



Competence Centers for
Excellent Technologies

Monitoring and Evaluation Concept for the COMET Competence Centre Programme

Austrian Research Promotion Agency

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The present document constitutes the written evaluation concept required by the “Guidelines for the promotion of industrial/technological research, technology development and innovation” (“FTI-Richtlinie” / “Struktur-FTI-RL”) in accordance with § 11 (1) to (5) of the Research and Technology Promotion Act (FTFG).

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COMET Monitoring and Evaluation Concept

The COMET Monitoring and Evaluation Concept describes the purpose, objectives as well as the processes and deadlines for assessing whether the funding objectives have been achieved. The concept is addressed to the contracting authorities (Federal Ministry of Transport, Innovation and Technology - BMVIT, Federal Ministry of Science, Research and Economy - BMWFW), the external evaluators and the funding recipients. It also serves to commit the programme management to monitoring and evaluation as part of the COMET programme.

1. Monitoring

The key function of monitoring and reporting at FFG is to prove that the funds have been used appropriately, which is a prerequisite for funding payment. The FFG monitoring system also collects data for ongoing statistical evaluations and for mid-term and final evaluations and serves as a data base for programme evaluations.

Monitoring is carried out continuously based on data obtained at regular intervals from the funded COMET Centres, COMET Modules and COMET Projects as part of the COMET reporting process. It serves to check their progress and also provides a basis for assessing the COMET Programme activities. The concept is subject to be modified and adapted should new requirements arise in the course of the Programme.

2. Evaluations

Evaluations are carried out at Programme level as also at the level of the COMET Centres, COMET Modules and COMET Projects. While these evaluations differ in their character and function, the individual elements are designed to complement each other. The ex-ante and mid-term evaluations and reviews are of special importance as they provide the basis for the funding decision. The evaluations combine qualitative and quantitative information to obtain a comprehensive picture of the quality and validity of the COMET Centres, Modules and Projects. The criteria for the ex-ante evaluation are described in the Evaluation Manual and the Guidelines.

In the COMET evaluations, the FFG combines both internal and external expertise. External reviews are carried out in close cooperation with the Austrian Science Fund (FWF) and the Christian Doppler Research Association (CDG).

The COMET evaluations have the following objectives:

- to analyse the design, implementation and impact of the COMET Programme and derive recommendations for the continuation of the Programme or modifications, if necessary.
- to assess the quality of research, the incentive effect of funding and the degree of goal achievement for the individual COMET Centres, Modules and Projects in order to provide a decision-making basis for their establishment or continuation.

2.1 Programme evaluations

Programme evaluations can be carried out as interim evaluations (impact analyses at maximum intervals of 5 years) and as ex-post evaluations (after the end of the Programme) by external evaluators. The evaluators are selected in an application process in accordance with the applicable regulations.

The Programme evaluation is based on the results of the mid-term evaluations, reviews and ex-post evaluations of the Centres and Projects and must also be designed as an impact analysis. Since its start, the COMET Programme has been evaluated twice in the form of an impact analysis¹. Further evaluations at Programme level are carried out at a maximum interval of five years.

The following elements must be taken into account in the evaluation:

1. The design of the Programme
2. The implementation and management of the Programme
3. The results, goal achievement and impact of the Programme
4. The position of the Programme in the Austrian and international funding landscape and integration in the programme portfolio
5. Recommendations for the future of the Programme

The goal achievement and impact of the Programme is assessed using quantitative and qualitative indicators of relevance to the Centres and Projects on the one hand and to the Programme itself on the other, and are generated as part of the Programme evaluations. The indicators are derived directly from the Programme objectives (see Chapter 3).

¹ The final reports of the impact analyses are available on the FFG website:
(<https://www.ffg.at/page/comet-downloadcenter>)

2.2 Evaluation of COMET Centres, COMET Modules and COMET Projects

Evaluations are of special importance as they provide the basis for the funding decision. All COMET Centres, Modules and Projects are evaluated in the course of the selection process (ex-ante evaluation). The subsequent interim evaluations carried out at regular intervals include both smaller-scale reviews on site and comprehensive evaluations involving external experts. An ex-post evaluation is carried out after the end of the term.

COMET Centres, Modules and Projects are evaluated as follows:

	Ex-ante-evaluation	Review	Mid-term evaluation	Ex-post evaluation
Date ("When is the evaluation carried out?")	Prior to start	At mid-term of COMET Projects and COMET Modules	In the last year of the first funding period of COMET Centres	After the end of term
Object of evaluation ("What is evaluated?")	Application for a COMET Project and COMET Module, or for the first funding period of a COMET Centre	COMET Project, COMET Module	COMET Centre, objectives, results of first funding period, research plan for second funding period	COMET Centres, Modules and Projects
Evaluators and reviewers ("Who carries out the evaluation or review?")	Expert jury, FFG: internal experts FWF/CDG: external experts	FFG, external reviewers, if required	External reviewers and FFG	FFG, external reviewers, if required
Consequences ("What is the result of the evaluation?")	Go or no-go decision	Recommendations	Stop or go decision	-

Table 1: Overview of COMET evaluations

2.2.1 Ex-ante evaluation

The selection is carried out in a one-stage process according to specific selection criteria. The maximum funding amount is suggested by FFG experts and recommended by an evaluation panel (jury). Jury results are generally considered as recommendations only. The funding decision is made by the Federal Minister based on the jury recommendation including any requirements and/or conditions.

Applications for COMET Centres are evaluated in a one-stage process involving a hearing. The applications are reviewed by FFG experts as well as by external experts (international peers). The evaluation is carried out according to the criteria specified in the Evaluation Manual.

The consortia submit their applications together with a detailed research programme for one funding period, including binding letters of commitment (participation and financing) from the company and scientific partners. Special care must be taken to comply with the applicable data protection regulations and to obtain the consent of the data subjects according to §9 (4) of the FFG Act.

Each consortium must take part in a hearing. The jury then recommends which consortia should be selected as COMET Centres.

Applications for COMET Projects and COMET Modules are evaluated in a one-stage process without a hearing. The evaluation process is similar to that used for COMET Centres.

2.2.2 Review (COMET Projects and COMET Modules)

A review is carried out at mid-term of COMET Projects and COMET Modules. These reviews provide feedback to the COMET Projects and Modules and are primarily considered as recommendations. The review is designed to determine the degree of goal achievement according to plan, to assess the organisational and management work as well as the implementation of the planned measures, to examine compliance with the conditions and the implementation of the recommendations and to identify any problems and difficulties that may have occurred. The focus is on lessons learned: the aim is to reflect on the experience gained so far and to draw conclusions for necessary adaptations to be made in the residual term of the COMET Project or COMET Module. The review is planned and conducted by the FFG, involving external reviewers, if required.

2.2.3 Mid-term evaluation (COMET Centres)

Each COMET Centre is subjected to a mid-term evaluation in the last year of the first funding period. This evaluation consists of an ex-post component (assessment of quality of

previous work) and an ex-ante component (assessment of future plans).

The evaluation assesses the achievement of the work programme, the results of research work and the attainment of the qualitative and quantitative goals. The evaluation is therefore based on key figures and indicators (target values) which were selected by the Centre itself upon submission of the application and are collected as part of the FFG monitoring and reporting process. The consequence of the mid-term evaluation is a ‘stop or go’ decision, i.e. the evaluation results provide the basis for deciding whether or not to continue the COMET Centre. The mid-term evaluation is organised by the FFG in cooperation with FWF and CDG and is carried out by external and internal peer reviewers.

2.2.4 Ex-post evaluation

An ex-post evaluation is carried out at the end of the term. The evaluation is carried out by internal experts and external reviewers, if required. The involvement of external experts is obligatory for COMET Centres which do not intend to reapply after expiry of their term.

3. Key Figures and Indicators

Key figures and indicators serve to measure the achievement of the Programme goals. Upon submission applicants define relevant target values which are compared with the actual values as part of the mid-term evaluations and reviews.

Table 1: Programme objectives, key figures and indicators

Programme objective	Key figure/indicator	Target value at Programme level
Developing and focussing competences through long-term research cooperation between science and industry at the highest level.	Number of publications: <ul style="list-style-type: none"> • Papers in peer-reviewed journals • Citation frequency of papers • Papers in peer-reviewed conferences • Co-publications between science – industry 	> 1,150 publications per year (average)
Strengthening Austria as a research location: excellent cooperative research should trigger new research impulses and establish promising/emerging fields of research	Share of strategic research in overall research programme	Min. 20% of eligible total costs
	Acquisition of additional external funding from research promotion funds	
	Number of participating scientific partners and company partners	> 500 company partners > 250 scientific partners
Strengthening Austria as a business location: accelerating technology transfer to industry should serve to	Number of IPRs (patents, utility models, trademarks, designs; copyrights, national/international) and licences	40 patents and licences per year (average)

create new products, processes and services, open up new markets and increase the innovative capacity of companies.	Implementation into marketable new products/processes/methods or services (e.g. number of prototypes/demonstrators, year of planned market introduction, increase in turnover, ROI)	
	Acquisition of additional external funds from contracts with companies	
	Number of spin-offs	
Establishing and developing human resources: increasingly attracting scientists of international renown, creating structured career models for scientists, and actively supporting intersectoral mobility for research personnel should lead to a more intensive transfer of know-how.	Adequate development of staff figures in COMET Centres in line with equal opportunities and gender mainstreaming requirements (including number of scientific employees, number of researchers), number of guest researchers	> 1,000 FTE researchers employed in COMET
	Number of academic theses (number of PhD theses, Master's theses, post-doctoral lecturing qualifications)	200 PhD/a 200 Masters/a (average per year)
	Intersectoral researcher mobility between academia and industry (e.g. number of staff transfers and exchanges between Centre - industry and Centre – academia)	
	Number of lectures held by Centre staff, (including endowed) professorships, number of research stays, etc.	
	Number of international partners (scientific partners and company partners)	
Strengthening the competitiveness of science and industry by driving internationalisation as a sign of high quality of cooperative research: involving internationally-renowned scientists, organisations and companies, positioning COMET centres as internationally attractive partners, and ongoing benchmarking with top research institutions are designed to generate an edge in international competition.	Number and volume of participations in international R&D projects (e.g. EU projects) <ul style="list-style-type: none"> • as coordinator, as partner 	
	Number of internationally renowned researchers	
	Number of nominations to international committees, organisation and involvement in internationally recognised events	
	Regular comparisons with the best (international benchmarking)	

4. Data and Information base

The following data and information are used for evaluation:

- **Data collected as part of the reporting process:** Central data (publications, patents, staff numbers, external funds etc.) are reported regularly to the FFG as part of the reporting process. The FFG provides feedback to the COMET Centre, Module or Project if central data are outside the target range.
- **Report of COMET Centres for the mid-term evaluation (Core Document) and COMET Projects and COMET Modules for the review:** At the time of the mid-term

evaluation or review (as applicable), each COMET Centre, Module and Project submits a report which contains all information not included in the regular reporting process that is required for proper evaluation. The Core Document used for the mid-term evaluation of COMET Centres contains the research plan for the next funding period in addition to this retrospective report.

- **Data acquisition at company level:** Key research relevant data and information of the company partners (turnover, research & development expenditure, number of staff working in research & development) are generally gathered by the FFG system and are complemented as part of the impact analysis.
- **Primary survey:** Any additional data required from the Centres and partners are collected in a primary survey carried out as part of the impact analysis.
- The **list of target values of COMET Centres, Modules and Projects** (based on the **key figures and indicators**) is completed by the applicants upon submission. The ex-ante evaluation provides an assessment whether these target values are appropriate and realistic for the given research field and environment. The target values are compared with the actual values and assessed as part of the mid-term evaluations and reviews.

Table 5: Information base for evaluations

Ex-ante evaluation	Review	Mid-term evaluation	Ex-post evaluation
Monitoring			
Application of COMET Centre COMET Module COMET Project	Report of COMET Module COMET Project	Report of COMET Centre (Core Document)	Final report of COMET Centre COMET Module COMET Project
List of target values	List of target values	List of target values	List of target values