

How to write effective EU proposals – A practical guide on getting funding for Horizon 2020

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Preface

This book took inspiration from many sources. First and foremost was my observation of proposals and consortia failing the most basic evaluation criteria. I saw that good scientists were not ready to network and write good proposals, in spite of their great research. I also saw companies spending thousands of euros and countless personnel hours on proposals without a clear path on what to do and to partner with whom, in the end resulting in failure to even submit a proposal. On the other hand there were others which, it seemed, magically attracted funding. They knew how to network and write a competitive proposal, next to being a good researcher. These observations made me write a practical how-to book on getting EU funding.

During the writing I took advice from many people and Horizon 2020 experts. I'll especially mention Richard Wheeler, a proposal master. He helped me focusing the book and gave the right advice at the right time. Greer Wilson has helped improve the English by editing the book and also in helping me to make my writing a little clearer.

Applying for and getting EU funding is a constantly evolving process. If you find new information which should be added to this book or find obsolete information, please contact me.

I invite you to contact me if you have a question about Hori-

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zon 2020 funding or about this book. I like to help. You can reach me via email at marc.hoffmann@horizonbook.eu or at the website of the book: <http://horizonbook.eu>

Marc Hoffmann

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Chapter 1

Introduction

This book shows you how to develop ideas, network, find partners and write a competitive proposal for Horizon 2020. It is not a repetition of the officially available EU (European Union) documentation, but an opinionated resource for those who want an effective guide through the often bureaucratic Horizon 2020 process. The book is written for professionals, from industry innovators to university researchers and local government officers, who want to participate in Horizon 2020.

Why should you read a book about Horizon 2020? Experience shows that a lot of work is wasted by applicants in trying to get funding from the EU. This is often because proposals are started and abandoned, or badly written and managed.

This book shows you "The path through the maze". There is no lack of information on Horizon 2020. The problem is that the amount of information is overwhelming but fragmented and it is unclear how to access the right information at the right time.

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This book is not a summary of the EU Horizon 2020 documentation. The documentation on the EU commission's website is exhaustive and complete (and often boring to read). Instead the book just directs you to the core aspects of proposals you should look after in order to increase your odds of getting funding.

The whole process from partnering for a consortium to submitting an excellent proposal is covered in a "need to know" style. The book uses a step-by-step process, usable for Horizon 2020 beginners and partners already experienced in EU funding:

- An overview of the core need-to-know of Horizon 2020 (chapter 3).
- A simple networking method, even usable for the networking averse (chapter 5) (However simple does not equal easy!)
- A process to evaluate partners and form a consortium based on mutual trust (chapters 6 and 7).
- How to write a competitive proposal (chapters 8 and 10).
- The required steps to submit your proposal (chapter 11).

Relying on experienced peers is good way to harness experience. However, this requires that you are already in a network. If you are new you need to start somewhere. This book sets you on the right track.

The book covers networking and finding partners for Horizon 2020. This is the major hurdle for starters. There is no

other resource, official or informal, which covers networking and the process of building a consortium at this level of detail. Chapter 6 shows you how to evaluate partners and form a lasting consortium based on mutual commitment.

The middle and later chapters of the book cover more advanced advice on building an excellent consortium and writing a competitive proposal.

In this book you will not find shortcuts to EU funding. Getting EU funding is hard, and there are no shortcuts. However the following sections show you the tricks of the trade used by experienced proposal leaders. You will learn how to quickly evaluate and dismiss low quality ideas and proposals.

Another thing to be aware of is that, although Horizon 2020 is a single framework, the proposal writing culture in different calls and disciplines is substantially different. There are some general rules and a lot of exceptions.

In order to understand and participate in Horizon 2020 it is absolutely necessary to get a grip on the vocabulary and language used by the EU. This for newcomers this is a big obstacle, as many terms are unusual, but have very a precise and specific meaning in EU-speak.

Be aware that a good scientific and well written proposal will not automatically get funding. You just increase your odds by having good content and writing. The final selection of proposals lies in the hands of the reviewers and the EU-commission. They have to choose your proposal above other proposals, which may look equally competitive from their point of view. Proposal evaluation is a task done by human experts. They have quirks and preferences like any human, and although the proposal evaluation process is

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designed to make the evaluation objective, you still need to keep in mind that the evaluation is done by people.

After reading this book you will have the key knowledge to participate in a Horizon 2020 proposal. You will learn how to:

- Start networking.
- Read and interpret calls for proposals.
- Find and evaluate partners.
- Make yourself an attractive partner.
- Write a competitive proposal.

Chapter 2

Background and Structure of Horizon 2020

2.1 EU Research Policy

Horizon 2020 is a large trans-European programme. Since its beginnings, the EU has been involved in research. At its start the research component was small. Together with the expansion of the EU, the research policy developed and got formalised more and more. The EU has started Horizon 2020 to stay competitive in the world economy. Horizon 2020 is a continuation of earlier research and development programmes:

- 1957: The ECSC Treaty, containing the first elements of a research policy.
- 1960s -1970s: development of the first research programmes in priority areas.
- 1974: Establishment of the European Science Foundation (ESF).

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- 1984: The first Framework Programme (1984-1987).
- 1985: Creation of the EUREKA network.
- 1987: Establishment of a research chapter in the EC Treaty. Science becomes a responsibility of the EU.
- 1993: The Treaty of the EU is written. The role of the EU in research and technology development is enlarged.
- 2000: The European Research Area is established.
- 2007: FP7, the seventh Framework Programme starts (2007-2013).
- 2014: Horizon 2020, the eighth Framework Programme starts (2014 - 2020).

2.2 Horizon 2020

Horizon 2020 is the major European Union subsidy program for research and innovation. Running for seven years from 2014 to 2020, Horizon 2020 has a budget of nearly € 80 billion. Its' goals are to advance science, help solving societies' problems and creating industrial leadership. It is the eighth phase of the Framework Programmes for Research and Technological Development (also called Framework Programmes in the EU). One of the aims is to encourage research in the European Research Area (ERA) by implementing "Europe 2020" and "Innovation Union" strategies.

The layout and the topics in Horizon 2020 were decided upon a political and lobbying process in the years leading

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up to 2014. Every EU citizen could participate by proposing research ideas and areas. In effect governments, industry, research organisations and advocacy groups shaped the content of Horizon 2020.

The work programmes themselves and research priorities were (and still are) decided through EU commission talks with EU member states. New calls are still implemented throughout the years Horizon 2020 is running.

Horizon 2020 is designed as a strategic framework to align EU and national programmes and policies such as health, food security, the bio-economy, energy and climate change.

Horizon 2020 consists of three main research areas (also called "pillars"):

1. **Excellent Science**, with a focus on basic scientific research and a budget of around 24 billion Euro. It is made up of funding areas called

- European Research Council
- Future and Emerging Technologies
- Marie Skłodowska-Curie actions
- European Research Infrastructures, including e-Infrastructures.

2. **Industrial Leadership**, made up of the following sub-programmes:

- Leadership in Enabling and Industrial Technologies.
 - Information and Communication Technologies.

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- Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology.
 - Space.
 - Access to risk finance.
 - Innovation in SMEs.
3. **Societal challenges**, for designing, creating, stimulating and funding potential solutions to social and economic problems, made up of several sub-programmes:
- Health, Demographic Change and Well-being.
 - Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy.
 - Secure, Clean and Efficient Energy.
 - Smart, Green and Integrated Transport.
 - Climate Action, Environment, Resource Efficiency and Raw Materials.
 - Europe in a changing world - Inclusive, innovative and reflective societies.
 - Secure societies - Protecting freedom and security of Europe and its citizens.

With additional programmes called:

- Spreading Excellence and Widening Participation.
- Joint Technology Initiatives (JTI's) (with industry).
- Science with and for Society.

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- European Institute of Innovation and Technology (EIT).
- Euratom.
- H2020 Contests for Prizes.

Additionally the EU wants to achieve so-called "Specific Objectives":

- Specific objective 'Spreading excellence & widening participation'
- Specific objective 'Science with and for society'

This book concentrates on the funding opportunities in the three main research areas. You can apply the same principles as described in this book to the additional programmes and specific objectives, but the specific rules and technicalities will be different.

It is time consuming to navigate through the EU challenges and identify in which sub-programme to participate. Horizon 2020 challenges are not split up by traditional scientific disciplines like chemistry and physics it might be that an applicant or project idea fits into one or more challenges.

For more detailed information have a look at the Horizon 2020 sections site¹ of the EU.

2.3 Why Should You Participate in Horizon 2020?

Before looking into the details of how to participate, it is informative to see why you should participate in Hori-

¹The site is at <http://ec.europa.eu/programmes/horizon2020/en/h2020-sections> .

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zon 2020.

Horizon 2020 projects provide EU funding and support for:

- Projects with greater impact than solely possible at the National level.
- Partnering and interacting with organisations across the EU, thereby spreading knowledge, best practices and technology.
- Dissemination of your project results and outcomes to stakeholders in multiple EU countries.

Additionally there are several related benefits for your organisation and yourself:

- A partner network.
- Finances for doing R&D.
- Visibility in your industry or research area.
- A required project management structure.
- An explicit statement of costs and benefits of your project.
- You have to address the (long term) possible benefit to society in your project.

For research institutes and researchers the main benefit is getting funding for their research. It is good for a researchers career and they get to know people and organisations in other sectors, for example businesses. Additionally researchers develop new skills and may get extra national (funding) support.

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For business and industry the benefits are somewhat different. Horizon 2020 tends to be further from the market than most industry projects, however your company will get an early insight into the state-of-the-art technology in development. Perhaps your company will even get a tax break from your government for participating. Personnel will gain new knowledge and have contact with academics, often combined with international exposure.

For all participants the network of contacts they make during writing and execution of the project is a major benefit. They may find commercialisation partners. It also gives prestige if you can show your participation credentials.

Through your participation you also contribute back to the EU. You do the research and make other people aware of the outcomes (dissemination and use of project results). If you are good in your area, others in your network can learn from your approach in solving problems and you will teach and educate colleagues and also the general public.

2.4 What to Expect from Horizon 2020

In practical terms the EU provides funding through Horizon 2020 and at the same time requires trans-European cooperation. As an applicant you have to work together with partners from other European countries to get funding. By building up personal and organisational networks in this way, the EU programmes promote a European community in practice.

In practice Horizon 2020 provides (co)financing and networking benefits to participants. The financing can be up

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to the 50 - 100% of the net cost of an R&D project. The financing is calculated on the basis of direct costs associated with the research. These costs do not include commercial profits, but cover such things as personnel cost, costs of materials and travel. On top of these direct costs a fixed overhead rate of 25% is applied, giving the total eligible cost. This total is then refunded at a rate of between 50 - 100%.

You can participate in and get funding through Horizon 2020 if your organisation is based in the EU or a country explicitly allowed to participate. The amount of funding you can get depends on the specific funding rules, the legal status of your organisation and your contribution to Horizon 2020.

In practical terms the concrete subjects which get funding from the EU are defined in calls, call documents and support documents.

- Calls are the mechanism the EU uses to invite consortia and individual organisations to participate in Horizon 2020. Each call has a specific start and end date. Within each call one or multiple openings for submitting a proposal are announced. A call has a specific objective, and the EU specifies the type of action (i.e. the funding and activity scheme) for participants.
- Call documents are the formal documentation on the content of the call. Usually they contain call and subject specific rules and background information (for example on food security).
- Support documents are more general documents attached to a call and call opening. These documents

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contain for example the rules for participation. Mostly these support documents are based on the general rules of Horizon 2020, but specific amendments might be applicable. An example would be to extend participation to specific non-EU countries in a call.

As an example, within the pillar "Societal Challenges", the call "SUSTAINABLE FOOD SECURITY"² (call number H2020-SFS-2015-2, opening date 25-07-2014) has a total budget of €104,000,000. This budget is divided among several specific topics (i.e. a call is split up in topics, which have a defined scope and budget) and the call has specific call openings (i.e. time periods within which you can submit a funding application). There is a short list of documents associated with the call:

1. Flash Call Info (added after the stage 1 evaluation was completed and the call was closed)
2. Legal basis - Specific Programme H2020
3. WP H2020 - 1. Introduction
4. WP H2020 - 9. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy
5. WP H2020 - 17. Communication and Dissemination
6. Legal basis - Framework Programme H2020
7. Legal basis - Rules for Participation

²See: <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sfs-2015-2.html> (web link valid as of 2015.05.20).

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8. WP H2020 - 19. General Annexes

These documents range from call specific (WP H2020 - 9. Food security, ...) to very general (Legal basis - Framework Programme H2020). For a first overview you should read the specific work programmes (WP H2020 - 9., WP H2020 - 1.) of the call. This gives you the information needed to assess if your research ideas fit into the call. Then you should read on the different call openings and the specific objectives each opening has. If there's a fit with your ideas, read the call annexes on the background and aims of the call. These background documents contain information on how and why the call was made and are necessary to effectively write a proposal. Thereafter you should read the remaining, mostly more general documents.

You have to read carefully and exactly what is inside the call and the programme description. Reading these thoroughly can take around a day! Only when your project exactly matches the description, you have a reasonable chance of getting funding.

How much funding you get for your efforts largely depends on the project type, your legal status (e.g. research, commercial or government) and the specific Horizon 2020 action you take part in. In general funding will be about 50% - 100% of net cost.

2.4.1 Partnerships in Horizon 2020

If you are starting to work towards getting funding under Horizon 2020 it might be difficult to imagine what you have

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to do, what to expect from your activities and how to approach potential partners. The easiest thing is to work together with more experienced partners or mentors, who can help you getting started.

You should orient yourself on the Horizon 2020 call documents. This will give you an idea of the general priorities and goals of Horizon 2020. Select which calls might offer possibilities for you and your organisation. It is also important to read, at least cursory, the EU documentation on Horizon 2020 calls. The rules for Horizon 2020 have changed compared to earlier programmes and even experienced mentors may still have the previous rules in mind. You will require some training and going to EU meetings is another measure you can take to gain more knowledge. At least reading third party documentation will help.

Finding partners and networking is the other main activity related to getting started with Horizon 2020. The foremost activity is to expand your network of potential Horizon 2020 partners (see chapter 5 on networking for specifics). You can also try to learn from existing EU consortia how they got funding.

2.4.2 Participants and Their Roles

Who are the participants in Horizon 2020? The organisations participating are diverse, ranging from one-person companies to universities, global corporations and EU wide research organisations. Organisations from all countries of the EU participate. Additionally organisations from countries closely aligned with the EU (for example Switzerland) are partners in Horizon 2020 proposals.

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Another group of partners are organisations from so-called "third countries", which means countries not in the EU and not directly associated with Horizon 2020. Examples of these partners could be farmers cooperatives in Latin America, receiving funding under a very specific call, or a specialised particle physics facility in the U.S. working together with an EU partner.

All partners have in common that they are legal entities in their (EU) country. In some programmes (for example exchange grants) individuals (as opposed to organisations) can participate.

Most EU based organisations (i.e. legal entities) can participate in Horizon 2020. Often it is required that at least 3 partners, preferably from different regions and countries, work together. In a Horizon 2020 project, each participant fulfils at least one and possibly multiple roles. These roles are based on the organisation of the project, the knowledge, skills and capabilities of the participants and the requirements of the programme.

2.4.3 Partners, Contacts and Consortia

A group of organisations or partnerships that apply for Horizon 2020 funding is called a consortium. In a consortium you and your partners depend on each other for finishing the project. You can expect from your partners that they follow the EU administrative rules and that they perform their part of the consortium work as specified in the project proposal and the contract your consortium and the EU agreed upon. This explicitly includes sharing of intellectual property within the consortium.

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Although sometimes it helps, you cannot expect from your partners that they exclusively work together with you on EU proposals

Not only your consortium but also the EU and the public are stakeholders in your project. The EU expects that you publish your results in project reports and depending on the type of project, disseminate your work and its' results through scientific articles, books, websites and project information for the public.

2.4.4 Networks

One objective of the Horizon 2020 programme is to build integrated networks between EU countries and sectors. Horizon 2020 networks are purpose built partnerships between organisations willing to participate. These networks are formed often by already pre-existing personal and organisational contacts. For beginners it is often difficult to find such networks. Often times networks are not open to newcomers, as they can potentially displace established network partners from new proposals. New networks are continuously formed, based on more informal personal contacts, splitting of existing networks and changes in EU funding requirements.

If you want to participate in Horizon 2020, it is not strictly necessary to participate in a formal network³, although it certainly increases your chance of participating.

Networks and consortia do not have a one on one connection. Consortia are smaller groups of organisations participating in a proposal, whereas networks are made of larger

³A formal network is an EU wide network, usually organised through National Contact Points (NCP) or lobbying groups.

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groups, possibly spanning multiple consortia. To make things more complicated, a consortium can even span multiple networks.

Chapter 3

Getting Started with Horizon 2020

3.1 Introduction

How can you get started with Horizon 2020? This chapter shows you how to pre-qualify yourself for participation. This involves your motivation, an overview of the politics of Horizon 2020 and an overview of the online information. It includes information on how to stay up to date and on the terms and requirements of Horizon 2020.

3.2 Motivation

Your motivation is a key driver in succeeding with Horizon 2020. It can take a year or more from the vague notion to participate until you obtain funding from the EU, let alone finish a project. Your motivation should keep you going during such long periods.

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The work you have to perform and the amount of time you have to invest varies strongly with the phase of your project.

Early on you should decide for yourself if you are willing to participate in a project idea of someone else, or if you really want to work on your own ideas. Keep in mind that a consortium is usually made up of three to ten partners and probably just one of them had the initial idea. Keep also in mind that most ideas fall through early on in the project cycle.

Before starting with a project idea, define what you expect from the outcome. Be aware of the fact that most ideas do not get submitted, and a very large percentage do not get funded. In many calls only about 10-20% of the submitted proposals get funded. In other words: 80-90% will not make it.

Ask yourself if you have enough resources to work on project ideas. This involves your time and financial resources for travel. You also need to have or build a network of potential partners for a consortium. This network in itself is a major benefit of trying to get funding, even if you do not succeed in Horizon 2020.

The primary benefit from a proposal is finance for the project. A secondary benefit is that working in an EU project is a collaborative venture, enlarging your network and giving you access to new technology and knowledge. You will also get increased visibility with your peers. Recognition in your organisation for obtaining external funding and creating interesting research opportunities will undoubtedly enhance your career prospects.

3.3 People and Networks

Involvement in Horizon 2020 is about participation. That means that you have to work together with others, in the development of the proposal itself and later on using the results and making sure your proposal achieves the EU's goals through its intended impact.

You have to choose the groups of people to work with. Be prepared that a consortium will contain some excellent colleagues, some people you find tolerable and possibly some you would rather not meet too often. Personal contacts and understanding are key to executing a successful proposal and your people skills are important. From experience it is possible to work together with people and to develop a good working relationship.

3.4 Call for Proposals

A "Call for Proposals" is the main mechanism to invite consortia to undertake research and get funding. These calls range from smaller, specific calls where just one or two consortia get funding, up to open calls which run for several years and may finance tens of consortia.

The Participant Portal¹ and Cordis² are the main information sources for Calls for Proposals. You can set up the Participant Portal to send you email about new calls. If you

¹See: <http://ec.europa.eu/research/participants/portal/desktop/en/home.html> .

²See <http://cordis.europa.eu/> , for English see http://cordis.europa.eu/home_en.html and <https://cordis.europa.eu/partners/web/guest/calls> .

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receive such an email, you are directed to a web page giving the specific call information. Usually links are provided to the general Horizon 2020 call regulations and documentation. Regularly call updates are published under "Call Updates"³

There is a variety of different call types and call areas, divided among the 3 three pillars and 2 specific objectives of Horizon 2020 (see section Horizon 2020).

Most of the Horizon 2020 calls are divided into topics. The Participant Portal lists all topics belonging to a call. Each topic in turn has its own dedicated page⁴ where you'll find the following information:

- Call page
 - Information and updates to the call.
 - Key documentation for your proposal, including common documents for all topics and topic specific documents.
 - Links to the submission system.
 - Support and helpdesk information.
- Topic page
 - Detailed description of the scope and expected impact of projects, and the type of action.

³See: http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/call_updates.html .

⁴For example the call "Blue Growth: Unlocking the potential of Seas and Oceans" (H2020-BG-2015-2) has a topic "Improving the preservation and sustainable exploitation of Atlantic marine ecosystems" (BG-01-2015) with a topic specific page at <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/2466-bg-01-2015.html> .

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- Specific rules, including eligibility and evaluation criteria.
- Pdf-templates of the forms in the electronic submission system.
- Links to the submission system.

3.5 Calls and Types of Actions

Calls and topics differ in their "types of action", which is an EU phrase to differentiate funding schemes. In effect the type of action specifies the scope of what is funded, the reimbursement rate, and the specific evaluation criteria to qualify for funding. The definitive reference is in the "Main work Programme, General Annexes"⁵.

Table 3.1 on page 24 gives a short overview of all the H2020 types of actions and their funding rates. You find the detailed description of types of actions in the General Annexes of the Main Work Programme and in the ERC Work Programme.

Additionally there are so called "H2020 Calls for Tenders"⁶, which in effect is European public procurement and publishes calls for tenders. These calls for tenders are not covered in this book.

Each call has a deadline and/or cut-off dates (and times!). The electronic submission system makes sure that you can

⁵General Annexes http://ec.europa.eu/research/participants/data-ref/h2020/wp/2014_2015/annexes/h2020-wp1415-annex-ga_en.pdf , see also ERC Work Programme http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/erc/h2020-wp1415-erc_en.pdf .

⁶TED - Tenders Electronic Daily web site: <http://ted.europa.eu/TED/main/HomePage.do> .

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Type	EU funding rate
Research & Innovation actions	100%
Innovation actions	70% (non-profit 100%)
Coordination & support actions	often 100%
Grants of the European Research Council (ERC) for frontier research	100%
Marie Skłodowska-Curie actions (MSCA)	100%
COFUND actions	varies (joint funding)
SME instrument	specified amount of funding
Inducement and Recognition Prizes	prize
Debt and equity facility	loan

Table 3.1: EU funding rates and actions

only submit before these dates. Most calls are 1-stage calls, meaning that you must submit a full proposal by the given deadline. In contrast, 2-stage calls consist of an outline proposal (standard maximum 15 pages) and evaluation, followed by a stage 2 full proposal only if successful in stage 1.

Some calls are continuously open, i.e. proposals can be submitted at any time. Cut-off dates group all proposals received by a given date together and evaluate them in a batch. Possibly other types of calls are used and you should use the Participant Portal as your authoritative information source.

A common distinction between types of calls are the terms "top-down" and "bottom-up" call. In FP7 it was common to have "top-down" calls, where the call topic and Science

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& Technology focus was specified. In Horizon 2020 most calls are now "bottom-up" calls where a consortium can propose its own ideas and implementation is within the overall guidelines specified in the call.

3.6 Online Information Overview

A vast amount of online information on Horizon 2020 is available. The problem with most official documentation from the EU is that it is written in an official, legal style. This makes most documents quite tedious to read and requires you to know and interpret the EU vocabulary.

However the four most important information sources are listed below. They will be referenced in this book multiple times when relevant to a specific issue.

1. The starting point is the official Horizon 2020 website of the EU commission:
<http://ec.europa.eu/programmes/horizon2020/> . From here you can navigate to all official documentation and background information.
2. The most important resource is the "Participant Portal", where you and your organisation have to register before you can even submit a proposal:
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html> .
3. The reference section of the Participant Portal also has a collection of the rules and regulations for Horizon 2020:
http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html .

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4. The EU funding guide for Horizon 2020, giving an overview of the steps you have to take to get funding:
http://ec.europa.eu/research/participants/docs/h2020-funding-guide/index_en.htm .

3.7 Finding Calls

The EU makes it easy to search for calls online. The primary method is through the Participant Portal. Calls and call documents are available at:

- http://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/applying-for-funding/find-a-call_en.htm
- http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/search/search_topics.html

The main other EU information website and database is CORDIS, the European Community Research and Development Information Service:

- http://cordis.europa.eu/home_en.html

With CORDIS you can search for EU-funded projects and get information on past project participants. The information on past projects and participants can give you useful information for sourcing partners and networking.

Before a call is listed, is it already known in general that the call will be published and what the general themes will be. These themes are available as background information on Horizon 2020 and came to exist through an extensive community, political and lobbying process. You can get advance

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information on the calls through some (but not all) NCP's (National Contact Point). Some NCP's informally distribute advance call drafts and invite organisations to come up with call ideas, which then get relayed by the NCP's to the EU.

3.8 How to Stay Up to Date

Horizon 2020 as a framework programme is constantly evolving. Calls open and close, deadlines are modified and call documents get new appendices. When looking for funding you need to stay updated on these developments. Probably the easiest way is to scan the call sites regularly. Some companies even offer "EU-news" services, ranging from unpaid to expensive packages. If you are willing to spend a few minutes scanning the call sites each month or so (and more frequently if you decide to participate in a call), you probably will not need such a service. You can also configure the Participant Portal to send you an email about specific subjects and calls.

3.9 Requirements for Participation

As a general rule, any legal entity or organisation based in the EU in principle can participate in Horizon 2020. For each sub-programme and call the participation rules may have exemptions and restrictions. It makes no sense to list them here as the call documents will have the authoritative answer.

The advantage of reading the official reference documentation is that you can figure out exactly what to expect, the

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disadvantage is that it is a lot of reading. For a beginner it is best for you yourself to verify if you and your organisation are compatible with the general participation rules of the EU.

The rules can be downloaded at the reference documentation centre of the Participant Portal:

- http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html

Once you have established your eligibility for participation, it is also a must to qualify in which participation category your organisation falls. Depending if you are a commercial entity, a research organisation or university, a trade association or even a SME (Small and Medium sized Enterprise), you will have different accounting rules to follow and will receive different amounts of funding. For beginners this is quite complicated to sort out. It is best to get help from a liaison officer (if you are in a larger organisation) or contact an NCP (National Contact Point) to get more specific help.

Additionally you must pre-qualify yourself by registering with the European Commission at the Participant Portal. You as a potential participant must register yourself as an individual. Your individual registration will then be tied to a legal entity. This legal entity must be registered with the Participant Portal as an organisation. Each registered organisation will have an official contact point in the Participant Portal (called LEAR - Legal Entity Appointed Representative). This in turn enables you to see if your organisation is already registered and who is the contact point. Make sure that your organisation is only registered once, under its official legal name and not under a common name. A further fine point is that you may be registered or

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tied up with multiple organisations. This can happen if you work for two different universities or organisations and participate for both (part time) in proposals.

Once you start in earnest reading calls and networking for a proposal, you must already register with the EU. This registration is a requirement before submitting a proposal. Keep in mind that registration and validation may take some time!

Although you register as a person with the Participant Portal, it is your university or employer who signs a contract with the EU to perform a project. Your organisation is legally responsible for carrying out the work in the proposal and keeping in line with all requirements.

3.9.1 Eligibility and non-EU Countries

Applicants from non-EU countries (sometimes called a "third country") are nearly always free to take part in Horizon 2020 programmes, even if the calls for proposals or topic texts do not state this explicitly. They are usually not entitled to funding. However all applicants must meet the minimum conditions in the Rules for Participation.

3.9.2 Finances

The rules governing EU funding and finances are complex and difficult to understand if you are not an accountant or used to budgeting and controlling proposals. Most consortia and participants in effect have in-house or external experts to make sure they follow the EU financial rules and that they make a proposal budget conforming to EU standards. To get an overview and an indication if you and your

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organisation can participate, the EU offers a "Financial Viability Self-Check"⁷.

⁷See: <https://ec.europa.eu/research/participants/portal/desktop/en/organisations/lfv.html> .

Chapter 4

Developing Successful Ideas

“Developing ideas for Horizon 2020 is easy. Developing fundable ideas is hard.”¹

Every proposal starts with a promising idea. How do you select ideas that may get funded through Horizon 2020? It may seem easy to skim the Horizon 2020 calls and depending on the call titles, just make up research ideas which might fit into the call and which fit into your personal research agenda. These kind of ideas rarely get developed into a full proposal and even more rarely get funding. The problem with the former is that these ideas mostly concentrate on your research ideas, whereas the EU is mostly concerned about the results and possible impact of the research. The EU wants to reward research that delivers innovation, has an European dimension and advances the goals set forth in the Horizon 2020 programme. In the following sections a method for generating ideas aligned with the Horizon 2020 calls is described.

¹Unknown author.

4.1 How to Develop Ideas for Participating in Horizon 2020

Developing fundable ideas depends on four major inputs:

- Your own research ideas
- Horizon 2020 calls and documentation
- The goals of Horizon 2020
- Ideas of others

It is usually easiest and quickest to start with your own ideas. These can give you a general feeling of the direction in which you want to further develop your research. The next step is to scan the areas of Horizon 2020 and the calls. Once you have a match between your ideas and a call, you have to critically examine your idea and decide if it fits with the goals of Horizon 2020 in terms of results and impact and last, but not least, you should explore ideas of others. Often the best ideas are a combination of your own thoughts together with an idea from someone else.

4.1.1 How to Explore Your Own Research Ideas

At the start of the idea finding phase it is best to have an open mind and just make a list of your own research ideas. Once you have such a list, for each idea add the general research area and how this idea, if realised, will benefit society. Also add a rough estimate of how long it would take to realise your idea and an indication of costs and how many

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people need to be involved. The template below is an example of how you can structure your list of ideas.

FOR EACH IDEA YOU HAVE, QUICKLY ANSWER THE FOLLOWING QUESTIONS:

1. WHAT IS THE IDEA? IN THE BEGINNING IDEAS TEND TO BE HALF-BAKED AND GENERAL. DEFINE THE IDEA IN 2 - 3 SENTENCES.
2. WHO WILL BENEFIT FROM YOUR IDEA? IS SOMEONE OR SOCIETY IN NEED OF YOUR RESULTS?
3. WHO WILL USE THE RESULTS OF YOUR IDEA? DEFINE THE (POTENTIAL) IMPACT OF YOUR IDEA.
4. WHY WOULD SOMEONE BE INTERESTED IN THE RESULTS OF YOUR IDEA?
5. IS THERE A COMMERCIAL MARKET FOR YOUR IDEA? OR IS THERE A DIRECT NEED OF THE EUROPEAN SOCIETIES FOR YOUR RESULTS?
6. DOES THE IDEA HAVE AN EUROPEAN DIMENSION? SPECIFY IF IT SOLVES A PROBLEM IN MULTIPLE EU REGIONS, OR IF IT REQUIRES COOPERATION FROM DIFFERENT EU MEMBER STATES

After answering these questions it is time for a reality check. Ask yourself the following question: Are the ideas promising enough to develop further?

4.1.2 How to Profit from Horizon 2020 Ideas

The background documents (annexes) for the Horizon 2020 calls have extensive information on which specific areas get

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funding and which problems the EU wants to see solved. By reading the annexes to the calls rather than reading the calls themselves you can develop ideas which potentially match Horizon 2020 calls and your personal research agenda. This method works, because you can anticipate on future calls. The future calls are based on the background documents, updated with input from lobbying groups, expert panels and EU officials.

Additionally your National Contact Point should have access to EU policy documents on the development of the research priorities. Get access to these and read through them. They will help you to put the calls in the right perspective and give you additional ideas.

4.1.3 How to Profit from Earlier Ideas

The EU research programmes and publications are for the benefit of all EU citizens. All earlier EU funded research is brought together in CORDIS (see section 3.7), an on-line searchable database. Have a look at earlier projects and get ideas from them. What can be improved or added to earlier projects? Which new technology or scientific inspired breakthroughs make it possible to significantly improve and advance the results and impact of earlier research?

As a researcher you can (and should) profit from earlier research. A basic step-wise process is:

- Retrieve earlier successful proposals from CORDIS in your own area of research.
- Check the call background documentation for pointers to earlier EU projects and consortia.

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- Try to work together with your National Contact Points to get more information on why specific information is in this call documents and on who (which organisation and country) put forward this information.
- Call on your network if they know of earlier research proposals in this direction.

There is one major rule when benefiting from others ideas: Give credit where credit is due. If you build a proposal based on earlier research and projects, acknowledge them and cite them in your references.

Participating in a consortium with others is also a form of pooling the ideas of others with yours.

4.2 How to Select and Screen Promising Ideas

Hopefully you will have lots of ideas to choose from. It is important to select the most favourable ideas fast, concentrating on realisable ideas.

FOR EACH IDEA YOU HAVE, ANSWER THE FOLLOWING KEY EVALUATION QUESTIONS:

- CAN YOU FORMULATE THE IDEA IN TERMS OF A PROBLEM THAT IS SOLVED? IF YOUR IDEA SOLVES NO SPECIFIC PROBLEM, IT IS HARD TO SHOW ITS BENEFITS.
- DO YOU HAVE THE DRIVE TO WORK ON THIS IDEA? KEEP IN MIND THAT THE CHANCES OF SUCCESS ARE LOW.

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- DOES THE IDEA FIT (OR CAN BE FITTED) INTO A HORIZON 2020 CALL AND IS THE PROBLEM IT SOLVES ON THE EU AGENDA?
- CAN YOU ASSEMBLE A PARTNERSHIP TO IMPLEMENT THE IDEA AND SOLVE THE PROBLEM?
- IS THERE URGENCY TO DEVELOP THE IDEA NOW?
- DOES THE IDEA HAVE A CLEAR AND CONCRETE IMPACT, IN COMBINATION WITH USERS?

Without a clear yes to all questions you should sidestep an idea for the moment. With changing circumstances, such as new Horizon 2020 calls, an earlier unfeasible idea might become feasible.

Make a list of all ideas with a clear yes. These ideas are called opportunities.

FOR EACH OPPORTUNITY, ANSWER THE FOLLOWING QUESTIONS:

1. HOW CAN/WILL YOU DEVELOP YOUR IDEA? WHAT NEEDS TO BE EXPLORED, WHAT NEEDS TO BE DEVELOPED AND WHICH PARTS CAN YOU TAKE FROM EXISTING KNOWLEDGE AND TECHNOLOGY?
2. WHAT KNOWLEDGE, WHAT SKILLS AND WHAT KIND OF ORGANISATION IS NEEDED TO IMPLEMENT YOUR IDEA? DO YOU HAVE (OR CAN GET) ACCESS TO THE RIGHT PEOPLE, ORGANISATIONS AND KNOWLEDGE?
3. HOW CAN YOU ACCESS HIGH QUALITY OUTSIDE EXPERTISE AND PROJECT BUY-IN? IT IS ESSENTIAL TO GET COLLABORATORS FOR YOUR IDEA.

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Again, have a reality check, maybe together with a trusted colleague or expert, before you go ahead.

Once you think an idea is feasible, you must plan how you want to realise this idea within a consortium. Do you want to build your own consortium and becoming a partner? That implies that you must find somebody to take over the role of coordinator. Do you want to join another consortium with your idea, again becoming a partner? The difference between being a partner and being the coordinator is large. The coordinator of a consortium literally has to do everything the other partners are not willing or able to do. This ranges from rewriting the proposal to have a consistent style, up to matching budget request between the partners. As a general rule of thumb, assume a coordinator has to put in about 30 person days for a Horizon 2020 proposal and each partner about 10 person days.

4.3 How to Match Ideas with Horizon 2020 Calls

Matching your idea with Horizon 2020 calls requires studying the calls and comparing their content to your ideas. The calls are not sorted according to scientific or business discipline, but according to priority areas specified by the EU. As an example take the following half-baked idea:

You want to develop a new, energy generating building wall. It will use a new type of heat pump technology and reduce the energy need of buildings by simultaneously providing electricity and reducing the impact of warmer summer climates through improved insulation.

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As written above, this idea may in principle fit in an energy call, and it would in principle also fit into a climate change mitigation action. The next step is to define the potential impact and users of the idea:

impact could be: reduced energy bills for homeowners, reduced carbon emissions from building stock, more advanced technology and business development for heat pump manufacturers, ...

users could be: home owners and / or builders (via a building standards organisation), heat pump manufacturers, energy utility companies (which could trade the generated electricity), ...

Once you have a general idea of users and impact per user, you can estimate the total impact. In general the EU prefers to fund projects with a comparatively larger impact.

Some ideas are inherently cross-disciplinary and cross-call in Horizon 2020. You then have to decide within which sub-programme or call you put your idea. It is a difficult decision and there are no specific guidelines. There is just the general guideline to choose the call that fits your idea best and allows you to build a first class partnership with others.

4.4 The One-Page Outline for Your Idea

Once you have identified your most promising idea, start writing a short outline. This allows you to share your idea

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with others early on and to get feedback on the feasibility without investing too much time.

A one-page outline is an outline proposal, capturing the key concepts of your idea in an easy to communicate way. The goal of the one-page outline is to get other people interested. Focus on the basic idea and objectives of the proposal, together with key results and impact. Describe the expertise needed and the users who benefit from your idea. Additionally the one-page outline makes it clear to all partners that you are the "owner" of the idea. Reciprocally list all other contributors once they and you have decided to work together and they have contributed.

As an example, the one-page outline could have the following form:

TITLE:

TRY TO FIND A DESCRIPTIVE TITLE AND AN ACRONYM.

CONTACT:

NAME, EMAIL, ORGANISATION AND TELEPHONE.

PROJECT IDEA:

DESCRIPTION OF THE IDEA NO MORE THAN AS 3-5 SENTENCES.

OBJECTIVES:

WHAT DO YOU WANT TO ACHIEVE WITH YOUR IDEA?

EUROPEAN DIMENSION:

WHY SHOULD THIS BE AN EU/HORIZON 2020 PROJECT?

RESULTS:

WHAT CONCRETE RESULTS WILL COME OUT OF YOUR PROJECT?

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USERS:

WHO CAN AND WILL USE THE RESULTS OF YOUR PROJECT?

IMPACT:

WHAT IS POSSIBLE ONCE YOUR PROJECT ACHIEVES ITS OBJECTIVES AND DELIVERS ITS RESULTS?

TENTATIVE HORIZON 2020 WORK PROGRAMME, CALL, AND FUNDING SCHEME:

THIS IS NEEDED FOR PARTNER ORGANISATIONS TO EVALUATE THE FINANCIAL AND ORGANISATIONAL FEASIBILITY.

PARTNERS AND ROLES:

WHICH FUNCTIONS AND ROLES NEED TO BE FILLED?

BUDGET AND DURATION ESTIMATE:

BUDGET IN THE ORDER OF THOUSANDS OR MILLIONS OF EURO?

PROJECT DURATION IN MONTHS OR YEARS?

The one-page outline is for sharing with other people. The main benefit is that you can use it as a basis for further discussion on your project idea, be it technical or in terms of partners needed.

It is recommended to use a system for yourself to keep track with whom you discussed your one-page outline and who you see as a potential collaborator. Once you start working with others on the one-page outline, it will expand as you add more and more information. This expanded outline then can serve as a blueprint for a formal Horizon 2020 proposal.

Chapter 5

Networking for Horizon 2020

5.1 Introduction

Finding partners is often the most difficult step in participating in a proposal, especially for beginners. You have to find partners you can trust and with whom you can establish a common goal to succeed with a proposal.

Finding partners often works either by sheer luck or by networking. Networking is the most promising option and an activity you can directly influence yourself.

Networking is simple in principle, but is often seen as difficult because it is unclear where and how to start.

The lack of an active EU-wide network is the major obstacle to get started with Horizon 2020 for most individuals and organisations. Starters and organisations new to the EU funding schemes find it difficult to navigate through the maze of funding rules, partner requirements and making

"How to write effective EU Proposals" is a practical guide on getting funding for Horizon 2020.

The book shows you how to:

- Develop ideas and find opportunities for funding within the Horizon 2020 programme.
- Start networking and make yourself a natural partner for a proposal.
- Use successful partner search strategies and tactics.
- Manage your way to EU funding, weed out bad proposals and join successful networks.
- Apply a step by step approach to increase your chances of funding by guiding you through the often neglected areas of proposal positioning through excellence, urgency and writing for impact.
- Evaluate and improve your proposal before submission.

The book describes these steps beyond the technical requirements and focuses on the lesser known – but essential – social and procedural factors for obtaining funding for your Horizon 2020 project.

<http://horizonbook.eu>