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THEME INCO 2013-2.1

## JEUPISTE

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## Update of the Inventory of the STI Programmes

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The original report has been edited to be suitable for a general audience.

## Executive Summary

This document presents the results of a data collecting exercise to provide a list of Science, Technology and Innovation (STI) programmes that can facilitate cooperation between Europe and Japan, building on the work of the CONCERT-Japan ERA-NET project from 2011.

On the one hand, programmes are being listed that can fund cooperation activities between Europe and Japan. Either through bilateral or multilateral programmes that can provide funding to research groups, or unilateral programmes that provide funding for researchers or research groups on either side in order to engage with each other. Through desk research, 56 distinct programmes were found, mainly in Natural Sciences, Social Sciences and Humanities. On the other hand, an overview of Japanese programmes is provided that lists opportunities for European organisations in Japan and opportunities for Japanese organisations/researchers that can allow them to participate in multilateral programmes such as Horizon 2020. 319 Japanese programmes were identified, these include single calls for proposals in case no overarching programme could be found. Through a survey, 6 programmes/calls were found to be open to European organisations, all related to ICT. 53 programmes/calls were found for which the funding could potentially be used to support a Japanese entity or researcher for their participation in multilateral programmes such as Horizon 2020. 15 of these 53 programmes/calls have no specific focus, 15 are related to Energy, 6 to ICT and 5 to Health.

The lists provided in this document provide a long term overview of the programmes that can be used to facilitate cooperation beyond the currently open calls for proposals, which paint only a partial picture of what is available for Europe-Japan STI cooperation.

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## Abbreviations

CAO	Cabinet Office
ENV	Ministry of the Environment
JSPS	Japan Society for the Promotion of Science
JST	Japan Science and Technology Agency
MAFF	Ministry of Agriculture, Forestry and Fisheries
METI	Ministry of Economy, Trade and Industry
MEXT	Ministry of Education, Culture, Sports, Science and Technology
MHLW	Ministry of Health, Labour and Welfare
MIC	Ministry of Internal Affairs and Communications
MLIT	Ministry of Land, Infrastructure, Transport and Tourism
MOD	Ministry of Defence
NEDO	New Energy and Industrial Technology Development Organization

## 1. Introduction

During the activities of the JEUPISTE project over the last 3 years, there has always been the need to come up with concrete opportunities for Europe to engage with Japan. Several ways have been identified by the project in order to facilitate cooperation such as making use of regular Horizon 2020 calls, coordinated calls with the Japanese government, Marie Skłodowska-Curie Actions such as RISE and the usage of certain funding programmes from European Member states and the Japanese government. However, outside of these opportunities, there are a number of bilateral/multilateral programmes that can be used in order to facilitate cooperation. This deliverable identifies these programmes by building on a study done by the CONCERT-Japan ERA-NET project in 2011.

However, the number of dedicated bilateral and multilateral cooperation programmes is limited. Therefore, Japanese organisations often use domestic funding programmes in Japan to facilitate their cooperation with Europe. In general, Japanese organisations do not receive financial support in Horizon 2020 and must secure their own funding, which is a major obstacle in setting up cooperation. The Japanese funding system is complicated and the programmes are not aligned to be used with a multilateral programme such as Horizon 2020. In order to provide more insight on what can be achieved in the future, the JEUPISTE project conducted a survey to explore whether Japanese funding programmes could be used together with Horizon 2020, or whether these programmes can be open for direct participation from Europe.

This report provides two distinct lists. The first list compiles direct opportunities to set up cooperation between Europe and Japan. The second list provides an overview of Japanese programmes that could potentially be used in tandem with multilateral programmes such as Horizon 2020. While this resulting list is not a direct guide on specific opportunities, it shows which programmes could be available for future cooperation.

## 2. Europe-Japan STI cooperation programmes

In order to promote international cooperation on Science, Technology and Innovation (STI) between Japan and Europe, several programmes are available to make the connection between researchers for joint projects, seminars and more. Funding agencies in several European countries have agreements with Japanese funding agencies to work together in specific programmes.

Previously two studies have been done in order to give an overview of programmes that can be used in terms of Europe-Japan cooperation:

- The CONCERT-Japan project made an inventory in 2011 of cooperation programmes;
- EURAXESS Japan has published a European funding guide for researchers and students in Japan at the end of in 2012 and 2014;

The overview made by the JEUPISTE Project has sought to make an update of the CONCERT-Japan list. Many of the programmes listed can also be found in the EURAXESS Japan funding guide<sup>1</sup> and website<sup>2</sup>, however, the JEUPISTE list adds information such as thematic areas and type of activities among others.

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<sup>1</sup> [http://ec.europa.eu/euraxess/data/links/japan/docs/Europe\\_Japan\\_Researchers\\_Funding\\_Guide2015.pdf](http://ec.europa.eu/euraxess/data/links/japan/docs/Europe_Japan_Researchers_Funding_Guide2015.pdf)

<sup>2</sup> <http://ec.europa.eu/euraxess/index.cfm/links/eurRes/japan>

The following items were collected:

- Name of Programme
- Partner institution in the European Country (in the case of bilateral programmes and multilateral programmes)
- Partner institution in Japan (in the case of bilateral programmes and multilateral programmes)
- Bilateral, multilateral or unilateral
- Type
- Who can participate?
- Thematic Area
- Relevant European countries
- Contact
- Website
- Whether the item was available in the CONCERT Japan inventory

Please note that programmes not specifically designed for international cooperation are not part of this list.

This chapter of this report was implemented by the JEUIPSTE partner Regional Centre for Information and Scientific Development (RCISD, Hungary), with additional research by the JEUIPSTE coordinator, the EU-Japan Centre for Industrial Cooperation in Tokyo (Institute for International Studies and Training). Additional programmes, in particular related to mobility, were provided by EURAXESS Japan.

## 2.1 Methodological considerations

Unfortunately, there is no standardized methodology for creating an inventory of STI cooperation programmes as STI cooperation can take various forms. While doing this research, four specific barriers were identified and dealt with.

- The first barrier was the **missing terminology**. There is no widely accepted terminology of cooperation programme types and fields cooperation in Science, Technology and Innovation. Nevertheless, data collection must be structured. This was done through terminology based upon the experiences of earlier INCO-NET and ERA-NET projects.
- The second barrier was **missing data on cooperation programmes**. The data set was built on the experiences of the CONCERT-Japan ERA-NET project. The STI inventory was built through desk research as experience tells us that the response rate for these types of surveys is rather low. However, we experienced several difficulties such as the quality of data available on previous (and even current) cooperation programmes and a language barrier due to the various languages in European countries. Mobility programmes have not been the main focus of this research, and likely data on this area is lacking.
- The third barrier was related to the **timeframe of the programmes**. The contents of even the established bilateral programmes is changing continuously and it is not always clear whether new calls will be organised in a programme or in an initiative for international cooperation. The activities of the past 3 years have been recorded. In case there was no new call during the last 3 years, the programme has not been included.
- The fourth barrier was the **scope of programmes** to include. Relevant web sites contain information regarding all kinds of cooperation such as fora, exhibitions and other activities that do not offer funding for actual actions. These kind of initiatives were not considered. All programmes that can facilitate

cooperation, that provide funding for one or both parties to engage in research or dedicated networking are included in the list. For this reason, bilateral laboratories have not been included in the list as specific opportunities are not available. Programmes that can potentially be used for Europe-Japan research are not included if the specific usage to facilitate this cooperation is unclear. Student scholarships on a bachelor and master’s level have also not been included as the goal of this report is not to facilitate exchange in higher education. However, if the programme is open to PhD level students, the programme has been added.

## 2.2 Analysis of results

In total, 56 distinct programmes were found. 11 of these are multilateral, 8 are bilateral, and the remaining 37 are unilateral. Bilateral means there is a fixed partner funding institution in both countries and programmes are only open to Japan and one European country, multilateral means the programme is open for several countries to join in a single project and arrangements are made in the programme for international cooperation. Unilateral programmes provide funds without a clear partner funding institution, often on a personal level such as a fellowship position in the other country.

Several of the programmes, such as the JSPS Joint Research Projects/Seminars (together with European funding agencies), were counted as one, but are split into 22 sub-programmes as each agreement with a European funding agency has a slightly different scope. Therefore, the resulting full list consists of 98 entries. Another issue was that the same programme was often advertised under different names, such as the “Japan-Norway Researcher mobility programme”, which was found to be the same as the “JSPS outgoing postdoctoral mobility scheme”. In this case only one entry has been included.

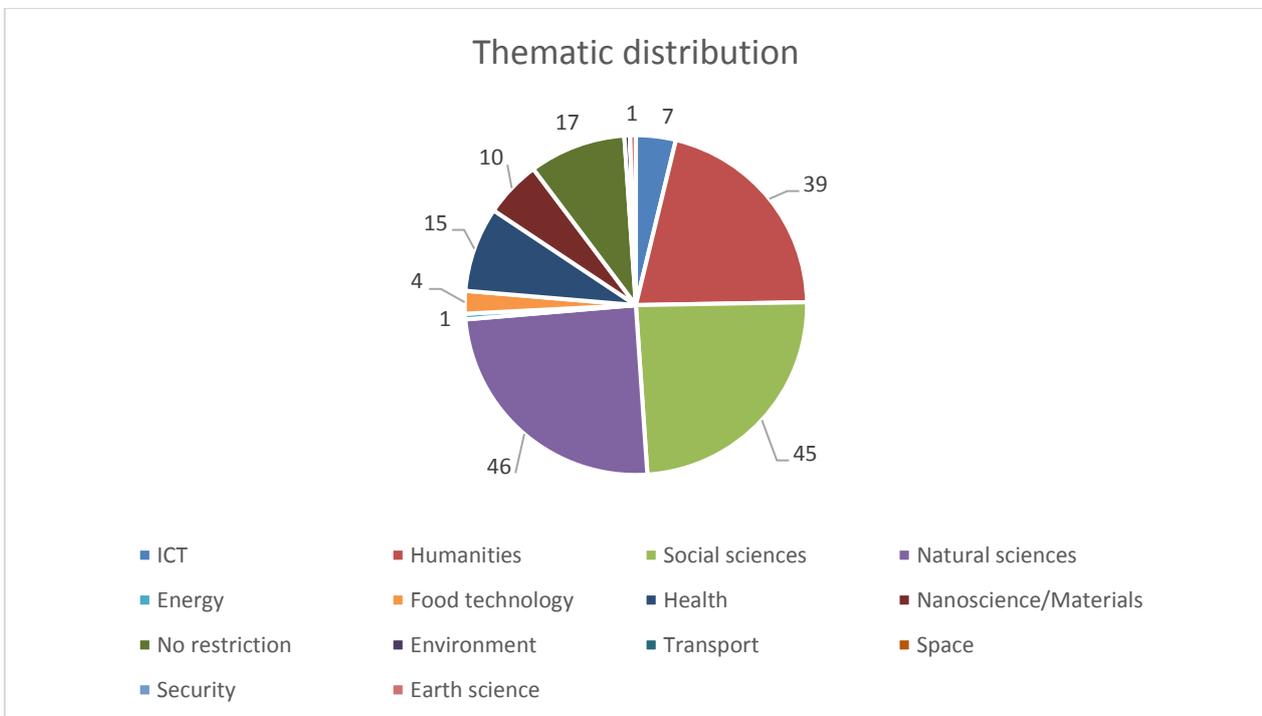


Figure 1: Thematic distribution of Europe-Japan STI sub-programmes

Regarding the thematic distribution, we have found no specific thematic focus for most programmes. In Figure 1, you can see the thematic distribution of the 98 sub-programmes.

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17 sub-programmes have no restriction regarding thematic focus at all. 46 are open to Natural Sciences, 45 to Social Sciences, 39 to Humanities. As for sub-programmes that are targeted towards a specific narrow thematic area, most of them can be found in Health (15), Nanoscience/Materials (10) and ICT (7).

The type of instrument used in the programme is usually mixed. The same programme is often targeting both mobility and research funding. Most funded programmes are related to mobility (45), research funding (34) and networking (20). In deliverable D2.1, they were grouped in 4 types of instruments: funding of international research, the joint use of R&D facilities, the networking initiatives helping R&D cooperation and innovation.

*Table 1: Comparison on distribution of instruments between Deliverable 2.1 and the current programme list*

<b>Instrument type</b>	<b>Reported in D2.1 based on CONCERT-Japan (relates to sub-programmes)</b>	<b>Sub-programmes in this report</b>
<b>Research Funding</b>	28	34
<b>Joint Facility use</b>	16	12
<b>Networking</b>	27	20
<b>Innovation</b>	16	11

The results are similar, with a slight increase in the number of research funding programmes. Compared to the previous report, there is remarkably less “joint facility use”. The main reason for this is that joint laboratories, such as the Joint Japanese-French Robotics Laboratory at AIST, are not included in the list as specific opportunities or calls have not been identified over the last 3 years. Regarding the instrument type “networking”, it is a fine line to differentiate this with mobility. In practice, the term networking was applied to short term activities such as joint seminars or researcher visits within joint projects.

## 2.3 Full list of Europe-Japan programmes

The following is a list of distinct programmes (56) with the basic information regarding each programme.

Table 2: List of Europe-Japan STI programmes, organised by bilateral, multilateral or unilateral orientation.

	Name of Programme	Bilateral, multilateral or unilateral	Type	Thematic Area	Relevant European Country
1	<b><u>JSPS Bilateral Joint Research Projects/Seminars (includes various specific programmes with European funding agencies)</u></b>	Bilateral	Joint research projects/seminars	Humanities, Social Sciences, and Natural Sciences	Austria, Belgium, Czech, Finland, France, Germany, Hungary, Italy, Netherlands, Poland, Slovenia, Sweden, Turkey
2	<b><u>JSPS Frontiers of Science Symposium</u></b>	Bilateral	Joint seminar	no restriction	UK, Germany
3	<b><u>JSPS Japanese-German Graduate Externship</u></b>	Bilateral	Joint doctoral programmes	no restriction	Germany
4	<b><u>JSPS Japanese-Swiss Science and Technology Cooperation Programme</u></b>	Bilateral	Joint research projects	Health, Humanities, Social Sciences	Switzerland
5	<b><u>JSPS Open Research Area for the Social Sciences</u></b>	Bilateral	Joint research projects	Social Sciences	UK, France, Germany, Netherlands
6	<b><u>JST Strategic International Research Cooperative Program (SICP)</u></b>	Bilateral	Joint research project	Health	Finland, Germany, Switzerland
7	<b><u>Daiwa Foundation Awards/Small Grants</u></b>	Bilateral	Mobility, Joint research project	no restriction	UK
8	<b><u>JSIP - Japan - Spain Innovation</u></b>	Bilateral	Joint research and innovation projects	ICT, Energy, Health, Nanoscience/Materials	Spain

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	<b><u>Program (CDTI-NEDO)</u></b>				
9	<b><u>Belmont Forum</u></b>	Multilateral	Research	Environment	Austria, France, Germany, Ireland, Norway, Sweden, Netherlands, UK
10	<b><u>JST Strategic International Collaborative Research Program (SICORP) / Horizon 2020</u></b>	Multilateral	Joint research project	Nanoscience/Materials science, ICT	Member States of the European Union and Associated countries to Horizon 2020, Germany (for ICT)
11	<b><u>Marie Skłodowska-Curie Actions Innovative Training Networks (ITN)</u></b>	Multilateral	Mobility	no restriction	Member states of the European Union and Associated countries to Horizon 2020
12	<b><u>UTFORSK Partnership Programme</u></b>	Multilateral (open to institutions outside Norway and Japan)	Mobility, partnership	no restriction	Norway
13	<b><u>CONCERT Japan European Interest Group (EIG) CONCERT-Japan (JST)</u></b>	Multilateral (funding for all partners)	Joint research project	Food technology	France, Germany, Spain, Turkey
14	<b><u>EU-Japan coordinated ICT projects (Horizon 2020/MIC/NICT)</u></b>	Multilateral (funding for all partners)	Joint research project	ICT, Health	Member states of the European Union and Associated countries to Horizon 2020
15	<b><u>SHIONOGI Science Programme</u></b>	Multilateral (funding for all partners)	Joint research project	Health	Belgium, Denmark, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, the UK

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16	<b><u>Marie Skłodowska-Curie Actions Research and Innovation Staff Exchange (RISE)</u></b>	Multilateral (funding for European organisations, some costs reimbursed for Japanese organisations)	Mobility, Joint research project	no restriction	Member states of the European Union and Associated countries to Horizon 2020
17	<b><u>JSPS Core to Core Program - Advanced research networks</u></b>	Multilateral (funding for Japanese partner only)	Joint research project	no restriction	All European Countries
18	<b><u>Research Visits of JSPS Research Fellows to ERC-supported European teams</u></b>	Multilateral (funding for Japanese researchers)	Mobility	no restriction	Member states of the European Union and Associated countries to Horizon 2020
19	<b><u>V4-Japan Joint Research Program</u></b>	Multilateral (funding for V4 countries)	Joint research project	Nanoscience/materials science	Czech Republic, Hungary, Poland, Slovakia
20	<b><u>Canon Foundation Research Fellowship</u></b>	Unilateral - open for European and Japanese researchers	Mobility	no restriction	All European Countries
21	<b><u>EU-Japan Centre - Minerva fellowship programme</u></b>	Unilateral - open for European and Japanese researchers	Mobility	Humanities, Social sciences	Member states of the European Union
22	<b><u>Pfizer Health Research Foundation International Collaborative Research Grant</u></b>	Unilateral - open for European and Japanese researchers	Joint research project	Health	All European Countries
23	<b><u>Sasakawa Foundation Butterfield Awards</u></b>	Unilateral - open for European and Japanese researchers	Joint research project	Health	UK
24	<b><u>Suntory Foundation Research Support Schemes</u></b>	Unilateral - open for European and Japanese researchers	Mobility	Humanities, Social sciences	All European Countries

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25	<b><u>JAMSTEC Postdoctoral Fellow Programme</u></b>	Unilateral - open for European researchers	Mobility	Natural sciences	All European Countries
26	<b><u>Japan Foundation Grant Program for Intellectual Exchange Conferences</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social sciences	Member states of the European Union and Associated countries to Horizon 2020
27	<b><u>Japan Foundation Japanese Studies Fellowship Program</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social sciences	Member states of the European Union and Associated countries to Horizon 2020
28	<b><u>JSPS Fellowship Programmes - Bridge Fellowship Program</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	All European Countries
29	<b><u>JSPS Fellowship Programmes - Invitation Fellowships</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	All European Countries
30	<b><u>JSPS Fellowship Programmes - Postdoctoral Fellowships</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	All European Countries
31	<b><u>JSPS Research Fellowships for Young Scientists - Japanese researchers</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	All European Countries
32	<b><u>JSPS-UNU Postdoctoral Fellowship Programme</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	All European Countries
33	<b><u>Kyoto University CiRA International Postdoctoral Research Fellowships</u></b>	Unilateral - open for European researchers	Mobility	Natural sciences	All European Countries
34	<b><u>Kyoto University Hakubi Researchers Call for Application</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	All European Countries

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35	<b><u>MEXT - Japanese Government Scholarship Program</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	All European Countries
36	<b><u>MIF Research Fellowships Call for Applications</u></b>	Unilateral - open for European researchers	Mobility	Humanities, Social sciences	All European Countries
37	<b><u>Nichibunken Visiting Research Scholars in Japanese Studies</u></b>	Unilateral - open for European researchers	Mobility	Humanities	All European Countries
38	<b><u>Osaka University IPR: Call for International Collaborative Research</u></b>	Unilateral - open for European researchers	Joint research project	Natural sciences	All European Countries
39	<b><u>RIKEN BSI Summer Programme</u></b>	Unilateral - open for European researchers	Mobility	Health	All European Countries
40	<b><u>RIKEN IMS Summer Programme (RISP)</u></b>	Unilateral - open for European researchers	Mobility	Health	All European Countries
41	<b><u>RIKEN Special Postdoctoral Researchers Programme</u></b>	Unilateral - open for European researchers	Mobility	Natural sciences, Health	All European Countries
42	<b><u>NICT's invitation programme for foreign researchers</u></b>	Unilateral - open for European researchers (application through Japanese host institute)	Mobility	ICT	All European Countries
43	<b><u>Stipendium Hungaricum Scholarship Programme</u></b>	Unilateral - open for Hungarian and Japanese researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	Hungary
44	<b><u>CERN Non-Member State Postdoc Fellowship Programme</u></b>	Unilateral - open for Japanese researchers	Mobility	Natural sciences	Switzerland
45	<b><u>European Research Council</u></b>	Unilateral - open for Japanese researchers	Research	no restriction	Member states of the European Union and Associated

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					countries to Horizon 2020
46	<b><u>JSPS outgoing postdoctoral mobility scheme</u></b>	Unilateral - open for Japanese researchers	Mobility	no restriction	All European Countries
47	<b><u>JSPS travel grants for attending Lindau Meetings</u></b>	Unilateral - open for Japanese researchers	Mobility	no restriction (depends on meeting topic)	Germany
48	<b><u>Marie Skłodowska-Curie Actions Individual Fellowships/Global Fellowship</u></b>	Unilateral - open for Japanese researchers	Mobility	no restriction	Member states of the European Union and Associated countries to Horizon 2020
49	<b><u>Muratec Foundation Outgoing Mobility Scholarships</u></b>	Unilateral - open for Japanese researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	All European Countries
50	<b><u>EU-Japan Centre - Vulcanus in Europe/Japan Training Programme</u></b>	Unilateral - open for Japanese/European researchers	Mobility	Natural sciences	Member states of the European Union
51	<b><u>International Network Activities (Government Denmark)</u></b>	Unilateral - open for researchers in Denmark	Mobility	Humanities, Social Sciences, and Natural Sciences	Denmark
52	<b><u>EFEQ Field Scholarships</u></b>	Unilateral - open for researchers in France	Mobility	Humanities, Social sciences	France
53	<b><u>BBSRC Japan Partnering Awards</u></b>	Unilateral - open for researchers in UK	Mobility	Natural sciences	UK
54	<b><u>JSPS Kakenhi special grants for projects for international cooperation</u></b>	Unilateral - open for researchers receiving JSPS kakenhi or for Japanese researchers abroad	Joint research project	no restriction	All European Countries
55	<b><u>Slovakia National Scholarship Programme</u></b>	Unilateral - open for Slovak and Japanese researchers	Mobility	Humanities, Social Sciences, and Natural Sciences	Slovakia

	<b><u>(Incoming and Outgoing)</u></b>				
56	<b><u>JSPS Summer Programme</u></b>	Unilateral - open to European research in selected countries	Mobility	Humanities, Social Sciences, and Natural Sciences	UK, France, Germany, Sweden

### 3. Japanese STI programmes open for European participation and programmes that can be potentially used as matching funding

A list was drafted of the main domestic Japanese Science, Technology and Innovation (STI) programmes by collecting open calls/programmes of the 63 organisations that are listed in CONCERT-Japan deliverable 1.1.<sup>3</sup> It was found that the Japanese STI programmes landscape is rather fragmented as 319 programmes (302 public, 17 private)<sup>4</sup> have been identified during a scan carried out in February/March 2016. This list includes calls that were closed during the last 12 months of which the call information was still available.

Please note that the overview only takes into account programmes on a national level in Japan. Regional programmes on prefectural and municipal level were excluded as they were not part of the sources that were consulted.

#### 3.1 Methodological considerations

As a first step, information was collected from Japanese funding organisations: the cabinet office, ministries, public organisations and other related, private organisations (from CONCERT-Japan D1.1, page 8-15, in total 63 organisations). For each of these organisations, open calls were sought on the website of the organisation and on e-rad<sup>5</sup>, the website of the Japanese government where calls are listed related to R&D.

As criteria for selection of these programmes, it was chosen to have no detailed criteria such as a minimum budget threshold, as often even a small contribution is enough in order to facilitate STI cooperation.

It was a challenge to make a comparative list in which all the required data was available, such as how long the programme was running, whether new calls would be available, the total budget of the programme and the budget that would be available for a single project. Another issue was related to the diversity in some programmes. Even though some programmes were operating under the same name, such as the ImPACT programme (see more information below), each area within the programme is distinct in how it is organising calls and whether participation from (or with) Europe is possible. Hence, for large programmes such as ImPACT, each area is considered as a separate programme. In other cases, an overarching programme could not be identified and the single calls for specific actions were included, in particular in the case of calls under the New Energy and Industrial Technology Development Organization (NEDO).

<sup>3</sup> CONCERT-Japan was an ERA-NET initiative to coordinate, network and enhance Science & Technology cooperation of the European countries with Japan. The content of CONCERT-Japan deliverable 1.1 is "Inventory of Japanese International STI Cooperation Programme Owners and Managers"

<sup>4</sup> sub-programmes were included as they are often distinct from the main programme

<sup>5</sup> <http://www.e-rad.go.jp/> (Japanese only)

After this list was created, the managers of each programme were contacted by e-mail and/or phone in order to pose the following questions:

- Can European organisations/research institutions/companies participate in your programme?
- Can European organisations/research institutions/companies participate in your programme if they have a Japanese legal entity?
- Can the funding be used by a Japanese organisation to join a large international collaborative research project such as under Horizon 2020?

At the same time, information was collected on current foreign participation and the way European participation could be facilitated.

Some funding agencies provided us with responses for the whole organisation (such as JSPS and JST), for the other programmes individual responses were received. Responses were collected for 110 programmes.

This part of the research was carried out by the JEUPISTE coordinator: EU-Japan Centre for Industrial Cooperation in Tokyo (Institute for International Studies and Training).

### 3.2 Overview of Japanese domestic STI programmes

The landscape of public STI programmes in Japan is very fragmented with several ad hoc programmes in each ministry that have a different scope and focus. Public funding for science and technology in fiscal year 2016 (FY2016)<sup>6</sup> is expected to amount to JPY 3,456 billion<sup>7</sup>. In fiscal year 2015, the budget was at a similar level at JPY 3,453 billion.

This budget includes a specific budget for the promotion of science and technology of JPY 1,293 billion in fiscal year 2016, JPY 1,286 billion in fiscal year 2015. Apart from open calls this includes major spending categories such as the running cost of R&D facilities. Funding for competitive calls was JPY 412 billion<sup>8</sup> in fiscal year 2016, JPY 421 billion<sup>9</sup> in fiscal year 2015, however, this does not include several STI related programmes. For example we found that all NEDO programmes were not part of what was seen as competitive funding. We have found an additional JPY 337 billion for fiscal year 2015 funding to what was available in the competitive funding list of the Japanese government.

The full list of programmes that were identified by our team amount to JPY 767 billion<sup>10</sup> (22.2% of the total funding for science and technology and 59.3% if the budget for the promotion of science and technology). There is a small difference in the numbers of the total budget of competitive funding programmes we collected, JPY 430 billion, and the figure provided by CAO, JPY 421 billion. This difference can be attributed to the fact that we take the actual number of the programme for our budget calculation, while the CAO list takes the (lowest) number that was initially requested in the original budget request to the Ministry of Finance. Another

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<sup>6</sup> In Japan the fiscal year 2016 is from April 2016 until March 2017

<sup>7</sup> For more information: <http://www8.cao.go.jp/cstp/budget/h28/h28gaiyou-1.pdf>

<sup>8</sup> <http://www8.cao.go.jp/cstp/compefund/kyoukin28.pdf>

<sup>9</sup> <http://www8.cao.go.jp/cstp/compefund/kyoukin27.pdf>

<sup>10</sup> Please note this list also includes programmes for FY2015 and private funding programmes.

difference is due to that we made an approximation of several programmes to have the annual budget figure, which sometimes diverges slightly from the actual figure.

Table 3: Japanese funding for Science, Technology and Innovation in open calls (in billion JPY)

	FY2015	FY2016
<b>Total funding for Science and Technology</b>	3,456	3,453
<b>Budget for the promotion of Science and Technology</b>	1,293	1,286
<b>Budget for competitive calls (CAO list)</b>	421	412
<b>Additional Budget for competitive programmes in JEUISTE list</b>	337	N/A
<b>Total budget for open call in JEUISTE list</b>	767	N/A

### 3.3 Japanese Programmes open to direct European participation

#### 3.3.1 For European organisations

As a result of the survey, the only programmes that were found to be open for European organisations were 6 areas within the ImPACT programme (out of a total of 12 areas). This means that a European organisation can apply for the public offerings in this programme without having an office or R&D facility in Japan. However, the public offerings are only available in Japanese and it is not clearly mentioned on the website that they are accessible to European organisations.

ImPACT is a programme through which the Council for Science, Technology and Innovation in Japan, the body that serves as the government's Cabinet level command centre for innovation policy, will encourage high-risk, high-impact R&D, and aim to realize a sustainable and expandable innovation system<sup>11</sup>. The calls typically have a budget between JPY 10 and 70 million (a few are larger up to JPY 1.45 billion), are directed towards applied science (mainly related to ICT), and are for projects with a duration between 1 and 3 years. It was reported that European organisation have already participated, such as the University of Würzburg (Germany). However, their participation has been low so far, with mainly American organisations joining the projects in case of foreign participation.

The ImPACT programme is often organising challenges in order to receive new ideas, not to be confused with the public offerings for R&D projects. At the moment, only a limited number of calls are expected in the near future as the programme has seen its major developments in 2015. However, at irregular intervals a limited number of calls are expected to become available.

Table 4: Areas in the ImPACT programme (funding by Cabinet Office) open to direct European participation (EUR 1 = JPY 123)

Programme name	Field	Budget
<b>Achieving ultimate Green IT Devices with long usage times without charging</b>	Electronics/ICT	JPY 4 billion (€32.5 million) over 5 years. (JPY 0.29-1.45 billion/project) (€2.35-11.7 million/project)
<b>At the time of this report, no call is open in this programme:</b>		
<ul style="list-style-type: none"> <li>● Information on the programme: <a href="http://www.jst.go.jp/impact/en/program/04.html">http://www.jst.go.jp/impact/en/program/04.html</a></li> <li>● Information on application procedure last call (October 2015): <a href="https://impact.jst.go.jp/koubo/sahashi/applicationprocedure.pdf">https://impact.jst.go.jp/koubo/sahashi/applicationprocedure.pdf</a> (in Japanese)</li> </ul>		

<sup>11</sup> For more information on the ImPACT Programme, please consult: <http://www.jst.go.jp/impact/en/index.html>

<b>Turning Serendipity into Planned Happenstance</b>	Health/ICT	JPY 3 billion (€24.3 million) over 5 years. (JPY 0.10-0.60 billion/project) (€0.81-4.87 million/project)
<b>At the time of this report, no call is open in this programme:</b> <ul style="list-style-type: none"> <li>● Information on the programme: <a href="http://www.jst.go.jp/impact/en/program/02.html">http://www.jst.go.jp/impact/en/program/02.html</a></li> <li>● Information on application procedure last call (November 2015): <a href="http://www.jst.go.jp/impact/serendipity/files/applicationprocedurePJ2.pdf">http://www.jst.go.jp/impact/serendipity/files/applicationprocedurePJ2.pdf</a> (in Japanese)</li> </ul>		
<b>Innovative visualization technology to lead to creation of a new growth industry</b>	Health/ICT	JPY 2.97 billion (€24.1 million) over 5 years. (JPY 0.25-0.89 billion/project) (€2.03-7.23 million/project)
<b>At the time of this report, no call is open in this programme:</b> <ul style="list-style-type: none"> <li>● Information on the programme: <a href="http://www.jst.go.jp/impact/en/program/07.html">http://www.jst.go.jp/impact/en/program/07.html</a></li> </ul>		
<b>Tough Robotics Challenge (TRC)</b>	Robotics	JPY 3.5 billion (€28.4 million) over 5 years. (JPY 0.27-1.24 billion/project) (€2.19-10.0 million/project)
<b>At the time of this report, no call is open in this programme:</b> <ul style="list-style-type: none"> <li>● Information on the programme: <a href="http://www.jst.go.jp/impact/en/program/10.html">http://www.jst.go.jp/impact/en/program/10.html</a></li> </ul>		
<b>Actualize Energetic Life by Creating Brain Information Industries</b>	Health/ICT	JPY 3.0 billion (€24.3 million) over 5 years. (JPY 0.42-1.02 billion/project) (€3.41-8.29 million/project)
<b>At the time of this report, no call is open in this programme:</b> <ul style="list-style-type: none"> <li>● Information on the programme: <a href="http://www.jst.go.jp/impact/en/program/11.html">http://www.jst.go.jp/impact/en/program/11.html</a></li> </ul> <b>Specific requirement: approval necessary of the experts meeting of the Cabinet Office</b>		
<b>Advanced Information Society Infrastructure Linking Quantum Artificial Brains in Quantum Network</b>	Health/ICT	JPY 3.0 billion (€24.3 million) over 5 years. (JPY 0.90-1.10 billion/project) (€7.31-8.94 million/project)
<b>At the time of this report, no call is open in this programme:</b> <ul style="list-style-type: none"> <li>● Information on the programme: <a href="http://www.jst.go.jp/impact/en/program/12.html">http://www.jst.go.jp/impact/en/program/12.html</a></li> </ul>		

### 3.3.2 For individuals from Europe

For individuals, many more opportunities exist if they are based in Japan and connected to a Japanese organization. The inventory in the first part of this research provides information on programmes available for individuals. Alternatively, EURAXESS Japan is providing a funding guide for opportunities for European researchers in Japan through their funding guide<sup>12</sup> and website<sup>13</sup>.

### 3.4 Programmes open to European organisations with Japanese legal entity

All of the surveyed programmes are in principle open to any organization with a Japanese legal entity that can also fulfil the requirements of the programme. This means in practice that the research has to be done in Japan and that reporting has to be done in Japanese among other requirements. However, the number of European organisations that have the capability of carrying out research in Japan is limited and these organisations are already well aware of the opportunities.

### 3.5 Japanese programmes that could be used as matching funding with Horizon 2020

Japanese organisations that wish to participate in Horizon 2020 are not eligible for automatic funding from the European Commission and they will need to find the appropriate funds in Japan to facilitate their

<sup>12</sup> [http://ec.europa.eu/euraxess/data/links/japan/docs/Europe\\_Japan\\_Researchers\\_Funding\\_Guide2015.pdf](http://ec.europa.eu/euraxess/data/links/japan/docs/Europe_Japan_Researchers_Funding_Guide2015.pdf)

<sup>13</sup> <http://ec.europa.eu/euraxess/index.cfm/links/eurRes/japan>

participation. The survey for this report included the question whether the Japanese programmes could be used to facilitate participation of the Japanese organization in a larger project funded through Horizon 2020. It was found that many programme owners were open to this idea as a result of the JEUPISTE survey, however, please note that this openness is not stated in the documentation of these programmes.

It was found that 53 programmes could be used in such a way under certain conditions (not specified in detail). The programme owners would need to review the proposal on a case by case basis before accepting the use of Japanese funds in this way.

Conclusions:

- The main common funding organisations in this overview are JSPS (11 programmes), JST (9 programmes) and NEDO (12 programmes).
- A number of thematic areas that stand out, in particular: Energy (15 programmes), ICT (6 programmes) and Health (5 programmes). A large number of programmes (15) are open to all sciences. However, most of the listings for Energy can be seen as single calls, and not as a full programmes.
- 6 programmes are part of the cross-ministerial Strategic Innovation Promotion (SIP) programme. This programme focuses on Science, Technology, and Innovation, which drive Japan's economic growth and vitality and which will dramatically change society. It has identified 10 themes that will address the most important social problems facing Japan, as well as contribute to the resurgence of the Japanese economy. For fiscal year 2015 it had a budget of JPY 50 billion (of which 35% was allocated to medical fields).
- There is some overlap with the first list of Europe-Japan funding programmes, as certain programmes in the first list are seen as domestic Japanese programmes that are only open to applicants in Japan. However, several obvious bilateral programmes have been removed such as SICORP from JST, which is specifically targeted towards European countries.

### 3.6 Update on the Japanese instruments for increasing attractiveness of R&D promoting excellence

This section provides an update to the instruments that were introduced in the previous deliverable D2.1:

The World Premier International Research Centre Initiative is still continuing. However, no new centres have been set up since 2012, keeping the number of centres on 9. These centres were created to build within Japan “globally visible” research centres that boast a very high research standard and outstanding research environment, sufficiently attractive to prompt frontline researchers from around the world to want to work there.

The Topic Setting Program to Advance Cutting-Edge Humanities and Social Sciences Research is also still running and has been included in the list above, as research groups from Europe could potentially be connected with Japanese projects running under this programme.

The funding programme for World-Leading Innovative R&D on Science and Technology (FIRST programme) has been moved toward the earlier described ImpACT programme<sup>14</sup>. The Funding Programme for Next Generation World-Leading Researchers (NEXT) is no longer active.

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<sup>14</sup> [http://www.keidanren.or.jp/journal/times/2013/1010\\_07.html](http://www.keidanren.or.jp/journal/times/2013/1010_07.html)

## 4. Conclusion

56 distinct programmes were found for Europe-Japan STI cooperation. 8 of these are bilateral, 11 are multilateral and the remaining 37 are unilateral. Many of these programmes are divided in sub-programmes, in total a list of 98 sub-programmes has been created. Most of these are open to Natural Sciences (46), Social Sciences (45) and Humanities (39). As for sub-programmes that are targeted towards a in a specific narrow thematic area, most of them can be found in the Health (15), Nanoscience/Materials (10) and ICT (7). Most funded activities are mobility (45), research funding (34) and networking (20).

Most of the 319 Japanese programmes (these include single calls in case no overarching programme could be found), which were identified for this report, are closed for direct participation from Europe. Only 6 have been found to welcome applications from abroad, all within the ImPACT programme from the Cabinet Office in Japan and related to ICT. If a European organisation has a legal entity and can conduct research in Japan, all of the programmes are open.

About half of the programmes/calls (53) for which valid responses were received are open to the notion that their funding would be used to facilitate international cooperation with for example Horizon 2020, however, whether this kind of participation is possible would need to be evaluated on a case by case basis. 15 of these programmes/calls are open to all scientific fields, 15 are related to Energy, 6 to ICT and 5 to Health.

There is a slight overlap in the two lists. Because certain programmes meant for bilateral/multilateral cooperation are only open for Japanese participants, they were also included in the second list of Japanese programmes.

The lists provided in this document provide a long term overview of the programmes that can be used to facilitate cooperation beyond the currently open calls, which gives only a partial picture of what is available.

## List of references

EURAXESS Japan Funding Guide

[http://ec.europa.eu/euraxess/data/links/japan/docs/Europe\\_Japan\\_Researchers\\_Funding\\_Guide2015.pdf](http://ec.europa.eu/euraxess/data/links/japan/docs/Europe_Japan_Researchers_Funding_Guide2015.pdf)

EURAXESS Japan <http://ec.europa.eu/euraxess/index.cfm/links/eurRes/japan>

E-Rad database (Japanese only) <http://www.e-rad.go.jp/>

FY 2016 budget Science & Technology (Japanese) <http://www8.cao.go.jp/cstp/budget/h28/h28gaiyou-1.pdf>

FY 2016 complete S&T calls (Japanese) <http://www8.cao.go.jp/cstp/compefund/kyoukin28.pdf>

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