciplines.

ERC Advanced Gra	ERC Advanced Grant (AdG)		
OBJECTIVES	Advanced Grants are designed to support excellent Principal Investigators at the career stage at which they are already established research leaders with a recognised track record of research achievements.		
FINANCING	Advanced Grants may be awarded up to a maximum of EUR 2.500.000 for a period of 5 years. Up to 1.0 million € additional.		
ELIGIBILITY	Principal Investigator must have a track record of significant research achievements in the last 10 years.		
REQUIREMENTS	<ul> <li>■ Track Record:</li> <li>✓ Up to ten representative publications, from the last ten years, as main author</li> <li>✓ Research monographs and any translations thereof;</li> <li>✓ Granted patent; Research expeditions; Conferences; Prizes/ Awardsetc.</li> <li>■ Pls shall spend a minimum of 50% of their total working time in an EU Member State or Associated Country and a minimum of 30% of their total working time on the ERC project.</li> </ul>		
PROFILE	ERC Advanced Grant Principal Investigators are expected to be active researchers and to have a track record of significant research achievements in the last 10 years which must be presented in the application.		



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ERC Advanced Grant (AdG)		
TIMESCALE	Announced in the Annual ERC work programme ERC Work Programme 2016 of 28 July 2015.	
	AdG - Call for proposals is currently closed (February 2016)	

## 3.1.3.4. ERC Proof of Concept Grants

ERC-funded frontier projects can produce innovations with economic or social potential. The Proof of Concept grant provides additional funding to ERC grant holders to ensure that excellent ideas do not disappear for lack of investment.

The ERC Proof of Concept grant is a practical way of addressing the fact that researchers find it difficult to attract investors when a concept is in the pre-development stage.

Early backing for a concept will support researchers as they bring their ideas to the market. The funding can cover activities such as Intellectual Property Rights, mapping out commercial and business opportunities and technical validation.

ERC Proof of Concept Grants (PoC)			
OBJECTIVES	The ERC Proof of Concept Grants aim to maximise the value of the excellent research that the ERC funds, by funding further work (i.e. activities which were not scheduled to be funded by the original ERC frontier research grant) to verify the innovation potential of ideas arising from ERC funded projects. Proof of Concept Grants are therefore on offer only to Principal Investigators whose proposals draw substantially on their ERC funded research.		
FINANCING	The financial contribution will be up to a maximum of EUR 150.000 for a period of 18 months.		
REQUIREMENTS	<ul> <li>Eligible Principal Investigator: All Principal Investigators in an ERC frontier research project, that is either on going or has ended less than 12 months before the opening date of this call, are eligible to participate and apply.</li> </ul>		
	■ Eligible projects: Applicants will need to demonstrate the relation between the idea to be taken to proof of concept and the ERC frontier research project (Starting, Consolidator, Advanced or Synergy).		
	<ul> <li>Eligible Host Institution: The host institution must engage the Principal Investigator for at least the duration of the proof of concept project as defined in the grant agreement and must be established in a Member State or an Associated Country.</li> </ul>		
PROFILE	The Principal Investigator must be able to demonstrate the relation between the idea to be taken to proof of concept and the ERC frontier research project (Starting, Consolidator, Advanced or Synergy) in question.		
TIMESCALE	Announced in the Annual ERC work programme ERC Work Programme 2016 of 28 July 2015.  PoC - Call for proposals is currently open (February 2016)  Deadlines: 16 Feb - 26 Mar - 4 Oct 2016 (17:00 Brussels local time)		

## 3.1.4. Proposal submission

**Starting, Consolidator and Advanced Grant** proposals are submitted by the Principal Investigator who has scientific responsibility for the project, on behalf of the host institution.

It is made electronically and shall consist of:

#### Part A:

o Info on proposal; PI; Host institution (HI) and overall budget

#### Annexes:

- Host Institution Binding Statement of Support
- If applicable: Explanatory information on ethical issues; copy of PhD (StG, CoG); document of eligibility window (StG, CoG).

#### Part B1:

- Extended Synopsis (5 pages)
- Curriculum Vitae (2 pages)
- Track Record (2 pages)

#### Part B2

- Scientific Proposal (15 pages)
- Template of the budget

**Proof of Concept Grants** proposals will be awarded through a call for proposals. Proposals are submitted by a single Principal Investigator, who has responsibility for the proposed activities, on behalf of the host institution which is the applicant legal entity. Applications can be submitted at any time from the opening date of the call until the final deadline and will be evaluated and selected in three rounds, based on three specific deadlines. A Principal Investigator may submit only one application per call.

The content of the proposal will comprise the following required elements:

- A short description of the idea to be taken to proof of concept
- Outline the innovation potential of the idea to be taken to proof of concept
- Outline the economic and/or societal impact expected
- Activities Plan
- Ethics Review table

#### 3.1.5. Evaluation

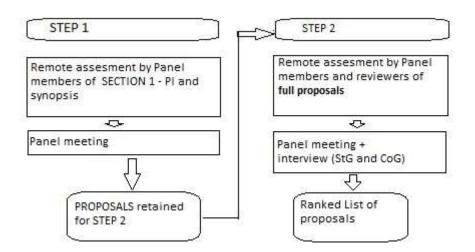
The selection of scientific and scholarly proposals for ERC funding is based on international peer review with excellence as the sole criterion. The ERC uses a typical panel-based system, in which panels of high-level scientists and/or scholars make recommendations for funding.

The ERC panel structure consists of 25 panels. The panels of each grant are grouped into three disciplinary domains that cover the entire spectrum of science, engineering and scholarship:

- Social sciences and Humanities (SH)
- Life sciences (LS)
- Physical and Engineering Sciences (PE)



Research proposals of a multi and inter disciplinary nature are strongly encouraged throughout the ERC's schemes. Proposals of this type are evaluated by the ERC's regular panels with the appropriate external expertise.



A single submission of the full proposal will be followed by a two-step evaluation.

- At **step 1**, the extended synopsis and the Principal Investigator's track record and CV will be assessed (and not the full scientific proposal).
- At step 2, the complete version of the retained proposals will be assessed (including the full scientific proposal).

Principal Investigators whose proposals are retained for step 2 of the evaluation for the Starting and Consolidator Grants will be invited for an interview to present their project to the evaluation panel meeting in Brussels.

For all ERC frontier research grants, **EXCELLENCE** is the sole criterion of evaluation. It will be applied in conjunction to the evaluation of both: the ground-breaking nature, ambition and feasibility of the research project; and the intellectual capacity, creativity and commitment of the Principal Investigator.

Once the evaluation of their proposal has been completed, applicants will receive an evaluation report which will include the ranking range of their proposal out of the proposals evaluated by the panel. Projects recommended for funding will be funded by the ERC if sufficient funds are available. Proposals will be funded in priority order based on their rank.

Applicants may also be subject to <u>restrictions on submitting</u> proposals to future ERC calls based on the outcome of the evaluation.

#### 3.1.6. National Contact points

ERC National Contact Points (NCPs) have been set up by national governments to provide information and support to applicants. The list of NCPs can be found at:

http://erc.europa.eu/ncp



#### 3.1.7. Examples of ERC Grants in the forestry sector

## 3.1.7.1. Tropical forests and climate change: understanding links to predict future responses (TROFOCLIM)

It has the objective to detect, explain and predict long-term climate change effects on tropical tree dynamics. To this end, the project will apply three techniques, which are new to this field: tree ring analysis, stable isotope measurements and tree growth modelling. This is the first pantropical study that analyses centennial-scale tree growth. The study will be conducted at three sites (Bolivia, Cameroon, and Thailand) and includes 15 tree species.

Host Institution: Wageningen Universiteit, Netherlands

**Max ERC funding:** 1.729.200 €

**Start Date:** 2010-02-01 **End Date:** 2015-01-31

Call details: Starting Grant (StG), ID1, ERC-2009-StG

## 3.1.7.2. From Holocene to Anthropocene: the pace of microevolution in trees (TREEPEACE)

There are widespread concerns that trees, due to their long life-span, are not able to cope with the rapid ongoing climate change. While many studies have so far investigated potential impacts of climate change on forests, much less attention has been given to the potential evolutionary responses of tree populations. However there is a large body of evidence stemming from experimental evolutionary genetics showing that adaptive differentiation has extensively occurred during past environmental changes. This project challenges these views and explores the pace at which evolutionary change has taken place during past gradual and under current rapid environmental change.

Host Institution: Institut National De La Recherche Agronomique, France

Max ERC funding: 2.498.971 €

**Start Date:** 2014-02-01 **End Date:** 2019-01-31

Call details: Advanced Grant (AdG), LS8, ERC-2013-ADG

# 3.1.7.3. Development trajectories of temperate forest plant communities under global change: combining hindsight and forecasting (PASTFORWARD)

PASTFORWARD will build an integrative understanding of the interactive effects of land-use change, atmospheric deposition and climate warming on forest herb layer communities, starting from the insight that changes in herb layer communities are driven primarily by past land use, but can be modulated by atmospheric deposition, climate warming and forest management. Indeed, it is still largely ignored that sensible predictions of herb layer development trajectories under global change can only be made by taking the forest's land-use history into account, as legacies of past land use can leave century-long imprints on forest herb layer communities.

**Researcher:** Kris Verheyen Universiteit Gent (Belgium)

**Max ERC funding:** 1.887.780 €

**Start Date:** 2014-06-01 **End Date:** 2019-05-31 **Call details:** ERC-2013-CoG



### 3.1.7.4. *Tracing tropical timber (Timtrace)*

An estimated 50% of the tropical timber that enters the European market is illegally harvested. To implement new European legislation intended to eliminate this illegal trade, independent tools will be needed to verify the legal status of timber. Therefore the purpose is to develop a fast, accurate and cost-effective commercial forensic tool, 'Timtrace', for tracing the claimed origin of tropical timber.

Host Institution: Wageningen University, Netherlands

Max ERC funding: 148.387 € **Start Date:** 2015-10-01 **End Date: 2017-04-01** 

Call details: Proof of Concept (PoC), ERC-2014-PoC

#### 3.2. Marie Skłodowska-Curie actions



The Marie Skłodowska-Curie actions (MSCA) provide grants for all stages of researchers' careers - be they doctoral candidates or highly experienced researchers - and encourage transnational, intersectoral and interdisciplinary mobility. The MSCAs enable research-focused organisations (universities, research centres, and companies) to host talented foreign researchers and to create strategic partnerships with MARIE CURIE leading institutions worldwide.

Awarding € 6.16 billion in the period to 2020, the MSCA support research training and career development focused on innovation skills. The programme funds worldwide and crosssector mobility that implements excellent research in any field (a "bottom-up" approach).

There are four types of MSCA:

- Research Networks (ITN): support for Innovative Training Networks that train new researchers.
- ✓ Individual Fellowships (IF): support for experienced researchers undertaking mobility between countries, with the option to work outside academia.
- ✓ Research and Innovation Staff Exchanges (RISE) for international and inter-sectoral cooperation.
- ✓ Co-funding of regional, national and international programmes that finance research training or fellowships involving mobility to or from another country

The MSCA also funds the European Researchers' Night (NIGHT), public events involving researchers, which take place every year across Europe on the fourth Friday of September.

	Host applies	Individuals apply with an organisation	Funder applies
You have less than 4 years research experience (e.g. you are doing your PhD) (Early stage	ITN		COFUND
researcher)	RISE		
You have more than 4 years research experience or you have a doctoral degree (PhD)	RISE	IF	COFUND
Managerial and technical staff	RISE		
Events	NIGHT		



### 3.2.1. Step by step

Marie Sklodowska-Curie Actions are implemented by the Research Executive Agency (REA). Funding decisions for Marie Skłodowska-Curie Actions are made on the basis of proposals submitted through published calls. The sequence of steps is summarised below:

#### - Proposal preparation

Guides for Applicants and Work programmes are revised each year.

Before the call is published, researchers should get in touch with their National Contact Point (NCP) to receive technical support during the whole submission process.

Once the Call has been opened, guidance documents for applicants must be read carefully. Proposals should be written early enough to submit it to external opinions. NCP might be able to do a "pre-screening" and give feedback.

#### - Proposal Evaluation

REA evaluates all eligible proposals in order to identify those whose quality is sufficiently high for possible funding. The basis for this **evaluation** is a peer-review carried out by independent experts. The results of the evaluation will be made available on the call page of the Participants portal.

#### Negotiation and selection

REA then negotiates with some or all of those applicants whose proposals have successfully passed the evaluation stage, depending on the budget available. If negotiations are successfully concluded, grant agreements providing for an EU financial contribution are established with the participants.

#### 3.2.2. Call for proposals

Calls for proposals are published annually on the MSCA website, the Horizon 2020 Participant Portal and in the Official Journal of the European Union. Grant applications can be submitted only in response to a call for proposals via the Electronic Proposal Submission Service (EPPS) within the deadline specified in each call.

http://ec.europa.eu/research/mariecurieactions/apply-now/open-calls/index en.htm

According to the open calls, the deadlines of the MSCA grants are the following ones:

MSCA	DATE	BUDGET
MSCA-ITN-2017	Opens: 09/2016; Closed: 10/01/2017	430 M€
MSCA-IF-2016	Opens: 04/2016; Closed: 14/09/2016	218,5 M€
MSCA-RISE-2016	Opens: 12/2015; Closed: 28/04/2016	80 M€
MSCA-COFUND-2016	Opens: 04/2016; Closed: 26/09/2016	80 M€
MSCA-NIGHT-2016 (CSA)	2016 call is already closed. The next call would be announce in 2016.	8 M€



The budget for the different MSCA grants:

MSCA	RESEARCH UNIT COST (PERSON /MONTH)		INSTITUTIONAL UNIT COST		
	Living allowance (Country coefficient)	Mobility allowance	Family allowance	Research training and networking	Management and indirect
ITN	3.110 600 500		1.800	1.200	
IF	4.650 600 500		800	650	
RISE	Staff member unit cost Top –up allowance (accommodation, travel and subsistence)				
2.000				1.800	700
	Researcher Unit Cost (50%)		Institutional unit cost (50%)		
COFUND	Early-stage researchers		3.710	6	50
	Experienced researchers		5.250		

#### 3.2.3. MSCA Grants

#### **TYPE OF MSCA GRANTS**

1 Research Networks (ITN): support for Innovative Training Networks

ITN project proposals may take one of three forms:

- **European Training Networks (ETN)**
- **European Industrial Doctorates (EID)**
- European Joint Doctorates (EJD)
- 2 <u>Individual Fellowships (IF): support for experienced researchers undertaking mobility between countries, optionally to the non-academic sector</u>
  - European Fellowships
  - Global Fellowships
- 3 <u>International and inter-sectoral cooperation through the Research and Innovation Staff Exchanges (RISE)</u>

This action is meant for organisations such as universities, research centres or companies – that propose a short term exchange to their staff. Proposals should include **at least three partners**, which can be universities, research institutions, or non-academic organisations. Small and medium-sized enterprises (SMEs) are encouraged to participate.

4 <u>Co-funding of regional, national and international programmes that finance fellowships involving mobility to or from another country</u>

This action is meant for organisations that fund or manage doctoral programmes or fellowship programmes for researchers.

5 European Researchers' Night (NIGHT)

SOURCE: http://ec.europa.eu/programmes/horizon2020/



#### 3.2.3.1. Research Networks (ITN): support for Innovative Training Networks

The Innovative Training Networks (ITN) aim to train a new generation of creative, entrepreneurial and innovative early-stage researchers, able to face current and future challenges and to convert knowledge and ideas into products and services for economic and social benefit.

ITN will raise excellence and structure research and doctoral training, extending the traditional academic research training setting, incorporating the elements of Open Science and equipping researchers with the right combination of research-related and transferable competences. It will provide enhanced career perspectives in both the academic and non-academic sectors through international, interdisciplinary and intersectoral mobility combined with an innovation-oriented mind-set.

Research Networks (IT	ΓΝ): support for Innovative Training Networks		
OBJECTIVES	ITN aim to train a new generation of creative, entrepreneurial and innovative early-stage researchers, able to face current and future challenges and to convert knowledge and ideas into products and services for economic and social benefit.		
ELIGIBILITY	<ul> <li>Duration of projects: maximum 4 years</li> <li>ETN - European Training Networks</li> <li>At least three organisations from 3 different EU MS or AC. Above this minimum any country can participate.</li> <li>Implemented by at least three partners from in and outside academia.</li> <li>EID - European Industrial Doctorates</li> <li>Organisations should be established in at least 2 different EU MS or AC. Above this minimum any country can participate.</li> <li>At least one beneficiary must be entitled to award doctoral degrees and at least one beneficiary must come from the non-academic sector, primarily enterprise.</li> <li>Each participating researcher is enrolled in a doctoral programme d is jointly supervised by supervisors from the academic and non-academic sector, where they spend at least 50% of their time.</li> <li>Consortium agreement: required.</li> <li>EJD - European Joint Doctorates</li> <li>A minimum of three academic organisations form a network with the aim of delivering joint, double or multiple degrees. The organisations should be from different EU MS or AC.</li> <li>Joint supervision of the research fellow and a joint governance structure are mandatory.</li> </ul>		
FINANCING	€ 370 Million in 2016 - Closed already in January 2016. € 430 Million in 2017 –Opening 15 Sep 2016 – Deadline 10 Jan 2017		
REQUIREMENTS	<ul> <li>ITN Partnership</li> <li>Beneficiaries: Sign the Grant Agreement and claim costs and are responsible for the execution of the programme.</li> <li>Partner Organizations: Do not sign the Grant Agreement and do not claim costs. Must include a letter of commitment in the proposal.</li> </ul>		



Deliverable 5.3. Guideline - Mobility programs at European level. Forestry sector.

Research Networks (ITN): support for Innovative Training Networks			
PROFILE	<ul> <li>Support to early-stage researchers only</li> <li>Fellowships of 3-36 months</li> <li>Maximum 540 researcher-months per consortium (180 for EID with 2 partners)</li> <li>Separate multidisciplinary panels for EID and EJD.</li> </ul>		
CALL PROCESS - RECRUITMENT	<ul> <li>Consortium applies for funding         <ul> <li>Consortium then recruits the researchers</li> </ul> </li> <li>Employment contracts with full social security</li> <li>All projects publish their vacancies on EURAXES automatically in NatureJobs.</li> </ul>		

3.2.3.2. <u>Individual Fellowships (IF)</u>: support for experienced researchers undertaking mobility between countries, optionally to the non-academic sector

The goal of Individual Fellowships is to enhance the creative and innovative potential of experienced researchers, wishing to diversify their individual competence in terms of skill acquisition through advanced training, international and intersectoral mobility.

Individual Fellowships provide opportunities to acquire and transfer new knowledge and to work on research and innovation in a European context (EU Member States and Associated Countries) or outside Europe. The scheme particularly supports the return and reintegration of researchers from outside Europe who have previously worked here. It also develops or helps to restart the careers of individual researchers that show great potential, considering their experience.

Individual Fellowship	os (IF): Post-doctoral fellowships for outstanding researchers		
OBJECTIVES	<ul> <li>Enhance the creative and innovative potential of experienced researchers.</li> <li>Opportunities to acquire new knowledge, work on research projects in a European context or outside Europe.</li> <li>Resume a career or return to Europe - Career Restart Panel and Reintegration Panel.</li> </ul>		
FINANCING	<ul> <li>€ 218,5 Million in 2016 Opening: 12 Apr 2016 –Deadline 14 Sep 2016</li> <li>€ 248 Million in 2017 Opening: 11 Apr 2017 – Deadline 14 Sep 2017</li> </ul>		
ELIGIBILITY	<ul> <li>Duration of projects: 2 years (IF Global: 3 years)</li> <li>Additional 3 or 6 month secondment option, within Europe &amp; in another sector</li> </ul>		
	Two types depending on the mobility of the researcher		
	<ul> <li>European Fellowships (12 to 24 months)</li> </ul>		
	- Held in EU MS or AC.		
	<ul> <li>Open to researchers either coming to Europe or moving within Europe.</li> </ul>		
	<ul> <li>Can help to restart research careers after a break such as parental leave.</li> </ul>		
	- Can also help reintegrate researchers coming back to Europe.		
	<ul> <li>Global Fellowships (12 to 24 months + 12 months)</li> </ul>		
	<ul> <li>Fund secondments outside Europe for researchers based in the EU MS or AC.</li> </ul>		
	- There is a mandatory one-year return period.		



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Individual Fellowships (IF): Post-doctoral fellowships for outstanding researchers				
	<ul> <li>Can also include a secondment period up to 3 or 6 months in another organisation in Europe, when this would boost the impact of the fellowship.</li> </ul>			
PROFILE	<ul> <li>Mono-beneficiary project</li> <li>Experienced researchers: In possession of a doctoral degree, or have 4 years of full-time research experience at the time of the call deadline. Of any nationality.</li> <li>International mobility within or into Member States (MS) and Associated Countries (AC).</li> <li>Mobility rule: Applicants must not have resided or carried out their main activity in the country of the host organisation for more than 12 months in the 3 years immediately prior to the call deadline.</li> </ul>			
CALL PROCESS - RECRUITMENT	Individual researchers apply together with the host organisation.			

# 3.2.3.3. <u>International and inter-sectoral cooperation through the Research and Innovation Staff Exchanges (RISE)</u>

The RISE scheme will promote international and inter-sector collaboration through research and innovation staff exchanges, and sharing of knowledge and ideas from research to market (and vice-versa) for the advancement of science and the development of innovation.

The scheme fosters a shared culture of research and innovation that welcomes and rewards creativity and entrepreneurship and helps to turn creative ideas into innovative products, services or processes.

RISE: Research and Innovation Staff Exchange				
OBJECTIVES	Research and Innovation Staff Exchange (RISE) funds short-term exchanges for staff to develop careers combining scientific excellence with exposure to other countries and sectors. RISE enables more interaction between academia and non-academic organisations within Europe and worldwide.			
FINANCING	<ul> <li>€ 80 Million in 2016 Opening: 8 Dec 2015 – Deadline 28 April 2016.</li> <li>€ 80 Million in 2017 Opening: 1 Dec 2016 – Deadline 5 April 2016.</li> </ul>			
ELIGIBILITY	<ul> <li>At least 3 independent participants in 3 different countries</li> <li>At least 2 participants from 2 different MS/AC</li> <li>If all in MS/AC: at least 1 academic and 1 non-academic</li> <li>Minimum</li> <li>MS/AC: + MS/AC: + TC</li> <li>Or</li> <li>MS/AC: + MS/AC: + MS/AC: Academic</li> <li>Non-Academic</li> </ul>			
	<ul> <li>Duration of projects: max. 4 years</li> <li>Partnership agreement recommended</li> </ul>			



Deliverable 5.3. Guideline – Mobility programs at European level. Forestry sector.

RISE: Research and I	nnovation Staff Exchange	
	<ul> <li>Support to secondments of staff members for 1-12 months</li> <li>No mobility rule required</li> <li>Eligibility condition for staff members: employed for 6 months at sending institution prior to first secondment</li> </ul>	
REQUIREMENTS	<ul> <li>Countries not eligible for EU funding: Australia, Brazil, Canada, China, India, Japan, Mexico, New Zealand, Republic of Korea, Russia, United States.</li> <li>In very exceptional cases, partners from those countries might be funded. But the following conditions have to be fulfilled:         <ul> <li>a) This partner has competences/expertise that no organisation in MS/AC has.</li> <li>b) The relevant transfer of knowledge can only be done via a secondment in the direction TC MS/AC.</li> <li>c) Points a) and b) must be endorsed by the expert evaluators.</li> <li>d) The experts' endorsement (point c) must be confirmed by the REA.</li> </ul> </li> <li>Types of staff members:</li> </ul>	
PROFILE	<ul> <li>ESR (no PhD and &lt; 4 years' experience)</li> <li>ER (PhD or &gt; 4 years' experience)</li> <li>Managerial staff</li> <li>Administrative or Technical staff</li> </ul>	
CALL PROCESS - RECRUITMENT	In-built return mechanism  Beneficiaries  Sign the Grant Agreement and claim costs  Are responsible for the execution of the programme Are established in a MS/AC  Partner Organisations  Do not sign the Grant Agreement and do not claim costs  Must include a letter of commitment in the proposal  Are established in a TC	

# 3.2.3.4. <u>Co-funding of regional, national and international programmes that finance fellowships involving mobility to or from another country</u>

The COFUND scheme aims to stimulate regional, national or international programmes to foster excellence in researchers' training, mobility and career development, spreading the best practices of Marie Skłodowska-Curie Actions.

This will be achieved by co-funding new or existing regional, national and international programmes to open up to, and provide for, international, intersectoral and interdisciplinary research training, as well as transnational and cross-sectoral mobility of researchers at all stages of their career.

COFUND: Co-funding of regional, national and international programmes			
OBJECTIVES  Stimulate regional, national or international programmes to foster excellence in researchers' training, mobility and career development			
FINANCING	<ul> <li>€ 80 Million in 2016 Opening 14 April 2016- Deadline: 29 Sept 2016.</li> <li>€ 80 Million in 2017 Opening 5 April 2017- Deadline: 28 Sept 2017.</li> </ul>		



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COFUND: Co-funding of regional, national and international programmes				
ELIGIBILITY	<ul> <li>Mono-beneficiary</li> <li>Legal entities (public &amp; private) established in MS or AC &amp; international European interest organisations</li> </ul>			
REQUIREMENTS	<ul> <li>Duration of projects: maximum 5 years.</li> <li>Duration of Fellowships: minimum 3 months.</li> <li>EU contribution to cover living allowances for researchers and management costs.</li> <li>50% co-funding for established unit costs.</li> <li>Minimum living allowance fixed in the WP.</li> </ul>			
PROFILE	<ul> <li>International, intersectorial and interdisciplinary research training, as well as transnational and cross-sector mobility of researchers at all stages of their career.</li> <li>Possibilities of synergies with structural funds.</li> <li>Opportunities for researchers from all countries.</li> <li>Researchers to comply with the mobility rules of the MSCA.</li> <li>Open and transparent recruitment, vacancies widely published.</li> </ul>			

### 3.2.4. Proposal submission

The different calls are announced in the H2020 Participant Portal and depending on the type of MSCA grant individual researchers or organisations would have to request the grants.

Proposals are composed by two parts, Part A (administrative forms) and Part B (proposal description).

Down below the specificities of each grant are described.

#### 3.2.4.1. ITN

Proposals are submitted by organisations (such as universities, research centres or companies) in reply to a call for proposals that propose a research training network. Individuals can apply for the specific positions created by these networks which are advertised on Euraxess.

#### 3.2.4.2. IF

Proposals are submitted in reply to a call for proposals, announced in the H2020 Participant Portal. Individual researchers submit a research proposal (written jointly with the host organisation), including CV.

#### 3.2.4.3. RISE

This action is meant for organisations that propose a short term exchange to their staff.

Proposals should include at least three partners, (universities, research institutions, or non-academic organisations, also small and medium-sized enterprises (SMEs) are encouraged to participate). Partners get together and propose a joint project. Proposals should highlight networking opportunities, sharing of knowledge and the skills development of staff members.

Research staff of any nationality and any career level (postgraduates to experienced researchers) can undertake a secondment. Staff members working in managerial, technical or administrative roles can also be seconded.



#### 3.2.4.4. COFUND

This action is meant for organisations that fund or manage doctoral programmes or fellowship programmes for researchers.

Each COFUND proposal should have a sole participant, which could be a government ministry, regional authority, funding agency, university, research organisation, research academy or enterprise.

Experienced researchers apply directly with the funding organisation while doctoral candidates can find vacancies of co-funded programmes on Euraxess.

#### 3.2.4.5. NIGHT

This action is meant for any legal entity that is capable of organising the event and is established in the EU or an associated country. This will often involve coordinating regional, national or international partners.

#### 3.2.5. Evaluation

The evaluation of MSCA proposals is carried out by the Research Executive Agency (REA) with the assistance of independent experts. The pre-determined criteria are set out in the Work Programme and its General Annexes.

Grant proposals will be evaluated by experts, on the basis of the award criteria 'excellence', 'impact' and 'quality and efficiency of the implementation' (Article 15 of the Horizon 2020 Rules for Participation Regulation No 1290/2013).

#### 3.2.6. National Contact Points

Advice and information can also be found through the National Contact Points:

http://ec.europa.eu/research/participants/portal/desktop/en/support/national\_contact\_points.html

#### 3.2.7. Examples of MSCA in the forestry sector

#### 3.2.7.1. Castle — Careers in Sustainability Excellence —

Is a Marie Curie Initial Training Network. The project combines scientific innovative problemoriented research and practical training of young academics on methods used for sustainability impact assessments in the bioenergy and forest-based sector in Europe. CASTLE educates sustainability experts for the broader bio-based economy, and the work done by our researchers adopts sustainability assessment methods to specific parts of the bioeconomy.

#### **CASTLE** in brief

- Theme: Initial Training Networks (ITN), PEOPLE

- Duration: 4 years (starting Nov 2012)

Budget: 3,8 Mill EUR

Funder: EU 7th Framework Programme

Partners: 9 full partners & 8 associate partnersWeb: http://www.castle-itn.eu/About.html



#### 3.2.7.2. Analysing Forest Hydrocarbons with Networks of Sensors

Is a Marie Curie Initial Individual Fellowship. This fellowship will develop and apply a unique sensor network for assessment of the spatial and long-term temporal variability in volatile organic compounds (VOCs) emitted by forests. The sensors will be tested both in the laboratory and in small-scale trials. The fellowship will culminate in the application of a sensor network in a UK Forestry Commission research forest, to resolve for the first time the true spatial and temporal variability of biogenic VOCs throughout a forest canopy. This fellowship will exploit the fellow's experience gained in the UK and USA, and the world-leading expertise at the University of York to produce new earth system science and a transferable chemical technology applicable to other research questions, whilst propelling an exciting researcher's career onto the highest scientific track.

#### AIFHoNSo in brief

Theme: MSCA-IF-2014-EF - Marie Skłodowska-Curie Individual Fellowships (IF-EF)

Duration: From 2015-06-01 to 2017-06-01

Budget: 183.454,8 EUR

Funder: H2020

- Coordinator: University of York

#### 3.2.7.3. Wood phenotyping tools: properties, functions and quality

The objective of TOPWOOD is to build a four-year scientific exchange program about the test and development of medium and high-throughput phenotyping measurement and analysis tools for selected basic wood properties in the laboratory and in the field (TOols for Phenotyping WOOD-TOPWOOD). The participants wish to exchange knowledge and experience for sharing and expanding skills, improving existing tools and developing new original measuring devices for wood properties involved in studies of wood quality and of wood biological functions. The phenotyping tools and methods of analysis developed and improved in TOPWOOD are intended to be used by the participants to investigate the genetic and environmental determinism of key wood properties involved in forest tree adaptation, as well as in wood production and wood quality for the forest and wood industries. The participants of TOPWOOD are three academic institutions and one private company from three European Union countries, Austria, France and Spain, and one third country, Argentina.

#### **TOPWOOD** in brief

- Theme: MSCA-RISE-2014 - Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE)

- Duration: From2015-04-01 to 2019-04-01

Budget: 675.000 EUR

Funder: H2020

 Partners: INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (Coordinator) and UNIVERSITAET FUER BODENKULTUR WIEN and MADERA PLUS CALIDAD FORESTAL SL (Participants).



#### 3.3. Research infrastructure

Research infrastructures are facilities, resources and services that are used and made accessible to conduct research and foster innovation. They include: major scientific equipment; knowledge-based resources such as collections; archives or scientific data; e-infrastructures, such as data and computing systems and communication networks; and any other infrastructures of a unique nature essential to achieve excellence in research and innovation. Such infrastructures may be "Single-sited" "virtual or "distributed".

With the aim to support the development of a European policy for Research Infrastructure the European Strategy Forum on Research Infrastructures (ESFRI) was set up by the EU Council of Research Ministers in 2002. This strategy facilitates multilateral initiatives leading to the better use and development of Research Infrastructures at EU and international level, also expands training possibilities and foster mobility schemes among researchers. In 2006 the Roadmap for pan-European research infrastructures which identifies new Research Infrastructures (RI) of pan-European interest corresponding to the long term needs of the European research communities, covering all scientific areas (regardless of the possible location) has been published. The Roadmap was updated in 2008 and in 2010 focusing on Energy, Food and Biology. The third revision is in progress and its publication is estimated by 2016.

Under H2020 the main objective of the action "Research Infrastructures" is to endow Europe with world-class research infrastructures which are accessible to all researchers in Europe and beyond and fully exploit their potential for scientific advance and innovation. The main actions that are supported are three:

- Developing the European infrastructures for 2020 and beyond. Support will be provided for the implementation and operation of the research infrastructures listed on the ESFRI Roadmap.
- Fostering the innovation potential of the infrastructures and their human resources.
- Reinforcing European policy and international cooperation.

Funding opportunities under H2020 are published in the *Work-Programme 2016 -2017 European Research Infrastructures* (including e-Infrastructures) which announces a guideline for every call, conditions etc. A summary has been done to help in the identification of available funds, budget and dates of the calls.

### 3.3.1. Research Infrastructure Calls (H2020)

The calls, topics, dates and budget are summarised in the following chart:

		OPENING	DEADLINE	BUDGET
				(EUR million)
INFRADEV	INFRADEV-01-2017	8 Dec 2016	29 Mar 2017	20
	INFRADEV-02-2016	15 Mar 2016	22 Jun 2016	40
	INFRADEV-03-2016-2017	8 Dec 2015	30 Mar 2016	2016:30 / 2017:40
	INFRADEV-04-2016	15 Mar 2016	22 Jun 2016	10
INFRAIA	INFRAIA -01-2016-2017	10 Nov 2015	30 Mar 2016	2016:88 / 2017:72
	INFRAIA -02-2017	8 Dec 2015	30 Mar 2016 (1st	40
			Stage)	
			29 Mar 2017 (2 <sup>nd</sup>	
			Stage)	
EINFRA	EINFRA-11-2016 (RIA)	8 Dec 2015	30 Mar 2016	15



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		OPENING	DEADLINE	BUDGET (EUR million)
	EINFRA-12-2017 (RIA)	8 Dec 2016	29 Mar 2017	40
	EINFRA-21-2017 (PPI)	14 Apr	20 Sep 2016	26
	EINFRA-21-2017 (RIA)	8 Dec 2016	29 Mar 2017	20
	EINFRA-22-2016 (RIA)	8 Dec 2015	30 Mar 2016	21
INFRAINNOV	INFRAINNOV-01-2017	8 Dec 2016	29 Mar 2017	
	INFRAINNOV-02-2016	8 Dec 2015	30 Mar 2016	
INFRASUPP	INFRASUPP-01-2016	8 Dec 2015	30 Mar 2016	8
	INFRASUPP-02-2017	8 Dec 2016	29 Mar 2017	6,5
	INFRASUPP-03-2016 (CSA)	8 Dec 2015	30 Mar 2016	4,5
	INFRASUPP-03-2016 (RIA)	8 Dec 2015	30 Mar 2016	3
OTHER	Expert contract	=	=	2016: 0,8 / 2017: 0,8
ACTIONS	GÉANT partnership project			2016: 0,1
	Specific Grant Agreement	First quarter 2016		2016:64,0 / 2017:25,0

Down below a description of every call and its topics is given.

## 3.3.1.1. Development and long term sustainability of new pan-European research infrastructures - INFRADEV

This call focuses on developing new world-class research infrastructures. The aim is to facilitate and support the implementation and long-term sustainability of the research infrastructures identified by the European Strategy Forum on Research Infrastructures (ESFRI) as well as other world-class research infrastructures. The topics of this call are four:

- INFRADEV-01-2017: Design studies.
- INFRADEV-02-20176: Preparatory Phase of ESFRI projects.
- INFRADEV-03-2016-2017: Individual support to ESFRI and other world-class research infrastructures.
- INFRADEV-04-2016: European Open Science Cloud for Research.

TOPICs (Type of Action)	BUDGET (EUR million)		SINGLE GRANT	OPENING	DEADLINES
	2016	2017	(EUR million)		
INFRADEV-03-2016 – 2017 (CSA)	30,0	40,0	From 2 to 5	8 Dec 2015	30 Mar 2016
INFRADEV-02-2016 (CSA)	40,0		Up to 4	15 Mar 2016	22 Jun 2016
INFRADEV-04-2016 (RIA)	10,0		From 5 to 10	15 Mar 2016	22 Jun 2016
INFRADEV-01-2017 (RIA)		20,0	From 1 to 3	8 Dec 2016	29 Mar 2017

## 3.3.1.2. Integrating and opening research infrastructures of European interest INFRAIA

This call focuses on opening up key national and regional research infrastructures to all European researchers from both academia and industry as well as ensuring their optimal use and joint development. Proposals are invited against the following topics:

- INFRAIA -01-2016-2017: Integrating activities for Advance Communities
- INFRAIA -02-2017: Integrating Activities for Starting Communities

TOPICs (Type of Action)	BUDGET (EUR million)		SINGLE GRANT	OPENING	DEADLINES
	2016	2017	(EUR million)		
INFRAIA -01-2016-2017 (RIA)	88	72	Up to 10	10 Nov 2015	30 Mar 2016
INFRAIA -02-2017 (RIA)		40	Up to 5	8 Dec 2015	30 Mar 2016 (1st Stage)
					29 Mar 2016 (2nd Stage)



The difference between both topics is the definition of Advance and Starting Communities. "Advance Communities" are scientific communities whose research infrastructures show an advance degree of coordination and networking, awarded under FP7 or previous H2020 calls. "Starting Community" has never been supported for the integration of its infrastructures under FP7 or H2020.

"INFRAIA -01-2016-2017: Integrating activities for Advance Communities" target approach is based on a Multi-annual plan (MAP) for proposals addressing different areas under different domains. Considering the scope of Sumforest, the areas and domains which could be related are:

- BIOLOGICAL AND MEDICAL SCIENCE: Facilities and resources for plant phenotyping.
- ENERGY: Research Infrastructures for research on biomass conversion and biorefinery.
- ENVIRONMENTAL AND EARTH SCIENCE: Research infrastructures for forest ecosystem and resources research; Sites, experimental platforms and data collections of anthropogenic impacts for ecosystem functioning and biodiversity research.

#### 3.3.1.3. *Call E-Infrastructures*

This call will support the European policies on open research data, data and computing intensive science, research and education networking, high performance computing and big data innovation. It is structured along two themes:

Theme 1: Integration and consolidation of e-infrastructure platforms supporting European policies and research and education communities

- EINFRA-11-2016: Support to the next implementation phase of Pan-European High performance Computing infrastructure and services (PRACE)
- EINFRA-12-2017: Data and distributed computing e-infrastructure for Open Science.

Theme 2: Prototyping innovative e-infrastructure platforms and services for research and education communities, industry and the citizens at large

- EINFRA-21-2017: Platform-driven e-infrastructure innovation
- EINFRA-22-2016: User-driven e-infrastructure innovation

TOPICs	BUDGET (EUR million)		SINGLE GRANT	OPENING	DEADLINES
(Type of Action)	2016	2017	(EUR million)		
EINFRA-11-2016 (RIA)	15			8 Dec 2015	30 Mar 2016
EINFRA-12-2017 (RIA)		40	10 - 15 / 8 -10	8 Dec 2016	29 Mar 2017
EINFRA-21-2017 (PPI)		26		14 Abr 2016	20 Sep 2016
EINFRA-21-2017 (RIA)		20		8 Dec 2016	29 Mar 2017
EINFRA-22-2016 (RIA)	21		2-3	8 Dec 2015	30 Mar 2016

## 3.3.1.4. Call Fostering the innovation potential of Research Infrastructures

This call is focused on fostering the innovation potential of research infrastructures. Proposals are invited against the following topics:

- INFRAINNOV-01-2017: Fostering co-innovation for future detection and imaging technologies.
- INFRAINNOV-02-2016: Support to technological Infrastructures.



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TOPICs (Type of Action)		T (EUR ion)	SINGLE GRANT (EUR million)	OPENING	DEADLINES
	2016	2017			
INFRAINNOV-01-2017 (RIA)		20,0	Up to 20	8 Dec 2016	29 Mar 2017
INFRAINNOV-02-2016 (CSA)	10,0		Up to 2	8 Dec 2015	30 Mar 2016

INFRAINNOVE 01-2017 consider in its scope that as a pilot initiative the proposals should mainly address the development of future detection and imagining technologies which have applications in the fields of engineering, environmental science, and others, and should constitute a driver enabling the transfer of fundamental research towards industrial application.

## 3.3.1.5. Call Support to policy and international cooperation

This call focuses on reinforcing European research infrastructures policy and international cooperation. Proposals are invited under the following topics:

- INFRASUPP-01-2016: Policy and international cooperation measures for research infrastructures.
- INFRASUPP-02-2017: Policy and international cooperation measures for research infrastructures.
- INFRASUPP-03-2016: Support to policies and international cooperation for e-infrastructures.

TOPICs (Type of Action)	BUDGET (EUR million)		SINGLE GRANT (EUR million)	OPENING	DEADLINES
	2016	2017			
INFRASUPP-01-2016 (CSA)	8,00		From 1,5 to 2	8 Dec 2015	30 Mar 2016
INFRASUPP-02-2017 (CSA)		6,5	Up to 1,5 / From 3 to 3,5 (support to RDA secretariat)	8 Dec 2016	29 Mar 2017
INFRASUPP-03-2016 (CSA)	4,5		From 0,3 to 3	8 Dec 2015	30 Mar 2016
INFRASUPP-03-2016 (RIA)	3			8 Dec 2015	30 Mar 2016

This calls will provide support for coordination of European, national and/or regional policies and programmes.

#### 3.3.1.6. *Other Actions*

- Launch of 2016 ESFRI Roadmap (CSA)
- External expertise
- GÉANT partnership projects
- Interactive Computing e-infrastructures for the human Brain Project FET Flagship

TOPICs	BUDGET (EUR		OPENING	DEADLINES
(Type of Action)	million)			
	2016	2017		
Expert contract	0,8	0,8		
GÉANT partnership project	0,1			
Specific Grant Agreement	64,0	25,0	First quarter 2016	

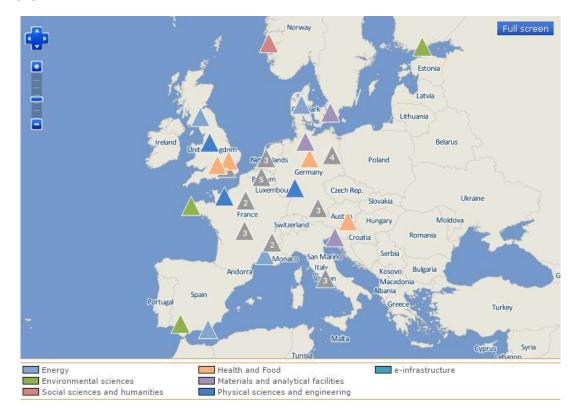
External Expertise: Reviewers, experts for the implementation of the EU R&I policies and ERA achievement, experts for H2020 interim evaluation and experts for ERIC evaluation.

#### 3.3.2. Where are the Research Infrastructures

The research infrastructures can be found in different on-line maps of infrastructures. A selection of the main sources of information in this area can be checked on these sites.

3.3.2.1. ESFRI

The website of ESFRI shows a map with the location of the pan-European research infrastructures that are listed in the ESFRI roadmap 2010. The ESFRI roadmap will be updated in 2016.



The map can be consulted at:

https://ec.europa.eu/research/infrastructures/index en.cfm?pg=mapri european

The map also displays the European infrastructures that are established as ERIC - European Research Infrastructure Consortium.

#### 3.3.2.2. European Research Infrastructure Consortium (ERIC)

The Community legal framework for a European Research Infrastructure Consortium (ERIC) entered into force on 28 August 2009. This specific legal form is designed to facilitate the joint establishment and operation of research infrastructures of European interest.

3.3.2.3. RICH

**RICH 2020**, is the European Network of National Contact Points (NCPs) for Research Infrastructures in Horizon 2020, facilitates transnational cooperation between NCPs, promotes the effective implementation of the RI programme, supports transnational and virtual access to RIs and highlights the opportunities offered by Research Infrastructures - at the European and international level. The Network builds on the experience of previous networks of National



Contact Points for the Research Infrastructures programme (EuroRIs-Net and EuroRIs-Net+, 2007-2013).

On the website: <a href="http://www.rich2020.eu/">http://www.rich2020.eu/</a> a great compilation of every research infrastructure can be found, as well as information about national contact points.

#### 3.3.3. Examples of RIs in the forestry sector

#### 3.3.3.1. *Trees4Future*

Trees4Future is an Integrative European Research Infrastructure project that aims to support forest research and helps the European forestry and wood industries develop sustainable solutions for the future in the context of climate change, by improving and facilitating access to state-of-the-art research facilities throughout Europe. These include databanks, biobanks, models and decision-support systems, laboratories and other facilities.

The Transnational Access programme offers external users free access to the 28 Trees4Future specialised research structures and facilities.

More info: <a href="http://www.trees4future.eu/">http://www.trees4future.eu/</a>

#### 3.3.3.2. European Plant Phenotyping Network - EPPPN

EPPN offers European scientists transnational access to 23 experimental plant phenotyping installations, at 7 different institutions, in 5 countries across Europe.

More info: <a href="http://www.plant-phenotyping-network.eu/">http://www.plant-phenotyping-network.eu/</a>

#### 3.3.3.3. Integrated non-CO2 Greenhouse gas Observation System - InGOS

InGOS gives external users access to so-called supersites (TNA1), access to stations (TNA2), the possibility to do measurements using an aircraft (TNA3), the opportunity to make use of the calibration service or the cucumber reference laboratory (TNA4), and the option to make use of an isotope service (TNA5).

More info: http://www.ingos-infrastructure.eu/

## 3.3.3.4. Forest research infrastructures of common strategic interest in Mediterranean region (FORESTERRA)

The ERANET FORESTERRA identified a list of forest research infrastructure of common interest in the Mediterranean Region.

More info: http://www.foresterra.eu/databases.html



## 4. H2020 – European Cooperation in Science and Technology

#### 4.1. COST

Founded in 1971 COST – European Cooperation in Science and Technology – is a European framework for the transnational coordination of nationally funded research activities. Its funds support the coordination costs of the pan-European research network COST Action.

Cost Actions are bottom-up science and technology networks open to researchers and stakeholders, with a four-year duration and a minimum participation of five COST Countries.

COST Actions are active through a range of networking tools such as meetings, workshops, conferences, training schools, short-term scientific missions (STSMs) and dissemination activities. They are open to researchers from universities, public and private research institutions, as well as to NGOs, industry and SMEs. The average COST Action Support is 130.000 € per annum.

#### 4.1.1. Step by step

COST invites researchers throughout Europe to submit proposals for COST Actions through a continuous Open Call. Following a thorough evaluation and selection process, the decision for funding a proposal is taken by the COST Committee of Senior Officials (CSO) within eight months from the collection date. Successful proposals are approved to become COST Actions and can expect to 'kick-off' within three months thereafter.

Researchers can also apply to join an existing COST Action or become involved in various COST Action activities.

COST Actions are also open to international cooperation, by allowing the participation of researchers from Near Neighbour Countries and International Partner Countries on the basis of mutual benefit.

More info: <a href="http://www.cost.eu/">http://www.cost.eu/</a>

### 4.1.2. COST Opportunities

Scientists and researchers from the 36 COST Member Countries and the Cooperating States can participate in COST Actions. Proposals may be submitted at any time throughout the year via the e-COST online submission tool.

The ways to participate in a COST Action are:

- Submitting a COST Action proposal
- Joining an existing COST Action
- Becoming a COST External Expert

Researchers participating in COST Actions can embark upon a wide range of networking opportunities supported by COST, such as workshops, conferences, training schools, short-term scientific missions (STSMs) and dissemination activities.

Meetings, Workshops and Conferences: Meetings are organised by COST Action Management Committees in any COST country participating in the network. They can be of different types, such as Management Committee meetings, Working Group Meetings, Workshops and Conferences. They may be open to the whole scientific community and provide visibility opportunities for the COST Action. COST will contribute to the travel and subsistence costs of participating scientists, and to the organisation costs of the meeting.



- Short-Term Scientific Missions (STSM): Short-term scientific missions (STSM) are exchange visits between researchers involved in a COST Action, allowing scientists to visit an institution or laboratory in another COST country. They are aimed at fostering collaboration, sharing new techniques and infrastructure that may not be available in other participants' institutions or laboratories. STSM are intended especially for young researchers.
- Training Schools: Training Schools provide intensive training in emerging research topics within the laboratories and organisations involved in the COST Action.
   Participants are mainly, but not exclusively, young researchers involved in COST Actions. Training Schools also cover appropriate re-training as part of life-long learning.
- Dissemination Activities and Publications: COST encourages and supports COST
   Actions and their participants to disseminate the outcome of their research to other
   COST science and technology networks, the wider scientific community,
   policymakers, the media and society at large. COST supports its Actions by funding
   a series of visibility opportunities and dissemination/publication activities

## 4.1.3. Examples of COST Actions in the forestry sector

# 4.1.3.1. European mixed forests - Integrating Scientific Knowledge in Sustainable Forest Management. (EuMIXFOR)-

The aim of the Action is to establish a long-lasting European research network on mixed forests, which can contribute to the increase of knowledge, the sustainability of management, and the future expansion, conservation and improvement of mixed forests on the basis of science, innovation and rural development in Europe. The objectives of the Action are established accordingly to three actors that operate on mixed forests: policy-makers, managers/owners and users, altogether linked by scientific community.

More info: <a href="http://www.mixedforests.eu/">http://www.mixedforests.eu/</a>

## 4.1.3.2. Forest Land Ownership Changes in Europe: Significance for Management and Policy (FACESMAP)

Forest ownership is changing across Europe. In some areas a growing number of so-called "new" forest owners hold only small parcels, have no agricultural or forestry knowledge and no capacities or interest to manage their forests, while in others new community and private owners are bringing fresh interest and new objectives to woodland management. This diversity and change creates implementation problems for forest-related policies including biodiversity conservation, timber and renewable energy supply, climate change mitigation, or recreation. The objectives of the proposed Action are:

- To analyse attitudes and constraints of different forest owner types in Europe and the ongoing changes (outputs: literature survey, meta-analyses and maps).
- To explore innovative management approaches for new forest owner types (outputs: case studies, critical assessment).
- To study effective policy instruments with a comparative analysis approach (outputs: literature survey, case studies, and policy analyses).
- To draw conclusions and recommendations for forest-related policies, forest management practice, further education and future research.

More info: http://facesmap.boku.ac.at/



4.1.3.3. Innovative management and multifunctional utilization of traditional coppice forests - an answer to future ecological, economic and social challenges in the European forestry sector (EuroCoppice)

The Action aims to bring together European scientists, experts and young scholars to exchange knowledge about coppice forestry and to start developing innovative management and utilization concepts/techniques for future modern multifunctional coppice management systems.

More info: www.eurocoppice.uni-freiburg.de



## 5. International networks and platforms in the Forestry Sector

Different platforms have been promoted by the European Technology Platforms (ETPs) also in the forestry sector. It has been done through transnational mobilisation of experts and by involving companies, research institutes and universities in Europe-wide research projects.

With the aim is to allow researchers to identify research groups in different areas, platforms and networks of the forestry sector are included down below.

## 5.1. Forest-Based Sector Technology Platform FTP

The FTP Research and Innovation Portal is an advanced and comprehensive Internet database of EU-funded projects involving the forest-based sector. The database currently contains more than more than 230 European forest sector-relevant research projects that have been funded by the European Commission since 2007 with a total EU funding of € 717 million.

More info: http://www.forestplatform.net

## 5.2. INNOVAWOOD

InnovaWood is one of the leading networks of excellence in the forest-wood-based sector. It is an umbrella organisation that integrates four European networks in the forest, wood-based and furniture industries. InnovaWood has more than 70 members (research, education and training, and technology transfer) from 24 countries.

Information on 93 research organisations from 23 countries which are involved in various aspects of forestry and woodworking throughout Europe are contained in the database, which can be searched by location and by research field.

More info: <a href="http://www.innovawood.com/">http://www.innovawood.com/</a>

# 5.3. NOLTFOX Network – Northern European Database of long term forest experiments

NOLTFOX is a database of Long-Term Forest Experiments from Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Sweden and United Kingdom. It was created with the aim to stimulate an increased Nordic, Baltic and international co-operation within forest research, to increase the scientific quality of field research and to avoid expensive duplication of experiments in those countries.

More Info: <a href="http://noltfox.metla.fi/">http://noltfox.metla.fi/</a>

## 5.4. TREEBREEDEX – EU Network of tree breeders

The main aim of this project is to develop at the European level a scientific and technical research framework in forest genetics and tree breeding.

More info: <a href="http://treebreedex.eu/">http://treebreedex.eu/</a>

## 6. INFORMATION AND SUPPORT SERVICES

## 6.1. Euraxess

**EURAXESS - Researchers in Motion** is a pan-European initiative providing access to a complete range of information and support services to researchers wishing to pursue their research careers in Europe or stay connected to it.

The web site offers useful information for researchers interested in mobility programs. It is divided in four sections: Jobs; Services; Rights; Links.

- Jobs: Employment opportunities are announced on this site. It is possible to search the
  latest offers by place, research field, etc. Also fellowships under European funding, at
  national or international level.
- **Services:** Provides practical information related to accommodation, intellectual property rights, health/medical care, taxation, info about countries/cities, etc.
- **Rights:** Aims at better employment and working conditions for researchers throughout Europe, thereby helping to enhance the attractiveness of European research careers.
- **Links:** Offers an interesting compilation of websites sorted by country from Europe and Global Community.

More info: <a href="http://ec.europa.eu/euraxess">http://ec.europa.eu/euraxess</a>



## 7. Conclusions and general recommendations

Horizon 2020 under the Excellence Science Pilar aims to reinforce and extend the excellence of the Union's science base and any actions under this pillar have been defined to promote researchers mobility programmes. However, not only the European Union has considered its relevance, also different countries have highlighted the importance of mobility programs to enhance excellence, for example in their respective laws and Research and Innovation Programs.

These grants cover different stages of the researchers' career, allowing different profiles to have access to the various programs.

Before preparing a proposal, researchers are recommended to identify which are the available actions and grants that suits their objectives best.

Once identified the most suitable action, it is recommended to get in touch with the National Contact Point (NCP) to compile any important information related with the call, schedule, advices, recommendations etc. A complete list of NCP has been included in this guideline (see links).

After the publication of the call, applicants have to get familiar with the Participant Portal Submission Service. Call deadlines are absolutely firm and are strictly enforced, so be careful with the schedule of the different actions.



## 8. References and Links

### 8.1. References

- R. Päivinen, K. Pajari, A. Amm, J. L. Peyron, H. Leiser, M. Palahí (2015). Deliverable D.2.1. Summary report of mapping exercises and clustering initiatives. <a href="https://www.sumforest.org">www.sumforest.org</a>
- Jan Svensson and Karin Perhans (FORMAS). Deliverable D.2.2. Country reports on major research programmes, mobility programmes, actors and capacities. <a href="www.sumforest.org">www.sumforest.org</a>
- <u>Jan Svensson, Karin Perhans</u> (FORMAS). Deliverable D.2.3. Priorities for transnational research needs and requirements for sharing research capacities. <u>www.sumforest.org</u>
- EUROPEAN COMISION & DG Research and Innovation (2014). HORIZON 2020 in brief. The EU Framework Programme for Research & Innovation.
- EUROPEAN COMISION & DG for Education and Culture. (2014). Marie Skłodowska-Curie actions. A pocket guide: your passport to a successful research career.

#### **Work Programmes:**

- ERC Work Programme 2016. European Commission C(2015) 5086 of 28 July 2015
- <u>Horizon 2020 Work Programme 2014 2015. Marie Skłodowska-Curie Actions.</u> European Commission Decision C (2014) 4995 Of 22 July 2014.
- Horizon 2020 Work Programme 2016 2017. Marie Skłodowska-Curie Actions. European Commission Decision C (2015)6776 of 13 October 2015)
- Horizon 2020 Work Programme 2016 2017. European Research Infrastructures (including e-Infrastructures). European Commission Decision C(2015) 6776 of 13 October 2015
- HORIZON 2020 WORK PROGRAMME 2014 2015. European research infrastructures (including e-Infrastructures). European Commission Decision C (2015) 2453 of 17 April 2015)



#### 8.2. Links

Horizon 2020

- General Info <a href="https://ec.europa.eu/programmes/horizon2020/">https://ec.europa.eu/programmes/horizon2020/</a>

- Reference Documents: <a href="http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference docs.ht">http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference docs.ht</a>

Work Programmes... etc.

- Online manual <a href="http://ec.europa.eu/research/participants/docs/h2020-funding-guide/index">http://ec.europa.eu/research/participants/docs/h2020-funding-guide/index</a> en.htm

- Participant Portal <a href="http://ec.europa.eu/research/participants/portal/desktop/en/home.html">http://ec.europa.eu/research/participants/portal/desktop/en/home.html</a>

- NCP <a href="http://ec.europa.eu/research/participants/portal/desktop/en/support/national\_contact">http://ec.europa.eu/research/participants/portal/desktop/en/support/national\_contact</a>

points.html

**H2020 Excellence Science** 

- ERC https://erc.europa.eu/

Job Opportunities <a href="https://erc.europa.eu/about-erc/job-opportunities">https://erc.europa.eu/about-erc/job-opportunities</a>

- NCP <a href="https://erc.europa.eu/funding-and-grants/national-contact-points">https://erc.europa.eu/funding-and-grants/national-contact-points</a>

- Call for proposals <a href="http://erc.europa.eu/callforproposals">http://erc.europa.eu/callforproposals</a>

- MSCA <a href="http://ec.europa.eu/research/mariecurieactions/">http://ec.europa.eu/research/mariecurieactions/</a>

- Job Opportunities <a href="http://ec.europa.eu/research/mariecurieactions/apply-now/jobs-for-you/index\_en.htm">http://ec.europa.eu/research/mariecurieactions/apply-now/jobs-for-you/index\_en.htm</a>

NCP (Participant Portal)

http://ec.europa.eu/research/participants/portal/desktop/en/support/national\_contact\_

points.html#c,contact=country/sbg//1/1/0&function\_details..function\_abbr/sbg/Marie%2

0Sk%C5%82odowska-Curie/1/1/0&+person.last\_name/desc

- Call for proposals <a href="http://ec.europa.eu/research/mariecurieactions/apply-now/open-">http://ec.europa.eu/research/mariecurieactions/apply-now/open-</a>

calls/index en.htm

- Research Infrastructure <a href="http://ec.europa.eu/research/infrastructures/index">http://ec.europa.eu/research/infrastructures/index</a> en.cfm

- Map of RI <a href="http://ec.europa.eu/research/infrastructures/index en.cfm?pg=maps">http://ec.europa.eu/research/infrastructures/index en.cfm?pg=maps</a>

- NCP <a href="http://www.rich2020.eu/">http://www.rich2020.eu/</a>

Other mobility related webs

- COST Actions <a href="http://www.cost.eu/COST Actions">http://www.cost.eu/COST Actions</a>

- COST Tool https://e-

services.cost.eu/?module=user&action=loginForm&userParam[requestedURI]=%2F

EURAXESS <a href="http://ec.europa.eu/euraxess/">http://ec.europa.eu/euraxess/</a>

- CORDIS <a href="http://cordis.europa.eu/home\_en.html">http://cordis.europa.eu/home\_en.html</a>

Other EU websites

(AC)

- EU <u>http://europa.eu/index\_en.htm</u>

- Research on Europe <a href="http://ec.europa.eu/research/index.cfm">http://ec.europa.eu/research/index.cfm</a>

- OpenAIRE <a href="https://www.openaire.eu/">https://www.openaire.eu/</a>

Associated Countries <a href="http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-">http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-</a>

cutting-issues/ international-cooperation\_en.htm



## LIST OF ABBREVIATIONS

**AC** - Associated Countries: The list of H2020 Associated Countries is available on the Participant Portal, H2020 online manual: <a href="http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation en.htm">http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation en.htm</a>

AdG -Advanced Grant

**COFUND-** Co-funding of regional, national and international programmes that finance fellowships involving mobility to or from another country

CoG - Consolidator Grant

**CORDIS** – Community Research and Development Information Service

**COST** – European cooperation in Science and Technology

**EFI -** European Forest Institute

**EINFRA** – Call e-infrastructures

**ER** - Experienced researchers

**ERC** - European Research Council

**ESR** - Early-stage researchers

FAO – Food and Agriculture Organization of United Nations

HI - Host Institution

IF - Individual Fellowships

**INFRADEV** – Developing and long term sustainability of new pan-European research infrastructures

**INFRAIA** – Integrating and opening research infrastructures of European interest.

**INFRAINNOV** – Call fostering the innovation potential of Research Infrastructures

**INFRASUPP** – Call Support to policies and international cooperation for e-infrastructures.

**INFRI-** National Forest Research Institutes in Europe

ITN - Research Networks

**MS EU** - Member States European Union: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

MSCAs - Marie Sklodowska-Curie Actions

**NGO** – Non-Governmental Organisation

PIs - Principal Investigators

**PoC** - Proof of Concept Grant

**REA** - Research Executive Agency

**RISE** - International and inter-sectoral cooperation through the Research and Innovation Staff Exchanges

**SME** – Small and medium enterprise

StG - Starting Grants

STSMs - Short-term scientific missions

**TC** - Third Countries are countries that are neither EU Member States (MS) nor associated to Horizon 2020 (AC).