



ERA-HDHL

Statistical analysis of the second JFA results Edition 2018

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Definitions

Definition	Explanation
Coordinator	The coordinator of the whole project / consortium
Partner	Research group that participates in a project without being the project coordinator
Principal Investigator (PI)	People representing a research group, both partners and coordinators
Collaborator	A partner that is part of the consortium without applying for funding. Collaborators are expected to secure own funding and are not able to be the coordinator of the consortium.

1. Introduction

In February 2018, the Joint Programming Initiative “A Healthy Diet for a Healthy Life” (JPI HDHL) launched a Joint Funding Action (JFA) on “Nutrition & the Epigenome”. This was the second non-confunded action under the frame of ERA-HDHL.

The aim of this call was **to support transnational, collaborative research projects that gain a better understanding of the diet-epigenome relationships and their effect on human health**. This will allow the development and substantiation of intervention strategies for treating nutrition-related diseases and sustaining good health throughout the life course.

The following focus areas were described in the call text:

- Establishing cause-and-effect relationships between diet and epigenome and metabolic health including molecular and cellular mechanisms, the reversibility of epigenetic changes and their long-term effects where feasible;
- Identifying risk factors and early stage epigenetic changes involved in the development of metabolic diseases;
- Epigenetic effects across the lifespan and inter (and potentially trans) generational epigenetic effects;
- Investigation of modifiable factors (diet, the combined effect of diet and physical activity, microbiota, etc.) that could be involved in epigenetic regulation at critical stages of life;
- The effect of diet and nutritional status on the intra-uterine environment and its subsequent effect on the fetal epigenome and later health of the child.

Eleven countries participated in the JFA: Canada, Czech Republic, France, Germany, Ireland, Israel, Latvia, the Netherlands, Poland, Spain, and the United Kingdom. Table 1 presents an overview of the participating countries and their respective funding organisations, including the available budgets for this call. The total available budget was 8,6 M euro.

Table 1: Available budget per participating country and respective funding organisation

Country	Funding Organisation	Short name	Earmarked Budget
Canada	Canadian Institutes of Health Research	CIHR	\$900,000 CAD <i>Approximately</i> € 600.000
Czech Republic	Ministry of Education, Youth and Sports	MEYS	€ 500.000
France	French National Research Agency	ANR	€ 1.500.000
Germany	Federal Ministry of Education and Research, represented by the Project Management Agency in the German Aerospace Center	BMBF Represented by DLR	€ 2.000.000
Ireland	Health Research Board	HRB	€ 370.000
Israel	Ministry of Science, Technology and Space	MoST	€ 400.000
Latvia	Ministry of Education and Science	IZM	€300.000
The Netherlands	The Netherlands Organisation for Health Research and Development	ZonMw	€ 900.000
Poland	The National Centre for Research and Development	NCBR	€400.000
Spain	National Institute of Health Carlos III	ISCIII	€ 250.000
Spain	Research State Agency (Ministry of Economy, Industry and Competitiveness)	AEI (MINECO)	€ 400.000

UK	Medical Research Council	MRC	€ 500.000
	Biotechnology and Biological Sciences Research Council	BBSRC	€500.000
	Total		€ 8.620.000

To evaluate the implementation and the results of the JFA, analyses on the call statistics have been performed on the following set of indicators:

- number of proposals submitted per country/funding agency
- number of successful partners per country/funding agency
- requested funding per country/funding agency
- funding awarded per country/funding agency
- gender of successful partners and coordinators
- number of collaborators involved
- type of organization of partners involved

The final sets of indicators were determined in collaboration with WP 7 of ERA HDHL and WP6 of the JPI HDHL CSA 2.0.

2. Flow charts proposal and budgets

This call uses a single submission procedure (only full proposals, with rebuttal phase), in total 41 proposals were submitted to the Joint Call Secretariat (JCS). Two proposals did not meet the formal conditions and were rejected without further review. One proposal was withdrawn from the process by the coordinator. The remaining 39 proposals were peer-reviewed by a Scientific Evaluation Committee (SEC). After the peer-review, one more proposal was withdrawn by the coordinator. In October 2018 the Call Steering Committee (CSC) selected six proposals for funding, based on the ranking list of elaborated by the SEC (see figure 1).

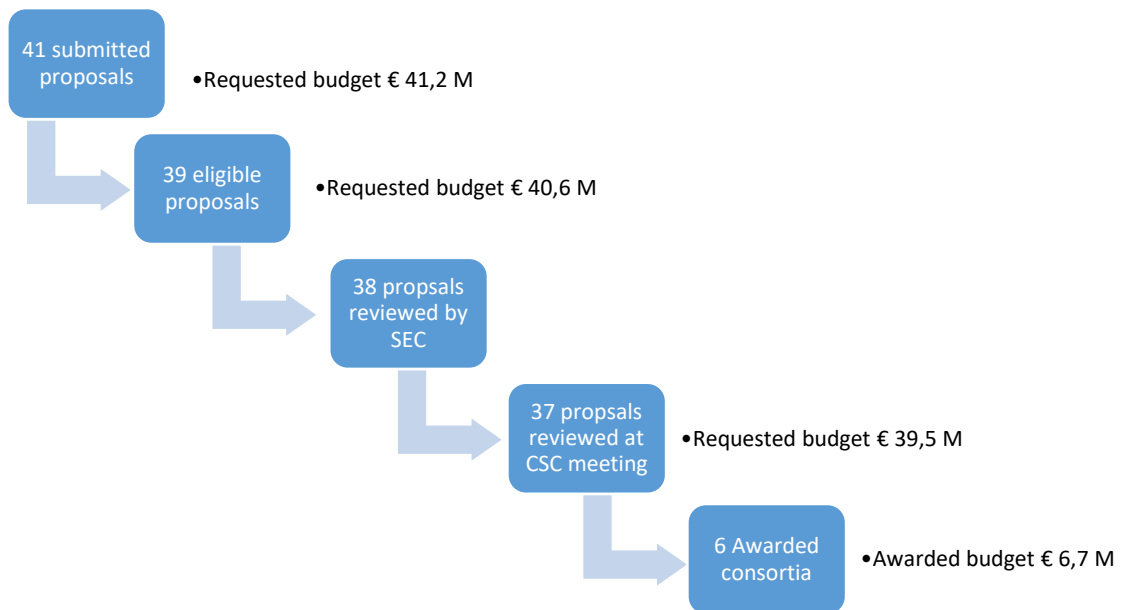


Figure 1: Flow chart showing number of proposals at each stage, including the requested and awarded budget.

The 6 selected projects are requesting a total amount of 6,7 million euro. This is approximately 17% of the budget (39,5 million euro) that was requested by the applicants of the 37 reviewed proposals that were discussed during the CSC meeting (see figure 1).

3. Facts and figures applications

3.1 Principal investigators, coordinators and collaborators

In total 6 research projects will be funded. These include 28 research teams from 6 countries working together in the funded projects for the next 3 years. Six of these research teams will act as coordinator of the consortia, the other 22 research teams are consortia partners. In addition, one collaborator is participating in a consortium without funding and will use her/his own resources. The distributions of principal investigators, coordinators and collaborators among the participating countries in the 6 awarded consortia are shown in Figures 2 and 3.

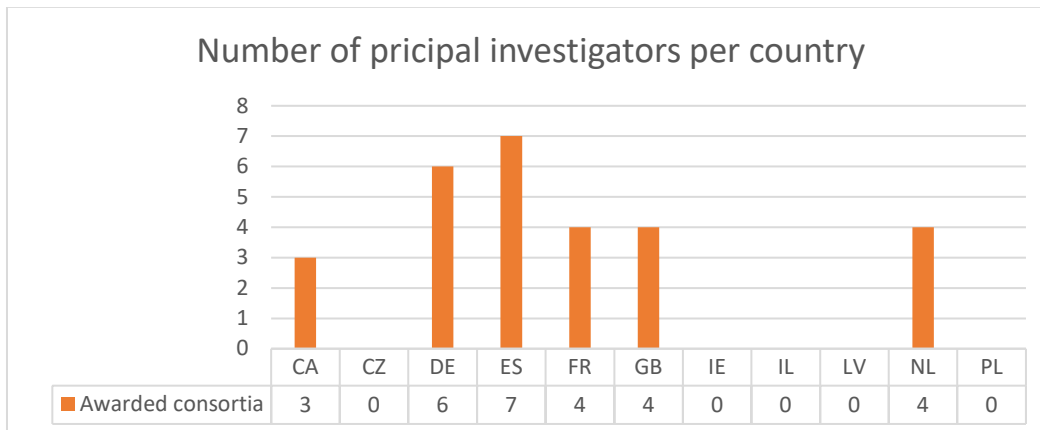


Figure 2: Distribution of the principal investigators of the awarded consortia among the participating countries.

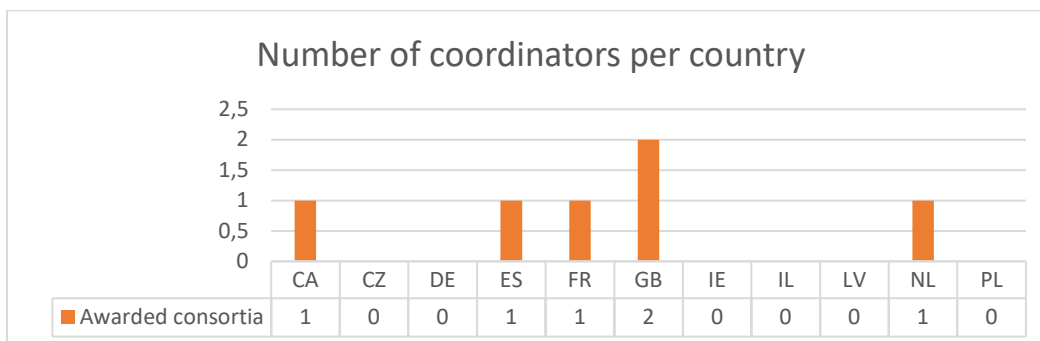


Figure 3: Distribution of the coordinators of the awarded consortia among the participating countries.

Appendix I shows similar charts with the distribution of the awarded coordinators and principal investigators according to funding agency they applied to. In addition, the distributions of coordinators and principal investigators in the proposals reviewed by the CSC vs awarded consortia are shown in appendix I.

A total of 7 collaborators applied within the proposals reviewed by the CSC, about half of them were from non-participating countries: Australia, Italy and Sweden. In the awarded consortia, only one collaborator from Australia was left (see figure 4).

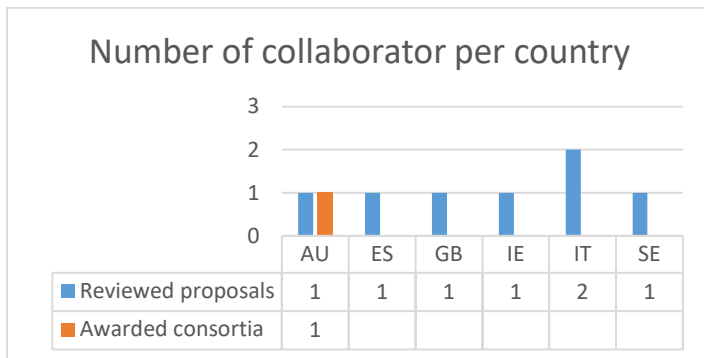


Figure 4: Distribution of collaborators; only countries with collaborators in the proposal are included.

3.2 Distribution female vs male

An equal division between male and female coordinators is found in the reviewed proposals (19 male vs 18 female). Germany, the Netherlands, Spain, Latvia and Ireland have more male coordinators, in contrast to France and the United Kingdom who have more female coordinators in the reviewed proposals. Interestingly, in the awarded consortia only females are coordinating the projects (0 male vs 6 female) and the equal division is lost (see figure 5).

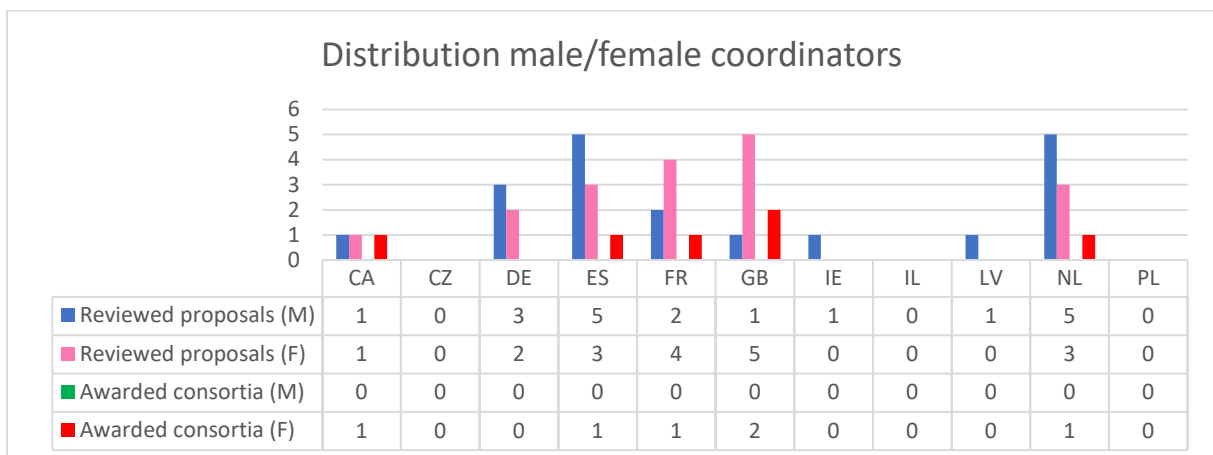


Figure 5: Male/female distribution of coordinators

Most participating countries show a higher number of male principal investigators, only France, the Netherlands and Poland have more female principal investigators. Overall the distribution is not equal, the proposals consist of higher number of male principal investigators (91 males vs 69 females). Contrastingly, the rate of success of female PIs is higher (11 male vs 17 female) (see figure 6).

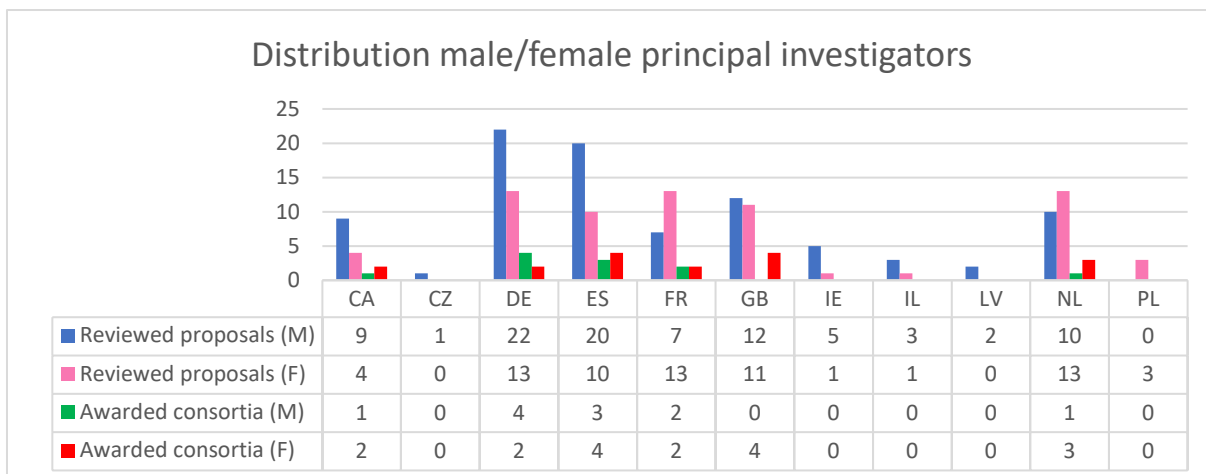


Figure 6: Male/female distribution of principal investigators

3.3 Budget

Figure 7 shows the budgetary information of the call. The German research teams requested the highest budget, which is not surprising, as Germany also participates with the highest budget of 2 million euro. Three funding organisations have raised additional budget, of a total of 0,64 M€ in order to fund more projects. Appendix II shows the committed and awarded budget per funding agency. In appendix II also the project costs as described in the reviewed proposals, and the project costs of the awarded consortia can be found.

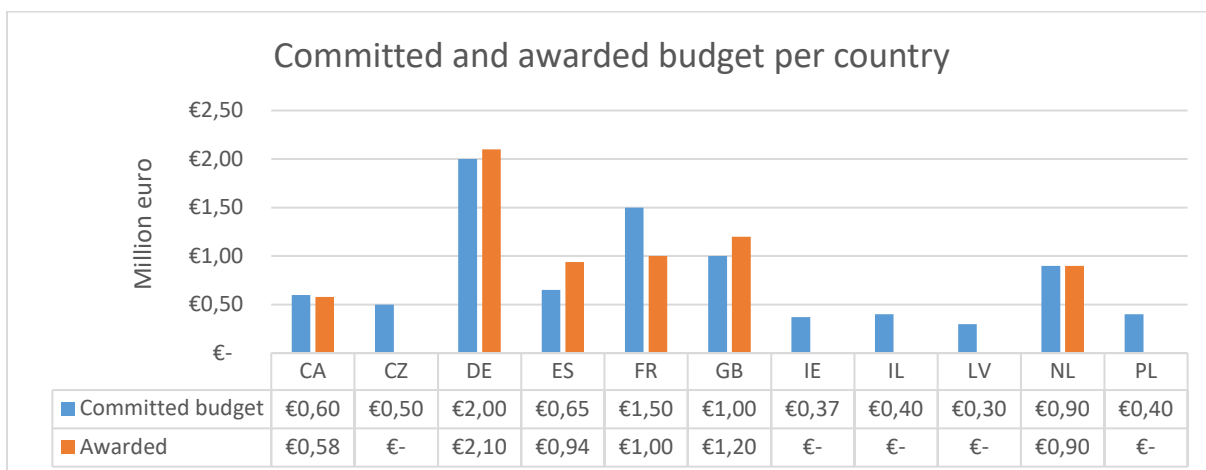


Figure 7: Committed and awarded budget of each participating country.

The total committed budget of all countries was 4,6 times oversubscribed in the reviewed proposals (see table 2). In total 80% of the committed budget will be allocated to the funded projects.

Table 2: Total committed budget and requested budget including oversubscription factor per call stage.

	Total budget in €	Oversubscription factor
Committed budget	€ 8.620.000	1,0
Reviewed proposals	€ 39.469.900	4,6
Awarded consortia	€ 6.701.913	0,8

4. Awarded proposals

In total 6 projects were awarded in the Joint Funding Action on “Nutrition & the Epigenome”. The total requested budget is 6,7 million euros. The projects started in 2019 and will run for a period of 3 years.

4.1 Organization types

The research teams are classified by organization type: university, university medical centre (UMC), research Institute, small-medium enterprise (SME), big industry and non-governmental organization (NGO). No SMEs, big industry or NGOs were involved in this call. A total of 12 universities, 10 research institutes and 7 UMCs is involved in this call. Most coordinators are from research institutes; while most partners are from universities (see Figure 8).

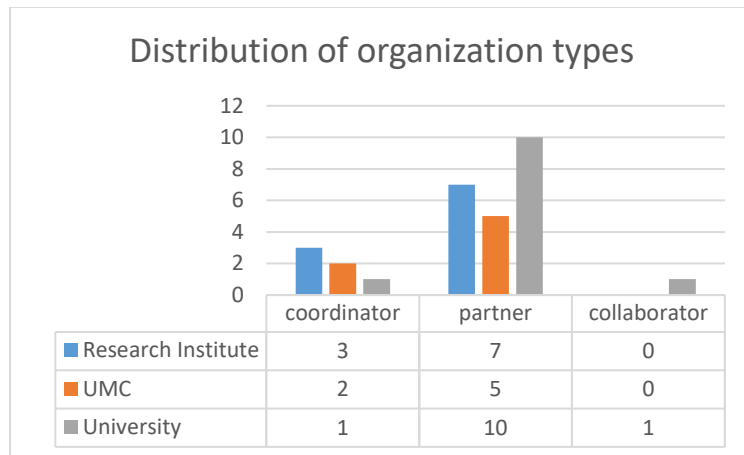


Figure 8: Distribution of organization types in awarded projects.

4.2 Topics

From the 6 awarded proposals, four projects are aiming to identify epigenetic changes involved in the development of metabolic diseases. Two projects focus on metabolic syndrome as a whole and plan to establish cause-and-effect relationships between diet, the epigenome and metabolic health. The other two projects have a more specific focus. One will specifically focus on glycaemic health (glucose metabolism) and type 2 diabetes, the other one on obesity.

Two projects have a separate focus. The focus of one project is an intervention against food allergies through use of prebiotics, and underlying epigenetic mechanisms in immune regulation. The other project focuses on cognitive health and decline. Epigenetic mechanisms may mediate the link between folate and vitamin B on brain function (see figure 9).

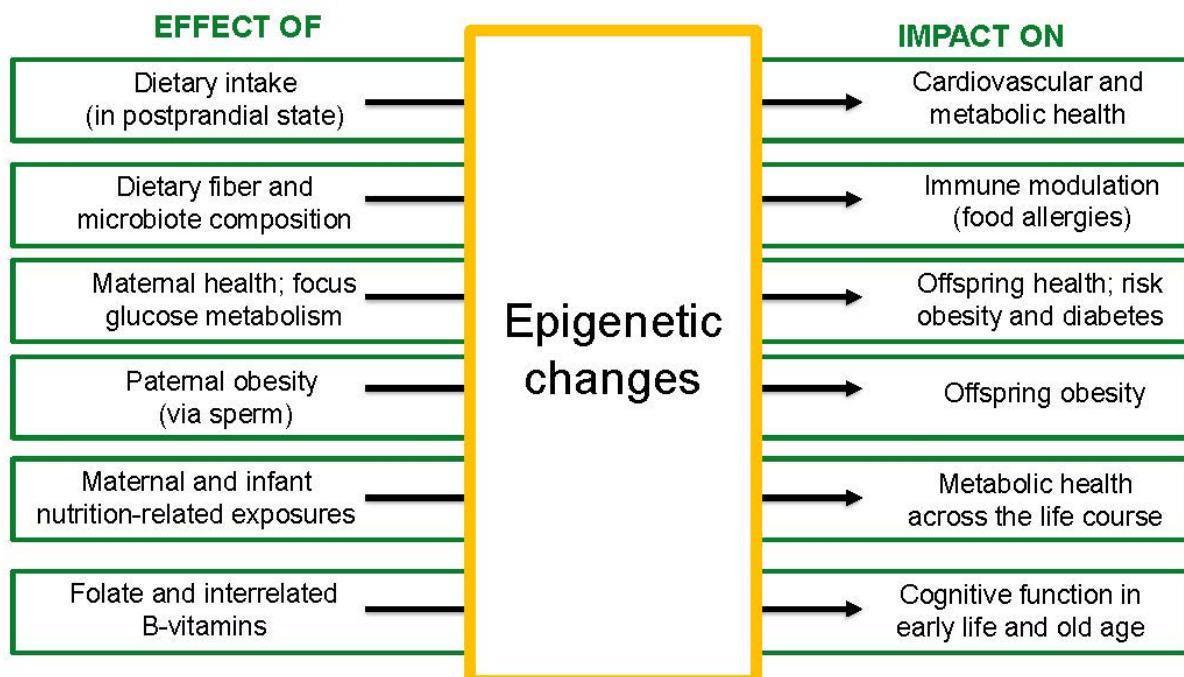


Figure 9: research focus of the awarded consortia.

The relationship between mothers and their offspring, and the influence of maternal determinants on the offspring during pregnancy and later in life will be addressed by three projects. However, one project specifically focusses on fathers, to investigate if they can transmit epigenetic changes to the next generation as well.

Modifiable lifestyle factors that could be involved in epigenetic regulation are addressed by three projects. Two of them specifically mention physical activity as modifiable factor. In two projects the role of the microbiome will be investigated, in relation to food allergies and metabolic syndrome, respectively. Only one projects will perform an intervention study, the other projects will use data from large cohort studies and/or finished intervention studies.

4.3 Stakeholders

Most projects aim to improve health policies and nutritional recommendations to prevent metabolic diseases, cognitive decline and food allergies. One project focusses on personalized nutrition strategies, and one project aims to discover new biomarkers and therapeutic targets.

Important stakeholders for the dissemination of project results are the scientific community, the food industry, public health policy makers, health care professionals, patient organizations and the public. The consortia will seek to build on existing national and international networks for dissemination of the results. In some cases stakeholders are already included in the consortium, for example the World Health Organization, a Canadian network for evidence-based program and policy recommendations (HELP) and a Dutch municipality partnered with a cohort study. Dissemination of project results to the scientific community will lead to knowledge transfer and discussion. Some projects already involved the food industry, possible leading to new food products.

Summaries with more specific information per project are published on the [JPI HDHL website](#).

Appendix I: Principal investigators, coordinators and collaborators

Distribution among funding agencies

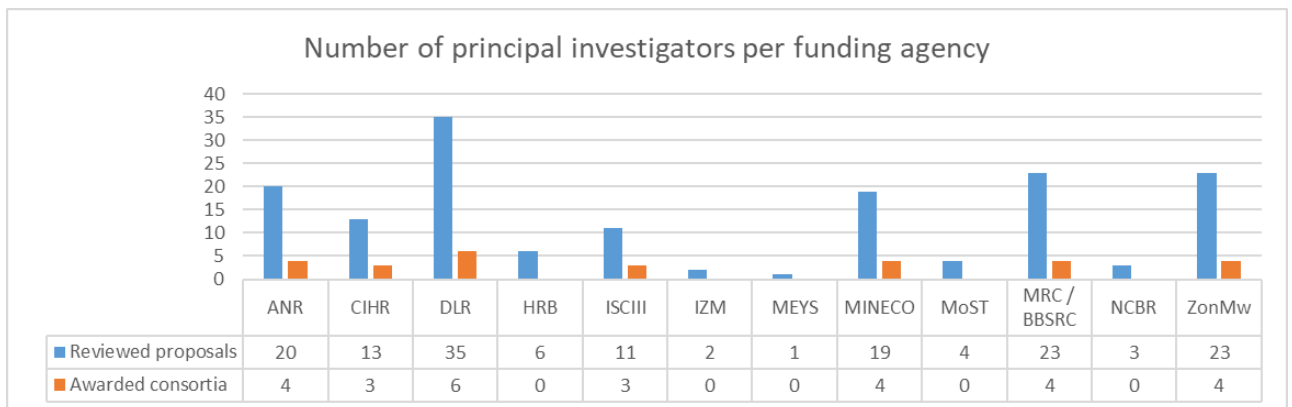


Figure 10: Distribution of the principal investigators among the participating funding agencies.

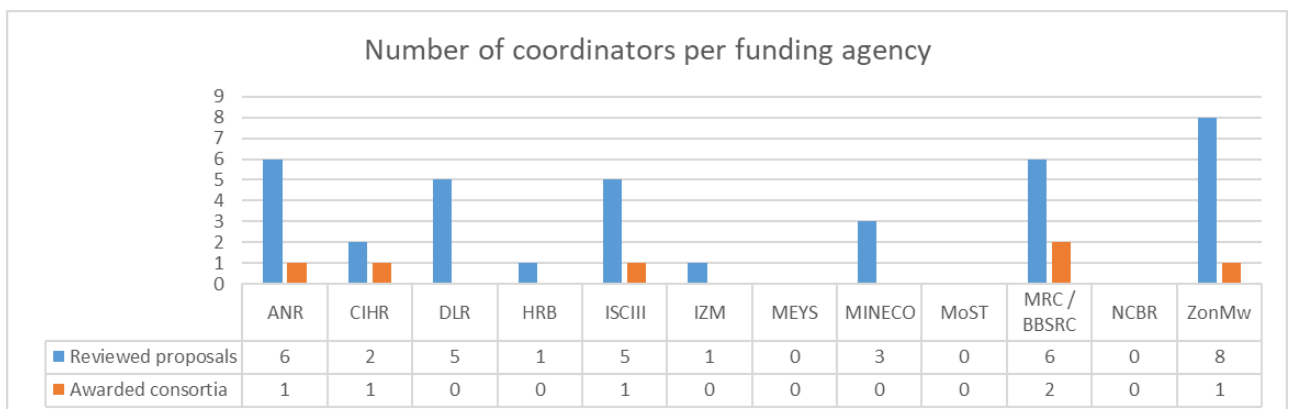


Figure 11: Distribution of the coordinators among the participating funding agencies.

Distribution in both call stages

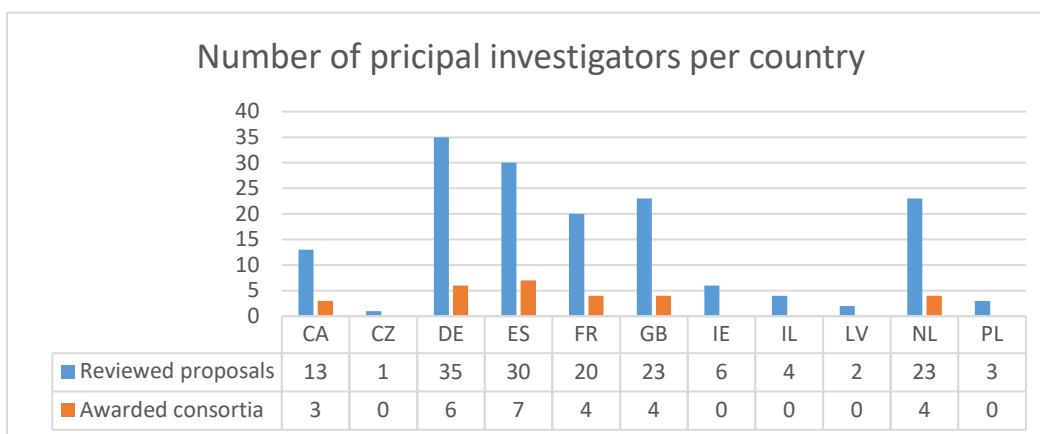


Figure 12: Distribution of the principal investigators among the participating countries.

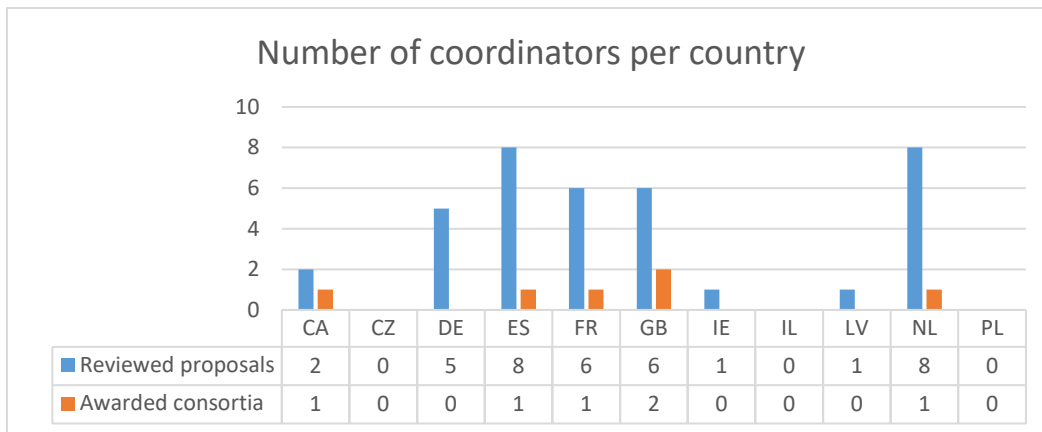


Figure 13: Distribution of the coordinators among the participating countries.

Appendix II: Budget

Committed and award budget per funding agency

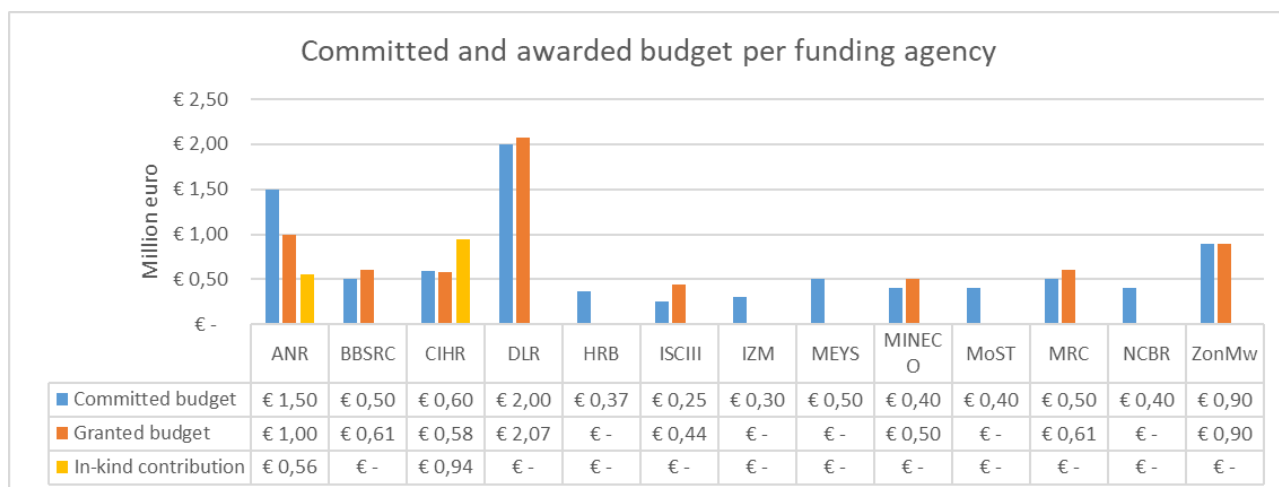


Figure 14: Committed and awarded budget of each participating funding agency.

Project costs of the reviewed proposals

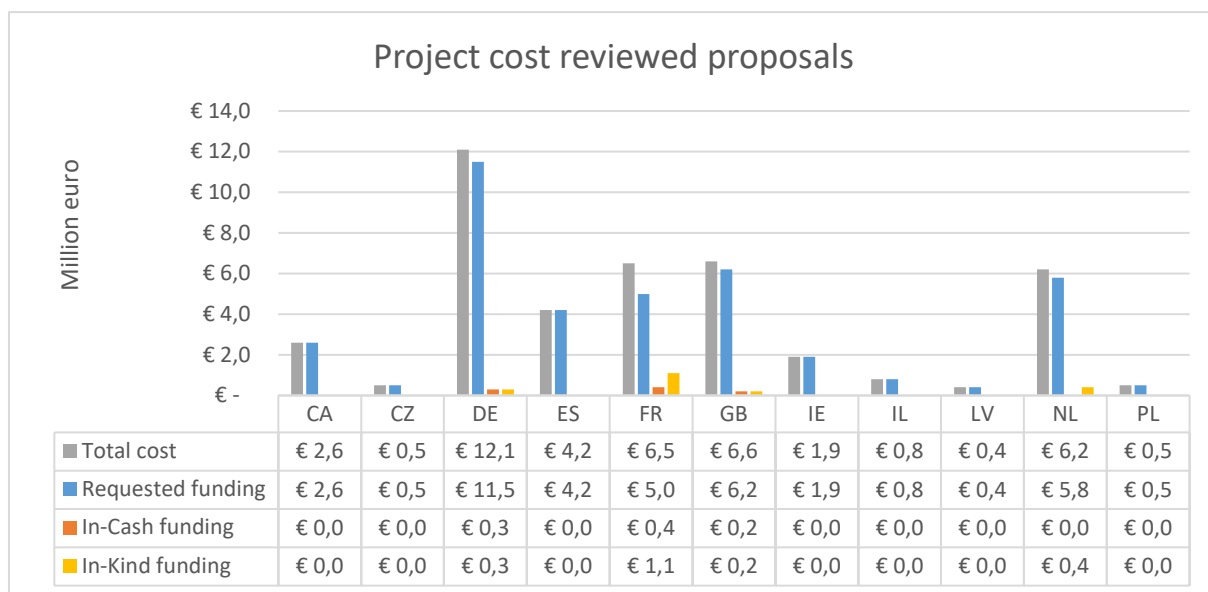


Figure 15: Total project cost separated into requested funding, in-cash funding and in-kind funding of the reviewed proposals.

Project costs of the awarded consortia

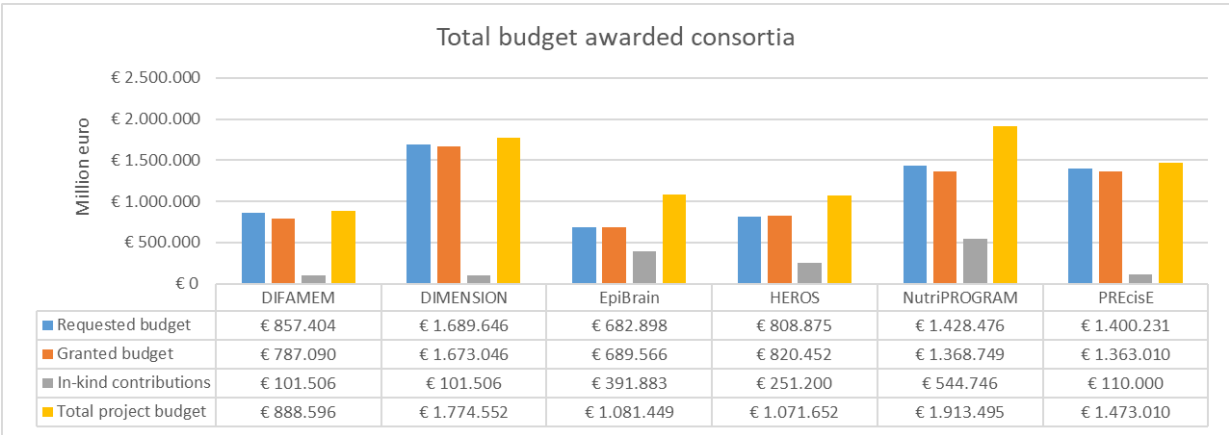


Figure 16: Total project costs of the awarded consortia separated into requested funding, granted budget and in-kind contribution.