



Survey of the different institutional funding mechanisms

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Short abstract: Future Sky Safety is a Joint Research Programme (JRP) on Safety, initiated by EREA, the association of European Research Establishments in Aeronautics. The Programme contains two streams of activities: 1) coordination of the safety research programmes of the EREA institutes and 2) cooperative research projects on European safety priorities. This deliverable is produced by the WP1 “Coordination of institutionally funded safety research”.

The main objective is to create a comparable overview over institutional funding mechanisms available at research establishments participating at Future Sky Safety.

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Acronyms

Acronym	Definition
RE	research establishment
EREA	association of European Research Establishments in Aeronautics
CEIIA	Centre for Excellence and Innovation in the Automotive Industry (PRT)
CIRA	Italian Aerospace Research Centre
CSEM	Swiss Center for Electronics and Microtechnology
DLR	German Aerospace Center
INCAS	National Institute of Aerospace Research “ELIE CARAFOLI” (Romania)
INTA	National Institute for Aerospace Technology (Spain)
NLR	Netherlands Aerospace Centre
ONERA	French national aerospace research center
VZLU	Aeronautical Research and Test Establishment (Czech Republic)

EXECUTIVE SUMMARY

Problem Area

Public and private research organizations in each nation receive institutional funding for carrying out research aligned along national aims of European states. At the present time, there is a lack of knowledge regarding mechanisms and time frames of institutional funding instruments. Having such information distributed across European research centres will help to improve the efficiency and effectivity of institutionally funded research within the aviation research centres.

Description of Work

Details about national institutional funding mechanisms were compiled by means of a survey. Based on the survey, an analysis was conducted to find opportunities for a better coordination of research programmes.

Results & Conclusions

The major result is a comparison of institutional funding mechanisms, including both details and timeline. A common definition of institutional funding was established. Three major different kinds of funding mechanisms were identified. Conclusions were drawn for the coordination of institutionally funded research activities.

Applicability

The results of the survey shown here will be first distributed across participating research organizations in order to create a higher degree of visibility and transparency. This overview will help to better understand national funding mechanisms of European research establishments and financial involvement of national bodies in the (aviation safety) research. This knowledge should help to prioritize and to coordinate research activities as intended by the project.

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1 INTRODUCTION

1.1. The Programme

Flight Path 2050 aims to achieve the highest levels of safety to ensure that passengers and freight as well as the air transport system and its infrastructure are protected. To support these goals, a Joint Research Initiative (JRI) for aviation (Future Sky) with a Joint Research Programme (JRP) on safety was started, including coordination of safety research conducted under the institutional programs of the European research establishments. The JRP on safety (Future Sky Safety), established under coordination of the Association of European Research Establishments in Aeronautics (EREA), is built on the relevant European safety priorities as brought forward in Flightpath 2050 and the European Aviation Safety Plan.

The program is structured around four main themes with each theme consisting of a small set of projects. Theme 1 (New solutions for today's accidents) aims for breakthrough research with the purpose of enabling direct, specific, significant risk reduction for the two main accident categories. Theme 2 (Strengthening the capability to manage risk) conducts research on processes and technologies to enable the aviation system actors to achieve near-total control over the safety risk in the air transport system. Theme 3 (Building ultra-resilient systems and operators) conducts research on the improvement of organizations, systems and the human operator with the specific aim to improve safety performance under unanticipated circumstances. Theme 4 (Building ultra-resilient vehicles), aims at reducing the effect of external hazards on the aerial vehicle integrity, as well as improving the safety of the cabin environment. Phase 1 of the program will address five important safety priorities focused on these themes. The project P1 "Coordination of institutionally funded safety research" specifically addresses the coordination of safety research among the participating EREA partners.

1.2. Project context

An important part of the Future Sky Safety Programme is to enhance the coordination of institutionally funded safety research between EREA establishments in order to leverage the invested EU funding by a more efficient and effective use of resources.

To improve coordination, the specific approaches and procedures of the research centres have to be taken into account with regard to the definition of institutional programmes including both the timing and the available funding. Accordingly, this initial survey describes the different institutional funding mechanisms of the participating EREA research establishments (REs) as well as the associated procedures and calendars for their definition.

Below definitions will be used in the following:

- **Information:** High level information on the activities carried out in the RE.
- **Results:** Technical outcomes of the research activities.
- **Project:** A coordinated set of research/technical tasks assembled to achieve a precise goal with a budget, a time schedule, a work breakdown structure, deliverables and milestones.
- **Programme:** A set of activities (studies, projects, PhDs and other activities) concurring to the achievement of a high level goal.
- **Awareness:** Organisations share information on their activities but there is no action resulting from the information exchange.
- **Coordination:** Activities of the REs, although carried out separately, are harmonised so that overlap is avoided. Instead, synergies or complementarity are created between the REs. However, there is no exchange of results.
- **Cooperation:** At least two REs work together on a common project, with exchange of results and possibly some interdependency between the tasks carried out by each RE.

1.3. Objectives

The objective is to perform a survey of the individual funding mechanisms of EREA institutes in Future Sky Safety. This study provides information on the procedure and time scaling of the institutional funding in the different countries, necessary for coordination of the activities funded by these sources.

1.4. Definition of institutional funding

“Institutional funding” is defined as funding fulfilling the following criteria:

- The funding is subsidized by the state and/or public.
- The annual volume of the funding has a high reliability.
- There is a low degree of competition for the funding.
- There is a high flexibility regarding the research content.

The degree of fulfilment of these criteria varies significantly among the REs participating in Future Sky Safety. More information is given in the conclusions section (see section 5).

1.5. Approach

All participating REs are asked to provide three pieces of information:

1. A detailed description of their institutional funding mechanisms in form of a survey table (see below Table 1);
2. a brief description of their institutional funding mechanisms in prose (see section 3);
3. a chart of the activity planning and approval procedure (result see below Table 2).

The description in prose is supposed to complement the survey table and fill possible gaps in understanding. These gaps might arise when reading the table as a consequence of the different rules and approaches in each RE. The table with information on the planning procedure is supposed to identify yearly timeslots in the REs' planning which are appropriate to define common projects.

For this purpose, the annual planning procedure was simplified into three single steps:

1. Project ideas plus rough budget and planning.
2. Decision on go/no-go for a project/activity.
3. Detailed planning.

1.6. Description of the survey table

For each RE every specific funding source is described in a dedicated column. The survey table is split into two parts: The upper part "Program/Call" describes the global funding received by the RE from the given funding source and how it is allocated to the organization. Depending on the RE, this funding might be received either as a grant, possibly associated to a given multi-year global research program or as projects funding through answers to a call.

The bottom part "Project/Activity", describes how the global funding is used to fund specific projects within the program. This split was introduced due to the observation that at least some of the REs follow a 'nested mechanism' of projects within a larger program. Some challenges in the description arise from the fact that not all participating REs have this kind of 'nested mechanism'. Furthermore, even those REs with a nested mechanism might differ strongly in the way it is implemented. In brief, the upper part focuses on describing the "program lifecycle", the lower part on the "project lifecycle".

Program / Call	Funding source	
	Executing agency (if applicable)	
	Type of funding mechanism	
	Objectives specification	Body in charge for setting and definition of research goals
		Timeframe
	Funding period	Starting date
		Duration
		Current period
	Volume per year	For entire research organization
		For aviation research
For safety research		
Flexibility	Thematic flexibility	
	Cost type flexibility (e.g. personnel, consumables, invest, ...)	
Project / Activity	Typical project	Duration
		Volume
	Application	Recipient
		Form
		Deadline
		Lead time (start of application preparation)
		Further restrictions (e.g. consortia needed, ...)
		Potential competitors
	Evaluation	Evaluators (e.g. ministry, independent experts, ...)
		Evaluation procedure (e.g. remote evaluation, hearings, ...)
		Timeline
	Periodic reporting	Recipient
		Form
		Reporting period
		Deadline
	Review by end of project	Reviewer (e.g. ministry, independent experts, ...)
		Form
		Timeline

Table 1: Survey table on institutional funding mechanisms

In the upper part “Program/Call” the table cells are defined as follows:

- “Funding Source” indicates the body which provides the subsidies to the RE.
- “Executing Agency” indicates the body which distributes the money on behalf of the funding source in case the executive agency differs from the funding source.
- “Type of funding mechanism” indicates whether the funding is program or project based.
- “Objectives specification” is concerned with the definition of themes, topics and aims for which the funding is supposed to be used. This can be on a rather general level in the case of long-term programs. In case of calls this would be the call topics.
- “Body in charge for setting and definition of research goals” indicates who makes this specification. “Timeframe” indicates for what amount of time the decisions are valid before they are reviewed. “Funding period” is self-explanatory.
- “Volume per year” indicates the funding volume per year. This might be for a specific year, but it might also indicate annual volumes, in other words volumes which are roughly the same for every year. The three subcategories are
 - “For entire research organization” which indicates the total research funding of an RE. This does not include the institutional funding provided for research infrastructures.
 - “For aviation research” indicates the budget specifically allocated for aviation.
 - “For safety research” indicates the budget specifically used for (aviation) safety research.

This distinction is made as some REs do have a budget specifically labelled as “safety research”. However, most REs rather do safety research as part of their projects without that label. In cases where exact figures were not available rough estimates were given.

- “Flexibility” indicates how free the RE is in choosing its research topics and in allocating its costs. There is a distinction between the flexibility in using already existing funding and the flexibility during the (project) proposal process. For instance, some REs might have zero flexibility after receiving their funding, but are totally free during the proposal process.
- For “Cost type flexibility”, the answer “up to 100%” is supposed to indicate a theoretical flexibility which might be constrained by limiting conditions in reality. A simple example would be that shifting all personnel costs into consumables might be theoretically possible. However, that would never happen in reality as then there would be no personnel to do the research.

The bottom part of the table “Project / Activity” is mostly self-explanatory:

- “Typical project duration” and “Typical project volume” are supposed to indicate the common quantities for time and money of a project. Exceptions to the rule depending on the content of the project might exist.

2 SURVEY FEEDBACK

Feedback was received from all participating organizations (in alphabetical order): CEIIA, CIRA, CSEM, DLR, INCAS, INTA, NLR, ONERA, VZLU.

The survey tables are split into the upper “Program/Call” and the lower “Project/activity” parts which each receive one page. All funding streams for one particular RE are displayed on the same page. If possible, more than one RE is displayed on one page. Therefore, the order is: CEIIA, CIRA, CSEM; DLR; INCAS; INTA; NLR; ONERA, VZLU.

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		CEIIA	CIRA	CSEM	
Program / Call	Funding source	European regional development funds	MIUR – Ministry of Research and Education	The State Secretariat for Education, Research and Innovation (SERI) and most of the cantons in which CSEM is located	
	Executing agency (if applicable)	National Innovation Agency	Direct funding	Direct funding	
	Type of funding mechanism	2 to 4 years project/program	Three years Strategic Programming	4 year-programme negotiated with the State Secretariat for Education, Research and Innovation (SERI) of the Swiss Confederation . The negotiation with the cantons depend on the canton (it is not the same in all of them)	
	Objectives specification	Body in charge for setting and definition of research goals	No objectives specification because this is an open call.	CIRA is proposing new planning and MIUR has to approve and monitor achievements	CSEM board of directors (whose members belong both to industry and academia) together with the CSEM scientific committee
		Timeframe	-	Three years strategic planning Yearly budget detailed planning	In a yearly basis
	Funding period	Starting date	01.01.2015	1st of January every year	1st of January every year
		Duration	5 years	Three years Budget 1 Year detailed planning and resource usage	1 year funding period, 4 years planning
		Current period	01-01-2015 to 31-12-2019	Planning 2015-2017	01.01.2015 - 31.12.2015. Planning period: 01.01.2012 - 31.12.2016
	Volume per year	For entire research organization	10,0 M	Yearly funding ~ 20 M€ Some yearly funding is also used from Bulk funding (480M€ at the foundation of CIRA; these are limited to infrastructure investments) ; the amount is depending on the planning.	SERI funding: 25.3M€ per year (this amount may vary in function of the year). Cantons funding (2014): 13.4M€ per year (this amount may vary in function of the year)
		For aviation research	-	Not specified (to be agreed during planning)	No specific budget is devoted to a market. It depends on the opportunities
For safety research		-	Not specified (to be agreed during planning)	No specific budget is devoted to a market. It depends on the opportunities	
Flexibility	Thematic flexibility	100% Flexibility for proposals. No flexibility after funding.	Themes of PRORA (Italian Aerospace Research Program) were identified at the early stages and then periodically reviewed in agreement with MIUR	100%	
	Cost type flexibility (e.g. personnel, consumables, invest, ...)	Max. 30% subcontracting, personnel, consumables, invest (depreciation during project)	up to 100%	up to 100%	

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		CEIIA	CIRA	CSEM	
Project / Activity	Typical project	Duration	2 to 4 years	3 to 5 years	2 years
		Volume	EUR 1 to 4 M	EUR 300k to EUR 3M per year	EUR 0.5M to 2M
	Application	Recipient	National Innovation Agency (ANI)	MIUR	CSEM board of directors
		Form	On-line form	Written document (250 pages for 2015-2017)	Written documents
		Deadline	31.12.2018	Yearly in November	31.12.2015 (in a yearly basis)
		Lead time (start of application preparation)	01.01.2015	Yearly in September	3 months before the beginning of the year
		Further restrictions (e.g. consortia needed, ...)	Consortium	N.A.	No
		Potential competitors	Call without theme. Competition with other economic/industrial sectors	None	None
	Evaluation	Evaluators (e.g. ministry, independent experts, ...)	ANI + Independent evaluators	Committee of experts nominated by MIUR	Swiss confederation
		Evaluation procedure (e.g. remote evaluation, hearings, ...)	Review of proposal + Hearing in case of rejected proposal	review of proposal, hearings if requested, evaluation report	Evaluation report and its presentation
		Timeline	31.12.2019	every six month	2 days in October of every year
	Periodic reporting	Recipient	ANI	MIUR	CSEM board of directors
		Form	Written report + funding request	Written document describing activities and Administrative documents	Written report and its presentation
		Reporting period	Project semester	Six months	Calendar year
		Deadline	31.12.2019	Calendar semesters	30.09.2015
	Review by end of project	Reviewer (e.g. ministry, independent experts, ...)	ANI+ Independent Experts	Committee of experts nominated by MIUR, and "Corte dei Conti" (e.g. Independent Court verifying accounting of public administrative bodies). The monitoring is made on the full PRORA achievements	CSEM board of directors
		Form	Written report + 'In Loco' visit	Written report and Administrative documents	Written report
		Timeline	31.12.2022	Calendar Year	Some days in October

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		DLR 1: scientific focus non-military research	DLR 2: scientific focus military research	
Program / Call	Funding source	Federal Ministry for Economic Affairs and Energy (90%) and German federal states (10%)	Federal Ministry of Defense	
	Executing agency (if applicable)	Direct funding	Direct funding	
	Type of funding mechanism	5 years program, guidelines for technical / scientific research content	permanent annual allocation	
	Objectives specification	Body in charge for setting and definition of research goals	Funding bodies committee (Federal Ministry for Economic Affairs and Energy, federal states, Federal Ministry of Education and Research)	Federal Ministry of Defense
		Timeframe	Matching planning period (5-year timeframe)	Matching funding period
	Funding period	Starting date	program period: 01.01. every 5 years project funding period: 1.1. every year	1.1.
		Duration	program period: 5 years project funding period: 1 year	1 year
		Current period	program period: 1.1.2014-31.12.2018 project funding period: 1.1.2015-31.12.2015 (calendar year)	1.1.2015 – 31.12.2015
	Volume per year	For entire research organization	340 M€	25 Mi
		For aviation research	111 M€	25 M€
		For safety research	no dedicated budget for safety research; rough estimate 5% of total budget	no dedicated budget for safety
	Flexibility	Thematic flexibility	20% free, up to 100% after negotiation	none
		Cost type flexibility (e.g. personnel, consumables, invest, ...)	up to 100%	limited

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		DLR 1: scientific focus non-military research		DLR 2: scientific focus military research		
Project / Activity	Typical project	Duration	3 to 4 years	3 to 5 years		
		Volume	EUR 3 to 15 M	EUR 1 to 15 M		
	Application	Recipient	DLR board member aeronautics for annual budget planning	Federal Ministry of Defense		
		Form	abstract of project idea for single projects (onepager)	Written project proposal		
		Deadline	end of April (year N-1) for annual budget planning in year N	1 month before beginning of the funding period		
		Lead time (start of application preparation)	01.01. of year N-1 if project start is in year N	approx. 6 month before beginning of funding period		
		Further restrictions (e.g. consortia needed, ...)	Political objectives given by the funding bodies committee must be respected	confidentiality		
		Potential competitors	DLR internal competition between institutes	Consortia assignment at the discretion of Federal Ministry of Defense		
	Evaluation	Evaluators (e.g. ministry, independent experts, ...)	DLR board member aeronautics together with programme directorate	Federal Ministry of Defense		
		Evaluation procedure (e.g. remote evaluation, hearings, ...)	review of onepager and presentation	-		
		Timeline	one-day meeting in May of year N-1 if project start in year N	1 month before beginning of funding period		
	Periodic reporting	Recipient	Programme directorate	Federal Ministry of Defense		
		Form	quartal reporting	Written report		
		Reporting period	three months (quarter)	Annually		
		Deadline	one month after end of quarter	31.3. of subsequent year		
	Review by end of project	Reviewer (e.g. ministry, independent experts, ...)	Programme directorate	Federal Ministry of Defense		
		Form	written report	Written report		
		Timeline	three months after end of project	31.3. of subsequent year		

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		INCAS 1	INCAS 2	INCAS 3	INCAS 4	
Program / Call	Funding source	MECS/ROSA-STAR (Ministry of Education and Scientific Research / Romanian Space Agency)	MECS/UEFISCDI-PNII (Ministry of Education and Scientific Research / Executive Agency for Higher Education and Research University)	MECS/UEFISCDI (Ministry of Education and Scientific Research / Executive Agency for Higher Education and Research University)	MECS/ANCS (Ministry of Education and Scientific Research / National Agency for Scientific Research)	
	Executing agency (if applicable)	Romanian Space Agency (ROSA)	Executive Agency for Higher Education and Research University (UEFISCDI)	Executive Agency for Higher Education and Research University (UEFISCDI)	National Agency for Scientific Research (ANCS)	
	Type of funding mechanism	3-year projects based on open calls	3-year projects based on open calls	co - funding (money dedicated for participation in EU projects)	3-year projects based on open calls	
	Objectives specification	Body in charge for setting and definition of research goals	MECS/ROSA-STAR	MECS/UEFISCDI-PNII	MECS/UEFISCDI	MECS/ANCS according with INCAS specific topics and MECS/ANCS request
		Timeframe	connected to funding period: objectives specification done before the project contract starts; however, some freedom in how to conduct the research	connected to funding period: objectives specification done before the project contract starts; however, some freedom in how to conduct the research	connected to funding period: objectives specification done before the project contract starts; however, some freedom in how to conduct the research	connected to funding period: objectives specification done before the project contract starts; however, some freedom in how to conduct the research
	Funding period	Starting date	Contract INCAS/date: 2/2012, 10/2012, 36/2012, 41/2012, 57/ 2013, 25/2012, 38/2012; contracts are awarded through competitive calls; the starting date coincides with the contract start.	Contract INCAS/date: 92/2012, 168/2012, 289/2014, 309/2014, 264/2014, 255/2014; contracts are awarded through competitive calls; the starting date coincides with the contract start.	Contract INCAS/date: JTI 01/2010 SFWA, 196 EU /2012 HYDRA, 204 EU/2012 ESPOSA, 219 EU/2013 HAIC, 232 EU/2013 TheBARCode, 245 EU/2013 ATLAS-II, 257 EU/2014 AFLoNext; contracts are awarded through competitive calls; the starting date coincides with the contract start.	Contract INCAS/date: 17N/PN-09-17-01-07, PN-09-17-05-04, PN-09-17-06-06, PN-09-17-06-07, PN-09-17-07-03 / 02.03.2009; contracts are awarded through competitive calls; the starting date coincides with the contract start.
		Duration	More than 5 years planning (5 years planning/project period; but funding body can stop funding for one or two years, therefore the projects can last longer than 5 years)	More than 5 years planning (5 years planning/project period; but funding body can stop funding for one or two years, therefore the projects can last longer than 5 years)	More than 5 years planning (5 years planning/project period; but funding body can stop funding for one or two years, therefore the projects can last longer than 5 years)	More than 6 years planning/project period (similar conditions to INCAS 1 to 3)very flexible programme)
		Current period	1.1.2015-31.12.2015	1.1.2015-31.12.2015	1.1.2015-31.12.2015	1.1.2015-31.12.2015
	Volume per year	For entire research organization	13.2 M€ combined for all funding streams	13.2 M€ combined for all funding streams	13.2 M€ combined for all funding streams	13.2 M€ combined for all funding streams
		For aviation research	0.281 M€ for this specific type of funding source in 2015	0.16 M€ for this specific type of funding source in 2015	0.40 M€ for this type of funding source in 2015	2.54 M€ for this type of funding source up to September 2015
		For safety research	no dedicated volume for safety research	no dedicated volume for safety research	no dedicated volume for safety research	It is possible to develop specific safety research activities beginning with 2015, according with the contractual time schedule; in December 2015 new activities related to safety research can be proposed for 2016
	Flexibility	Thematic flexibility	no thematic flexibility because INCAS is bound by research contract	no thematic flexibility because INCAS is bound by research contract	no general thematic flexibility because INCAS is bound by research contract; however, maybe some flexibility in the construction of the content of the work packages inside the signed contract	50% free up to 100% after specific demands
		Cost type flexibility (e.g. personnel, consumables, invest, ...)	up to 100%	up to 100%	up to 100%	up to 100%

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		INCAS 1	INCAS 2	INCAS 3	INCAS 4	
Project / Activity	Typical project	Duration	3 years	3 years	4 years (up to 2015)	5 years
		Volume	0.5ME / project	0.4 ME / project	0.15 ME / project	0.5 ME /project / year
	Application	Recipient	MECS/ROSA-STAR	MECS/UEFISCDI-PNII	MECS/UEFISCDI	MECS/ANCS
		Form	Written documents	Written documents	Written documents based on UE/FP7-ESA proposal	Written documents
		Deadline	Same deadline as for the project call (see contract numbers above). According to each specific contract: 2012, 2013. There is no annual rhythm!	Same deadline as for the project call (see contract numbers above). According to each specific contract: 2012, 2014 There is no annual rhythm!	Same deadline as for the project call (see contract numbers above). According to each specific contract: 2010, 2012, 2013, 2014. There is no annual rhythm!	Same deadline as for the project call (see contract numbers above): 2009 and updated due to specific topics
		Lead time (start of application preparation)	minimum 1 month, maximum 6 months depending on the project call; in the year of the project call: 2012 / 2013	minimum 1 month, maximum 6 months depending on the project call; in the year of the project call: 2012 / 2014	minimum 1 month, maximum 6 months depending on the project call; in the year of the project call: 20102014	minimum 1 month, maximum 6 months depending on the project call; in the year of the project call: 2009
		Further restrictions (e.g. consortia needed, ...)	no	no	no	no
		Potential competitors	none	none	none	none
	Evaluation	Evaluators (e.g. ministry, independent experts, ...)	Independent, selected by MECS/ROSA-STAR	Independent, selected by MECS/UEFISCDI	Independent, included in UE/FP7 procedure	MECS/ANCS
		Evaluation procedure (e.g. remote evaluation, hearings, ...)	Evaluation report	Evaluation report	Evaluation report	Evaluation report
		Timeline	Evaluation of the proposals to a call: 2012, 2013 (roughly 1 month)	Evaluation of the proposals to a call: 2012, 2014 (duration roughly one month)	Evaluation of the proposals to a call: 2010...2014 (duration roughly one month)	Evaluation of the proposals to a call: 2009 (duration roughly one month)
	Periodic reporting	Recipient	ROSA	MECS/UEFISCDI- PNII	MECS/UEFISCDI	MECS/ANCS
		Form	Reports, presentation of the experimental results	Report, presentation of the test experiment	Report	Report
		Reporting period	Calendar year	Calendar year	Calendar year	Calendar year
		Deadline	31.12.2015	31.12.2015	31.12.2015	31.12.2015
	Review by end of project	Reviewer (e.g. ministry, independent experts, ...)	ROSA	MECS/UEFISCDI- PNII	MECS/UEFISCDI	MECS/ANCS
		Form	Report for each contract	Report for each contract	Report for each contract	Report for each contract
		Timeline	End of the each contract	End of the each contract	End of the each contract	End of the each contract

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		INTA	
Program / Call	Funding source	Presupuestos Generales del Estado (Spanish Budget Act) - Through Ministry of Defence	
	Executing agency (if applicable)	direct funding	
	Type of funding mechanism	High level objectives and topics (e.g. safety research) are proposed by INTA Board base in INTA/Ministry of Defence to this Ministry and Ministry of Finance. The Spanish Budget Act is then drafted and submitted to approval by Spanish Congress. The Budget approved and assigned to INTA for all these high level topics is then, distributed by INTA to each defined project (e.g. icing)	
	Objectives specification	Body in charge for setting and definition of research goals	INTA Board / Spanish Ministry of Defence.
		Timeframe	Budget is assigned yearly (funding period is one year). A projection of five years is established for multiyear programs and revised in a year by year basis for each year approved budget.
	Funding period	Starting date	01.01.2015
		Duration	1 Year (Funding is assigned yearly based on INTA proposal for themes to research and work in. But for some disciplines, there is a multiyear planning which is notified prior to the beginning of the projects, and a proposed projection of fundings is proposed by INTA and set by the Government (although funding for these themes is assigned only year by year taking into account this projections, yearly, these projections are reviewed depending on the situation).)
		Current period	1.1.2015-31.12.2015
	Volume per year	For entire research organization	138 M€
		For aviation research	41 M€ (approx 30%)
		For safety research	% assigned yearly based on open and foreseen projects.
	Flexibility	Thematic flexibility	100% (INTA has flexibility in setting the interests in participation on different projects and is free to propose them to the Government for the preparation of the Presupuestos Generales del Estado (Spanish Budget Act, which are approved yearly by Spanish Congress). Once the Budgets are approved in terms of costs, flexibility should be none. To set it clearly: For project definition, interests, disciplines and thematics to be researched, INTA is the main actor, as it proposes which are going to be the themes and needs for them to the Government. Then, it is the Government/Ministries which decide on how much money goes for each theme, and once approved, these quantities should not be changed.)
		Cost type flexibility (e.g. personnel, consumables, invest, ...)	0% - Each <u>general</u> cost item (e.g. personnel for all INTA) is fixed in the applicable chapter of the budget. Nevertheless, inside each project, flexibility is allowed.

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		INTA	
Project / Activity	Typical project	Duration	5 years
		Volume	Typically , for a yearly project around 300 k€ For multiyear projects around 1 .500 k€
	Application	Recipient	Spanish Ministry of Defence.
		Form	Written document of goals and needs.
		Deadline	October/November 2014 (application shall be submitted in november of the year before of the funded year, the latest)
		Lead time (start of application preparation)	April 2014 (April year before the funded year)
		Further restrictions (e.g. consortia needed, ...)	no
		Potential competitors	none
	Evaluation	Evaluators (e.g. ministry, independent experts, ...)	INTA Board / Spanish Ministry of Defence.
		Evaluation procedure (e.g. remote evaluation, hearings, ...)	Yearly Evaluation Report
		Timeline	1.1.2015-31.12.2015
	Periodic reporting	Recipient	INTA
		Form	Annual Economic Report, Annual Results Report
		Reporting period	calendar year
		Deadline	Project dependant
	Review by end of project	Reviewer (e.g. ministry, independent experts, ...)	INTA Board / Spanish Ministry of Defence.
		Form	Written Results Report
		Timeline	End of each project

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		NLR Knowledge development in direct support of the government	NLR Long term knowledge development	
Program / Call	Funding source	Ministry of Economic Affairs, Ministry of Defence, Ministry of Infrastructure and the environment.	Ministry of Economic Affairs, Ministry of Defence, Ministry of Infrastructure and the environment.	
	Executing agency (if applicable)	Ministry of Economic Affairs, Ministry of Defence, Ministry of Infrastructure and the environment.	Ministry of Economic Affairs, Ministry of Defence, Ministry of Infrastructure and the environment.	
	Type of funding mechanism	Typical 4 to 5 year program with high level objectives negotiated between NLR and government, sometimes with input from various Dutch stakeholders. Annual workplan subject to approval from government.	Typical long term objectives which are presented to an NLR appointed independent advisory committee. NLR determines annual workplan.	
	Objectives specification	Body in charge for setting and definition of research goals	Ministry of Economic Affairs, Ministry of Defence, Ministry of Infrastructure and the environment.	NLR
		Timeframe	Multi year programs (4 to 5 years) with high level objectives. Annually a detailed workplan with project description is written.	Multi year programs (4 to 5 years) with high level objectives. Annually a detailed workplan with project description is written.
	Funding period	Starting date	Calendar year	Calendar year
		Duration	1 year	1 year
		Current period	1.1.2015-31.12.2015	1.1.2015-31.12.2015
	Volume per year	For entire research organization	8M€	8M€
		For aviation research	7M€	7M€
		For safety research	800k€ annually for a programme dedicated to safety, 700 k€ used for financing SESAR and EC. There are however more research programmes that work on relevant topics for safety	300k€ annually for a programme dedicated to safety, 200 k€ used for financing SESAR and EC. There are however more research programmes that work on relevant topics for safety
	Flexibility	Thematic flexibility	Per year the projects for the next year are defined, in close discussion with the Ministry. The projects need to fit in the high level objectives of the 4-year plan.	100%
		Cost type flexibility (e.g. personnel, consumables, invest, ...)	In principle intended to pay for manhours	In principle intended to pay for manhours

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		NLR Knowledge development in direct support of the government		NLR Long term knowledge development		
Project / Activity	Typical project	Duration	1 - 4 yr	1 - 4 yr		
		Volume	50k€/y - 200k€/y	50k€/y - 100k€/y		
	Application	Recipient	Ministry of Economic Affairs, Ministry of Defence, Ministry of Infrastructure and the environment.	Ministry of Economic Affairs, Ministry of Defence, Ministry of Infrastructure and the environment.		
		Form	Report	Report		
		Deadline	October	October		
		Lead time (start of application preparation)	June	August		
		Further restrictions (e.g. consortia needed, ...)	No consortium possible on this budget, however cooperation is encouraged	No consortium possible on this budget, however cooperation is encouraged		
		Potential competitors	None	None		
	Evaluation	Evaluators (e.g. ministry, independent experts, ...)	The content of the 4 year program is formed in close collaboration with the Ministry, hence no formal evaluation takes place.	Scientific committee, appointed by NLR.		
		Evaluation procedure (e.g. remote evaluation, hearings, ...)	Informal	2/yr meeting of the committees		
		Timeline	-	first quarter of the year		
	Periodic reporting	Recipient	Ministry of Economic Affairs, Ministry of Defence, Ministry of Infrastructure and the environment.			
		Form	Report			
		Reporting period	Every 3 months	Calendar year		
		Deadline	One month after the end of the quarter	End of January from the year following on the year in which the work was done		
	Review by end of project	Reviewer (e.g. ministry, independent experts, ...)	An annual report is presented to the Ministry. There are no external reviewers involved	No end of project reviews		
		Form	Report	--		
		Timeline	December - January -	--		

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		ONERA	VZLU	
Program / Call	Funding source	Ministry of Defense	Ministry of Industry and Trade	
	Executing agency (if applicable)	Direct funding	Direct funding	
	Type of funding mechanism	Institutional grant	Share of total national institutional funding according to quantity and quality of technical and scientific outputs/results.	
	Objectives specification	Body in charge for setting and definition of research goals	Internal Onera process (consultation structures exist with Ministries and industry)	Bottom-up process / VZLU Board of Directors
		Timeframe	One to four years	1 year period
	Funding period	Starting date	Calendar year	1.1.
		Duration	1 year	1 year
		Current period	01/01/2015-20/12/2015	01/01/2015-31/12/2015
	Volume per year	For entire research organization	101 M€	1.2 M€
		For aviation research	50 M€	0.6 M€
		For safety research	No dedicated budget for safety Safety currently represents roughly 5 M€/y	0.25 M€
	Flexibility	Thematic flexibility	Theoretically 100%, practically subject to operating constraints	50% free, 50% based on topics in previous period
		Cost type flexibility (e.g. personnel, consumables, invest, ...)	< 80%, in particular subject to operating constraints	100% free

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		ONERA	VZLU	
Project / Activity	Typical project	Duration	1 to 4 years	1 year
		Volume	100 k€/y to 1.2 M€/y	100 k€
	Application	Recipient	Onera General Scientific Directorate	R&D department - Ministry of Industry and Trade
		Form	Depends on research action type (40 pages for a multi-disciplinary research project)	Written document, up to 20 pages, for 1 year period
		Deadline	Depends on research action type: - 28 February year N-1 for research project - December year N-1 for PhD - end of year N-1 for one-off research actions	undefined: during last few years it was in different months. Concrete rules do not exist and we do it according to ministries appeal. It can be at the first quarter of the year as well as last one.
		Lead time (start of application preparation)	Depends on research action type: - second half of year N-2 for research project - June year N-1 for one-off research actions	undefined:It is the same case as for the application deadline. It can be whenever.
		Further restrictions (e.g. consortia needed, ...)	Internal research project can be open to external partners who can collaborate on their own budget. Co-funding possible for PhD.	No
		Potential competitors	Competition between the proposed projects within the limit of the available budget	Approx. 230 research organizations in the Czech Republic (incl. Academy of Sciences and Universities)
	Evaluation	Evaluators (e.g. ministry, independent experts, ...)	Onera General Scientific Directorate + Onera's expert depending of the type of research action	R&D department - Ministry of Industry and Trade
		Evaluation procedure (e.g. remote evaluation, hearings, ...)	Internal review process	review of proposal, presentation, hearings
		Timeline	March-June for internal projects	undefined:It is the same case as for the application deadline. It can be whenever.
	Periodic reporting	Recipient	Onera General Scientific Directorate for internal projects	R&D department - Ministry of Industry and Trade
		Form	Technical deliverables Yearly presentation for PhD	written report, approx. 20 pages, incl. technical presentations
		Reporting period	Calendar year for internal project	Calendar year
		Deadline	December of each year for internal project	31.1.
	Review by end of project	Reviewer (e.g. ministry, independent experts, ...)	ONERA General Scientific Directorate (+ eventually Project Scientific Committee)	R&D department - Ministry of Industry and Trade
		Form	Presentation	undefined: It is not standardized. Very often it is in form of HEARING.
		Timeline	End of action	In principle 31.5..

DLR

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3 DESCRIPTION OF MAIN FUNDING MECHANISMS

In this section an additional self-description of the research establishments' main funding mechanisms is provided. This section intends to give complementary information to the survey tables in order to close the gaps in understanding which might occur due to the different approaches and procedures of the REs.

3.1. CEIIA

CEIIA's funding mechanism is based on a scheme of 1/3 of private funding through private research/commercial projects supplied to private entities. The remaining 2/3 funding volume is obtained through competitive public research funded projects, from both national and European funding mechanisms.

3.2. CIRA

The Centro Italiano Ricerche Aerospaziali CIRA (Italian Aerospace Research Center) is a not-for-profit private company under the control of the Ministry of Education, University and Research. The shareholders include ASI (Italian Space Agency), the major Italian aerospace industries, the Regione Campania and the National Research Council CNR.

CIRA was founded in 1984, when the Ministry of Research initiated the National Aerospace Programme (PRORA) in order to support the Italian aerospace industries, authorities and universities with proper facilities, skills, competences and capabilities. The company became operative in 1986.

The Ministerial Decree 305/98 defines the discipline of PRO.RA and CIRA - restating what was established by Law n. 184 of 1989 – specifying its tools and modalities of implementation and forms of public participation.

Art. 1 of Decree 305/98 states the mission of “The National Programme for Aerospace Research (PRO.RA):

- to build, operate, maintain and upgrade large scale facilities and laboratories,
- to develop theoretical and experimental R&TD activities,
- to produce and exchange information,
- to educate and train personnel,
- to participate in European and international programmes.

According to article 4 paragraph 1 of the Decree 305/98 for the implementation of PRO.RA, 750 billion liras (about 480 M€) are allocated to CIRA; this funding is earmarked for infrastructure.

According to paragraph 2 of article 4 of the Decree 305/98, 40 billion liras (about 21M€) per year will be granted to CIRA to cover administrative costs and to support the R&TD activities. The funding coming from article 3 are dedicated to the implementation of PRORA to build, operate, maintain and upgrade large scale facilities and demonstrators (both ground and in flight) and laboratories.

3.3. CSEM

Every four years CSEM negotiates its contract with the State Secretariat for Education, Research and Innovation (SERI) of the Swiss Confederation, which corresponds to the biggest share of the CSEM institutional funding. During the negotiation the research guidelines are discussed with SERI. Regarding the cantonal funding, the negotiation with the cantons in which CSEM is established is not following the same timeline per canton.

The scientific and technical programmes are discussed and agreed on a yearly basis between the CSEM scientific committee and its board of directors, whose members belong to reputed Swiss companies (e.g. Rolex and group Swatch) and universities (EPFL and ETHZ). This programme and the annual budget for the year N are discussed between September and October of the year N-1.

3.4. DLR

DLR receives the main share of its institutional funding from the Federal Ministry for Economic Affairs and Energy (BMWi). The institutional funding is based on a higher level 5-year thematic program, which is proposed by DLR considering research objectives defined by the funding authorities. As DLR is member of the Helmholtz Association consisting of 18 different research centres, the proposed program is evaluated by an independent panel selected by the Helmholtz Association. Based on this evaluation the BMWi finally agrees on the 5-year thematic program. Since DLR is the only Helmholtz research centre dedicated to aviation and furthermore the only centre receiving its funds from the BMWi, there is only low thematic and budgetary competition regarding DLR's institutional funding. Based on the 5-year program, the funding itself is provided by the BMWi on an annual basis.

Within the boundaries of the agreed 5-year higher level program, the detailed technical and financial planning is a DLR internal annual process. This process starts in January of year N-1, decisions on new activities are made in May and the detailed planning for the following year (year N) is available in November.

The smaller part of the institutional funding provided by the Federal Ministry of Defense is negotiated directly with the ministry on an annual basis. DLR is proposing technical content and funding, to be agreed upon at the end of year N-1.

3.5. INCAS

INCAS's funding comes from one single source, the Romanian Ministry of Education and Scientific Research (MECS). However, the programs and executing agencies differ. One by one these are:

1. INCAS 1_Program STAR-ROSA (space research)
INCAS agrees on general contents with ROSA (Romanian Space Agency). Based on these general contents, INCAS proposes projects to ROSA in an open call. ROSA then selects certain projects which receive funding.
2. INCAS 2_National Romania Research Program
INCAS agrees on general contents with UEFISCDI (Executive Agency for Higher Education and Research University). Based on these general contents, INCAS proposes projects to UEFISCDI in an open call. UEFISCDI then selects certain projects which receive funding.
3. INCAS 3_ INCAS partnership in EU research projects
This funding source is solely for co-funding to support activities of INCAS as a partner in EU research projects.
4. INCAS 4_Specific Research Program (Program NUCLEU)
This funding goes into INCAS's activities to sustain internal experimental facilities and specific research topics. The projects respectively themes are proposed by INCAS and then selected by the ANCS (National Agency for Scientific Research).

3.6. INTA

INTA is a public research organization attached to the Spanish Ministry of Defence and designated as the "Spanish Ministry of Defense Technical Research Establishment". Regarding its funding mechanisms, INTA receives an annual institutional grant (Presupuestos Generales del Estado), which in 2015 was 138 M€. Aviation research activities represent roughly 30 % of its total budget.

INTA's public funding is assigned yearly based on INTA's proposal for of themes, interests and disciplines to research and work in. This proposal of budget is sent to both the Ministries of Defence and Finance, which harmonise them inside the general Spanish Budget Act (Presupuestos Generales del Estado), which are then submitted to for approval to Spanish Congress. After approval of these high level figures, INTA is able to distribute them depending on needs.

For some disciplines, there is a multi-year planning which is notified prior to the beginning of the projects, and a projection of fundings is proposed by INTA and set by the Government (although funding for these themes is assigned only year by year taking into account this these projections, these projections are reviewed yearly depending on the situation). This means that real money is only granted yearly. A 5 year projection is also sent based on needs for multiyear programs, but budget for them is not granted for all the 5 years, but year to year.

INTA has flexibility in setting the interests in participation on more specific projects. It means that the institutional grant sets budget to high level topics (e.g. safety research), then, based on this funds, INTA can set this budget to the different specific projects in which INTA participation might be requested (e.g. Future Sky – P4 Total system safety assessment), and this is the reason of the above mentioned flexibility.

3.7. NLR

Three ministries contribute to the annual funding of NLR: Ministry of Defense, the Ministry of Economic Affairs and the Ministry of Infrastructure and the Environment. The total annual funding is around 22M€. Roughly 5M€ is dedicated to capital investment in and maintenance of research facilities (wind tunnels, aircraft, simulators). The remainder of the funding (roughly 17M€) is divided into 2 types (mechanisms) of programs (each 50% of the remaining funding) and is aimed at research activities (person hours):

1. NLR Knowledge development in direct support of the government (NLR-KVB)
2. NLR Long term knowledge development (NLR-KAV/FAV)

There are multiple programs dedicated to each Ministry. Some programs are managed under NLR-KVB and some under NLR-KAV).

Under the NLR-KVB mechanism, the government determines the goals and themes of the 4-5 year programs. The objectives are defined in collaboration with NLR and sometimes with input from Dutch stakeholders like the industry, airlines etc. The activities (projects) are defined in finer detail, mostly in annual plans. There is strong involvement of NLR in the definition of the actual projects, but they must be in line with the objectives laid down in the 4 or 5 year programs.

Under the NLR-KAV mechanism, typically NLR defines long term research goals. There are scientific committees appointed by NLR that provide input and critical review of the long term research plans and activities. NLR is mostly in charge of defining the actual research projects.

3.8. ONERA

Placed under the supervision of the French Ministry of Defense, ONERA receives an annual institutional grant from this Ministry, representing about 49% of its total operating budget. From a formal point of view, Onera has a large degree of freedom in the scientific orientation of this budget, but consultation structures exist with government agencies (DGA, DGAC, etc.) and industry stakeholders, where Onera's scientific program is discussed. Military and civil aviation researches typically represent 28% and 27% of the grant use, while 45% of the research is relevant to both domains.

For the research side, the use of the institutional grant is supervised by Onera's Scientific Directorate. It funds internal research activities either through internal research actions or through the co-funding of

national or European research programs such as the programs from the National Research Agency (ANR) or the European framework program. Aside one-off research actions and PhD theses, Onera has aimed at structuring their research activities into several year research projects for which a submission process has been established. Although scientific topics may be promoted by the Scientific Directorate, today the project definition process is largely a bottom-up process with a submission to the Scientific Directorate for evaluation and decision. Whilst the institutional grant is only used to fund Onera's activities, internal research projects can be carried out with partner organisations which collaborate on their own budget.

In addition to the funding of research activities, Onera has some investment capabilities for the development of experimental facilities in their different field of expertise, including safety.

3.9. VZLU

Institutional funding is provided by the provider to Research Organisations on the basis of an assessment of the research results already achieved. The share of the amount of institutional funding for a given year reflects the share of the research organization in the total value of results (each valid type of results receives specified point valuation) achieved by all Research Organisations in the Czech Republic over the past 5 years. The research organization receives proportional share of funds which equals to its share of points earned by its research results. Base for this calculation is state budget for institutional support of RDI. However, during the last 5 years the base and also point valuation have been changing every year. From the perspective of the funding receivers, this means that the funding system is unstable and unpredictable. Therefore, a long-time planning is currently practically impossible.

4 ACTIVITY PLANNING PROCEDURE

The “activity planning procedure” table (see Table 2) is supposed to identify timeslots in the planning procedure of the REs which might be most appropriate to define common projects. For this purpose, the activity planning procedure was simplified into three consecutive steps:

1. Activity/project ideas and rough budget (rough planning).
2. Decision on go/no-go for an activity/project.
3. Detailed planning.

The following step would then be the project start in "Year N". “Year N” denominates the year in which an activity/project is supposed to start, “Year N-1” respectively the preceding year.

The table is supposed to describe the “usual/normal” procedure for the planning. Some REs indicated that their procedures can be more flexible if the need arises.

An exception to the consecutive order of the above three steps is ONERA, where the final decision comes after the detailed planning phase, with a submission of the complete project end of February (a preliminary selection of topics is however done in January before detailed planning).

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
CEIIA				Yellow										Red	Green		Green			
CIRA													Yellow	Red	Green	Red	Green			
CSEM									Yellow	Red	Green	Red	Green			Green				
DLR				Yellow			Red	Green												
INCAS													Yellow	Red	Green	Green				
INTA				Yellow			Red	Green												
NLR				Yellow									Red	Green						
ONERA	Yellow	Yellow	Yellow	Yellow	Green					Red										
VZLU													Yellow	Red	Green					

Project ideas + rough budget Go / no-go for project/activity Detailed planning

Table 2: Activity planning procedure of the research establishments

5 CONCLUSIONS

5.1. Conclusions

The main conclusion is that the structure of funding mechanisms across the research establishments is very heterogeneous. This confirms the expectations and was the main driver to conduct this survey.

The first key element was to identify a common definition of institutional funding. The OECD definition (in “Measuring innovation: a new perspective”, OECD 2010) of institutional funding as “the general funding of institutions with no direct selection of R&D projects or programmes” did not adequately describe the reality at most REs. The definition the participants agreed on is funding fulfilling the following criteria (see section 1.4):

- The funding is subsidized by the state and/or public.
- The annual volume of the funding has a high reliability.
- There is a low degree of competition for the funding.
- There is a high flexibility regarding the research content.

The degree to which the four agreed-on criteria (public money, high reliability of annual volume, low degree of competition for funding, low degree of thematic specification) are fulfilled varies strongly from one RE to another. On the one end of the spectrum CIRA and DLR fulfil most criteria very well, whilst e.g. VZLU has had a strong variation of its annual funding volume in recent years, with budget jumps of up to 30%. Others like INCAS do not have multi-annual programs, but instead work on the basis of multi-year projects. Depending on the project, there might be a rather high degree of specification of research goals. In addition, these projects are usually five years long, but it might be that for national budgetary reasons the funding for a project is paused for one year and the project temporarily interrupted.

To summarize, three rather broadly defined kinds of funding mechanisms were identified:

- a) A long-term roadmap with a detailed annual planning,
 - b) availability of dedicated money through proposals for calls,
 - c) annual institutional funding without an official roadmap.
- The “long-term roadmap with detailed annual planning” describes best the situation at REs like CIRA, CSEM, DLR, INTA, NLR, and VZLU: On a higher thematic level, objectives and guidelines for research and technology development are agreed on. Then, the REs launch projects on a yearly basis. These projects have to be within the agreed boundaries of high-level objectives. In other words, there is a higher level “program loop” and a lower level “project loop”. However, the REs are relatively free in internally distributing the funding and in choosing the instruments to achieve these objectives. The decisions on detailed project contents are made within the funding period.

- In the project mechanism, the decisions on the project contents are made before the REs receive the related funding. This objectives specification usually happens in form of the objectives of a call. CEIIA and INCAS would be represented best by this kind of funding mechanism.
- The last funding mechanism corresponds to ONERA situation where the annual grant is not associated with a formal high level program, although consultations exist with governmental bodies and stakeholders regarding the use of the grant.

Furthermore, the responses regarding funding volumes make obvious that only three REs (CIRA, NLR and VZLU) have explicit budgets for safety research, i.e. budgets labeled as “safety”. All others do safety research as an implicit part of their programs and projects.

Besides the funding for research, the REs have also significant amounts of funding to install and maintain research infrastructures. However, these were excluded from this survey.

The thematic flexibility varies strongly among the REs, from rather large to rather limited flexibility. However, the collected data might inappropriately reflect the reality: What appears to be a limited flexibility on paper (e.g. regarding certain overarching, general research topics which have to be worked on) might actually still allow a great flexibility on how to work on these topics. A similar observation can be made for cost type flexibility, where the range is from full to zero flexibility. However, in reality constraining conditions might affect the theoretical flexibility as indicated: even if there is a theoretical “up to 100%” flexibility, it would practically never happen to shift all personnel costs into consumables.

The procedures regarding objectives specification, application, evaluation, period of reporting and review by end of the funding period differ considerably. The survey can function as a quick overview and reference manual regarding the procedures at the different EREA members.

The graph on the activity planning procedure indicates two categories of research establishments with regard to when their annual decisions on project funding are made: DLR, INTA and ONERA make their decisions in the first half of the year in April/May, whilst all other REs make their decisions in October to January (however, the preparation process at ONERA starts and finishes earlier than in any other RE). This suggests that the initiation of new common activities might be easier within these respective two groups than between the groups.

All in all, even when considering all the limiting constraints, most REs have a certain flexibility in different steps of their use of funding. Therefore, cooperation and coordination between the REs in aviation safety research is possible.

5.2. Suggestions

It is suggested to create a common coordination & cooperation calendar (CCCC or C4) answering the following questions:

1. If I want to coordinate my research with a certain EREA partner, what steps have to be done and till when? (based on planning period, calendar year or other timeframe respectively)
2. If I want to cooperate with a certain EREA member, what steps have to be done and till when? (based on planning period, calendar year or other timeframe respectively)

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6 REFERENCES

Not applicable.