Taftie
The European Network of Innovation Agencies

Final Report
Task Force SELECT

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Summary

Evaluation happens not only on the policy level, it is also an important function of innovation agencies, i.e. applied research funding organisations. Research funding agencies - regardless whether focusing on applied or basic research - have to evaluate project proposals in order to select the most promising proposals for funding (Lepori et al 2007). Since the funding of societally and economically relevant research is the most important task of research funding agencies, project selection is the very core of their business.

Besides some research on peer reviewing (e.g. Lamont 2009, Bulathsinhala 2014), there is only little verified knowledge available on project evaluation and selection processes (e.g. Biegelbauer/Palfinger 2016). In a recently finished study for the Taskforce Select of the European Association of national innovation agencies, Taftie, a comparison of the respective procedures of 12 European innovation agencies taking part in the Taskforce has been carried out (Biegelbauer/Mayer/Palfinger 2016).

These are Banque publique d'investissement (Bpifrance), Centre for the Development of Industrial Technology (CDTI, Spain), Enterprise Estonia (EE), The Austrian Research Promotion Agency (FFG), Croatian Agency for SMEs, Innovation and Investments (HAMAG-BICRO), Agency for Innovation by Science and Technology (IWT, Flanders), which has with 2016 been renamed into Flanders Innovation & Entrepreneurship (Vlaio), Polish Agency for Enterprise Development (PARP), Project Management Jülich (PT-Jülich, Germany), The Research Council of Norway (RCN), Netherlands Enterprise Agency (RVO), Technology Agency of the Czech Republic (TA-CR) and The Swedish Governmental Agency for Innovation Systems (VINNOVA).

The tasks of the Taskforce were the following: provide an overview of existing selection procedures of the innovation agencies taking part in the Taskforce, analyse and compare the procedures along a variety of criteria and develop recommendations on selection procedures helpful to all Taftie member organisations.

The key points of interest were selection and role of evaluators, selection criteria, ranking procedures and general process issues. A number of critical process issues were identified and ordered after three perspectives, i.e. policy, agency and customer perspective.

The 12 innovation agencies have many different funding programmes in their portfolio. 18 programmes were chosen and the key differences between the selected programmes and their selection processes characterised. The choice of programmes / funding schemes and their selection processes was based on the following premises:

- the intervention logic of a funding scheme, i.e. the way it should have an impact on its target clientele, influences the employed selection processes. Hence, to be able to compare and learn from comparable processes, the

intervention logic of the programme or scheme for which the selection process is applied needs to be similar.

- Moreover, programmes were chosen that are widespread, so every agency interested could contribute an own programme and also other agencies shall find it possible to use the results.

Finally, two programme types were chosen and their selection procedures included:

- Type 1: Grant/loan schemes for R&D with business as beneficiaries. These programmes are historically amongst the first forms of business R&D funding by the state and often implemented as open calls.
- Type 2: Grant schemes for collaborative R&D with business and research institutions as beneficiaries. Projects / programmes can be more research driven or company driven, selection procedures may vary accordingly. These programmes historically are younger and are often implemented in fixed term calls.

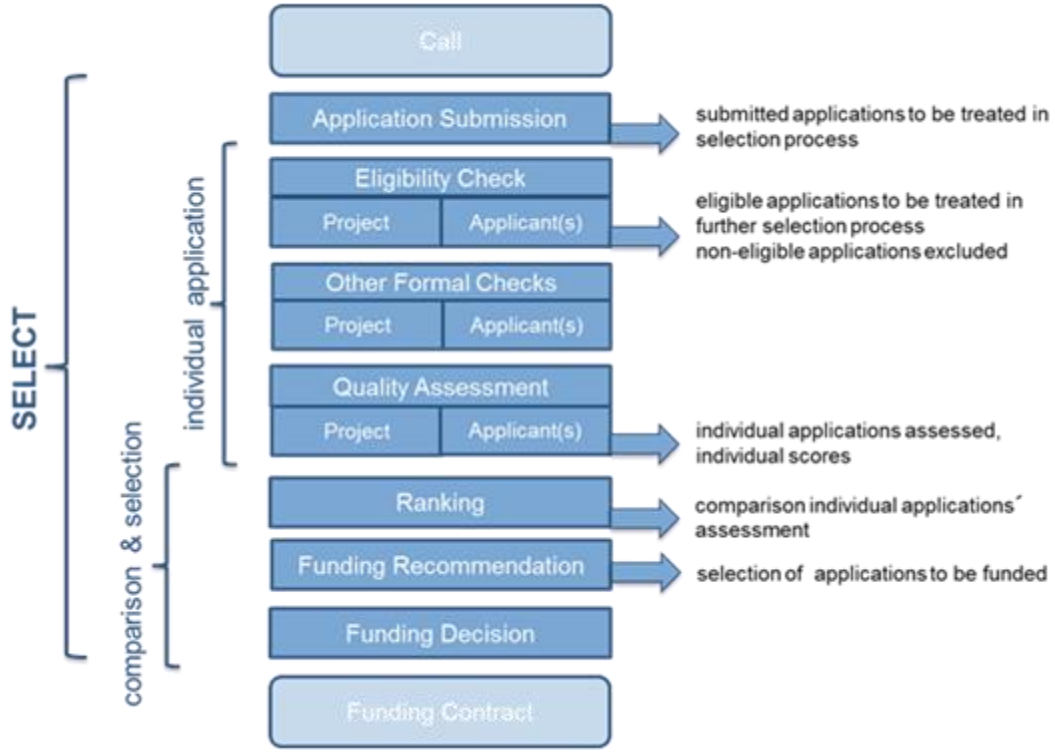
A framework was produced in order to facilitate a structured comparison against the backdrop of the challenging variety of agencies and programme types, called the "backbone structure". The selection process covered here starts with the submission of the project application and ends with the funding decision. However, inputs into this process developed earlier, such as evaluation criteria, goals of the programmes, target groups for the call etc. are also covered.

Not all of the processes covered here have all the steps in place, while some will go through certain steps twice (e.g. in case of 2-step-processes). This structure is used as a basis to describe and analyse the selected processes.

When analysing the two programme types along the backbone structure, specific characteristics become visible:

- Call (open, closed): whilst in type 1 programmes typically open calls are being used, type 2 programmes show closed calls and calls with thematic focus. Type 1 open call schemes often show higher success rates than type 2 fixed term calls.
- Pre-counselling: with type 1 programmes there is typically one-to-one counselling (e.g. handling requests by firms regarding the programme), with type 2 programmes there is a concentration on information events.
- Submission: in all agencies / schemes mostly online tools are being used.

Figure 1: The backbone structure for selection processes



Source: Final Report Task Force SELECT.

- Eligibility Check: both programme types use internal evaluation, in type 1 programmes sometimes applicants are directly contacted.
- Quality Assessment: with type 1 programmes more often internal evaluations (external experts mainly have tasks regarding the assessment of cutting-edge science and technology) and company visits are used. Type 2 programmes feature both internal and external evaluation. But partly due to higher importance of scientific knowledge about science and technology and due to peaks caused by fixed term calls, external evaluation is more common. This circumstance leads to stronger coordination efforts within the agencies than in type 1 programmes.
- Ranking: in the selection procedures of many type 1 programmes no ranking-lists are made. In most type 2 programmes a ranking is necessary, often facilitated by a panel of experts, though there are very different approaches.
- Funding Recommendation: with type 1 programmes funding recommendations more often are made by a single person (head of department, team leader etc.), whereas with type 2 programmes there mostly is a panel (selection committee, expert committee etc.), which makes the funding recommendation.
- Funding decision: There are no clear differences between type 1 and type 2 programmes regarding to the funding decision.

- Communication of funding decision: in both types of programmes applicants usually get informed by letter (or online tool). The type and level of detail included in that information often depends on whether an appeal against a funding decision is possible or not.

A major outcome of the Taskforce was the realisation that in hindsight of the differences between the agencies, their regulatory, budgetary and governance environment and the functions they have to fulfil in the respective innovation systems, it does not make sense to define a "best practice" for the selection processes (compare also Lundvall/Tomlinson 2001).

Rather the Taskforce decided to aim for a set of "good practices" covering the project selection of innovation agencies. Accordingly, a good practice was defined as a way of fulfilling tasks, which are understood to be effective and/or efficient in pursuing defined goals, such as performing the different steps of a selection process efficiently and customer friendly, or including the right expertise in the selection process and considering the programme goals adequately.

In fact, it soon became obvious that the innovation agencies, when selecting project proposals, have to make a number of choices. These have to be made in lieu of specific trade-offs, a few important of which shall be discussed here:

1. A decision on a very general level pertains to the form of calls to be utilised as part of the programme: should it feature (fixed term) closed or open calls. Accordingly, in the first case the project selection procedures will include a ranking with a competitive evaluation, whereas in the second case they might be based on single proposal evaluation on a first-come, first serve, basis. This also differentiates the two involved programme types. The distinction is caused by specific programme goals and availability of funds.
2. A further choice has to be made regarding the usage of internal and external experts in the project selection process. Both types of experts have their strengths and weaknesses (Kaufmann 2013).

2.1 Internal expert usage may be preferred because of an expectation that they shall more strictly adhere to issues of confidentiality than external experts. The latter, however, may strengthen trust in the agency's procedures and legitimise the organization and the process vis-a-vis its target community.

2.2 Confidentiality, however, usually stands in the way of transparency, therefore marking another trade-off.

2.3 Internal experts engage more frequently into evaluation processes and therefore have often more experience, while external experts will be closer to latest developments in science and technology. Hence, internal experts can be better trained on the process and the criteria, while external experts might need specific support to develop a joint and adequate understanding of their role in the process, of the selection criteria, the scores etc.

3. Organisations have to choose between efficiency and effectiveness.

3.1 In general, there is a choice between the costs of decision-making and reliability of selection procedures. The usage of several experts (e.g. four eyes principle) or invitation of highly trained experts is more expensive than less reliable practices with smaller numbers and/or less well trained experts.

3.2 Other features of selection processes driving up its overall cost are for example efforts to standardise evaluator opinions, which may feature e.g. dominant usage of high scores or a prevalence of utilisation of low scores either due to personal idiosyncrasies or cultural differences. Other evaluators might have a tendency to rate proposals higher in their own field of interest or yet others may rate those proposals lower not utilising their own preferred methodology.

4. A different form of trade-off is the tendency of many programmes to foster middle-of-the-road research using standard approaches. This may be fostered by crowding out evaluators, which often reason against the mainstream opinion in panel discussions, where it is the task of creating a consensus between (internal or external) experts.

5. Yet another organisational choice has to be made between the evaluation of project excellence and considerations on a systemic level. There might be a trade-off between the emphasis on excellence in science and technology in a specific project proposal versus portfolio considerations aiming at the programme goal related spread of chosen projects, e.g. regarding the availability of specific technologies. Along similar lines regional aspects may be responsible for a certain project portfolio, aiming at the specific regional spread of chosen projects.

The comparison of the ways in which the 12 innovation agencies evaluate and select projects therefore shows that there is more than one solution to the challenge of financing the best research projects – "best" relating to fulfilling the programme goals. The regulatory, budgetary, socio-economic and political framework conditions the innovation agencies find themselves in, form their potential options for possible and sensible solutions in the respective innovation systems. This is true for older programmes, such as type 1 schemes focusing on the competitiveness of firms, but also for newer programmes, such as type 2 schemes influenced by the more societal problem oriented Grand Challenge rationales.

In the report 10 groups of "good practices" of the partaking innovation agencies have been identified and described:

- Reduce proposal / evaluation effort and costs,
- Start with very short proposals,
- Have the right expertise, evaluate what you are expert in,
- Interaction with applicants,
- Coordinate and integrate parallel evaluations, standardise, quality control,
- Confidentiality and impartiality,

- Ensure that programme goals / intervention logic is considered properly,
- IT-tools for the process,
- Ex-post survey ,
- Organisational learning on agency level.

Each good practice is described and assessed, providing its specific strengths and limits. The list of good practices is a rich source of information for innovation agencies interested in learning from the experience of others.

The Taskforce has also made an effort to convey its experiences by listing a number of lessons it considered important for the success of a Taftie-Taskforce, from the role of shared responsibilities, group leadership, availability of external support to length and form of meetings.

1 Introduction

Research, technology and innovation are important for the success of firms, universities, economies and indeed societies as such, therefore it is vital to realise the most promising research. Furthermore, the selection of the best research projects to be publicly funded by innovation agencies is a key building block for such successes.

Taftie is the European Association of leading national innovation agencies, in which 29 organisations from 27 European countries are organised. The association amongst other things allows the national organisations to exchange their experiences and reflect how other members fulfil their tasks. One of the instruments with which Taftie organises such an exchange is temporary task forces concentrating on specific issues.

The Taftie Task Force on Selection Procedures (SELECT) aims at supporting innovation agencies in their endeavour to learn from each other's experiences in how to select the best RTDI projects for public funding. 12 innovation agencies are organised in the task force, Banque publique d'investissement (Bpifrance), Centre for the Development of Industrial Technology (CDTI, Spain), Enterprise Estonia (EE), The Austrian Research Promotion Agency (FFG), Croatian Agency for SMEs, Innovations and Investments (HAMAG-BICRO), Agency for Innovation by Science and Technology (IWT, Flanders), which has with 2016 been renamed into Flanders Innovation & Entrepreneurship (VLAIO), Polish Agency for Enterprise Development (PARP), Project Management Jülich (PT-Jülich, Germany), The Research Council of Norway (RCN), Netherlands Enterprise Agency (RVO), Technology Agency of the Czech Republic (TA-CR) and The Swedish Governmental Agency for Innovation Systems (VINNOVA). The task force is coordinated by Sabine Mayer from the FFG. It wants to:

- provide an overview of existing selection procedures of the innovation agencies taking part in the task force,
- analyse and compare the procedures along a variety of criteria,
- develop good practices and recommendations on selection procedures helpful to all Taftie member organisations.

The essence of the task force therefore is to help the participating agencies to perform their core business, selecting the best research projects for funding (according to criteria defined by the agencies themselves), in more effective and efficient ways.

In its effort the task force is assisted by researchers from the Innovation Systems Department of the AIT Austrian Institute of Technology, which have been contracted by Taftie. Since April 2015 Dr Peter Biegelbauer and Thomas Palfinger are working with the task force by discussing key terms, preparing workshop meetings and reports.

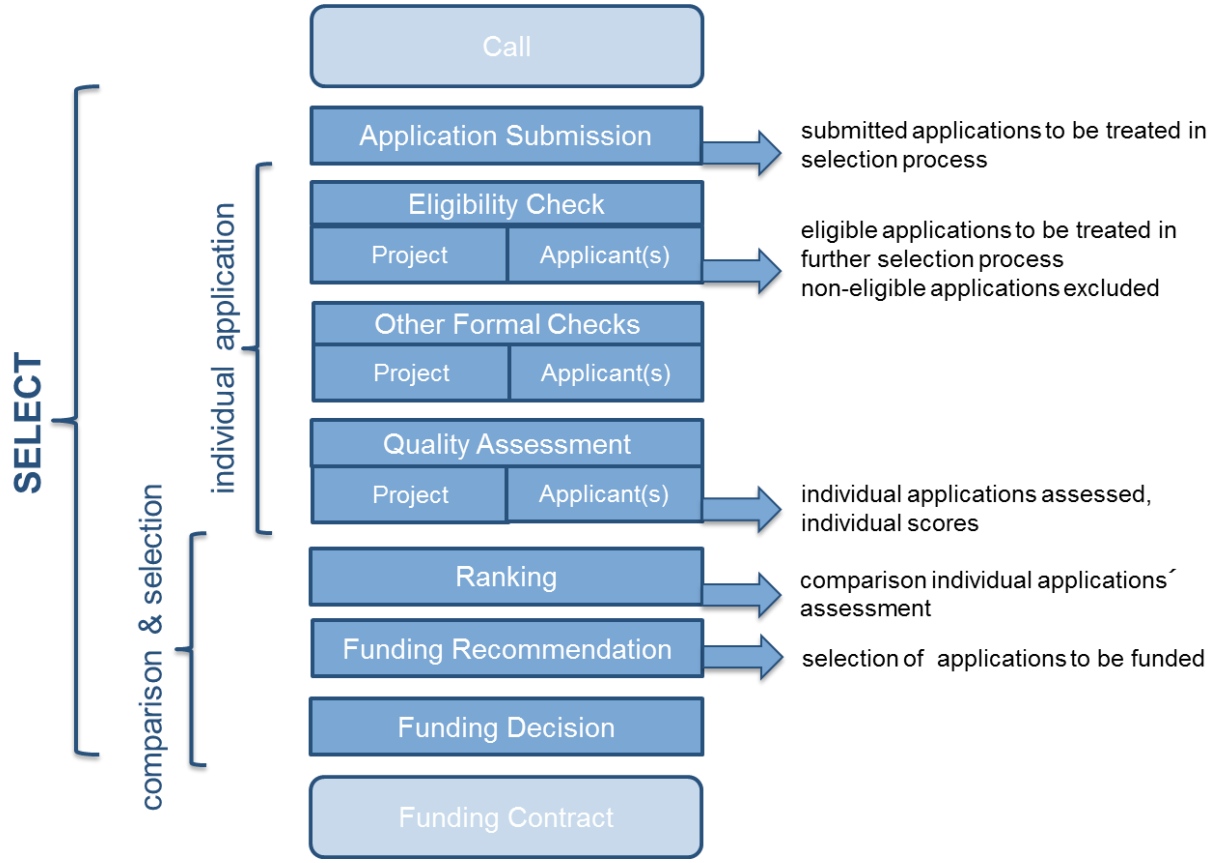
In order to have a common framework to refer to, the task force developed a "backbone" for the selection processes. The "backbone" structure for selection procedures is used as a basic step by step process description to link the different work packages to structure the overview and the process descriptions.

The selection process that is covered by the Task Force starts with the submission of the application and ends with the funding decision. However, inputs into this process developed earlier, such as evaluation criteria, goals of the programmes[1], target groups for the call, templates for the application etc. are also covered by the work of the Task Force.

Figure 1 shows a backbone structure for proposal selection processes. Not all of the processes that will be covered in the Task Force will have all the steps in place, while some will go through steps twice (e.g. in case of 2-step-proposals). This structure is used as a basis to describe and analyse the selected processes.

[1] Programme / scheme: A funding programme is an RTDI measure, addressing specified target groups (such as firms, research organisations etc.), aiming at specific goals, having a clear legal basis and budget. Programmes often have a limited life time. Many programmes can employ specified schemes (such as collaborative research project funding, or innovation projects for the industrial sector). In the Task Force, we often use both terms synonymously, since both, the programme and the scheme alike, shape the selection process.

Figure 1: The backbone structure for selection processes



Source: Taftie Task Force SELECT

The Task Force jointly developed its workplan, broken down into workpackages. Different agencies took responsibility for single workpackages, and decided to identify good practices.

WP 1: Overview of Selection Procedures, RVO

WP 2: Evaluators, TA CR

WP 3: Criteria & Risk; Impact, PtJ

WP 4: Ranking, RCN

WP 5: Process Issues, VINNOVA

WP 6: Dissemination in Taftie, FFG

Considering the differences of all participating agencies (e.g. regarding institutional setting, agenda, governance) the Taskforce did not aim at defining "the best practice" for (parts of) selection processes (compare section 5.1), but good examples how specific problems can be solved. For each workpackage, the Taskforce defined the problems it wanted to tackle and the questions it wanted to discuss. For every workpackage, the Task Force collected information on all selected processes in a standardized, thus comparable structure, which had to be defined separately for the different workpackages. However, during the process of working together, the taskforce members acknowledged that if they stick too much to

standardized structures they miss the differences in our processes, hence they miss the chance to learn from each other.

So the work of the Task Force can be characterized as constantly aiming at understanding the different approaches and their context to learn from each other by constantly referring to a joint structure and developing a joint "language" to support understanding. An example in terms of terminology: (i) TA CR calls the external experts evaluating proposals in the first step "opponents". (ii) Many agencies use internal experts, but call them differently (programme officer, case officer, etc.). So to understand the processes in detail it was necessary to "translate" individual terminologies to a joint one. That is why some process descriptions in this report might well use different terminology from those used in the individual agencies. It shall also be mentioned that the terms "expert" and "evaluator" are used synonymously in the report, although some agencies might differentiate between these two in their daily business.

In what is to follow in this report, first the 18 programmes analysed in the framework of the task force are described. Some key differences between the selected programmes and their selection processes are characterised. A number of critical process issues are selected and ordered after three perspectives, i.e. policy, agency and customer perspective. Moreover, the characteristics and roles of evaluators are described and analysed. In addition, criteria used for selecting projects are debated and the risk of a misinterpretation of these criteria are discussed as well as ways to address this risk. For each of these important questions, key issues and practice examples are provided. Next, a definition of what a good practice is together with specific criteria is provided and a number of good practices on ranking and selection processes is described. In the final chapter on a more general level a number of important issues regarding learning from the experiences of other agencies are analysed, thus providing building blocks for good practices of Taftie task forces. In the annex the 12 member organisations of the task force are described together with tables displaying key steps in the project selection procedures.

2 Programmes and Processes selected by the Task Force

The participating agencies have many different funding schemes/ funding programmes in their portfolio. As it would not be possible for the Task Force to cover all different selection processes, a selection was made, based on the following premises:

- the intervention logic of a funding scheme[2] influences the employed selection processes. Hence, to be able to compare and learn from comparable processes, the intervention logic of the programme or scheme for which the selection process is applied needs to be similar.
- Moreover, the Task Force chose programmes /schemes that are widespread, so every agency interested in the Task Force could contribute an own programme / scheme and also other agencies shall find it easy to use the results.
- Lastly, the choice of programmes / schemes is compatible with the Taftie Task Force Benchmarking, Impact, Effectiveness and Efficiency (BIEE), so at the end, results of both Task Forces can be matched.

The group chose two types of programmes / schemes and their selection procedures to be included in the Task Force:

Type 1: Grant/loan schemes for R&D with business as beneficiaries and usually no ranking of proposals, but a comparison.

Type 2: Grant schemes for R&D for collaborative research with business and research institutions as beneficiaries. Projects / programmes can be more research driven or company driven, selection procedures may vary accordingly; usually they are based on a ranking of the project proposals.

In the following table the 18 selected programmes are listed with the name of the respective innovation agency, name and type of programme. Moreover, the programmes are very shortly described and links to the programme homepages are provided.

[2] The intervention logic is the rationale behind a specific funding scheme/ programme, i.e. the reason for the existence of the scheme (which problem are we addressing?), the way it is supposed to work (which measures are we using and how are they supposed to create an effect?) and the presumed ways of its impact on innovation systems and society at large. An intervention logic can be depicted in a so called "Logic Chart" diagram, a methodology often used in programme evaluations.

Table 1: Selected Programmes

Name Agency	Name and Type of Programme	Short Description	Homepage
Bpifrance	Aide a l'innovation, Type 1	Support innovation in SMEs and large companies	Programme Link
Bpifrance	FUI, Type 2	Supporting the activity of clusters by financing R&D projects led by consortiums formed by clusters	Programme Link
CDTI	Research and Development Projects, Type 1 and 2	Support applied business projects, which may include experimental development and industrial research activities	Programme Link
EE	Green Industry Innovation, Type 2	Improve environmental and resource protection with focus on ICT	Programme Link
FFG	General Programmes, Type 1	Bottom-up funding instrument to strengthen competiveness of companies	Programme Link
FFG	Thematic Programmes, Type 2	Support innovation for specific challenges	Programme Link
HAMAG-BICRO	Razum Programme, Type 1	Supporting pre-commercial R&D activities for development of innovative products within start-ups and existing SMEs	Programme Link
PARP	Support to business R&D projects, Type 1	Increase R&D-based innovation by SMEs and larger companies	Programme Link
PT-Jülich	6th Energy Research Programme, Type 2	Support technologies required to promote energy transition	Programme Link
RCN	BIA-programme, Type 1	Stimulate R&D activity in businesses and industry	Programme Link
RVO	Innovation credit, Type 1	Finance high risk technical or clinical development	Programme Link
RVO	Topsectoren, Type 2	Support innovation in SMEs on specific themes	Programme Link
TA-CR	Omega	Support applied research	Programme Link

	Programme, Type 2	and experimental development in specific fields	
VINNOVA	Research and Grow, Type 1	Strengthen competitiveness and growth prospects of innovative SMEs	Programme Link
VINNOVA	Challenge-driven innovation, Type 2	Support innovation in four specific fields (societal challenges)	Programme Link
VLAIO	SME Innovation Programme, Type 1	Stimulate innovations by SMEs	Programme Link
VLAIO	Industrial Cooperative research, Type 2	Support collaboration between industry and research institutions to increase industrial impact	Programme Link

Source: Taftie Task Force SELECT

When analysing the two programme types along the backbone structure, on a very general level specific characteristics become already obvious:

- Call (open, closed): whilst in type 1 programmes typically open calls are being used, type 2 programmes show closed calls and calls with thematic focus.
- Pre-counselling: with type 1 programmes there is typically one-to-one counselling (e.g. handling requests by firms regarding the programme), with type 2 programmes there is a concentration on information events.
- Submission: in all agencies / schemes mostly online tools are being used.
- Eligibility Check: both programme types use internal evaluation, in type 1 programmes sometimes applicants are directly contacted.
- Quality Assessment: with type 1 programmes more often internal evaluations (sometimes with additional external experts) and company visits are used. Type 2 programmes often feature external evaluation and stronger coordination efforts within the agencies than type 1 programmes.
- Ranking: in the selection procedures of many type 1 programmes no ranking-lists are made. In most type 2 programmes a ranking is necessary, often facilitated by a panel of experts, though there are different approaches. Funding Recommendation: with type 1 programmes funding recommendations more often are made by a single person (head of department, team leader etc.), whereas with type 2 programmes we found in more cases that a panel (selection committee, expert committee etc.) is responsible for the funding recommendation.
- Funding decision: There are no clear differences between type 1 and type 2 programmes regarding to the funding decision.

- Communication of funding decision: in both types of programmes applicants usually get informed by letter (or online tool). In those countries where an appeal is possible applicants get more detailed information than in those countries where an appeal is either very unlikely or impossible.

Finally it is important to notice how different the analysed innovation agencies are. In terms of functions the innovation agencies have to fulfil, some are very broad, such as those of Bpifrance, which amongst others guarantees for bank financing and venture capital, has investments and operational cycle financing alongside banking and financial institutions, engages in equity investment directly or through partner funds and supports exports. By way of comparison e.g. the Research Council of Norway is much more directly focused towards research and technological development. Also regarding their ages the innovation agencies vary, with e.g. the PT-Jülich having been founded in 1974 and TA-CR in 2009.

3 Critical Process Issues

The descriptions of the several processes covered by the Task Force can be found in the annex, together with some context information on the programme and the agency. This chapter focuses on some critical issues of selection processes that were discussed in the Task Force.

The good practices we identified are described in chapter 5.

3.1 Policy Perspective

3.1.1 Selection process and intervention logic of RTDI policy

Important questions to ask

- How does the selection process reflect / react to the intervention logic?
- Is the design of the selection process embedded in a logic structure that refers to goals and intervention logic of the programme / scheme that uses the selection process? Which aspect of the selection process considers specificities of the intervention logic (e.g. criteria, selection of experts, competitive/comparative ranking,…)? Which aspect of the intervention logic is most relevant for the design of the selection process (e.g. closeness to the market; thematic priorities or bottom up; size of target group; number of applications; fixed term call or open call system)?

Key issues to be considered

- Evaluation criteria are reflecting the intervention logic, as well as the choice of evaluators. Both aspects will be covered in a second report of the Task Force.
- Whether grants or loans are used makes a difference in the selection process (this choice has implications again on the criteria and expertise needed).

- The size and ambition of the measure (e.g. an innovation voucher vs a competence center) also shapes the selection process: the selection process has to be adequate and consider also the resources of the target groups. However, this aspect was not discussed in detail in the Task Force since the group chose similar programmes / schemes and their selection processes.

Examples for practices in agencies

- VINNOVA: the development of a call starts with extensive analysis and alignment with VINNOVA´s effect goals; effect logic plan for performance monitoring and evaluation.
- FFG: a programme document (legal basis, referring to national guidelines and European state aid regulations) defines goals, instruments and effect / impact indicators for the programme. Some FFG divisions develop a logic chart diagram (an "intervention logic") for new / all programmes they implement.
- RVO: A first risk analysis of a new programme is performed by the ministry commissioning a specific programme and is followed by a risk analysis by RVO focusing on issues such as the number of applicants or possible misuse of public money.

3.1.2 Transparency and Fairness in Selection Processes

Important questions to ask

- How to support transparency and fairness / equal treatment in the selection processes?
- Do the processes exhibit potential biases (e.g. towards mainstream research vs risky projects)?

Key issues to be considered

- Unbiased expertise: experts evaluating proposals can potentially be biased – in particular in smaller countries, where applications are submitted in the national language. Moreover experts always bring in personal experiences, norms and values from their sector/discipline/field which brings them to interpret programme goals, selection criteria and proposals in specific ways, e.g. because they are from firms, universities, NGOs and ministries. Ways out are broadening the number of potential experts, e.g. by applications in English language; internal agency expertise; or a step in the process to compensate biases in the evaluation results by potentially overruling the experts´ evaluations.
- Transparency: unclear or unknown selection criteria / processes create uncertainty in the target group and undermine trust in the funding decision. In addition, this can lead to strategic behavior of the applicants. Moreover, transparency is one prerequisite for a credible, fair and equal treatment.
- All agencies deal with the requirement of independent, impartial, unbiased evaluation of proposals, but in many different ways.

Examples for practices in agencies

- Most agencies working with external experts ask a statement from the expert (independent, unbiased) and exclude experts that are biased from the evaluation of the concerned proposal / or from the whole call (e.g. PARP).
- TA CR´s selection procedure has introduced several steps before the evaluation of a proposal by external Czech evaluators ("opponent") (e.g. selection of evaluators includes a step where independency is controlled for) that can compensate for a potential bias as well as during the multi-step proposal evaluation.
- FFG: internal experts have to rotate after a certain time of working with proposals from one company
- PARP uses external evaluators mainly from the academic field to avoid a bias e.g. by evaluation of a competitor of a company in the same market.
- HAMAG-BICRO in preapplication phase always focuses on quality criteria (innovation, market, team) while financial check is purely focused on detecting companies in crisis. In full application technology/business assessment is done with all projects no matter of financial evaluation and if project is good quality it is given opportunitiy to solve financial issues if possible.
- Bpifrance: in case external experts are to evaluate sensitive project, the agreement of the applicant can be required to prevent potential conflict of interest.

3.2 Agency Perspective

3.2.1 Process Management, Process Monitoring, Quality Management of Selection Process

Important questions to ask

- How do agencies ensure that defined processes are known, carried out in the defined way, that standards are used?
- How do agencies ensure high / defined quality of documents, conditions?
- How are processes described and mapped, whether processes are known, accepted, available and used in the agency and by other users of the process (e.g. external experts). How stable are processes?
- How are processes measured and monitored – measures for selection processes often relate to time (e.g. indicators such as TTM, time to money), others refer to success rates, costs, customer satisfaction etc. Are there any target values? (How) do we try to decrease the lead time for our selection procedures?

Key issues to be considered

- Selection processes are complex, may be investigated with scrutiny and have to coordinate different steps and different actors. Hence, these processes have to

be and are elaborated in detail in the agencies, in e.g. guidelines and guidebooks.

- While processes involving only agency-internal staff can at least partly rely on internal learning (supported by explicit training) and tacit knowledge development, in particular processes involving external actors need detailed process descriptions and training of the actors involved.
- Complete and up to date process descriptions and documentation enable Quality Assurance activities, measurement and process maturity analyses.

Examples for practices in agencies

- VINNOVA and TA CR have meetings with external evaluators, in which the criteria for the evaluation processes are explained and debated; thereby the meaning of goals and criteria sets become clearer; in order to integrate remote experts TA CR will introduce videoconferences with a similar goal.
- Most agencies working with external experts have ways of informing / training them for the specificities of the selection concerned.
- FFG evaluates experts´ performance along different criteria, i.a. how well they understood and considered programme goals and –criteria.
- HAMAG-BICRO has set an internal Expert Committee (different from Evaluation committee for specific project evaluation) that is responsible for management of quality of the process of evaluation. It consists of members of different departments who have experience in evaluation of projects. This committee approves external evaluators, discusses criteria for selection and selection process itself.

3.2.2 Coordination of different Actors in the Process

Important questions to ask

- Who is involved in the process and in which way are different actors/units coordinated, e.g. internal staff, internal/external reviewers, other agencies; how often do activities take place?
- Is there a person responsible for coordinating a complete call or a programme?
- How are selection process and case management (e.g. monitoring of funded projects) coordinated? How is experiential knowledge preserved (knowledge management)?

Key issues to be considered

- Coordination is always an issue, even if the selection process is carried out only within the agency, because different types of expertise and different hierarchies are involved.
- If external evaluators and other external actors are involved, coordination gets even more important and time consuming. In terms of process efficiency, coordination needs might be the most important influence.

- Coordination with other external actors might relieve the "evaluation burden" for the agency and hence allow for processing higher numbers of proposals, getting easier access to external experts (e.g. case of CDTI through using ANEP), increase available funds (e.g. RVO – regional budgets).

Examples for practices in agencies

- All agencies using external experts have mechanisms to coordinate external expertise and internal expertise (steps to be performed by the agency).
- RVO: has to coordinate MIT selection process with regions – local offices (co-funding regional and federal budget).
- VLAIO: coordinate their Type 2 scheme with competence centers, type 1 with innovation centers. Applicants have to consult with CC or IC before application (competence center has launched call); In type 2 scheme VLAIO takes decision for company funding and gives advice to the competence center for the part of funding of research organisations and for the project as a whole.
- CDTI: has to coordinate with the organisation responsible for external experts (ANEP).
- PtJ: follows the political objective to initiate and to support bi- or multinational projects under the SET-plan (Strategic Energy Technologies). In those projects funds are given by at least two national funding organization to their specific clientele. This process requires communication and intense coordination between national funding organizations.

3.2.3 Electronic Tools supporting Selection Procedures

Important questions to ask

- Many agencies use electronic tools for proposal submission and for the selection process. Data are gathered in agency-databases. How are data used?

Key issues to be considered

- IT systems can support selection processes from application submission – selection process – monitoring. Smart systems can reduce administrative workload for agencies and applicants (making sure that right forms are used, applications are complete, etc.).
- IT systems can also reduce flexibility, e.g. if implementation of a new funding scheme might need a different approach compared to the given standard.

Examples for practices in agencies

- VINNOVA: several systems; call is documented and published via Case Management System (CMS) (first step internally, after document production and quality assurance externally); applications are submitted electronically; evaluations are evaluated in evaluation tool by external evaluators.
- RVO (type 2 programme): Application is automatically uploaded in registration and financial system. System checks that only complete applications can be submitted. Xls sheet to monitor all complete and eligible proposals

- FFG: submission only via eCall tool possible. Completeness is partly checked by the system.
- PtJ: submission must be submitted via easy online tool AND as hardcopy. Evaluation is documented in Excel table.
- Bpifrance's internal financial scoring tool is regularly back-tested to fine-tune the internal algorithmes and calibrate them.

3.2.4 Information basis for the Selection Process: Background Information, Proposal, Hearings

Important questions to ask

- How to generate the information needed for evaluation (e.g. are the applications sufficient? Do we consider additional sources of information apart from the application for the evaluation?) Is interaction with the applicant possible? Can applications be adapted / additional information be provided and considered?

Key issues to be considered

- Gathering relevant information in addition to a written proposal by organizing meetings / hearings can benefit the quality of the proposal selection. On the other hand, equal treatment has to be assured. What are the best means to find the right balance here?
- Presentations / hearings add information, but are also time consuming (for all parties). Again, how to find the best balance?
- Is the starting point necessarily a written proposal, or are there alternative approaches?

Examples for practices in agencies

- VINNOVA: short pitch (experiment with video pitch), only selected applicants are invited to apply with a written proposal.
- VLAIO (type 2 programme): optional meeting with applicant, proposal can be adapted; (type 1 programme): always meeting with applicant, at the company, proposal can be adapted.
- RVO (type 1 programme): complete application -> applicant is invited to discuss the request. Additional explanations can / must be submitted in given timeframe (if not the proposal can be rejected). Positive assessment -> management meeting with the applicant to discuss the businessplan. After this RVO can decide whether to fund the application.
- HAMAG-BICRO: programme manager communicates with potential applicants. Applicants can ask for a meeting before the call deadline. After full applications are submitted all applicants who pass administrative check are met by evaluation committee (usuall short presentation 15-20 minutes and Q&A afterwards) so that everyone gets the same treatment in full evaluation stage.

3.2.5 Integrate evaluation results of individual proposals into funding recommendation

Important questions to ask

- How are the evaluations of individual proposals "aggregated" to reach a funding recommendation / decision for a whole call / cut off date?

Key issues to be considered

- In general, first come first serve approaches need not result in comparative ranking lists to support a funding decision. But if more than one person is involved, their different evaluation results still need to be combined.
- This integration is necessary on different levels: on the level of the individual proposal if more than one person evaluates the proposal; on the level of a group of proposals (e.g. cut off date, or fixed term call) if proposals have to be evaluated comparatively and competitively.
- There are two approaches: the evaluators discuss the proposals together (and can adapt their individual scores) and come up with a joint evaluation result – ranking; or the evaluations are summarized and integrated by a different person / group.
- In all approaches standardizing (creating a common understanding of criteria, scoring) is an issue.

Examples for practices in agencies

- PtJ: short proposals are presented in a PtJ team-meeting and the individual assessments have to be defended vis a vis the other PtJ experts. Evaluations can be modified due to the discussion in the teammeeting.
- CDTI: If difference between internal and external evaluators' scores is more than 30 per cent, an expert from another CDTI department is asked to re-evaluate the proposal.
- TA CR: The proposal is evaluated by at least 2, mostly 3 external experts ("opponents"). Another external expert "rapporteur" (member of expert committee) summarizes the evaluations and can add his/her own recommendation, but does not change the scores of the opponents.
  Next step: The expert committee (where rapporteurs are members) considers all proposals in the field of its expertise, it can modify the scores (+ - 10 % of total score allotted by opponents) or propose a modification of project costs. Result: ranking list with funding recommendation.
  Next step: ranking by programme committee – members of the programme committee must be impartial and there must not be any conflict of interest. Hence, this body does not consist of experts (active scientists) any more. The programme committee has to consider all proposals from the call. Result: ranking list.
  TA CR Board: takes the decision on the basis of the final ranking list.
- EE: If the score results of two evaluators are more than 30 per cent apart, a third evaluator is asked to check the proposal and a new average score is computed. Also PARP uses a similar approach.

- RCN: uses a system of algorithms, panels and expert meetings in order to standardize the evaluation results. To support a common understanding of the scores RCN uses "anchor phrases" for the scores for all criteria.
- HAMAG-BICRO uses panels (evaluation committee) consisting of two external evaluators and one internal evaluator for financial issues. For each application the results of the external evaluators become aggregated by the administrative coordinator of evaluation committee. After a presentation of the applicants in front of a committee external evaluators discuss the project and try to reach consensus. The evaluation committee president has to manage this process and to check if the criteria are interpreted in a proper way and that scores are justified well. The head of the evaluation team later collates all external evaluators´ scores with internal financial evaluators scores and makes the final ranking and recommendation to the board for funding decision.

3.2.6 From recommendation to decision

Important questions to ask

- Some agencies can take the funding decisions by themselves, some cannot. Also in the first case the formal decision is taken by a different hierarchical level than the one carrying the evaluation out. What are pros and cons of different solutions.

Key issues to be considered

- Who takes the decision is a core aspect of the governance structure of the agencies? This does not necessarily reflect the character of the programme / scheme.
- An additional step "funding decision" might increase time to decision and open the floor for influences on the decision apart from programme criteria.

Examples for practices in agencies

- VINNOVA: call manager prepares formal decision based on recommendation from evaluation meeting. Decision taken by steering committee.
- VLAIO (type 2 programme): board of VLAIO takes decision on company funding and advises the board of the respective competence center. Account manager is present at the board meeting to report.
- RVO 1: no funding recommendation, decision is taken by RVO based on proposal evaluation results.
- PtJ: first decision taken by ministry, based on evaluation of short proposal by PtJ experts. Ministry may add political or strategic aspects -> invitation to submit full proposal. Full proposals are not re-evaluated in terms of content (only if they comply with the short proposal – if not, rejection still possible), costs are checked in full proposal. Final decision taken by ministry.
- CDTI: the "Selection Committee" also has the task to care about portfolio management, whilst formal funding decisions are taken in the "Steering Committee".

- EE: Selection Committee (EE, Innovation Norway (provides funds) and Estonian Ministry of Economic Affairs as well as loan organization) makes the suggestion to management board for final decision. The Selection Commitee may also send the project back to evaluation, in case they do not agree.
- For Bpifrance, according to the bank regulation, the decision needs to be taken by someone empowered to do so, and who was not involved in the evaluation and proposal for funding.

3.2.7 Learning from experience

Important questions to ask

- In one or another way all agencies draw conclusions from their experiences with different instruments, indicators and processes. Some organisations are more explicit about this and others less. How can an agency best learn from experiences?

Key issues to be considered

- Those with more mature processes do have explicit mechanisms, such as debriefing sessions with evaluators, non-hierarchical learning circles etc.
- Learning from experience has implicit and explicit components. Implicit (e.g. daily practices) components can be transferred trough "buddy systems" pairing more and less experienced staff members, explicit components through guidebooks and workshops

Examples for practices in agencies

- Vinnova: uses for the programme Challenge-Driven Innovation meetings of internal and external experts debating selection criteria.
- RCN: designates two experienced staff members to panel meetings: one as moderator and the other to observe and take notes from the discussion. In this way criticised procedures become tagged and can be debated later on.
- RCN makes extensive use of ex-ante and ex-post evaluations, including the evaluation of internal project selection processes through social scientists.
- HAMAG-BICRO: Head of evaluation team communicates with the evaluators and gives them feedback after the call. Generally, evaluators have a workshop before new call. After the call and before the next one manuals for applicants as well as manuals for evaluators are adopted based on experience from previous call.

3.3 Customer perspective

Important questions to ask

- How do we identify customer needs, demands and expectations with regard to selection procedures? How do we take these into account?
- How can we support learning effects for the applicants from the evaluation of their particular proposal?

Key issues to be considered

- Selection processes can have different customers: the target groups / potential applicants; the ministry; in a broader sense the general public.
- Customer satisfaction will focus on different aspects for the different customers: for the target groups time to decision, transparency, fairness and effort will probably be crucial; for the ministry formal aspects such as eligibility of applicants, costs, state aid regulations, non-vulnerability of the decision might be of higher importance; for the broad public efficient usage of tax money and investments into science and technology with manageable risks (safety, health, environment) are important.
- All agencies seek to reduce time to money.
- Adequate feedback to applicants on the reasons why their proposal has/not been accepted for funding raises transparency, fairness and supports learning effects of applicants.

Examples for practices in agencies

- FFG: after submission of a proposal FFG asks automatically for feedback on submission process to learn from the target group. Proposal Rejection has to be justified along the criteria, this is communicated to the applicants. Scores are not communicated. In addition, FFG carries out an annual customer satisfaction survey.
- RCN: scores are sent to the applicant, but not the reasoning for the specific scores – less vulnerability. However, the applicant may phone the case officer to be informed about strengths and weaknesses of the application.
- VLAIO: uses questionnaires in order to find out what customers think about their work and in addition ask for the feedback of fieldworkers.
- EE: utilizes an electronic platform (on the basis of a net promotion score) including a questionnaire for customers.
- PARP: has meetings with clients in order to collect feedback.
- PtJ: PtJ is member in several R&D networks utilised by ministries. During network meetings, new trends and specific R&D needs are discussed. Discussion results are amongst the inputs for the formulation of funding calls, which are aligned with the call regarding the strategic gaps in research and technology.

4 Evaluators

4.1 Evaluators' characteristics and roles

The evaluators are an important group of actors in the project selection process as their opinions regarding the proposals are the most important factor for the final funding decision (Kaufmann 2013).

There are many questions to consider and many different ways to "categorise" experts (see below). Generally speaking, experts, be they internal or external are THE core resource in selection processes. Many agencies emphasized that experts are a scarce resource. This implies that a funding system that relies on expertise has to keep in mind the incentives for experts so that they keep up their participation in that system. Particularly for external experts, many agencies mentioned that networking, i.e. meeting their peers in such assessment exercises, is a major incentive. Apart from more technical considerations about expertise needed and standardization etc., this has to be kept in mind when developing selection processes that are sustainable.

Important Questions to ask

- What is the role of (different) experts? In which phase do agencies use which kind of expert?
    - Do experts assess individual proposals along all criteria of an agency/call or do experts evaluate a subset of these criteria based on their competences? How are single results joined into an assessment of the whole proposal?
    - Do several experts assess the same proposal? How can quality assurance, standardized use of criteria and comparability be backed? Are "group assessments" (e.g. panels) used during the selection process?
    - On which level are experts involved (assessment of the individual proposal vs. second level committee or quality assurance)?
    - (At which level) do experts give a funding recommendation? Which kind of experts give a funding recommendation?
- What type of experts/expertise does the agency use (internal / external; academic / business; specialists / helicopter view; funding technicalities)?
    - Which role is associated with which type of expert (see above)?
    - Which type of programmes are evaluated by which type of expert?
    - From which type of organisation/institution are the external experts coming from?
    - How do external experts get recruited?
- How to establish an environment with a well-adjusted mindset towards risk and innovative approaches? How to handle critical experts or non-mainstream

arguments so that their expertise is still a constructive part of the evaluation process? How to integrate new trends (open science, open innovation, different types of innovation) in existing groups of experts?

- How many internal and/or external experts are needed per project application?
- What is the number of internal/external experts available/ figuring in the agency "database"?
- Quality Management
    - How is the independence of experts ensured and controlled?
    - How is the expertise of external experts determined and controlled?
    - Is the quality and usefulness of the experts' evaluation controlled and evaluated?
- Do agencies try to generate an added value beyond proposal evaluation from their (internal) and external experts? For example through standing committees involved in considerations of e.g. project portfolios, learning from experience regarding the selection process and even the development of strategic know-how.
- What benefits and disadvantages does the agencies' systems of cooperation with experts have?

Key issues to be considered

- Different kind (e.g. scientific/market) and level (e.g. helicopter view/specialised knowledge) of expertise needed for different ways to involve experts during the selection process (e.g. experts as evaluators on single proposals or as part of an advisory committee).
- In type 1 programmes more often internal evaluators are utilised and external evaluators mainly have tasks regarding the assessment of cutting-edge science and technology. The usage of internal evaluators becomes sensible, since with this type of programme there are often no deadlines for proposal submission (open call system) and smaller or constant numbers of project proposals per decision (less extreme peaks as compared to a fixed term call scheme).
- In type 2 programmes both internal and external evaluators are used. The choice of internal vs. external experts seems to be partly path dependent, influenced by the development of the different agencies and their institutional environment. Partly other considerations affect the decision whether to use internal or external experts: one reason can be that the external evaluators become necessary because of the higher importance of knowledge about science and technology. .
- Agencies have to make trade-offs when deciding whether internal or external expertise shall be used. Confidentiality may be a reason to use internal experts, whereas peaks in resources (resulting from fixed term calls) often call for external experts.

- From an agency perspective it is important to train the evaluating experts on the intervention logic of a programme and the criteria used. This might be easier and more cost effective with internal experts. Internal experts usually know the process, so information costs to carry out the selection process are low. The same argument holds true for knowledge about "funding technicalities" (state aid regulations, additionality, eligibility of activities etc.) Furthermore, the knowledge gained in the agency can support future programming. Yet, for some programmes specialist knowledge is needed, which can be more easily covered by external experts.
- Visibility and a positive recognition of the agency's selection process raises the trust of the applicants. A higher acceptance of the outcomes of the selection process leads to less objections by the proposers. Proposers often believe external expertise to be more objective than in-house expertise.
- Specialist / generalist knowledge: specialists (be they internal or external experts) are used to assess the proposals as well as internal experts to judge the budget. In addition, most agencies use committees on a more generalist level (often external experts when the proposal is assessed by internal experts or vice versa, in other cases mixed panels) as a second level of quality assessment. Those committees often are comprised to reflect the programme logic.
- The selection of experts is important: if most experts have a background similar to each other, they are likely to decide in similar ways and produce a bias in their decision-making, by e.g. preferring specific product groups, problem solutions, technologies, fields of science et cetera and ignoring others. Moreover, the selection of experts has to mirror the intervention logic of the programme / funding scheme (e.g. for science-industry cooperation a purely academic group of experts will not be suited). In addition, agencies have to consider that when judging the relevance of a proposal experts might be tempted to judge the relevance of their own field of expertise. Hence communication and definition of relevance of proposal has to be defined carefully (compare also the section on risks of misinterpretation of criteria).
- Reasoned expert selection is also important to counter the risk of impeding radical innovations: selecting experts who are not taking risks themselves and/or who are similar to each other may crowd out radical innovations because they are considered to be too risky or not "state-of-the-art", a term sometimes equivalent to "middle-of-the-road".
- On the one hand, regularly changing experts: in order to counter the danger of collusion, building of dense networks and insider behaviour it may be sensible not to use always the same experts.
- On the other hand, "standing committees" of experts have the opportunity to build on historic knowledge, they get to know the programme /funding schemes very well. They can see how projects they selected develop, hence they can build strategic knowledge to be used for the further development of the scheme, selection criteria etc.

Examples for practices

- RVO uses for the Type 1 program an external advisory committee for feedback on the project selection process. The committee looks at the proposal already positively assessed by the internal evaluators and utilizes a specific set of the criteria. The committee advises the agency on the selection process.
- EE uses external experts in"Green Industry Innovation", due to legal requirements and the specificity of the programme. 2 external experts assess a proposal, internal experts integrate the assessment to one joint report. Then an evaluation committee (consisting of internal and external experts) ranks the proposals based on the scores and makes a funding recommendation. For most other funding schemes, however, EE uses internal experts to evaluate the proposals. The head of CDTI's technical department integrates evaluation results from the governmental agency ANEP, which is responsible for the evaluation of S&T aspects, and CDTI. If two external experts cannot agree, a third (from another CDTI department) is consulted.
- HAMAG-BICRO through the public call selects external evaluators based on predefined crtieria and thematic areas. The evaluators' work is assessed internally and this information is used for the selection of evaluators in the next call. External evaluators are used for evaluation of technology and business related criteria and internal evaluators are used for evaluation of financially related criteria.
- PARP organises calls for evaluators, which are selected on the basis of predefined criteria. Thus possible collusion or in-group effects are inhibited, which may come into existence by selecting evaluators through the snowball method. The evaluators' work is assessed internally to ensure quality management of evaluation practices.
- For Bpifrance, the expertise derived from external evaluators´ evaluations is strictly confidential and belongs to Bpifrance, so Bpifrance generates an added value from the evaluations, beyond the selection process. As it may include critical evaluation points that can be useful in the future (in case of conflicts regarding paybacks) it is not to be shown to the applicant but can be used for project monitoring.

5 Criteria

Criteria are at the heart of the selection process. They can be understood as the operationalisation of the programme's intervention logic. Accordingly, they - and even more so their weight - differ from program to program.

Differences apply to criteria and what they are measuring, but also to different methods of weighting the criteria values. A number of agencies have different weights for the criteria, with again various systems of weighting featuring higher or lower resolutions, i.e. more or less steps on the scale. Only few agencies have decided not to weight their criteria.

5.1 Definition and Use of Criteria

Because of the variations in the evaluation criteria, the Task Force has decided to create a set of criteria/dimensions with concomitant definitions. This classification of criteria has been laid down in a document produced during WP3. When defining criteria, it is important to keep in mind their function: they are an important tool to communicate what shall be achieved by the funding scheme, what is considered to characterize a strong proposal vs a weak one. Hence, criteria have to be well understood not only by evaluators but also by applicants. Moreover, depending on the character of the funding scheme, criteria (and the whole selection process) can be used to identify the proposals that are "not good enough" (in cases of low selectivity / high success rates) or on the other hand to identify the "top proposals" (in cases of high selectivity / low success rates / budget scarcity).

Generally, criteria are used to objectify the assessment of proposals in the selection process. This is particularly important where an objection to a funding decision is possible.

Important Questions to ask

- A broad variety of criteria is used to select project proposals. How can the "right" criteria be chosen in order to cover the "right" functions?
- How many different criteria are manageable? (E.g. internal experts can work with higher numbers of criteria than external experts who might be confronted with the criteria for the first time).
- Which criteria are used for assessing impact in a way sufficiently clear to evaluators?
- When assessing project proposals, often a large number of criteria is utilised. How can these become selective so that they can be clearly separated from each other and that later problems of weighting may not occur (i.e. by measuring the same dimension several times)?

Key issues to be considered

- Different programmes need different criteria to successfully select the most suitable proposals for the programme. Agencies might define core criteria, but stillintroduce additional criteria for each specific programme and/or to flexibly react to new developments or the rise of new subject fields.
- The criteria used for selecting promising project proposals can be separated in binary and complex criteria. Whilst the former pertain mainly to issues of funding eligibility, the latter focus on the potentials of the application, the actors carrying it out and the feasibility of the proposal and technical / scientific quality as well as the expected impact. These criteria generally are scored
- In principle different ways of assessing proposals can be differentiated, e.g. one that asks about the S&T excellence and another one emphasising questions after

the potential impact and the realisation of the project plans. Which approach is adequate also depends on the intervention logic.

- The dimensions of the project proposal often engulf issues such as the novelty and innovation, practical value, market potential and macroeconomic effects.
- The actors carrying out a project are often subjected to criteria of market experience and knowledge, capability to commercialise results, management and organisation of the project and, depending on the programme, also the existence of science-industry cooperation and SME inclusion.
- The feasibility of the proposal frequently is assessed after criteria such as R&D risk, adequacy of technical, scientific and business approach, financial feasibility, technical feasibility, ecological sustainability and socio-economic sustainability.
- Over time criteria sets have the tendency to become larger and more complex. Recently criteria of gender, ecological sustainability, socio-economic sustainability and most recently responsible research and innovation have been added, mostly as cross-cutting issues.
- In many cases criteria have several dimensions. Yet some criteria are more encompassing than others as can be demonstrated by the example of responsible research and innovation (RRI) covering a wide variety of issues, such as wide societal engagement and inclusion, ethical considerations as well as open access in the sense of publications, but also communication of research results, each of which again has a sizeable number of sub-dimensions.
- Criteria are also an important tool for agencies to ensure the quality and objectivity of the project proposal assessment. To this end efforts are made to define clear cut and mono-dimensional criteria to avoid room for interpretation and allow for clear "anchor phrases" (compare respective good practice by RCN)
- Historically selection processes and criteria have been drawn from science funding agencies, which is still visible in the importance of criteria focusing on scientific and technological quality of project proposals. More recently efforts have set in to construct criteria sets less from the perspective of the meta-criteria excellency, but rather from the perspective if the goals set by the proposers themselves are likely to be reached in the course of the project and if they fit into the intervention logic – the impact to be achieved by the funding scheme.

Examples for practices

- Vinnova has a set of overall criteria used for project proposal evaluations in all programmes. Thereby a common structure for criteria exists that is supplemented with criteria specific for each programme.
- The criteria set used by Vinnova first asks after the potential and impact of the project and then makes an effort to assess the likelihood of tapping the full project potential by e.g. asking about the abilities of actors and the feasibility of the project plan.
- TA CR, in the case that a state agency or ministry is the beneficiary of project results, asks proposers to add a letter of intent from the designated customer. Thus,

the existence of market opportunities can be shown also for projects with administrative units as clients.

- CDTI uses defined sets of criteria but adapts the weights of the criteria (on the level of main criteria, not subcriteria) to reflect the specific goals of the programme.
- EE also weights criteria. Some criteria feature subcriteria, EE deliberately tries to avoid overlapping criteria (this point was supported by many other agencies).
- At HAMAG-BICRO, main criteria used for evaluation are generally: innovation potential, market potential, team and project quality, as well as if the project is aligned with the company long term goals and strategy. Each of the main criteria and subcriteria are given their weight in total mark, in relation to program logic.

  These weights are different in different programs and depend in a way on intervention logic.

5.2 Risks of misinterpretation of criteria

Research shows that one of the most important risks in the evaluation of project proposals for RTI funding is that the criteria upon which funding is based are interpreted in different ways by the actors involved in the project selection procedures (Bulathsinhala 2015, Sattler et al 2015). Criteria are seen (and used) as means of communication regarding what is good in a proposal and what might be weak. Hence, for agencies it is equally important that proposers understand criteria in the right way to raise the quality of the submitted proposals, lower the workload for the agency and also the frustration of proposers caused by a misinterpretation of criteria. In the discussions many different approaches to avoid misunderstanding of criteria and scores by evaluators were discovered: some criteria are well known and do not need to be elaborated on; for others, experts have to be trained in various ways; anchor texts are used to explain the different scores for criteria; observers (e.g. programme owners) are used to accompany e.g. panel discussions and support a joint understanding and control the process; generally, internal experts are considered to have a better knowledge and shared understanding of critera / scores that external experts.

Important Questions to ask

- Diversity management: how can evaluators from diverse backgrounds regarding e.g. scientific fields and profession (science, industry, agency personnel, users) with variations in the form of education (science oriented, application oriented), professional norms (how critical can and should peers be), cultural values (due to varying geographic origin, ethnic background) et cetera come to a similar understanding of important elements of the funding process such as its key goals and criteria?
- How can a common understanding of key issues and terms such as “risk”, “quality”, “relevance” or “innovation” come into being in such adverse group of people as the evaluators? To create common ground amongst the different

actors taking part in a project selection procedure a common sense-making process should begin with such key terms as "risk", "quality" etc. upon which a lot of the selection processes are based.

- How can criteria be described and formulated so that evaluatorsand proposers understand them in the way they originally were developed by the agency?E
- How can a scoring system become understandable for non-experts in funding matters? It is important to overcome the personal traits of evaluators such as assessing proposals rather mildly or very critically, cultural differences in evaluating and scoring, utilising the whole range of scores or shying away from clearly negative scores, but also understand what "excellent" or "good" means.
- What are pros and cons of the usage of internal and external evaluators? A trade-off has to be considered between, on the one hand, the (often tacit) knowledge regarding project selection practices and trust regarding disclosure issues of internal evaluators and on the other hand their unfamiliarity with the leading edge in S&T. The external evaluators are more likely to have a state-of-the-art knowledge regarding e.g. science and technology, yet they may be less familiar with the criteria and intervention logic of the programmes.
- Through which means is training of evaluators sensible? How much time and effort should an agency put into the training of internal and external evaluators?

Key issues to be considered

- Several evaluators per proposal may be part of an answer to counter problems of evaluator subjectivity.
- The need of consensus on several levels as part of the evaluation process may hinder radical innovations, because there is a risk that experts pick "middle of the road" proposals to reach consensus.Keeping descriptions of criteria simple helps proposers to interpret them in the right way. It may be suitable to describe criteria groups instead of every single criterion (single criteria may be published additionally) to foster the understanding of what is important for a successful proposal.
- Training and mentoring: Internal evaluators can be trained in a combination of written materials/schooling and buddy/mentor-systems, external evaluators may be sent materials explaining programme rationale, criteria as well as scoring system and in addition become subject to training either through the Internet or on site. Also longer term appointments of external experts may be used a a means to support learning of those experts (e.g. intervention logic, criteria, scoring), if with the potential drawback of collusion effects.
- Scoring of a few old project proposals in the group may help to understand involved processes programme rationales, key terms and the meaning of indicators.
- Scoring and anchor phrases (see also chapter 6): sometimes a "neutral" assessment is not possible (as in a scoring system with the values 1-2-3-4) in order to force evaluators to make a clear judgement. Anchoring texts may help to overcome different understandings of certain criteria by being more clear about the meaning.

- Inclusion of additional information: here a trade-off has to be considered between knowing as much as possible about a proposer, his or her previous projects, funding track record and earlier project output and forejudging the proposal on the basis of information on previous activities while ignoring potentialities of the current proposal.

Examples for practices

- FFG for type 2 programmes first sends proposals to external evaluators so that they can assess the proposals at home. Second, the evaluators have panel meetings at the agency's premises where they discuss the proposals, develop a joint understanding and can adapt their individual scores. In some cases, observers move from one panel to the other, seeing to it that e.g. crieria are used in the same ways. And third, there is a final panel meeting synthesizing the parallel panels in which either the rapporteurs of the erstwhile panels meet or all evaluators sit together, but only in very few cases debate the scores again. In the final step scores may be calculated with the help of algorithms from the parallel panels to achieve a joint result.
- PtJ trains in-house evaluators by discussing the assessment procedure in the framework of a case study, i.e. an actual project proposal.
- EE applies scores from 0-4, explanations are given for the scores 0, 2 and 4, and are specific for each criterion.
- FFG internal experts discuss all proposals submitted until a specific cut off date amongst all involved evaluators and have to defend assessment and scoring. These regular meetings are used to "teach" newcomers the meaning of criteria and scores.
- PARP provides descriptions for each criterion, sometimes very detailed and elaborate, sometimes only very short, depending on the character of the criterion.
- VLAIO by way of describing the evaluation criteria not only uses positive descriptions, in the sense of statements clarifying the criteria, but also negative descriptions explaining the properties a proposal should not feature.
- RCN is using anchor texts for scoring purposes, each score for each criterion is "translated" via a specific anchor text, making it easier for evaluators to understand what the meaning of certain scores are.
- Bpifrance defines criteria narrowly, e.g. in a way that answers are distinct (e.g." is there a market with competitors / without competitors"), so different interpretation of the meaning of criteria and scores can be avoided; therefore a large number of criteria has to be utilised.
- HAMAG-BICRO uses anchor text for the worst, medium and best score (scores are from 1 to 5) for each criterion. External evaluators are requested to read and give preliminary scores with explanations before Evaluation Committee meeting. President of the Evaluation committee role is not only to moderate evaluation session but also to ensure scores and explanations are in line with defined anchor texts,

6 Ranking

As already indicated by the definition of workpackages in the Task Force, the process step "Ranking" was considered a very important step in the process. Indeed this step is the only one with a workpackage exclusively dedicated to a process step.

Important Questions to ask

- What do we mean by ranking?
    - Ranking of proposals needs to be based on quality assessment of individual proposals.
    - Comparison of proposals: ranking is about the question "which is the better proposal", considering all proposals submitted
- When do we need a ranking of proposals? Why compare proposals?
    - In some cases a ranking is not necessary, e.g. in open call systems, or when there is enough budget to fund all proposals considered to be worth funding (i.e. "good enough").
    - This means that ranking is necessary in general where agencies work with competitive calls and limited budgets. Vice versa, in most cases there are no ranking processes in open call systems.
- In both cases, thresholds have an impact on ranking procedures: in the first case, to differentiate those proposals that are "good enough" to be funded in the scheme from the other proposals; in the second case, when ranking is necessary a threshold can facilitate the ranking process by limiting ranking to a subset of proposals, excluding those proposals that should not receive funding. Thus, time and energy of external evaluators and agency personnel are saved.

Key issues to be considered

- How to compare proposals? Can proposals from different sectors be compared properly? How to make sure that criteria and scores have the same meaning when used by different evaluators?
- How to deal with groups of proposals having the same score or being very close? How to deal with proposals where evaluators disagree, where the evaluation of the individual proposal does not result in a clear recommendation to be funded / rejected ("grey zone")?
- Do scores with a high resolution solve the problem of having too many proposals with the same score (e.g. 0-100)? How high should a resolution become to be still valid? Vice versa, how can we differentiate within a group of proposals with the same score when the resolution is low (e.g. 0-7)?
- Is the perspective on the individual proposal (even if ranked) sufficient? If no, how can we integrate a "portfolio perspective" looking at the whole portfolio of projects to be funded?
- Transparency of the process: are criteria for the different steps known? Are the weights of criteria published?

In general, ranking is based on scores. However, the group found different approaches how to define scores. In some cases experts score on the level of subcriteria, and the scores are calculated (and may be weighted) to a score on the level of a main criterion etc. Other agencies use scores only as a "support tool" for the assessment of the proposal.

Examples for practices

In the Task Force we found some common practices when it comes to a first ranking step. Most agencies rank the proposals based on an aggregate main score that results from the evaluation of individual proposals by several experts. In general the main score is calculated from the marks given by the evaluators along defined criteria. Often there are different weights used for different criteria to reflect the intervention logic and progamme goals. The result is one average main score for the proposal. One of the challenges in this process step, how to integrate several evaluations for one individual proposal, is discussed above (see 3.2.5).

This first ranking can be supported by a threshold, so proposals not reaching the threshold need not be ranked.

Some agencies carry out some checks (quality assurance) on the consistency of the scores to safeguard a valid ranking result (e.g. HAMAG-BICRO and RVO).

- RVO: has a group of senior experts and the programme coordinator supervising the scoring process; this is meant to be a quality assurance mechanism to safeguard the consistency of scoring.
- HAMAG-BICRO: has an evaluation coordinator to check consistency together with President of Evaluation Committee.

In many cases, the ranking process ends with the ranking list based on the main scores. This list is matched with the available funding budget and results in a funding recommendation.

However, some agencies have further steps in their ranking processes before they reach a funding recommendation.

- EE: has a Selection Committee which can revise the scores (using the same criteria as the evaluators did before; all changes have to be justified) and hence can change the ranking.
- CDTI: The ranking list based on the evaluation by internal and external experts includes the budget for the proposals and considers the maximum budget allocated to the call. The list goes to a Selection Committee, which can decide on the projects with similar scores in the "grey zone". Usually this is relevant only for 2-3 proposals in 200. The Selection committee does not read the projects, but works with the summaries from projects and evaluations. The Selection Committee takes the funding decision.
- PtJ: the first ranking list based on PtJ experts´ judgement is mainly used to structure the discussion with the experts from the ministry. Experts score along the criteria, but the scores rather act as guidance and have to support the funding recommendation; there is no mathematical calculation for the ranking list. The experts in the ministry may introduce also portfolio aspects in the discussion, e.g. in cases where the ranking based on the individual proposals may exhibit a strong

bias towards a certain target group of technology field. The discussion results in a funding recommendation which is the funding decision at the same time, only differentiating proposals to be funded / rejected without any further ranking.

- RCN: has a second step of ranking, still with the perspective on the individual proposal. After the first evaluation of the proposal on some basic criteria, the project officers revisit the projects that passed the threshold – in this step further criteria are used for a ranking. These criteria are also published in advance. This step again results in a scoring to document the discussion. This additional scoring is used to differentiate within several groups of scores (from 1-7). Only few criteria have subcriteria, there is no mathematical calculation from subcriteria to the main criterion.
- VLAIO and PARP: revisit the evaluation results in cases where many proposals have the same score (e.g. go back to important criteria, such as innovativeness, and compare the proposals on that basis in addition to the main score).

Only one agency in the Task Force uses an explicit step of portfolio management. Here the perspective is different: the funding recommendation tries to maximize the impact of the funding by considering effects of the whole portfolio.

- RCN: The programme administration is making the funding recommendation to the Programme Board which has the functions of a funding committee and a strategic committee. The Board now is interested in the portfolio of recommended proposals and considers portfolio aspects. The programme administration recommends different alternatives / scenarios of funding recommendations according to different "portfolio strategies". The Board discusses the alternatives and normally chooses from the different scenarios for the funding recommendation. The Programme Board does not get the full proposals. For each proposal it will only get a summary of the project and of the main conclusions of the evaluation, and a list of the scores. Its choice is the funding decision.

In the Task Force we found one multi-step ranking process that is designed to safeguard objective and independent evaluation in a small community by integrating several levels in the process:

- TA CR: The same criteria are used for the whole selection process.
  As a 1st step, the evaluation of the proposals is carried out mostly by 3 external experts (remote) -> first ranking. They are not members of the expert committee.
  2nd step: A rapporteur (also external) who is member of the expert committee has to make one report from the three reports mentioned above
  3rd step: the expert committee discusses all proposals, based on the rapporteur's report. It works with the list of projects ranked along the score from the 1st step. The expert committee can change marks (in a limited range of +/- 10% of points). The result is a new adapted ranking list.
  4th step: This list goes to the meeting of the programme committee. Members of the programme committee usually come from the ministry, administration etc…). It is a standing committee (over a longer period of time). They have access to the proposals, but usually discuss only projects with problems. Similar rules as for the expert committee apply: scores can be changed +/- 10% of the points. In this step the budget for the call is considered – budget line in the ranking list. The programme commitee has to decide around the budget cut, if there is a "grey

zone".
Result: funding recommendation. The final decision is taken by TA CR Board.

Table 2. Ranking Characteristics by Agency

	CDTI	EE	FFG	HAMAG-BICRO	VLAIO	VLAIO (TETRA)	PARP	PTJ	RCN	RVO	TA CR
Competitive call with ranking?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
How many projects are competing?	400	70	60 to 200	131	5	70	500	60 to 150 per area	150	200-500	Up to 1000
Basis of intial ranking?	Score on high resolution scale	Score on high resolution scale	Score on high resolution scale	Score on high resolution scale	Go/no-go criteria, no ranking if money is sufficient	Score on low resolution scale	Judgement for each project	3 modus operandi, depending on number of proposals	Score on low resolution scale	Score on high resolution scale	Judgement for each project
Normally changes in initial ranking?	No	Yes	No	No	No	No	No	Yes	Yes	Yes	No
Are threshold values used?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No
Are similar scores a problem?	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes
Can portfolio aspects change recommendation?	No	Yes	No	No	Yes	No	No	Yes	Yes	No	No
Who decides about the final ranking?	Selection committee	Evaluation committee	External experts	Programme administration	Board of competence centre	Programme administration	External experts	Funding ministry	Programme administration	Programme administration	TA CR Board
Main content of the funding recommendation?	Discrete ranking of all projects	Projects to approve/ not-approve	Discrete ranking of all projects	3 groups of projects are built	3 groups of projects are built		Discrete ranking of all projects	3 groups of projects are built	Different portfolio scenarios	Discrete ranking of all projects	Discrete ranking of all projects
What is perspective of the "decision committee"?	As a formal body/quality assurance	On project level	Formal decision	Formal decision	Strategic – on portfolio level	As a formal body/quality assurance	As a formal body/quality assurance	On project level	Strategic – on portfolio level	As a formal body/quality assurance	As a formal body/quality assurance

Source: TAFTIE Task Force Select

7 Good Practices in Selection Processes

7.1 What Is a Good Practice?

At this point the question arises what actually a good practice is. We want to propose the following definition:

> A good practice is a way of fulfilling tasks, which are understood to be effective and/or efficient in pursuing defined goals, such as performing the different steps of a selection process efficiently and customer friendly, or including the right expertise in the selection process and considering the programme goals adequately.

In our definition a „good practice" therefore refrains from running into the problems the term „best practice" carries: is a best practice really the best way of solving problems under all circumstances and in all environments (Lundvall/Tomlinson 2001)? We want to establish that this is not the case.

A good practice here is not understood as independent of the framework it is performed in. The organisational resources and capacities and the systemic environment and governance are providing the framework for possible strategies, ways of realising goals and potential practices of an organisation. Therefore several good practices may exist addressing a problem. What the best way to address a problem is in fact depends on the specific circumstances.

It would for example not make sense to implement a procedure into a small organisation located in an economy characterised by a dearth for money that depends on the availability of a large budget and extensive number of qualified staff. Similarly one normally would not like to introduce a complex organisational process coming from a long established agency and involving a large number of actors into a small and new agency with limited personnel resources.

The criteria effectiveness and efficiency which are important for establishing what a good practice is actually are not self-explanatory. The following criteria have been identified by the task force as of specific importance for the work of innovation agencies:

- **efficiency**: different forms of efficiency are possible, on the level of the organisation (reaching set goals with a minimum of effort) and of the system (in the sense of the outcome for the innovation system, including issues of administrative burden reduction such as how much time is invested by applicants for filing a proposal, how much work has been invested in how many good proposals which cannot receive funding because there is not enough budget available, but also reaching broader societal goals such as reducing joblessness through a thriving economy or working towards a clean environment through

more green innovation). One indicator that has been used as a proxy for efficient processes is time (e.g. time-to-decision, time-to-money, see also Task Force BIEE), also because time matters for the target groups, as innovation projects have to consider innovation cycles and be carried out timely. Other possible indicators include administrative costs for applicants, but also broader effects to be established in the form of impact assessments such as the outcome of funding programmes in the sense of new patents, new practices, new scientific papers etc.

- **customer focus**: an innovation agency has different sets of "customers", with different sets of goals, such as firms, research and higher education institutions (goals: the smallest possible administrative costs for e.g. collecting necessary information for applications, not wasting time and effort for taking part in calls which are highly oversubscribed, with unclear programme goals or with intransparent decision processes, where no clear reasons are provided as to why funding has not been provided) and ministries (goals: having to legitimise how taxpayers' money is being spent and that the goals of policies are being reached; civil servants and politicians want to see tangible results, ideally in the form of numbers, comparisons and successful showcases). The notion of customer focus also includes the idea of learning: learning as an agency from the feedback from target groups, and supporting learning of applicants, e.g. from feedback from the evaluation of their proposals.
- **suitability for intervention logic**: proposal selection criteria and processes have to consider the intervention logic and goals of the scheme they are used for. So criteria need to differ between Type 1 and Type 2 schemes and consider programme goals; different expertises might be needed for different intervention logics etc. There is no "one size fits all" process.
- **transparency, equal treatment and quality**: in order to fulfil its functions an innovation agency has to credibly live up to its goals. The credibility of an innovation agency towards its customers critically depends on the agency's ability to show that selection processes are fair and transparent and that applicants are treated equally. In this respect also very important is the quality of the process for proposal selection, in terms of a sufficient information basis for a transparent and unbiased funding recommendation / decision.
- **track record**: innovation agencies over time have developed a number of instruments and processes in order to select projects fulfilling the programme goals under which financing of specific projects is taking place. As they use taxpayers' money for their operations, they have to prove this track record to their ministerial supervisors and to the general public. Established ways of doing so include evidence of their activities' impact on economy and society as produced by evaluations, monitoring exercises and feedback of customers.
- **process development**: in order to improve its output an organisation has to review its goals and processes regularly; process and organisational development should happen in a structured way in order to guarantee regularity and predictability for the organisation's development, but also its environment; process development furthermore is important for keeping and developing further the possibility to learn from experience, which then in a virtuous circle provides for the possibility of carrying the process development activities further.

It has to be noted that some criteria have a different quality than others: while e.g. efficiency, customer focus, suitability for intervention logic can easily be applied to selection processes / process steps, the criterion process development rather refers to the capability of an agency as an organisation to learn and develop.

It is moreover important to notice that the application of criteria in the real world involves trade-offs, i.e. they are contradictory:

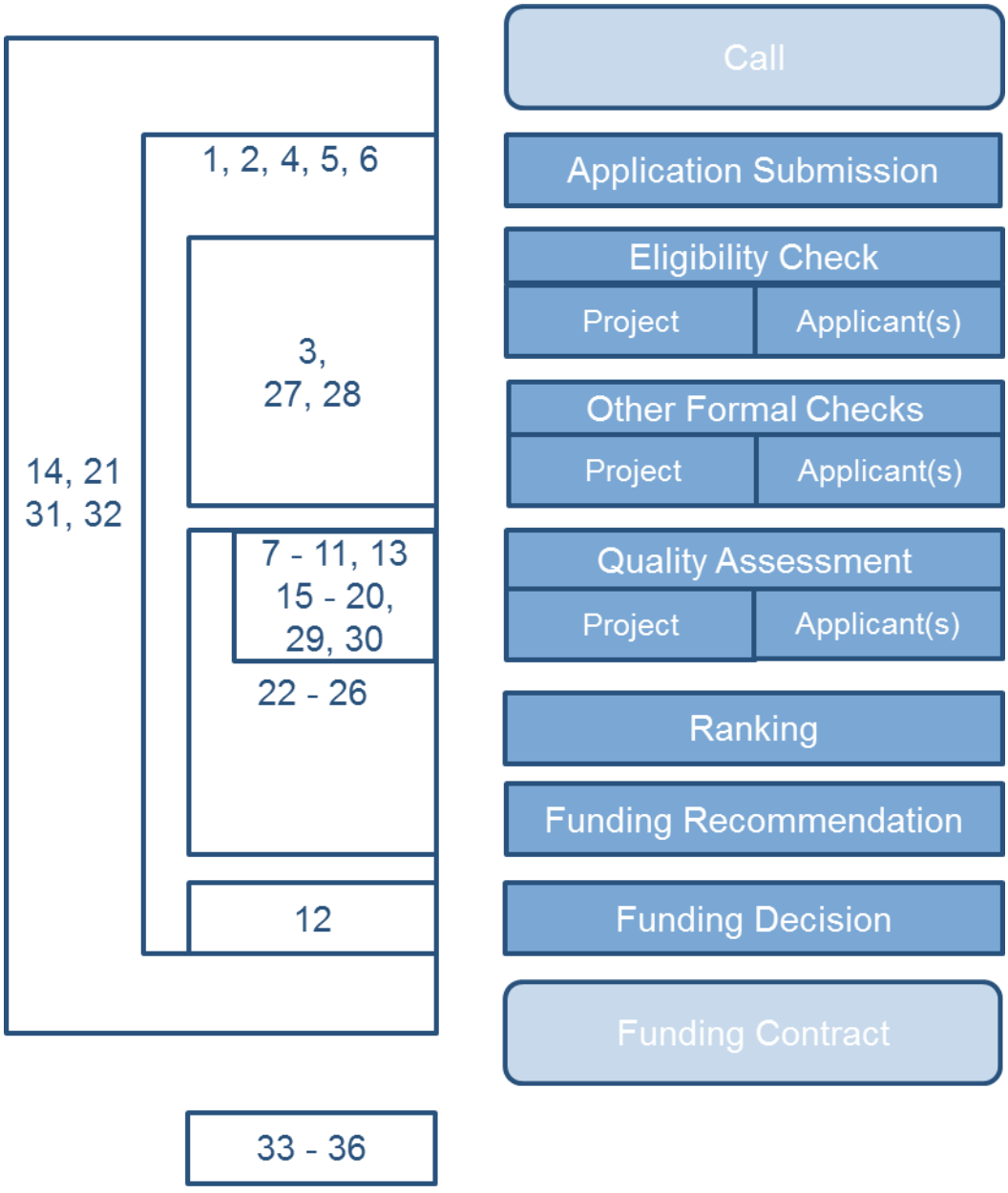
- If for example the issue of legitimation and transparency ranks very high for an organisation it might at one point run into problems when trying to cope with confidentiality issues, whereas a strong emphasis on confidentiality may result in a lack of transparency.
- Similarly an emphasis on trust might run the risk of the loss of control, while an overly emphasis on control could either lead to a loss of initiative or to overly high costs of controlling all actors' activities.
- Most agencies also experience constant efforts to find a good balance between efficiency and quality of the processes since an all too strong emphasis on efficiency will harm the quality of processes, whilst too much weight on process quality might result in high costs and low efficiency.

7.2 Good practice collection

The following chapter shows the good practices that were identified as part of the work of the Task Force. The good practices are numbered to facilitate navigation for the reader. The following figure shows to which step(s) in the backbone the good practices are related. While some focus on a specific step (e.g. ranking, or quality assessment), others cover the whole process (e.g. IT tools used to support the process, or an ex post survey after a project has ended that also covers the interaction of the agency with the beneficiary during the whole process and creates evidence on the impact of the selected projects).

The Good Practices in this chapter of the report were collected and selected by the Task Force and written by the respective agency.

Figure 2: Good practices related to the backbone structure



Source: Taftie Task Force SELECT, 2016

7.2.1 Reduce proposal / evaluation effort and costs

Good practices show that effort and costs can be reduced by focusing the proposal on the information needed to evaluate and select. Further information can be collected at a later stage, when necessary. Moreover, intelligent use of databases can reduce the bureaucratic burden for applicants and agencies.

GP 1: PtJ short proposal for funding decision, elaborate details later

Agency: PtJ

Programme / scheme: 6th Energy Research Programme

Request for full information after the (preliminary) funding recommendation

Process step: quality assessment, ranking, funding recommendation, eligibility check

Description of good practice:

The assessment of the quality of a project idea is based on a 10-page proposal. In case of a collaboration project one proposal is sufficient for the whole consortium at this stage. The assessment is performed by at least one internal expert and has to be defended in a team meeting. The outcome of the team discussion has to be included into the assessment. The assessments of different proposals are filed into an Excel list.

This list and the assessment schemes are the basis for further discussion with the funding ministry. The assessments are presented to the officials by the internal evaluators. Some portfolio management is added by the ministry.

The best project ideas are preliminarily recommended for funding. That means the applicants get informed by PtJ that the proposal was good enough and that they should send detailed information to PtJ. This detailed information includes new, more elaborated form sheets and a more detailed description of the project. In this stage, each partner of a collaboration project has send PtJ an own form sheets.

Applicants not which were not recommended for funding receive a rejection letter. Applicants whose project idea could not be assessed unambiguously in the first step are asked to adapt their project proposal, but not to work it out in detail.

At this stage, the funding recommendation is not legally binding. It is still possible that a recommended project idea will not be funded, for example if the more elaborated proposal is disappointing compared to the first short version.

The detailed form sheets and the detailed project descriptions are evaluated closely to decide which costs are eligible and which are not. In addition, it is checked if the proposal still follows the assessment of the first version. After evaluation of the proposals a final funding decision is taken by the ministry.

Evaluation of the described practice:

- Efficiency

The effort for the short proposal in the beginning and to provide more detailed information only after success in a first phase is efficient for the applicant. In addition,

it is efficient for the agency because it is easier to check and to assess 10 pages with the essence of the project idea instead of checking the detailed information in the very beginning of the assessment.

The process makes it is manageable if the number of proposals for the R&D scheme exceeds the expectations.

- Suitability for intervention logic and target group (select right projects for the goals, with highest impact)

The process allows intervention by the agency at an early stage (when the 10 page-proposals are checked and assessed). For example it is possible to discuss improvements of the application with the applicants e.g. by including new partners or recommending new additional aspects.

- Customer focus, customer satisfaction, learning for the target group and from the target group

Requesting only 10 pages ar the beginning of the application process is a customer friendly approach. Also the possibility to intervene in a positive sense meaning that the proposal could be improved by adding some aspects, helps the applicants.

- Transparency, equal treatment

The restriction of the proposal to 10 pages in the beginning helps to make the process more transparent because e. g. the idea counts and not the length of the proposal. This is important in order to include more industrial companies in the call. For example, industrial companies are not willing to elaborate too much details in the beginning whereas universities or other research institutes can easier do this.

Another point is that we use internal experts. This reduces the burden for industrial companies to participate in the call, because they do not want to risk that any competitor learns anything about their proposals e. g. by being selected as an external expert.

Equal treatment is assured by an internal discussion meeting after the assessment of the proposals and later by the meeting with the ministry staff.

GP 2: RCN proposal around 15 pages, details are defined after the funding decision in a contractual meeting

Agency: RCN

Programme / scheme: BIA programme/Innovation project for the Industrial Sector (Type 1)

Process step / or specific aspect the GP refers to:

Evaluators

Description of good practice:

The funding decision made by the Programme Board is always conditional. After the decision the applicant is invited to an obligatory contractual meeting. In the meeting the administration (programme officer) goes through the project and makes sure that all conditions are met. This meeting also gives the opportunity to

clarify problem areas and ask for more detailed information, e.g. regarding budget, project plan and collaborating partners. In some rare cases the funding decision might be reversed due to serious findings.

Evaluation of the described practice:

This practice allows to limit the information asked for in the proposal to the information necessary to evaluate the proposal and making a funding decision. This makes the application process simpler since only those who get a positive funding decision will have to provide additional information. And it saves the administration a lot of work since it does not have to go through the information for all applications which got a negative decision.

GP 3: EE joint database for all company data

Agency: Enterprise Estonia

Programme / scheme:

Estonian-Norwegian cooperation programme: Green Industry Innovation Estonia.

Technological development centres; Cluster development; other schemes for development of the companies.

Process step: formal checks

Provide data on organisation only once: government can ask company data (e.g. balance sheet) only once - agency links to database, systems need to be compatible.

Description of good practice:

EE collects client's economic data from E-Business Register and keeps it up to date. This information is used for evaluation e.g. evaluating the impact of grants.

Evaluation of the described practice:

The data are up to date from reliable sources. Clients do not get bothered. • Efficiency, Customer focus: the practice is efficient both for the companies and for the agency. Companies do not have to provide the same information several times and the agency has easy access to a valid database

7.2.2 Start with very short proposals

A two-step approach seems to be advisable in order to test a new scheme, to reduce the number of full proposals in case of possible high rejection rates (e.g. due to limited budget) and in cases where large funding budget or high complexity of issues need elaborate proposals. The selected good practices show some innovative examples. In general, a two-step approach should be used in a way to increase efficiency (i) by reducing the number of full proposals that have to go through the entire selection process. To this end (ii) the difference between the first and the second proposal (often called short and full proposal) needs to be significant.

GP 4: CDTI video pitch

Agency: CDTI

Programme / scheme: NEOTEC Call

Process step / or specific aspect the GP refers to:

Quality Assessment

Description of good practice:

Proposals for the new NEOTEC Call (closes on 06/10/2015) had to submit a short video pitch (maximum 3 minutes long), where the business plan was summarized (in addition to the written business plan). With this video-pitch, evaluators can get a general idea of the business plan, so it may help in the assessment process.

Evaluation of the described practice:

This was the first time that videos became used at CDTI during the evaluation process. Advantages are:

- Efficiency: Short videos may be informative.
- Transparency, equal treatment, quality. Applicants have equal opportunities. No interaction required.

After completion of the whole call process, the efficiency of the use of videos will be evaluated (and also if its length is adequate).

Problems may arise in the case if information provided in the videos are contradictory to the written business plan.

GP 5: VINNOVA video pitch

Agency: VINNOVA

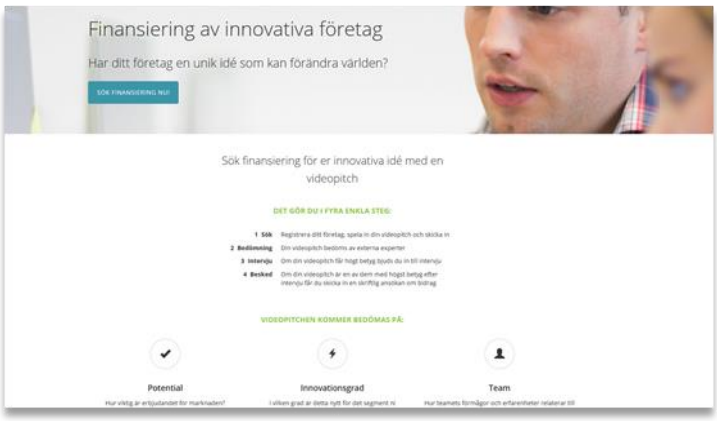
Programme / scheme: SME programme

Process step / or specific aspect the GP refers to:

The entire process: from submission to funding recommendation and decision.

Description of good practice:

Vinnova has developed a new efficient and innovative two step application and evaluation process and a web service for this practice – the VINNOVA Videopitch. On a shared platform where Vinnova creates and publishes calls, customers apply with a 5 minute long video pitch and external experts evaluate the pitches. Vinnova and the evaluators interact with the customers and the top ranked applications are approved to apply for step two – a written application.



Evaluation of the described practice:

With this innovative project Vinnova intended to make the application and evaluation process easier, faster, more transparent, more efficient, and cheaper.

- Efficiency
- Customer focus, customer satisfaction, learning for the target group and from the target group
- suitability for intervention logic and target group (select right projects for the goals, with highest impact)
- transparency, equal treatment, quality
- process and organizational development in a structured / systematic way; flexibility

Limits:

Vinnova has only tried this with their SME target group and with a call for IT-business startups. Vinnova will do a new test with a larger call in February 2016 for Social Innovation. There will be a heterogenic target group within a totally different field. It will be very interesting to see if the Videopitch is a good practice to implement in the organization as a whole.

GP 6: RVO project proposal - pre-selection based on project summary

Agency: RVO

Programme / scheme: Topsectoren MIT

Process step / or specific aspect the GP refers to:

Information basis: proposal, hearings, other interaction

Description of good practice:

Quality assurance in advance.

How to select the ideas that are worth the effort of writing a full proposal for the customer and worth to be evaluated by the agency?

Potential applicants are good informed about their chance of success. They know what is the aim of the programme, what is expected from them and what kind of projects are expected. RVO achieves this by:

- During the development of a programme stake–holders such as industry organizations can reflect on the programme (this is done by the ministry in cooperation with the agency)

- Industry organizations are actively approached and informed about the programme. They provide this information to their members.

- When the programme is published potential applicants are informed by organizing meetings where the programme is discussed with them and where potential applicants have the possibility to make a check on the chance of success. RVO also provides a quick scan form on the website so applicants can have a check on their ideas and can get feedback on the chance of success.

When the expectation of the number of applications is difficult to estimate:

In this cases RVO recommends to have the possibility to do a pre-selection based on the project summary. This can only be done if this possibility was described in the regulation of the scheme. The summary of the proposal must then be drawn up on the basis of the programme criteria. The pre-selection is done according to the criteria and by the same people that will do the final selection.

The projects with a positive evaluation after the pre-selection will be assessed on the basis of the complete project plan. The number of proposals that are selected for a full evaluation depends on the budget: for example, if 100 projects can be granted and there are 500 applications the pre-selection results in 200 projects that will be fully evaluated

Evaluation of the described practice:

To invest in communication with the customer helps to get a better quality of proposals. It is not only beneficial for the quality it also gives feedback to the agency and the ministry about the quality of the programme and the needs of the target groups. Especially the cooperation with industry organizations before the actual publishing of the regulations of the programme helps RVO to fine-tune the programme and provides better results.

The selection on the summary of the proposals is a good practice when there is a strong need for efficiency. However, applicants are not always supporting this practice, because they may have the feeling that the selection is not adequate.

7.2.3 Have the right expertise, evaluate what you are expert in

A crucial point in selection processes is the right expertise. If the funding scheme exhibits criteria and goals referring to manifold aspects, such as scientific quality, market knowledge, opportunities and strategies for economic exploitation etc., one homogeneous group of experts might not cover the whole range of expertise needed to evaluate the applications. Hence, many agencies combine the knowledge of internal and external experts. Mostly, external expertise is needed for programmes / schemes with high scientific ambitions, while internal experts often evaluate market and exploitation strategies. In general, it is advisable to have a good balance of these different insights (which often means a balance of external

and internal experts). Agencies working with internal experts reported that continuous and systematic training of these experts is advisable, both in terms of their scientific / technical expertise and in terms of their understanding of programme goals and selection criteria.

GP 7: HAMAG-BICRO combination of internal and external expert knowledge for different criteria

Agency: HAMAG-BICRO

Programme / scheme:

Programme RAZUM (R&D activities of SMEs and start-ups) (used in all current HAMAG-BICRO innovation programs)

Process step / or specific aspect the GP refers to:

Process step: quality assessment

Specific financially related selection criteria are evaluated by internal financial evaluators while technology and business related criteria are evaluated by external experts.

Description of good practice:

Associating selection criteria with expertise by using internal and external knowledge for specific criteria.

Evaluation criteria used in RAZUM relate to aspects such as level of innovation, market potential, company and team capacity etc. Some sub-criteria which are not only used in RAZUM but in all innovation programs of HAMAG-BICRO can clearly be dedicated to financial expertise; such as: company financial stability, capacity to finance its financial contribution to the project, budget structure, return on investment, etc.

To use the capacity of external evaluators as good as possible in their specific area of expertise these financially related sub-criteria are evaluated only by internal financial evaluators. External evaluators give their input only to business and technological related sub-criteria such as level of innovation, potential for creation of competitive advantage for the applicant stemming from proposed project, etc.

During the evaluation committee meeting, which is organized for each project proposal which passed through administrative evaluation, these 3 evaluators listen to the presentation of the applicant. After the applicant leaves, the panel participants discuss about the project before they give final marks.

When both, financial and external evaluators, gave their marks to each of the sub-criteria these marks become integrated in Excel forms to obtain a final project mark.

Evaluation of the described practice:

- Efficiency
  - Expertise of external evaluators is used efficiently only for those areas where their expertise is needed
  - Financial evaluation practices are standardized and performed by less evaluators but more consistently Operational budget for programme administration is used in an efficient way
- Customer focus, customer satisfaction, learning for the target group and from the target group
  - Beneficiary is more confident that the specific fields of the project are evaluated by appropriate experts
  - Internally expertise is created on financial aspects of evaluation of innovation related projects
- Suitability for intervention logic and target group (select right projects for the goals, with highest impact)
  - Although focused on high risk projects intervention logic of the programme has commercialization aspects, which are partly taken into consideration through financial sub-criteria
- Transparency, equal treatment, quality
  - It is clear which experts evaluate which criteria
  - For all projects financial criteria are evaluated in consistent way

GP 8: PARP mixed expert panels

Agency: PARP

Programme /scheme: schemes with big grants

Process step / or specific aspect the GP refers to:

Quality assessment

Description of good practice:

The quality assessment is done by panels of experts.

A panel of experts consists of 4-5 experts (external and internal) – at least one financial, one market and one professional expert. PARP also tries to keep a balance in the panel between internal and external experts.

Applicants have to present their projects to the experts and have the possibility to explain critical points of their proposal .

The experts have to evaluate each project and have to elaborate one joint result of the evaluation. They also have to write a joint justification of the result of the evaluation.

Evaluation of the described practice:

The system increased PARP's control on the whole evaluation process.

The evaluation is not only on the basis of written proposals. PARP also evaluates applicants´ knowledge of the project as well as their involvement in it.

The experts in the panel can discuss doubtful matters.

As the applicants can appeal the result of the evaluation, the system with one joint result for the whole panel of experts is easier to defend for the agency.

Limits:

The evaluation has to be done in the agency and is difficult to organize. The evaluation is done by a whole panel (4 -5 experts) so it is also quite expensive; it is suitable for big projects and calls with a limited number of applications.

GP 9: CDTI combine external and internal experts - different sets of criteria according to expertise

Agency, Programme / scheme: CDTI / TYPE 2

Process step / or specific aspect the GP refers to:

Quality assessment

Description of good practice:

The sets of criteria are different for the external and for the internal experts. Each set is specifically adapted to the background and experience in evaluation procedures of the expert and to the aspects of the proposal that they are asked to assess.

As external experts mainly come from Academy, the aspects they may assess are related to technical and scientific issues. The set of criteria for external experts usually includes adequacy or the programme, capabilities of the applicants, technical and scientific excellence, quality of implementation and management and impact.

For internal experts, with an intensive background in assessment, those criteria are divided into more detailed sub-criteria and usually include other aspects as creditworthiness and international potential of the outcome of the projects. As an example, sub-criteria for impact may include aspects like environmental impact, employment impact, gender balance, social impact, and market impact among other, pending on the programme objectives.

Evaluation of the described practice:

Each set is specifically adapted to the background and experience in evaluation procedures of the expert, helping them to define and communicate their opinion of the proposal in a convenient way.

- Efficiency

It's adapted to the experience of each type of expert, so the required time for training is reduced to a minimum.

- Customer focus, customer satisfaction, learning for the target group and from the target group

It is easy to understand and to work with the criteria sets, so they allow the expert to focus on the assessment, not on understanding the criteria.

- suitability for intervention logic and target group (select right projects for the goals, with highest impact)

These different criteria help the experts to take into account all relevant facts for the assessment and they are adapted to the aspect of the proposal the experts are required to assess.

Criteria must be carefully designed so the results of the different assessments are compatible and comparable.

GP 10: RCN combine external and internal experts – internal experts evaluate aspects that require specific knowledge in funding management

Agency: RCN

Programme / scheme: BIA programme/ Innovation Project for the Industrial Sector (type 1)

Process step / or specific aspect the GP refers to:

Evaluators, Quality Assessment

Description of good practice:

The external experts are used to evaluate scientific- and technical level, innovation and market.

Internal experts evaluate criteria that require experience/knowledge in selection process and special governmental aspects. This might typically be criteria that might be unfamiliar to evaluators who do not work with this on a daily basis, e.g. additionality.

Evaluation of the described practice:

The agency cannot be expected to have detailed knowledge of science and markets. The use of external experts will therefore give the applicants confidence in the results of the assessment, carried out by experts with the right expertise.

Likewise, by letting the internal experts evaluate the more special criteria it will assure the applicants that also these criteria are treated by the best.

7.2.4 Interaction with applicants

The Task Force has a broad variety how and when to interact with applicants. While interaction on open calls seems to be quite common, differences occur in other schemes. The selected good practices show particular examples of interaction that both have a "2nd" rationale in addition to the primary goal to improve proposals and/or improve the information basis for the selection process.

GP 11: HAMAG-BICRO external technology monitor

Agency: HAMAG-BICRO

Programme / scheme:

Programme RAZUM (R&D activities of SMEs and start-ups) (used in all current HAMAG-BICRO innovation programs)

Process step / or specific aspect the GP refers to:

Information basis: proposal, hearings, other interaction before submission or during project monitoring

Process step: quality assessment

External technology monitors are used during quarterly project monitoring activities as well as at the end of the project.

Description of good practice:

External Technology/business monitor

External technology evaluators are generally used in all programs for quality assessment. In the past HAMAG-BICRO, in Razum and another programme, used the same external expert that evaluated the project in selection process also for the monitoring progress of the project and provided support to beneficiary with advice. This was found to be a good practice that suited HAMAG-BICRO's needs and resources. This expert was budgeted from the project.

Now HAMAG-BICRO is starting with the new practice of having an external technology monitor that did not evaluate the project during selection process. This practice is extended on the shorter Proof of Concept Programme where it will be used in the next call only at the end of the project to assess the technical success of the project.

So far if the evaluation is positive and HAMAG-BICRO decides to finance the project:

- From expert database one evaluator is selected based on experience, topic, and whether project risks are more related to technology or commercialization
- During obligated quarterly reports the technology evaluator visits the beneficiary and writes an opinion
- Report is used in quarterly approval for payments
- At the end of project, a final report is prepared by the technology monitor
- Report is used in final decision on project success and approval of final payment

Evaluation of the described practice:

- Efficiency
  - Agency does not need to hire internal experts and build up specific expertise inside the organization
  - Only financial monitoring is done internally by the agency
  - Cost of monitors are part of the project budget
  - Monitor learns about the project over time and can relatively easy prepare final opinion
  - For projects in earlier phase external opinion can play a role of ex-ante evaluation for next phase
- Customer focus, customer satisfaction, learning for the target group and from the target group
  - Beneficiary has a "sparring partner" during the whole project
  - In case risks are related technological issues a technology expert is selected, in case risks are more related of market and commercialization issues an expert with business experience is selected
  - The agency also learns about the project and beneficiary more in depth
  - Collected feedback may be more objective
  - Stronger link is built between beneficiaries and evaluators and the agency
- Suitability for intervention logic and target group (select right projects for the goals, with highest impact)
  - RAZUM programme targets risky projects with global potential. Therefore, the choice of an external monitor with focus on risks regarding the project is in line with the intervention logic of the programme
  - Start-ups get help from expert advice
- Transparency, equal treatment, quality
  - higher quality of service is achieved
  - beneficiaries get more than just financial support
  - from now on all projects financed from HAMAG-BICROs current programs will have external technology monitor (for longer projects during the project or for shorter ones at the end of the project)

GP 12: RVO interaction with applicant

Agency: RVO

Programme / scheme: Topsectoren MIT

Process step / or specific aspect the GP refers to:

Information basis: proposal, hearings, other interaction

Description of good practice:

Some schemes like the Topsectoren MIT programme involve large numbers of applications, therefore there is a risk of less personal contact with the applicants. To be able to be in contact with applicants in an efficient way RVO has several measures in the pre-application phase (see also good practice 5). In addition to these RVO also has a focus on the communication during the decision phase.

Before sending a letter with the rejection the applicant is contacted by phone. This contact is no longer part of the decision-making process; the decision is already made. But this way RVO is able to explain the decision to the applicant and to avoid an objection. Also RVO gives advice to the applicant (if wished) about other possibilities to continue the project.

Evaluation of the described practice:

Interaction with an applicant increases knowledge of the agency and the quality of the proposal. Good communication helps to lower the number of objections while rejections are better accepted by the applicants. Customer satisfaction is improved.

But the interaction with the applicants is time consuming, however it saves time in total because of the lower number of objections. Contact with the applicant about the rejection provides also information for the agency which helps to improve their communication and selection process.

7.2.5 Coordinate and integrate parallel evaluations, standardise, quality control

A core task for agencies managing selection processes is the quality management of these processes. And one crucial quality aspect in this regard is the standardisation of individual evaluations by different experts. This task is demanding, so agencies have developed manifold ways to deal with this challenge. The selection process should be organised in a way to make sure that evaluators have a common understanding of the goals and the selection criteria, and use the scales to give marks in the same way. In general, it is advisable to support this by a systematic process controlled by the agency.

GP 13: FFG joining parallel internal evaluations

Agency: FFG

Programme / scheme: General Programmes

Process step / or specific aspect the GP refers to:

Quality assessment

Description of good practice:

Technical and financial experts (both internal) evaluate a proposal. They have to make a joint report.

Before the meeting of the standing committee, all evaluators involved in the evaluation of proposals for that cut-off date (7 per year) have a meeting. They have to present their evaluation, including the scores, and defend it. Open questions have to be clarified during this meeting.

The meeting is used to develop a common understanding of criteria and scoring for the criteria. Open questions and "borderline cases" are discussed in the group and improve the common understanding and knowledge of the evaluators. The whole group sees not only the individual project but the whole portfolio of proposals for that cut-off date.

After the discussion the evaluation reports can be adapted according to the results of the discussion.

Evaluation of the described practice:

- Efficiency: Internal evaluators have common understanding of criteria and intervention logic. New staff is "trained" during the discussion.
- Transparency, equal treatment, quality: each evaluation has to be defended, this fosters quality of the evaluation and equal treatment of proposals / applicants.

Limits

- Time consuming! Usually it is a full 2 days meeting of all internal experts involved in the evaluation process.

GP 14: VLAIO programme coordinator

Agency: VLAIO

Programme / scheme: all schemes

Process step / or specific aspect the GP refers to:

A process coordinator is identified for a specific programme.

Description of good practice:

He/she knows all details of the programme objectives, the criteria or the possible applicants. He/she elaborates the process description in detail and is a tandem for the team leaders who are responsible for uniformity in reporting.

The programme coordinator is responsible for external communication (e.g. to the community) and is available for first discussions with potential applicants. He/she also gives presentations on the programme.

Internally at VLAIO he/she is responsible for the back-up for the internal experts of VLAIO and the training of colleagues. He/she is responsible for the communication content to the experts at the meetings. He/she can be present at these meetings if the advisor has not enough experience in a particular programme.

GP 15: EE integration of parallel evaluations, standardization

Agency: Enterprise Estonia

Programme / scheme: Estonian-Norwegian cooperation programme: Green Industry Innovation Estonia;

Technological development centres; Cluster development; other schemes for development of the companies.

Process step / or specific aspect the GP refers to:

Integration of several individual proposal evaluations

Integrating evaluation results, i.e. making a synthesis of different evaluations for one proposal

Description of good practice:

1. Objective - harmonize understanding of criteria and ranking between evaluators. If two evaluators (independent experts) disagree for more than 30 per cent, a third evaluator is added. The Final rate is the average of the two evaluators with the scores closest to each other.
2. It is more common to use evaluation committees or expert panels (about 7 members). Committee members evaluate projects on the basis of the applications and the evaluation report, made by the client manager. If grades differ from the ones of the client manager, the committee must justify their rankings. The final rate is the weighted average of all committee members' grades.
3. Training of evaluators before opening the scheme – objective of the scheme, meaning of criteria and ranking, discussion of different cases. It ensures that evaluators have similar understanding.

First Example: the evaluation is fair, homogenous, extreme ratings are removed.

Second Example: the evaluation is broad-based, extreme ratings does not play a big role, there is an opportunity to discuss rankings.

Evaluation of the described practice:

- Practice raises efficiency – but not always. By smaller and simpler grants evaluation committees or panels are too expensive resources.
- Customer focus, customer satisfaction, learning for the target group and from the target group: customer can be sure that evaluation is objective, doesn't depend on one person ranking.

GP 16: CDTI Building consensus on different levels

Agency, Programme / scheme: CDTI/ TYPE 2

Process step / or specific aspect the GP refers to:

Evaluators; quality assessment

Description of good practice:

There are various steps in the process of CDTI to reach consensus. Firstly, there must be consensus between the external experts, and then there must also be a consensus reached with the internal assessment.

If there are significant differences and the experts in each step do not reach a consensus, an additional expert assesses the proposal.

Evaluation of the described practice:

- Efficiency

If the assessments are similar, there is no need to discuss them.

The discussion is limited to the level where differences occur (e.g. external experts). This means that the number of persons who take part in the discussion is smaller and for that reason less time is needed to find a consensus than in bigger groups.

- transparency, equal treatment, quality

To allow for discussion when views are different is an important element of quality of the evaluation. The reached consensus take into account the different aspects of the proposal.

The final assessment is highly agreed among all the different points of view, so the best scored proposals are the most soundes, balanced and complete ones of the call.

GP 17: VLAIO external experts´assessment as advice after proposal evaluation by internal experts, all experts meeting with applicants

Agency, Programme / scheme:

VLAIO, SME-programme (type 1)

Process step / specific aspect the GP refers to:

Quality Assessment; Evaluators

Description of good practice:

The SME-programme is an open call scheme, with typically 25-30 proposals each month. Each proposal is assigned to a main internal evaluator. This person interacts with the applicant about the proposal, selects the external experts and makes up the final decision proposal to an internal committee (reporting). Each proposal is also assigned to an internal financial evaluator: he checks the financial credibility of the applicant.

The main internal evaluator deals with the full set of evaluation criteria (quality and impact potential). He is obliged (by law) to ask for an external advice on all of these criteria. In case of the SME-scheme a pool of experts (about 100 persons) that have a more general (helicopter) view on what is going on in their domain (sector), is used. There are both academic as well as industrial experienced experts in this pool ("pool experts"). For a period of 6 months ahead, meetings on a monthly basis are scheduled with these pool experts. Meetings are organized per technology domain (sector) and in a way that the same pool expert is invited at the most 2 times in this 6 months' period. The internal evaluator has to pick one of the pre-scheduled meetings and put the project proposal on the agenda of this meeting. He also has to choose two experts of the invited pool experts on that meeting, whose expertise fits the most with the content of the proposal. The internal evaluator also has the possibility to invite an additional external expert, when necessary (i.e. if the proposal demands specialized expertise not covered by the experts already on the meeting list).

Proposals are sent to the experts 2 weeks before the meeting takes place. At the meeting the applicant is also invited to give a brief explanation about his proposal and to answer some critical questions the external experts might have. The internal evaluator moderates the whole discussion. After the applicant has left, the external experts score the complete set of criteria, and the internal evaluator takes note of this scoring and the underlying arguments. This scoring by the external experts is used in the selection process as an advice. The final decision lies in the hand of the agency. Most of the times the advice is followed, but if good reasons can objectively be argued, the internal evaluator can overrule the advice (this happens rarely). The internal evaluator formulates a funding decision proposal to the internal decision committee (director + team leaders + programme coordinator).

Evaluation of the described practice:

- Efficiency: Evaluators can make use of the prescheduled pool expert meetings. This makes the process faster: no time consuming search for external experts or agenda problems for fixing meeting dates.
- Suitability for intervention logic: not only project selection for funding (money) is made, but also advice for possible better project approach is given to the applicants. Since the target group consists mainly of SME's building up (first) innovation capabilities, this advice is often appreciated.
- Customer focus, customer satisfaction: the applicant has the possibility to interact with the internal evaluator and the external experts. This also contributes to the transparency of the process.
- transparency, equal treatment, quality: Most of the experts (the pool members) review many proposals on a frequently basis (every 3 months), so there is a certain positive learning effect. The internal evaluator is actually taking part of the expert committee as a moderator. This contributes to guaranteeing equal treatment and quality assurance.

GP 18: RVO External experts as an advisory board evaluate after internal evaluation

Agency: RVO

Program: Innovation credit (open call)

Process step / specific aspect the GP refers to:

Quality assessment / funding recommendation.

Description of the good practice.

Internal evaluators evaluate the project and give the funding recommendation.

An external advisory board is asked for a second opinion on the recommended proposals.

The external advisory board does mainly have a role as a quality assurance, they give an advice but cannot make a decision.

The innovation credit is a loan to a company for the development of an innovative product with a high technological risk. Because of this loan characteristic of the program the financial evaluation is done more thoroughly than it is the case in subsidy programs. This evaluation is done by internal experts with a technological background but with expertise and special training in evaluating business cases.

The evaluation includes a visit to the company and a meeting with the management of the company. After the evaluation and scoring, the projects that are recommended for funding are discussed in a meeting with an external advisory board. They score the projects on the same criteria as the evaluators do. After the scoring there is a discussion. This discussion can lead to extra conditions or project changes.

The advisory board does consist of experienced people who have different backgrounds e.g. people from industry, banks, industry organizations, SME companies.

The members of the advisory board change every 2-3 years.

Evaluation of the practice:

This practice is a good practice in relation to efficiency, equal treatment, process and organizational development.

The advantage of this practice is that it is taking the best of both worlds. Well trained agency staff is able to do the evaluation and advise companies in the process. Because these are internal people RVO can optimize this process.

But only relying on internal evaluation comes with risks on several aspects. For example, objectivity, relation of the program to the needs of the target group, the ability to be critical of the organization itself, not having the state of the art knowledge etc. The advisory board does address these risks by supervising the decisions of RVO.nl. They do this by being critical on the funding recommendations and have the option to give suggestions on each recommendation.

In addition to that they also supervise the process itself by asking questions and give RVO.nl unasked advises about the program and how it is organized.

GP19: FFG: standardize scores by requesting evaluators to identify strengths and weaknesses

Agency, Programme / scheme:

FFG, type 2

Process step / or specific aspect the GP refers to:

Quality assessment

Description of good practice:

Funding agencies often experience a challenge in the justification of the scores external evaluators allocate to a proposal with regard to a specific criterion. There are cases where the written justification seems not to be consistent with the score.

FFG now requires experts to explicitly identify and describe strengths and weaknesses of the proposal with regard to the criterion. This forces experts to be clear about why they evaluate a proposal in that criterion as good or weak and to be clear about their judgement.

Evaluation of the described practice:

- Efficiency: a clear statement on strengths and weaknesses facilitates the explanation of scores, the panel discussion and the compilation of the joint evaluation report from the panel.
- Customer focus, customer satisfaction, learning for the target group and from the target group: a clear communication of strengths and weaknesses fosters learning in the system, so also applicants can make better use of the feedback they get
- Transparency, equal treatment, quality: the clear cut differentiation of strengths and weaknesses supports equal treatment because it is less open for interpretation and it supports quality of the funding decision because scores have to be argued in terms of the balance of strengths and weaknesses

Limits: though external experts are asked to explicitly give their opinion on strengths and weaknesses, some experts still find it difficult to propose such clear positions. In some cases, the scores still do not seem to be connected with the balance (or imbalance) of the described strengths and weaknesses.

GP 20: RCN standardize scores by anchor texts for the scaling

Agency: RCN

Agency: RCN

Programme / scheme: RCN, BIA programme /Innovation Project for the Industrial Sector

Process step / or specific aspect the GP refers to:

Quality assessment. Improving equal treatment when scoring proposals.

Description of good practice:

Anchoring texts for scaling

The scoring scale to be used by the experts have 7 grades; 1-7 (best). To help to ensure that different experts/panels put the same meaning into a given score, each of the seven possible scores is defined by an associated text called the anchoring text. The task for the expert/panel is then to select the anchoring text that best describes/complies with the proposals' fulfilment of the criterion evaluated. Hence the score is a direct consequence of the text selected.

In a panel the experts discuss which anchoring text to agree upon rather than to discuss numbers.

Each criterion has its own set of anchoring texts. This means that for different criteria the anchoring text for e.g. score 6 will be different.

Example:

Criterion: Level of Innovation

Anchoring text for score 6: "Represents an innovation in a global context and a significant step in relation to the state-of-the-art in the industry segment."

Criterion: Relevance of the research for innovation

Anchoring text for score 6: "The research results will be a highly important factor in the realization of the innovation."

Evaluation of the described practice:

The use of a scale with anchoring texts makes the evaluation less dependent of which expert/panel evaluates a proposal. It also simplifies the comparison of proposals evaluated by different experts/panels.

Using anchoring texts result in a much better process within a panel. E.g. when using scales without anchoring texts and one expert going for score 6 and another going for score 4, the easy way out often is to score 5 (the average). If anchoring texts are used it forces the experts into a discussion of which text covers their opinion best.

The experience is that anchoring texts significantly improves the quality of the evaluation and the scoring.

However, to develop good anchoring texts is a challenging task which will require experience and a lot of work.

7.2.6 Confidentiality and impartiality

Apart from transparency, keeping information confidential and safeguarding objective and impartial evaluations are key for reliable and trustworthy selection processes. All agencies have developed clear processes and rules for these requirements. Internal experts often are associated to proposals on a rotation basis (to avoid increasing closeness of relationship to the beneficiary), have to state that there are no relationships to beneficiaries, and in general are deemed to be impartial towards proposals because they do not have a role in a market. More formal processes are used with regard to external evaluators – often they are chosen from a sector where a bias is unlikely, or international evaluators are used where this is possible (language barrier). They have to sign confidentiality agreements and state

impartiality, in some cases multi step processes are developed to make sure that one single expert cannot influence the funding decision in an inadequate way. Where external experts are used in selection processes more than once, a rotation principle is also advisable.

GP 21: RCN: proposal never leave the building

Agency: RCN

Programme / scheme: BIA programme/innovation Project for the Industrial Sector (Type 1)

Process step / or specific aspect the GP refers to:

Quality assessment. Confidentiality.

Description of good practice:

No proposals are sent to the experts, neither electronically nor in paper format. To evaluate a proposal experts have to come to the site where the evaluation is going to take place. The experts do not know which proposals they are going to evaluate beforehand. When they arrive they receive the proposals in paper format. They are not allowed to use any electronic equipment (PC, mobile) during the evaluation. After a proposal has been evaluated, the proposal and all written notes are collected for maculation.

Evaluation of the described practice:

The proposals are from industry and may contain very sensible information. The fact that the proposal never leaves the building and the strict regime for the evaluators have helped building great confidence in the evaluation process amongst applicants and industry. They trust that everything possible is done to preserve confidentiality.

Some of the experts are also applicants from time to time. They are RCNs best ambassadors for promoting quality and confidentiality of the evaluation process.

7.2.7 Ensure that programme goals / intervention logic is considered properly

Programmes have specific goals and are based on a particular intervention logic. It is important to allow for the programme goals and the intervention logic to be properly considered in the selection processes. Most agencies do this by including programme goals explicitly in the selection critera and by weighting critera accordingly. The two good practices selected go a bit further: one good practice shows a system how to deal with criteria so that programme goals and impact are considered adequately, the other good practice shows an explicit step of portfolio management before the funding decision is taken.

GP 22: Bpifrance Consider the need to be selective when defining criteria: sort out the proposals that do not reach a minimum quality or identify the best proposals?

Agency: Bpifrance

Programme: type 1 and 2

Description of good practice:

Criteria should take into account the selection rate / success rate of the program.

Very competitive programs (1 grant out of 100 proposals for example) should involve accurate and narrow criteria with scoring in order to have more discrimination between proposals, and stronger answers in case of doubts. In that case, the objective of the criteria is to put a limit between the "winners" and the proposals that are rejected. The limit has to be very clear to avoid contestations.

On the opposite, programs with high success rates (e.g. 80 grants out of 100 proposals) can be more qualitative with less scoring (especially if orientation is done before and after) and concentrate less on discrimination between proposals but more on the qualitative aspects and the potential of the project. These criteria are about sorting out the proposals that do not reach a sufficient quality. Here the focus is less on comparison and more on explaining the funding decision.

Evaluation of the described practice:

This practice allows better funding decision: hard and strong decision will be well supported by accurate arguments / positive decisions will also be supported by arguments in case of later discussions or objections. In case of low selection rate, a lot of time can be saved.

Customer satisfaction will result from the clear explanation of scoring in highly selective programs or in accelerated replies in programs with a higher success rate.

This practice is suitable to differentiate programs with extreme selection rate (20% or on the opposite 80%).

This practice has been used in Bpifrance for 8 years now with satisfaction. IT tools are now mature and enhance the speed of analysis.

Obviously processes are specific according to each practice. High selectivity has to be supported by a deep analysis tool (minimum 50 accurate questions analysed by an expert). Low selectivity can have a lighter support with a written report focussing on qualitative aspects.

GP 23: VLAIO go/no go decision for quality and expertise before other criteria are evaluated

Agency: VLAIO

Programme / scheme: most VLAIO schemes

Process step / or specific aspect the GP refers to:

Scientific and technical criteria evaluation/assessment; Ranking

Description of good practice:

In most programmes of VLAIO there are 2 evaluation axes. One is the quality and the other is the impact of the proposal. In order not to let both evaluations interfere, there is first the evaluation of the quality. This is a go/nogo evaluation with 3 sub-criteria (binary criteria). These are:

- Goal, innovative character and challenges of the proposal;
- Quality of the work program with decision points, deliverables, work packages and effort allocated;
- Expertise of the applicant and his main partners.

The impact criteria are only evaluated if the quality is above a certain threshold. It is not important if the quality is good or very good.

It is possible to formulate conditions, advices or adapt the programme/effort.

Conditions can be to reduce budget, reallocate budget, import extra partners, introduce extra work packages, consult certain parties.

After that, the proposal is scored on the subcriteria of the impact. Each impact criterion can be given a score very good (+1), good (0), weak (-1) or critical (-2). If one of the impact criteria has a critical score, the project is rejected. All the other project proposals that do not have a critical score qualify for funding. If the budget is insufficient to fund all potential proposals, the proposals are ranked. The ranking list is made by adding up the scores for each impact criterion, giving them equal weights.

Evaluation of the described practice:

- Efficiency: see above
- suitability for intervention logic and target group (select right projects for the goals, with highest impact)
- transparency, equal treatment, quality
- process and organisational development in a structured / systematic way; flexibility

Limits: some internal/external experts are too reluctant to decide a nogo

GP 24: VLAIO ranking of proposals with same total score on impact

Agency: VLAIO

Programme / scheme: most VLAIO schemes

Process step / or specific aspect the GP refers to:

Scientific and technical criteria evaluation/assessment

Ranking

Description of good practice:

After the first ranking step, based on the total score calculated from the impact criteria is done (see GP above), often there remains a group of proposals with the same total score on impact ("grey zone"). To further distinguish between these

projects, VLAIO goes back to the individual scores for the specific impact criteria, and gives one of them an extra weight. Typically, in most of the schemes the first criterion to give an additional weight is the criterion that describes the potential economic leverage or added value. VLAIO also looks at the arguments that motivate the given scores. This final ranking is discussed in a meeting with all the internal evaluators involved in the selection process.

Evaluation of the described practice:

- Suitability for intervention logic: weighting of certain criteria for projects in the grey zone makes it possible to select the best projects in this zone with respect to the program goals.
- Transparency, equal treatment, quality: very clear and easy to communicate ranking methodology

GP25: RCN Pool of standardized criteria with possibility to add extra criteria when needed

Agency: RCN

Programme / scheme: BIA programme/ Innovation Project for the Industrial Sector (type 1)

Process step / or specific aspect the GP refers to:

Criteria

Description of good practice:

RCN has a pool of approximately 30 standardized criteria. Every scheme (application type) is characterized by using a subset of these criteria. When a program is making a call for proposal it must use one of the predefined schemes. Then the criteria to be used in the call will be those characterizing the specific scheme, plus extra criteria the program has developed itself to make a good selection regarding the goal of the call.

Evaluation of the described practice:

- Efficiency: the predefined sets of criteria need not be "re-invented" for every new programme / scheme
- suitability for intervention logic and target group: the specific intervention logic can be considered in additional, specific criteria

GP 26: RCN portfolio approach and decision transparency

Agency: RCN

Programme / scheme: BIA programme/Innovation Project for the Industrial Sector (Type 1)

Process step / or specific aspect the GP refers to:

Ranking. Funding Recommendation. Funding Decision. Taking portfolio aspects into account.

Description of good practice:

The evaluation criteria that decide what will be the best proposal are published in the call. In addition, the call also might publish one or more portfolio aspects that will be taken into account when making the final funding decision. The portfolio aspects might be e.g. a "balanced" portfolio regarding risk, that certain topics or industries must be covered by the portfolio, or that the majority of the projects should be within SMEs. Elements of the programme strategy might also appear in the call as project characteristics that will be considered as positive for a proposal, without being able to tell beforehand which is the most positive. Such elements might be considered within the portfolio aspect of achieving a "balanced" portfolio.

It is obvious that it is not sufficient to look at the individual proposal to see if the goals for the portfolio are met. It will be necessary to consider the portfolio as a whole. And in this perspective portfolio aspects will override the ranking of the individual project. This might lead to that a lower ranked project is funded instead of a higher ranked project.

The characteristics of the projects are "scored"/marked by the project officer. The programme administration which is making the funding recommendation to the Programme Board (= both funding committee and strategic committee) will then be able to build a portfolio with certain characteristics.

The programme administration recommends different alternatives / scenarios of funding recommendations according to different "portfolio strategies". The Programme Board discusses the alternatives and normally chooses one of the different scenarios presented as their funding decision.

Evaluation of the described practice:

This approach makes it possible to tailor a project portfolio according to the programme strategy and easier to achieve the programme objectives.

The concept and the publishing of portfolio aspects in the call make it easier for the programme administration to explain and for the applicant to accept why a proposal is not accepted for funding.

7.2.8 IT tools for the process

All agencies use IT tools supporting their processes. Many have developed specific tools that link most or all of their core processes from launching a call to proposal submission, selection process, project monitoring etc. Before this background, the selected good practices show some examples for specific steps or systemic approaches.

GP 27: RVO automatic eligibility check (e-submission)

Agency: RVO

Programme / scheme: Topsectoren MIT

Process step / or specific aspect the GP refers to:

formal and eligibility checks

Description of good practice:

Electronic submission with automatic formal checks.

Formal criteria are questions in the electronic application form. The customer gets an automated message when the answer on the question means that the application does not meet the formal criteria. In this answer there is also an explanation why. There are also mandatory attachments that have to be added before an applicant can submit the proposal. Thus, the completeness and formal requirements are already checked. This is efficient and customer friendly.

If the correctness of the answer is doubted, the agency will do an extra check, which is done only in very few cases.

Evaluation of the described practice:

This way of performing the eligibility check is done in the office of RVO for more than 2 years now. The experience is very good. Customers do appreciate the clear process and it saves time and labour costs at the agency.

Our electronic submission system works with a verification tool. When a proposal is submitted in this way it is also "legally signed". If an applicant deliberately gives false answers we assign this as "a commotion of fraud".

GP 28: PARP automatic eligibility check

Agency: PARP

Programme /scheme: all programmes/schemes

Process step / or specific aspect the GP refers to:

Submission of proposals

Description of good practice:

PARP implemented a system based only on electronic versions of proposals. The electronic system supports applicants to prepare correct proposals and does not allow to submit ineligible proposals.

Evaluation of the described practice:

The system increased efficiency.

The major part of formal and eligible checks is done by the system (eligibility of applicant, costs plan, financial information, etc.) saving time for the evaluation.

The system is customer friendly as the applicants have on-line assistance during the process of preparation of proposals and are sure that submitted proposals are correct.

Limits

Some parts of formal or eligible checks still have to be done by employees. Some parts of the system check can be done only on the basis of the applicant's declarations.

GP 29: TA CR Information System Assigns Evaluators automatically

Agency: TA CR

Programme / scheme: Scheme 2

Process step / or specific aspect the GP refers to: Evaluators

Description of good practice:

Information System

The project evaluation and processing of related documents is performed by a single information system (IS). This system includes a database of external experts and members of the expert committees. All reviewers have their own login credentials with which they accept the framework agreement and get the information for individual evaluations - in the IS reviewers make evaluations through an online form. The information system applications are created for evaluation of individual expert committees as well. The system also includes accounting application.

Assigning experts

External experts are in the above-mentioned information system assigned to projects automatically through an algorithm, not "manually" by TA CR employees or members of the expert committees or programme committees. External experts then perform the next evaluation process anonymously, only under its identification number. This prevents any possible attempts to influence the evaluation of specific projects. Correct assignments of experts are based on the categories of research and development for the Central Register of Projects (CEP), which are recorded on a database of experts and are listed in every project proposal as well. In addition, the algorithm monitors the bias of experts (by the employer identification number), if an expert is from the same research organization, even distribution of projects among experts and other variables.

Evaluation of the described practice:

- Information System
  - Efficiency – it is not necessary to have every documentation in paper form, it is easier to find relevant information, to communicate with evaluators and organize evaluation by external expert.
  - Customer focus, customer satisfaction, learning for the target group and from the target group – if we see external evaluators as customers of evaluation processes, then processing of their work via IS is very comfortable for them as they can evaluate from wherever they are; in the IS they have every information they need and documents relevant for their evaluation are available.

- process and organisational development in a structured / systematic way; flexibility – the organization of the evaluation process is very clear and easy.
- A weakness may be technical difficulties on the part of the supplier of the information system or on the part of evaluators, respectively lower IT literacy of users or their reluctance to work with IT technology.

- Assigning Experts
  - Efficiency – via IS and algorithms it is possible to find the right experts for the evaluation of a big amount of project proposals in relatively short time.
  - Transparency, equal treatment, quality – this method is very transparent (no chance to influent assignment by individuals), with right input on both sides (on the side of evaluator and on the side of project proposal) is this assignment very accurate.
  - **Limit:** The weakness is the imperfect adjustment of categories of research and development. These fields are sometimes too broad, so there may not be an exact match between the expertise of experts and of projects. TA CR is currently looking for a way to minimize this risk.

GP 30: FFG Reviewers Database

Agency: FFG

Programme / scheme: all programmes / schemes

Process step / or specific aspect the GP refers to:

Quality assessment, Evaluators

Description of good practice:

The FFG implemented a database for its reviewers (mainly for external experts).

- Experts register themselves upon invitation, also internal experts can register, (currently > 2000 experts).
- Experts register with their data, CV, competence fields (in a pre-given structure). They can update data if needed (e.g. new position, new publications).
- Database supports search for evaluators
- FFG staff invites experts via the backend of the database for an evaluation. In the backend, FFG sees if reviewers are already booked / evaluating or have been evaluating recently several times; so FFG tries not to "overbook" reviewers.
- Documents needed by the evaluator for the evaluation are provided via the tool (evaluation handbook etc.)
- System shows the status of the reviews, supports e.g. sending reminders on time etc.

- The system is linked to the tool we use as an interface for the remote evaluations
- Evaluators send their invoice via the tool
- FFG uses the tool for quality management

Evaluation of the described practice:

The system increased efficiency

- For FFG: better access to all experts FFG works with (not only to those in the own programmes). Tool supports search, invitation, communication with the experts
- For the experts: they have to provide their personal data (cv, language, competence etc.) only once. Experts do not get "overbooked"

Quality

- Quality management of experts and resource management of experts increases quality of evaluation

Limits

- "acquisition" of new experts – broadening the database is still a challenge

GP 31: VINNOVA IT system for evaluations (external)

Agency: VINNOVA

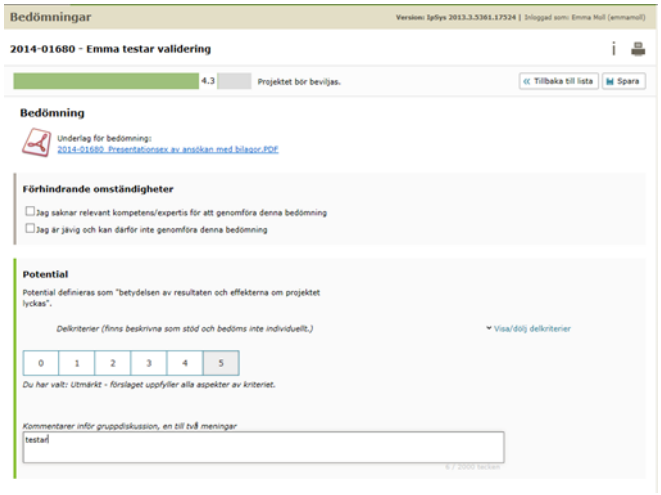
Programme / scheme: All

Process step / or specific aspect the GP refers to:

The entire process basically. From submission to funding recommendation and decision.

Description of good practice:

Vinnova has developed a new efficient system for the evaluation process. Because of increasing numbers of Vinnova decided to provide a better system to collect and manage external and internal assessments. Highest priority of this system is to make it simpler for external evaluators to make their evaluations. Vinnova also developed a system to continuously add value to the material collected before, under and after panel meetings.



Evaluation of the described practice:

After Vinnova implemented the system in 2014 Vinnova has done approx. 18 500 evaluations in the system. This year Vinnova has done 9000 so far. With this project we intended to make the evaluation process easier, faster, more transparent, more efficient and cheaper.

Focus has been on:

- Evaluators user interface
- Efficiency, both external and internal
- Transparency, equal treatment, quality
- Process and organizational development in a structured / systematic way

Limits:

When developing such a system a lot of needs are evoked. Some of these needs are translated into demands for the future. One of the weak spots is the way VINNOVA allocates applications to evaluators, which could be done in a more efficient way.

GP 32: FFG eCall

Agency: FFG

Programme / scheme: all programmes / schemes

Process step / or specific aspect the GP refers to:

Using an electronic system for proposal and report submission, proposal reviewing; system connected with FFG funding database

Description of good practice:

Since 2006 FFG uses an electronic proposal submission system. Since that time, implemented step by step after a pilot phase, all proposals for all schemes (with one minor exception – travel grants) have to be submitted via this system. No hardcopy version, needed.

The eCall's submission system was the nucleus for a now comprehensive and interlinked system of electronic tools for submission of proposals and reports, communication FFG – applicant and FFG - reviewer, submission of reviews, reviewer database and panel discussion. Selected data from this system are transferred to the funding database of FFG after quality check. The funding database is still a distinct system.

Applicants = organizations (company, RTO, University etc.) have to register and submit data of their organization (type of organization, size, balance data). These data on organization level have to be kept up to date but need not be changed or resubmitted if unchanged.

Registered applicants submit their proposal

- upload pdf file – project description (mandatory template)
- upload annexes – e.g. curricula vitae
- the full cost statement and all data about the team (online data fields).

This reduces sources of potential mistakes (wrong Excel template for cost statement, Excel template changed incorrectly). Formal eligibility can mostly be checked by the system, applicants are warned and can correct application before submission. Caveat: the system can only do these checks based on the assumption, that the data provided are true. Whether this is the case (e.g. SME-status) still has to be verified by FFG staff later on. Also reports will be submitted this way, so a "history" can easily be analysed (from both sides, beneficiary and FFG). The funding database of FFG will increase qualitatively and data will be more reliable and valid. The system serves data-pooling possibilities (e.g. staff pool) to the customer. This means that staff registered once for a proposal can be "re-used" for the next proposal.

For communication between applicants/beneficiaries and FFG, the message system of eCall is used for standardized messages: to inform about eligibility check, request additional information / documents if needed to pass eligibility check, to inform about funding decision, receive amendments to the proposal if requested (might be required in funding decision), send contract, request reports etc.

The eCall system is also used as the interface FFG - reviewers. Reviewers are invited to register in the reviewer database (registration possible only upon invitation - quality management). If they are appointed to review proposals and agree to do so, they get access to the submitted proposal they have to evaluate via eCall and submit their review also electronically via eCall. They fill in defined text fields (strengths and weaknesses) and scores along the selection criteria.

In the back end, FFG has access to the proposals and reviews. The system can show all reviews / proposals, compare strengths and weaknesses / scores along criteria, calculate average scores etc. This backend tool (called PanelTool) is used for the panel meetings, so panel experts who have remotely reviewed proposals prior to the panel meeting see reviews in a structured and systematic way. In the panel meetings individual scores can be adapted.

The reviewer database is used to collect data on reviewers (cvs, reviews carried out, competences), to search for reviewers for upcoming calls, to evaluate reviewers (by

FFG staff – timeliness, usefulness of their reviews, …) and for "reviewer resource management" – to avoid over-booking of reviewers.

Evaluation of the described practice:

The system increased efficiency

- applicants do not need to submit their organizational data with every project proposal anew
- applicants and FFG have a joint repository of formal communication (confirmations, requests) attributed to the proposal
- applicants cannot use the wrong template, or change the Excel template in an incorrect way
- formal problems can be identified (partly) already prior to submission and changed by the applicant before submission
- eligibility check by FFG staff is reduced
- reviews can be compared, scores calculated automatically
- different parts of the eCall system are interlinked, so no system barriers exist; e.g. all FFG staff working with reviewers have access to the reviewers´ database and review resources can be managed and used efficiently
- no need to check if paper and electronic documents are identical
- data needed for FFG´s funding database can be transferred automatically from eCall system (after quality check)
- Better database & data management

Customer focus

- easy to manage data on organization level, no hardcopy submission, better overview of proposal status and associated communication. No impact on learning for and from target group
- Less sources for mistakes than in the past (Excel files)
- Usability tests made before relaunch, improvement of the whole eCall system
- Data fields/tables designed easy to use and self-explaining
- Specific system roles implemented to allow for management of confidentiality of specific data (e.g. labour costs) for the applicants

Suitability for intervention logic

- different templates for small schemes (such as innovation voucher) and bigger ones

Proven Track record

- With the reports data on output / outcome / impact indicators for the programme / scheme will be collected

Limits:

- limited transfer of data to the funding database of FFG, so part of the information is kept in the eCall system where access is limited.
- Many separate uploads are still difficult to overlook for the reviewers

7.2.9 Ex post survey

This good practice is only loosely related to the selection process. However, it is interesting for our purposes because it generates evidence on how the process is perceived by the beneficiaries and on the impact of selected, hence funded projects. It moreover contributes to the ability of innovation agencies to learn from experience.

GP 33: CDTI ex post project survey

Agency: CDTI

Programme / scheme: all programmes

Process step / or specific aspect the GP refers to:

Evaluation of the whole call

Description of good practice:

Applicants should file a survey of project results once the project has been finished (and before receiving the final payment of the project from CDTI).

The questionnaire includes 35 questions regarding some financial data form the company (R&D and personnel expenditure, exports), direct results from the project (new employment due to the project, new installations), IP results (new patents, …) and new international relations (participation on international R&D projects, opening of offices abroad,…).

It also includes some questions about interaction with CDTI during the selection process, from the submission to the final stages.

CDTI generates annual reports from the aggregated responses from the ongoing projects.

Evaluation of the described practice:

Their advantages are:

- Customer focus (considering applicants as customers): Here they have the opportunity to give CDTI information on project results (up to this moment) and a feedback on its satisfaction regarding the selection process
- Process development: Global results and given feedback are used to define future calls.

Limits of the described good practice

Questionnaire is electronic (online), with no direct interaction, so there is no additional check of accuracy of responses.

Probably survey is taken too early (just at project end), as in many cases companies have not begun selling the new products. So it would be better to wait a certain time (maybe a few years) between project completion and results survey.

7.2.10 Organisational learning on agency level

The knowledge accumulated during selection processes, from assessing proposals, interaction with applicants and external experts can be used systematically in the agency (organisational learning) and to develop "strategic intelligence".

GP 34: PtJ building strategic intelligence

Agency, Programme / scheme: PtJ, 6th Energy Research Programme

Process step / or specific aspect the GP refers to:

Evaluators, Quality Assessment

Description of good practice: Building up strategic intelligence from internal proposal selection

By continued proposal assessment in a specific technical field internal evaluators usually become experts in that field. Internal evaluators accumulate knowledge and experience, which they gained during the evaluation of the proposals and the control of the projects including the final reports, to a large overview.

This knowledge is used to identify trends, to collect ideas for new calls for proposals and to formulate these calls. In some new cases this strategic intelligence is also used to write reports on the progress of the state of the art in the field the funded projects. For this abstraction with respect to the assessment of the progress of a specified project an overview and a broad overview is necessary. This step is not identical with an ex-post evaluation, but it can support an ex-post evaluation of the programme.

Evaluation of the described practice:

What makes the described practice a good practice in your specific organisation and context?

It is very efficient to compare project results and to lever the experience from the project level to the technology level because the control of the success of each project is performed as well by PtJ. It is efficient from the political point of view and follows the intervention logic on a longer time scale if the progress of the technologies is regarded for the selection of new proposals.

In addition, building strategic intelligence and systematically comparing project results is one necessary step

The limit is that this method can only be applied if the technical progress is really influenced by the funding scheme. If there are too few funded projects and the progress is determined by non-funded activities of the industry, an abstraction from

the project success to the technology level will not give valid results. This process can only be used for programmes operating several years (where the results of the first selected projects can be used to sharpen the criteria and the background for subsequent calls in the same programme).

GP 35: PARP innovation maps

Agency: Polish Agency for Enterprise Development (PARP)

Name of the tool: Innovation maps

Process step / or specific aspect the GP refers to: after the selection process is closed

Description of good practice:

PARP uses information on the technology and business areas of the projects selected/awarded to inform the policymaking process. The information supports the monitoring and entrepreneurial discovery process of the smart specialisation strategy in Poland and influences the priority areas (list of smart specializations) to be supported when R&I support is involved.

Evaluation of the described practice:

The results from the selection processes can be used to influence strategic policy making and areas of support in the next calls (e.g. changing the goals of the programme).

GP 36: PARP process development

Agency: Polish Agency for Enterprise Development (PARP)

Name of the tool: Experimental development of the process of selection procedures (part of the innovation lab in PARP)

Process step / or specific aspect the GP refers to: all stages

Description of good practice:

Introducing experimentation approach in the learning processes of the innovation agency, i.e. in the sphere of evaluating and selecting projects.

Using different development tools and methods (e.g. user-oriented methods, design thinking, gamification, randomized controlled trials, economic experiments) to design the final concept of the selection procedures in specific cases of different kind of support schemes.

Evaluation of the described practice:

Efficiency: improving different forms of efficiency, e.g. reaching set goals by minimum efforts, matching the best possible selection approach to support breakthrough innovations, improving time to decision and time to money;

Customer care:

- Enterprises: as the testing and experiments are going to involve user participation they will result in higher transparency and a better understanding of the selection process;
- Ministries: v. well informed about the possibilities and outcomes of different approaches in selection processes; increased trust between the ministry and the agency;

Process and organisational development achieved by an increased on-going experimentation, participative approach and learning from several new experiences introduced by the innovation lab.

Limits: transferability of results: the implementation of outcomes of specific tests and experiments might probably only be feasible for the agency carrying them out (it requires a learning by doing approach; different institutional environments and the specific intervention logic need to be taken into account).

8 Learning from Experience in a Task Force

The 12 innovation agencies forming the Task Force Select have a multitude of functions in the innovation systems they are part of. They fulfil these functions in different ways and with a variety of programmes, which again are run by utilising different processes (Biegelbauer/Palfinger 2016). The ensuing variety is directly linked to the environment the agencies have to work in, e.g. the specific governance structures, the level of GDP per capita, the structure of the national economy and the national research and innovation system as well as the system of law of the organisation's country. Also the historical development and the organisational culture of the agency itself have a strong influence on how agencies work.

The variety in the structures, functions and procedures of the innovation agencies makes communication between the different agency representatives challenging, which in fact is all the more the case for efforts to learn from each other. In order to perform such experiential learning a common understanding of existing procedures and practices and resulting from this a common terminology have to be established. This by itself is not a trivial task and can usually not be successfully taken care of as part of everyday business. It therefore is important to create a flexible structure such as a task force as part of which the processes of the agencies can be discussed.

The task force is set up of experienced members of innovation agencies and can be understood as a community of practice (Wenger 1998). In such a community a number of goals and practices are shared, but not all. A group of experienced practitioners from differing backgrounds is a huge potential for learning from experience. If specific framework conditions are met, such a group can create an experimentation space, in which knowledge is shared, debated and exchanged. The discussion of different combinations of practices and procedures can lead to learning in the group and, in a second step, also in the home organisations of the group members (Biegelbauer 2013, Rose 2005).

The task force therefore had to go through different communication processes and stages of understanding in order to create such an experimentation space. Its task

was to serve as a place for putting forward the experiences of the member organisations, compare and contrast these and better understand the implications of specific practices and processes. Amongst other things the taken steps included:

- defining the issues at hand, e.g. what are the issues to look for,
- create a common perspective on the issues and terms debated,
- discuss the meaning of key terminology and problems, e.g. what is a programme,
- create the framework for data, e.g. tables and typologies,
- create the data, e.g. describe processes in a meaningful and comparable way,
- control and verify the data in the group,
- debate criteria for the assessment of practices,
- debate what good practices are in specific environments.

The typical processes the group had to go through in organisational development terms classically have been described by Tuckman (1965) in the following way.

Figure 3: Team Development

Source: Tuckman (1965)

In order to produce results efficiently a team has to work together for a certain time period. The phase of „norming" is specifically important here. In order to create out of a number of individuals a team, in this case the task force, there has to be an acceptance of common group norms. These are important for the functioning of the team, but, as will be explained, are potentially dangerous for learning exercises between team members.

When thinking about experiential learning in the sense of exchanging experiences in a systematic fashion and reflecting upon these (Biegelbauer 2007), it is important to keep in the middle of two extremes. A balance has to be found between on the one hand making experiences comparable by decontextualisation and on the other hand the discussion of specific practices as a background of a possible transfer from one to another organisation. For the latter, the decontextualisation has to be partially taken back again in order to allow a reflection on the specific framework conditions in which a certain practice is qualified as good practice and therefore worthwhile to be considered for a transfer.

It is this last step that carries the risk of being overlooked when the cohesive forces in a team are rather strong, i.e. the team members feel a pressure towards a common social norm. In groups certain issues are not critically debated by their members, because the individuals feel that the group as such has produced a common opinion on these issues. If, for example, in a discussion on project selection procedures the dimension "quality" has been praised by a number of persons, a group member from an organisation in which due to shrinking budgets "efficiency" is of particular importance might not want to raise objections on the prime importance

of "quality", because he fears that a clear majority of the group might oppose his position. In cases of strong social norms it is often difficult for a person to not conform with team norms and to be different. To have, show and discuss different experiences is however an important precondition for learning from each other as two individuals with (seemingly) exactly the same experiences cannot learn from each other.

The task force therefore was facing a challenging task and had to go through a number of stages in order to fulfil its mission. To identify institutional solutions and practices which may count as good practices, these have to be made comparable, amongst other things by reducing information on the specific practice. Yet when a transfer is taken into account, the context information has to be added again, for the practice to sensibly be included into an existing set of processes.

Incidentally, this is exactly what the task force did. First, an overview of institutional practices along an ordered set of activities was described in the "backbone structure for selection processes" (compare figure 1), in which information was decontextualised. After this in group meetings and in the framework of debates on an Internet platform a number of key terms regarding project selection procedures were defined, such as what is a type 1 programme and a type 2 programme.

When several sets of practices in innovation agencies had been analysed, the AIT researchers supporting the task force first recontextualised standardised data, which had become part of overview tables. By doing so it was possible to revisit the available data and form new tables on the project selection practices in each of the partaking organisations and compare them anew. The thereby produced background information and tables describing project selection processes are now part of the annex. In all of this the role of the task force coordinator was important in several respects, i.e. to steadily facilitate, modulate, enable, push forward and go ahead with group activities.

By way of conclusion we want to point out that the most important asset of a task force is the rich experiences of the agency experts. On the same token the manifold experiences of the group members with their varying institutional background are also the biggest challenge in creating a steady output of a task force.

Several pitfalls have been mentioned, which are part of group processes and of typical ways to overcome these. The success of a temporary organisation such as the Task Force Select ex-ante could not have been prognosticated with any safety, but certain measures were taken to make such a success more likely. In a discussion of issues important for the success of a Task Force the members of the Task Force Select have come up with the following issues they thought to have been specifically important:

- a group of interested people, which are ready to continuously come to meetings; it is not good for the working group, if its members are constantly changing and have to be briefed about what hitherto has happened,
- sharing responsibility in the group; in order to carry the work forward, it is important to share the responsibility for different issues and tasks within the group,
- an active group leadership; the group leader has to structure the discussion and serve as a motor for the group activities,

- the group members have to devote time and patience in order to come to a common understanding and a terminology accepted by all; if this is not the case a babylonic confusion will break out and discussions will become imprecise,
- two-day meetings are clearly preferable over one-day meetings; in one-day meetings people constantly are in the process of flying in and flying out and they cannot devote enough time to group processes,
- it is important to socialise with people of the working group, in order to come to a common understanding and better comprehend the background of the other group members; when important issues are debated, it is good to know the cognitive set-up of people, i.e. how they think and work,
- there has to be an atmosphere of openness and trust, in order to be able to talk about the strengths and weaknesses of organisations and processes alike; if there is no openness, nobody can learn from each other,
- regular meetings are important not only in order to create a common understanding and an atmosphere of openness as well as have time for discussions, but also since it has turned out, that homework often does not happen with all the other tasks group members have to take care of in their home organisations,
- external support is important; first, because an additional perspective is brought into the group by external experts and, second, because somebody can take the work of a group further between the meetings, when the group members are preoccupied with other tasks.

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