



# Programme to Promote Innovation in Regional Passenger Transport

## Guide

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# 1 General Information

## 1.1 Purpose of the Guide

The federal government invests several billion Swiss francs in public passenger and rail freight transport every year. It is the task of the Federal Office of Transport (FOT) to distribute this expenditure as efficiently as possible for the long term in the following areas: maintaining and expanding the railway infrastructure, subsidising regional passenger transport and promoting goods transport.

The FOT's aim in promoting research and innovation is to gain knowledge that will help it optimise costs in its areas of activity, improve the attractiveness, safety and energy efficiency of public transport, and reduce its environmental impact.

This guide defines the principles and conditions according to which funding applications for innovations that improve the efficiency, attractiveness and quality of regional passenger transport (RPT) are submitted and evaluated.

RPT services do not generate enough revenue to cover their costs, which is why they are ordered and paid for by the cantons and the federal government. They do not make any profit and due to the ordering

## 1.2 Legal basis

The federal government's obligation to promote innovation<sup>1</sup> is legitimised by Article 64 paragraph 1 of the Federal Constitution (SR 101), which states that the Confederation shall promote scientific research and innovation.

### Federal Act of 14 December 2012 on the Promotion of Research and Innovation (RIPA)<sup>2</sup>

The key legislation that implements this obligation is the Federal Act of 14 December 2012 on the Promotion of Research and Innovation (RIPA).

procedure, operators usually do not have enough reserves to invest in innovation projects.

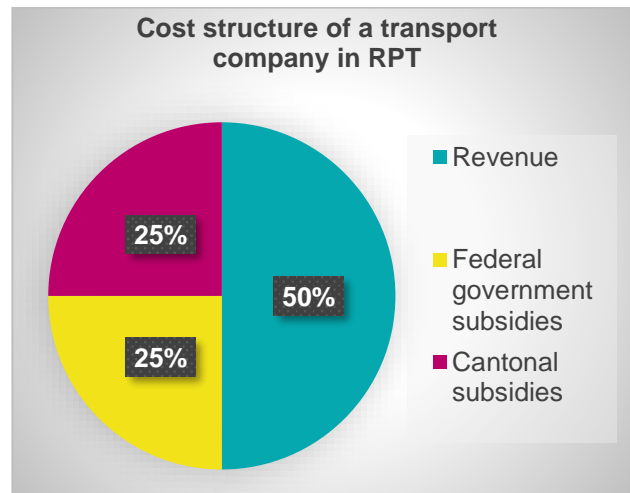


Figure 1: Typical cost structure of a company operating RPT services

The Programme to Promote Innovation in RPT compensates for this lack of financial resources and enables RPT transport companies to take a step into the future by allowing them to test innovative solutions in pilot projects.

### Article 2 paragraph b

In this Act, *science-based innovation* is understood to mean the development of new products, methods, processes and services in industry and society through research, particularly applied research and the exploitation of its results.

In addition, Article 6 RIPA sets out the principles and objectives that research bodies must observe in their research and innovation activities. Article 41 ff. contains the provisions concerning their coordination and planning.

<sup>1</sup> Adopted by popular vote on 21 May 2006, in force since 21 May 2008.

<sup>2</sup> SR 420.1

### **Federal Act of 5 October 1990 on Financial Assistance and Subsidies (SubA)<sup>3</sup>**

#### *Article 6 paragraph a*

Provisions on financial assistance may be issued if:

- a. the Confederation has an interest in the fulfilment of a task;

(...)

#### *Article 7 paragraphs b, c and d*

The provisions governing financial assistance shall be made in accordance with the following principles:

- b. The amount of financial assistance is determined according to the interest of the Confederation and the interest of the recipients in fulfilling the task;
- c. The recipient must make a personal financial contribution commensurate with their financial capability;
- d. The recipient must make all reasonable efforts that can be expected of them to exploit other funding possibilities;

#### *Article 16, paragraphs 1 and 2*

<sup>1</sup> Financial assistance and subsidies are granted, as a rule, by decision.

<sup>2</sup> A contract under public law may be concluded, in particular, if:

- a. the competent authority has considerable discretion; or
- b. in the case of financial assistance, the possibility of the recipient unilaterally renouncing the fulfilment of their task is to be excluded.

### **Federal Act of 20 March 2009 on Passenger Transport (PTA)<sup>4</sup>**

#### *Article 28 paragraph 2*

<sup>2</sup> Local transport services and services that do not connect to other public transport are excluded from receiving federal funding.

#### *Article 31 paragraph 2*

<sup>2</sup> The Confederation may, in special cases to promote innovative solutions, grant funding for the acquisition of vehicles and for the construction of installations and facilities, and grant interest-free loans.

### **Ordinance of 11 November 2009 on Subsidies for Regional Passenger Transport (RPTSO)<sup>5</sup>**

#### *Article 2 paragraphs 1 and 2*

<sup>1</sup> Transport companies may receive subsidies and financial assistance in accordance with Articles 28–31c PTA if they transport passengers in scheduled services, in on-demand services or on journeys that are equivalent to regular transport services on the basis of a licence in accordance with Article 6 PTA, authorisation in accordance with Article 8 PTA, or an international treaty.

<sup>2</sup> Financial assistance in accordance with Article 31 PTA may also be provided to companies that perform tasks on a contractual basis that are indispensable for the activities under paragraph 1.

#### *Article 41*

In order to promote innovative solutions and in other special cases, the Confederation may grant contributions and interest-free loans within the limits of approved credits, provided that the depreciation funds are not sufficient to finance them.

#### *Article 43 paragraph 1*

<sup>1</sup> Investment contributions are only granted for investments relating to services that are entitled to receive subsidies and whose additional costs may be included in the provisional estimates of a tender in accordance with Article 19 paragraph 1. The FOT decides on exceptions.

The following legislation may also be applicable, depending on the case in point:

- **Federal Act of 16 December 1994 on Public Procurement (PPA)<sup>6</sup>**
- **DETEC Ordinance of 18 January 2011 on Accounting in Licensed Enterprises (ALEO)<sup>7</sup>**

The legal framework provides the basis for funding innovations. The FOT may structure this funding in a flexible manner and give it the form it deems most appropriate.

The budget must be approved by Parliament.

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<sup>3</sup> SR 616.1

<sup>4</sup> SR 745.1

<sup>5</sup> SR 745.16

<sup>6</sup> SR 172.056.1

<sup>7</sup> SR 742.221

## 1.3 Types of project

The FOT promotes the following types of project (in line with the definitions of the [OECD Frascati Manual](#) and the FOT):

**Experimental development:** is systematic work that uses findings from research and practical experience to introduce new products or processes or substantially improve existing ones.

**Pilot and demonstration:** concerns projects at the interface between the laboratory and the market. Specifically, this means testing and evaluating new solutions (e.g. technical innovations, prototypes) and approaches (including socio-economic aspects and business models) in a real environment (laboratory or field trials and analyses).

The projects must be innovative in character. In Article 2 paragraph 2 letter b RIPA ([SR 420.1](#)), innovation is defined as the development of new products, methods, processes and services in industry

and society through research, particularly applied research and the exploitation of its results. To take into account the specificities of RPT, a broader definition was chosen for this programme, namely: an innovation is a new or significantly improved solution that offers users real added value and is not yet available or has not yet been tested in Swiss public transport. Users means here transport companies or RPT users.

In principle, projects that concern the standardisation of products show little or no innovation and are therefore excluded from the programme.

Pilot projects that were unsuccessful in the past may be reconsidered after a period of five years if significant technological progress has been made in the meantime and if the prospects for success of a new project are clearly evident.

## 1.4 Promotion objectives

The programme aims to promote innovation in RPT in order to improve the cost-effectiveness of regional passenger transport and increase its attractiveness. The programme supports pilot projects that allow new or significantly improved solutions to be tested in RPT. It can be used to promote innovation projects within the meaning of Article 2 letter b RIPA. In addition, the projects must be used in RPT and supported by licensed transport companies that receive operating subsidies for regional passenger transport under Article 2 RPTSO. Transport companies may join forces with partners from the public and private sectors to jointly develop innovative solutions. Finally, the projects must be in the interest of the Confederation (cf. Art. 6 para. a SubA) and, in particular, be of national dimension. This means that the results of the pilot project must be made known to the entire Swiss public transport sector. The innovative solution tested in the pilot project should be transferable to as many companies in the public transport sector as possible. The projects must also be in the public

interest, i.e. they must lead to a reduction in costs and/or an improvement in the quality of regional transport for users (increase in productivity and/or increase in the attractiveness of RPT). Innovations in RPT should preferably concern one of the priority areas of the [2021-2024 Programme to Promote Innovation](#),<sup>8</sup> namely vehicle technology, production and maintenance, transport services, ticketing or customer experience.

The programme therefore contributes to the long-term consolidation of the role of RPT in the Swiss public transport network by increasing its attractiveness and improving its cost-effectiveness. The tested solutions must provide specific added value for the transport company and/or RPT users.

<sup>8</sup> <https://www.bav.admin.ch/bav/de/home/allgemeine-themen/forschung-innovation/foerderprogramme/innovation-rpv.html>

## Other research and innovation programmes

The FOT may also support innovative projects in the field of public transport through the following promotion programmes:

### Implementation of the Energy Strategy for Public Transport (ESPT 2050)

This programme may support projects that meet the following criteria (Energy Ordinance of 1 November 2017,<sup>9</sup> Art. 61 para. 1):

- Projects serve to promote the economic and efficient use of energy or the use of renewable energies;
- The application potential and the likelihood of success are sufficiently great;
- Projects are in conformity with the energy policy of the Confederation;
- The findings gained are accessible to the public and interested parties are informed about such.

The criterion concerning conformity with federal energy policy is based on the targets and measures laid down in Energy Strategy 2050.

[Link to the programme website](#)<sup>10</sup>

## Infrastructure research

Research projects may be funded within the framework of the Railway Infrastructure Research Programme if they serve to improve the preservation of the value of the railway infrastructure and if they contribute to the efficient, cost-effective, safe and environmentally sound operation of the infrastructure, to maintaining its quality and to its development. Functionally, the projects must be linked to the development of basic principles in the following areas:

- Operation and maintenance of the railway infrastructure
- Expansion of the railway infrastructure (including planning, project planning, financing and construction)
- Interface of wheel/rail track or infrastructure/rolling stock; may also concern specific rolling stock projects; or
- Organisation and efficient operation of the railway infrastructure.

[Link to the programme website](#)<sup>11</sup>

The FOT also supports research and innovation in the following areas:

- **Technical innovations in rail freight transport**
- **Combating railway noise**

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<sup>9</sup> SR 730.01

<sup>10</sup> <https://www.bav.admin.ch/bav/en/home/general-topics/research-and-innovation/funding-programmes/energie-2050.html>

<sup>11</sup> <https://www.bav.admin.ch/bav/en/home/general-topics/research-and-innovation/funding-programmes/infrastructure-research.html>

## 2 Framework Conditions

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### 2.1 Funding resources available

To implement its research and innovation programmes, the FOT has funding resources available that are primarily allocated in the form of subsidies. In this instance, the FOT is not the contracting authority for the projects submitted by applicants. Its role is primarily limited to subsidising the projects and monitoring how the subsidies are used.

Depending on requirements, the FOT may also commission pilot projects via a call for tenders based on public procurement legislation.

Five million Swiss francs – or around 0.5% of the budget for ordering and subsidising RPT – are allocated to the programme promoting innovation.

### 2.2 Submitting funding applications

Only RPT transport companies can apply for funding. Generally, it is possible to submit a funding application at any time using the [appropriate form](#).<sup>12</sup> For

more information on how to fill in the form, see Annex I.

### 2.3 Companies entitled to apply

Applicants and direct recipients of subsidies are by definition licensed RPT companies for all means of transport (rail, road, cableways and shipping). The transport companies may carry out their project in partnership with private or public companies, higher education institutions, research institutes, non-governmental organisations, business organisations, professional associations or consortiums composed of a number of the organisations or institutions mentioned above who participate in carrying out the project or in funding it.

Actors from the private sector or higher education institutions who wish to propose an RPT innovation project are therefore not directly eligible for support through the programme. They first need to find a transport company that supports their innovative idea, agrees to carry out the project jointly and submit the funding application. The transport company is officially responsible for managing the project. It assumes administrative responsibility for the project

and the coordination with the FOT. It is also responsible for managing the project financially, from preparing the budgets in the funding application to the final accounts of the project. The FOT may audit the transport company at any time to check the project's cost accounting. Transport companies and project partners that operate in a way that is not economical will be permanently excluded from the promotion programme. It is also the responsibility of the applying transport company to ensure the creditworthiness of its partners.

The technical management of the project can be delegated to a project partner if necessary.

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<sup>12</sup> <https://www.bav.admin.ch/bav/en/home/general-topics/research-and-innovation/funding-programmes/innovation-rpt/submit-projects.html>

## 2.4 Consent and solvency of project participants

Proof of funding of project costs not covered by the federal government (personal contributions, other sources) must be submitted at the latest when the contract is concluded between the FOT and the applicant. If a substantial part of the subsidy is to be paid to a partner from the private sector, the FOT

may request a copy of their latest profit and loss statement in order to determine the share of personal contribution to be made by the said private partner.

## 2.5 Project location

Projects are generally carried out in Switzerland. Projects run by a Swiss RPT company can be carried out abroad if the project partner is a foreign institution or company. The applicant must check whether the conditions under which the project will be carried out

correspond to Swiss conditions and whether the solution being tested is also applicable in Switzerland. Projects carried out abroad may be supported in exceptional cases if they create added value in Switzerland.

## 2.6 Project duration

Unless otherwise stated, projects are limited to a duration of three years. The duration must be mentioned in the application and stipulated in the contract. The project starts at the earliest on the date when the contract is signed and ends when:

- all planned work has been completed and the project services have been completed and accepted
- the final report and final accounts have been submitted and approved.

## 2.7 Calculation of project funding and personal contributions

The amount of funding requested by the applicant is assessed on the basis of several criteria as follows:

### Project potential

The project potential is indicated by the scores it receives in the experts' evaluation (see Section 3.4). The benefit-cost ratio<sup>13</sup> is a decisive factor in calculating the funding amount: a project with a benefit-cost ratio greater than one has a higher probability of receiving the requested funding rate.

### Financial capability of applicants and project participants

Under Article 7 letters c and d of the Subsidies Act of 5 October 1990 (SubA, [SR 616.1](#)), the applicant is obliged to make an appropriate personal contribution and to take reasonable measures to exhaust any

other funding options. Consequently, the programme requires that project participants – in particular RPT companies and private partners – contribute a fair share towards the project themselves.

In particular, the transport companies must provide staff and infrastructure; the costs for these must be already covered elsewhere (e.g. through RPT remuneration). The transport companies must also use their available reserves.

Private partners who have a long-term commercial interest in realising the pilot project must make personal contributions according to their financial capability, in particular taking into account the operating result of their previous financial year (EBIT<sup>14</sup>). The personal contribution is calculated at 1% of EBIT and

<sup>13</sup> The benefit-cost ratio is the ratio of the discounted benefits to the discounted costs of the project.

<sup>14</sup> Earnings before interest and taxes



must cover between 30% and 50% of the partner's attributable project costs. In all other cases in which private sector companies are involved, the transport company must comply with the Federal Public Procurement Act. Here, the tenderer is not required to make a personal financial contribution; the programme covers the costs of the successful bid up to the ceiling determined in the funding decision.

Public partners such as higher education institutions, research and development centres, etc. are not expected to contribute anything other than providing their infrastructure for the project (e.g. laboratory).

Project partner	Personal contributions
Transport company	Provision of infrastructure and staff, the costs of which are already covered elsewhere (e.g. through RPT operating subsidies)
Higher education institutions, R&D centres	Provision of infrastructure, the costs of which are already covered elsewhere
Private partners with long-term commercial interests	1 % EBIT, 30% to 50% of their project-attributable costs
Bidders in a call for tenders	None

### Other possible sources of funding

Applicants must show that they have applied for other funding opportunities, e.g. other national programmes or cantonal support. If the project is funded by another federal programme, this must be stated in the application.

### The RPT's share of the project

If the innovative solution benefits not only RPT, but also long-distance or local transport, the amount funded by the programme is calculated taking into account the share of the project attributable to RPT.

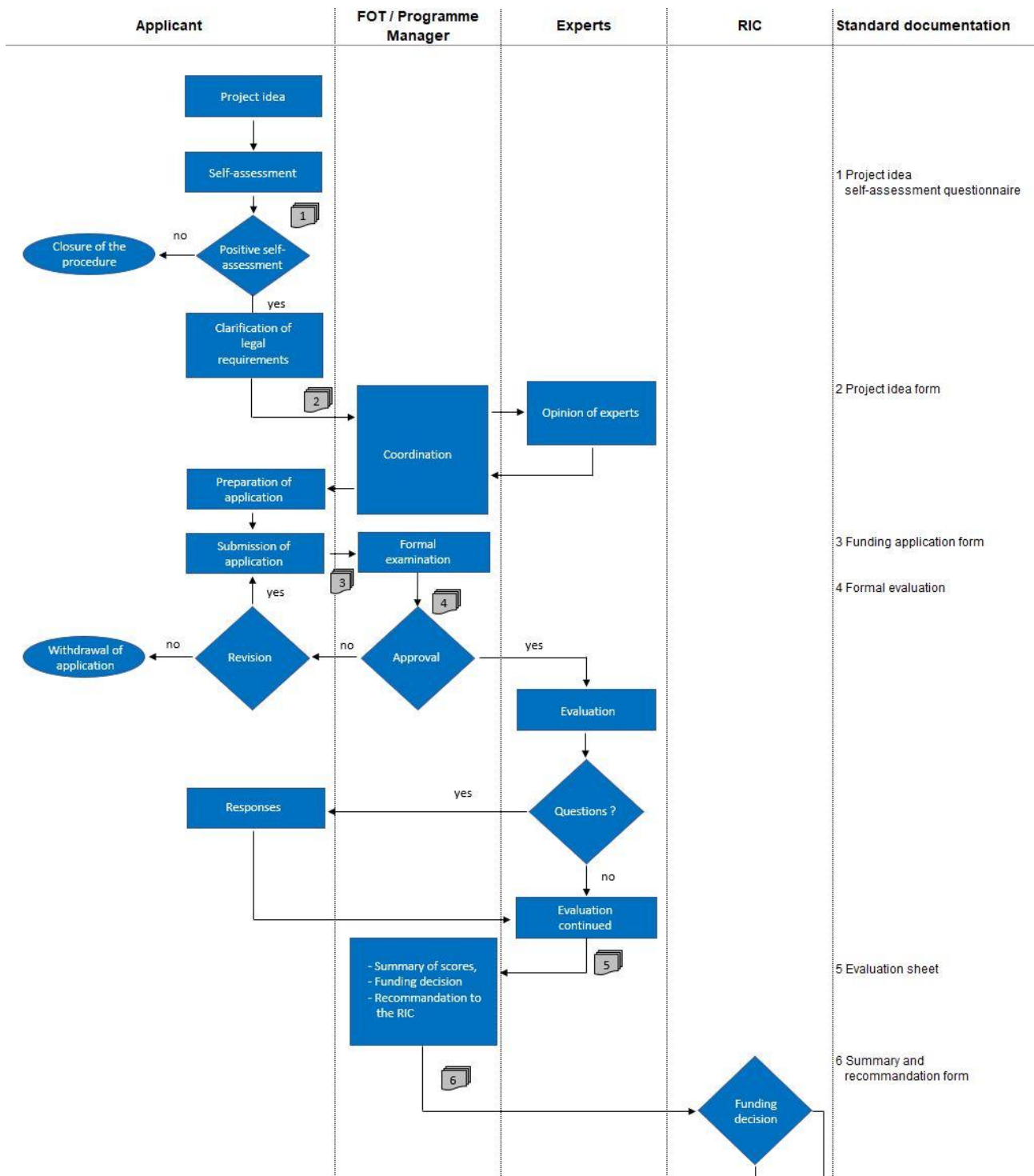
No monies may be claimed retroactively, nor is preliminary work attributable to the project. The start date of the project as agreed in the subsidy contract is the date that is relevant for recording the costs attributable to the project.

The subsidy from the programme is paid as a non-repayable contribution to the applying transport company, who is responsible for allocating the contribution among its project partners according to the amounts agreed between them and indicated in the funding application.

### 3 Project Selection Procedure

The entire process, from submitting the funding application to signing the contract, is shown in Figure

2. The standard documentation used in this process is also listed:



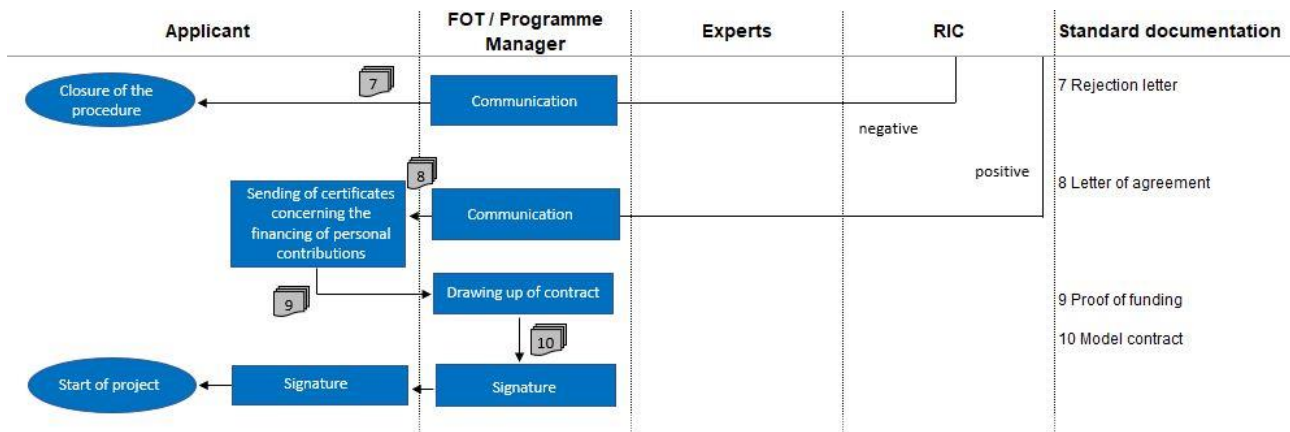


Figure 2 Process for assessing applications

### 3.1 Project idea

The applicant must first check that the project idea meets the programme's framework conditions using the [self-assessment questionnaire](#).<sup>15</sup> This ensures that applications that have no prospect of success due to form or content are not submitted. If the result of the assessment is positive, the applicant then fills in the [project idea form](#)<sup>16</sup> and forwards it to the programme manager. The result of the self-assessment

questionnaire must be included together with the project idea form. This initial submission also serves to confirm that the project idea effectively meets the programme's framework conditions and clarifies any legal requirements (e.g. PTA, DDA,<sup>17</sup> Art. 6b RailO,<sup>18</sup> etc.).

### 3.2 Application for funding

Applications must be submitted using the [official FOT form in Word format and include the accompanying Excel attachment](#).<sup>19</sup> Incomplete applications or applications in other formats will not be considered by the FOT. Generally, applications must be submitted to the FOT at least six months before the start of the project.

ing application, the applicants and their partners confirm their readiness to carry out the project. They also agree to the publication and dissemination of the project results in accordance with the Federal Act of 17 December 2004 on Freedom of Information in the Administration (FoIA).<sup>20</sup> The final reports and key project information will be published on the programme's website, on ARAMIS and/or in other federal databases.

The application form is available in German, French and English. The FOT will confirm that it has received the complete application. By signing the fund-

### 3.3 Formal examination

<sup>15</sup> <https://www.bav.admin.ch/bav/en/home/general-topics/research-and-innovation/funding-programmes/innovation-rpt/submit-projects.html>

<sup>16</sup> As per previous footnote

<sup>17</sup> SR 151.3

<sup>18</sup> SR 742.141.1

<sup>19</sup> As per previous footnote

<sup>20</sup> SR 152.3

In the formal examination of the application, the following three criteria are analysed:

- Suitability of the applicant
- Project scope

- Completeness of the documents submitted.

The evaluation is based on whether or not the following sub-criteria are met:

Formal criteria	Conditions
Suitability of the applicant	Is the applicant a company included in the definition of Article 2 RPTSO?
Project scope	The project can be classified into one of the following two categories: <ul style="list-style-type: none"> <li>- Experimental development</li> <li>- Pilot and demonstration.</li> </ul>
	The solution to be tested is at least partially applicable to transport services subsidised by the Confederation (Art. 41 RPTSO).
Completeness of the documents submitted	The project manager is indicated.
	The organisation is presented with roles, responsibilities and availabilities.
	The project costs are detailed; the cost-benefit analysis is clear, easy to understand and transparent.
	The funding is transparent, including other sources of funding.
	The goals are specific and measurable.
	A timetable with milestones is provided.
	The results (outcomes and deliverables) are clearly described.
	The main risks are identified and preventive measures are described.

If all conditions are met, the funding application is forwarded to the experts for evaluation. If not, the application is returned to the applicant.

### 3.4 Application evaluation

If the formal criteria are not met even after the applicant has been granted an extension to the deadline to complete the documentation, the FOT will not take a decision on the application. Applications that meet the formal criteria are then subjected to a substantive

examination. This examination is based on the criteria set out below. In the case of a tender as defined in Section 2.1, additional criteria (e.g. price) may be introduced, for which a ranking list will be drawn up.

#### Experts

The applications are evaluated by internal FOT experts from the relevant sections and by external experts selected on the basis of their expertise and experience. To this end, the programme maintains a list of experts from various fields (expert pool) in which innovation projects can be developed. To evaluate a specific project, the funding application is sent to several experts from this pool, depending on the skills and experience required for the evaluation and

their independence from the applicant and the project. The experts are free to choose whether to evaluate the technical criteria or the economic criteria or both. Based on their assessment, they recommend whether or not the Research and Innovation Committee (see below) should agree to fund the project. By signing the evaluation form, the experts confirm their independence and that they do not have any conflicts of interest in evaluating the project.

## Eligibility criteria

Four eligibility criteria have been defined for the Programme to Promote Innovation. These must be satisfied cumulatively:

**Innovation:** Is the proposed solution really an innovation in the field of public transport in Switzerland?

**Applicability in RPT:** Is the proposed solution applicable to at least a significant extent in RPT?

**Public interest:** Does the proposed solution represent a real interest for businesses and/or users of RPT by providing significant added value?

Does the project have a favourable benefit-cost ratio?

**Risk management:** Are the project risks under control and are the chances of success high enough to achieve the aims of the project within the given timeframe?

The criteria on innovation and risk management are more technical in nature, while the criteria on applicability in RPT and public interest are more economic in nature.

## Sub-criteria

### Technical

#### *Innovation*

- It is a new or significantly improved solution.
- The solution proposed creates real added value from the user's perspective.
- The solution proposed is not already available or has not yet been tested in the field of public transport in Switzerland.
- The solution proposed is in answer to a problem that could not be solved until now.

#### *Risk management*

- The specific competences required for the project have been demonstrated.
- The roles and responsibilities between the partners in the project are clearly defined.
- There are sufficient human resources available.
- There are sufficient material resources available.
- The budgeted costs appear realistic.
- The legal aspects, especially with regard to the use of third-party patented technologies, have been clarified.
- The project timetable is realistic.

- The main risks of the project are identified and preventive measures are adapted to them.

### Economic

#### *Applicability in RPT*

- The solution being tested can be used to a considerable extent in the RPT sector.
- Other Swiss RPT companies are interested in potentially implementing it in their company.

#### *Public interest*

- The project is directly related to one of the priority areas of the [Programme to Promote Innovation in RPT 2021-2024](#).
- The solution tested is significantly beneficial to RPT users and/or reduces costs and/or increases revenues for the RPT company.
- The solution presents a plausible benefit-cost ratio of more than 1.
- If the pilot project is successful, the solution could be transferred to other RPT companies.
- Other public organisations are interested in the project.

## Evaluation scale

An evaluation questionnaire is available to the experts for the evaluation. They evaluate each sub-criterion with a score according to the following scale:

Completely agree	3 points
Agree	2 points
Undecided	1 point

Do not agree 0 points

The result for each criterion is then converted into a percentage based on the score obtained for each sub-criterion and a weighting.

To be selected, the project must have achieved a score of 50% or more in each of the four criteria. The experts' ratings are consolidated by calculating the median score obtained for each criterion.

The summary of the expert evaluation is thus made up of four percentage values corresponding to the score of the project evaluated in the four criteria, and is illustrated in a diagram as follows:

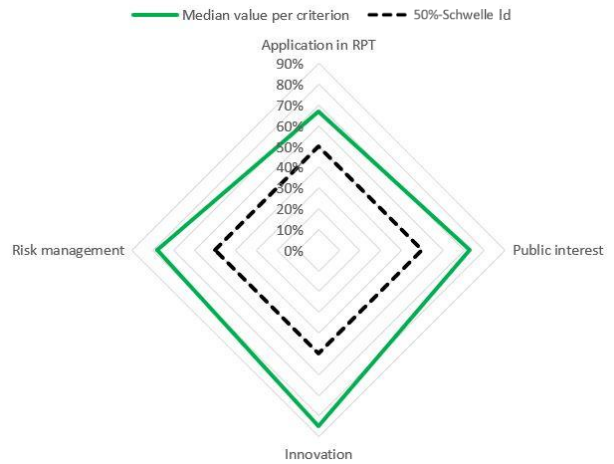


Figure 3: Diagram showing the project's scores in the four evaluation criteria

### Research and Innovation Committee (RIC)

The decision to fund an innovation project is made by the Research and Innovation Committee (RIC), an internal FOT body. The RIC is composed of the heads of four FOT divisions (Safety, Financing, In-

frastructure and Policy). The following organisational chart shows the position of the RIC in the FOT's internal organisation for managing research and innovation programmes:

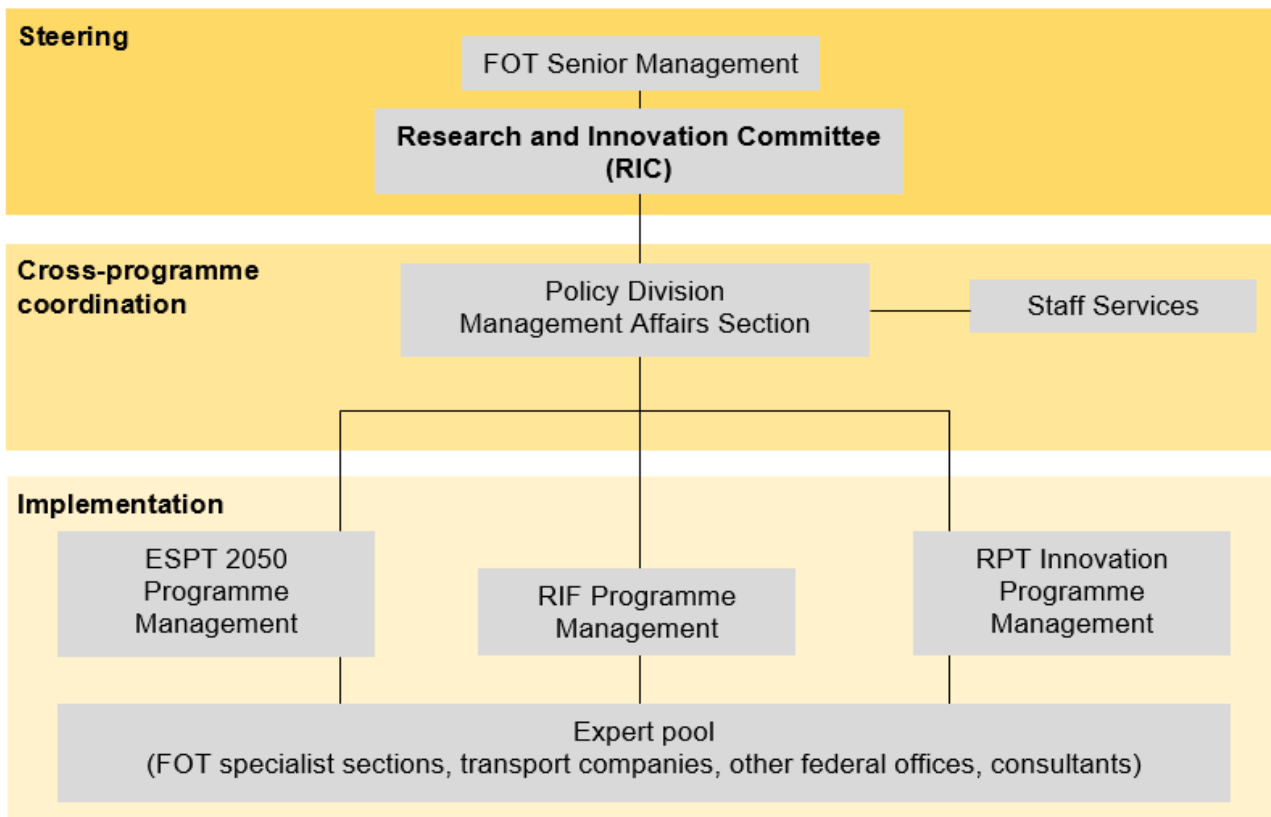


Figure 4: Organisational chart for the management of research and innovation funding programmes

## Recommendation to the RIC

The programme manager prepares a note of recommendation to the RIC based on the experts' evaluation. This note contains the experts' ratings for each criterion, their summarised comments and their recommendation for funding support for the project from the programme. The document also contains comments on any low scores and objections. It concludes with a recommendation from the programme

manager on funding support from the programme and if applicable, on the amount of funding.

Various factors are taken into account when determining the amount of funding from the FOT. These are described in Section 2.7.

## 3.5 Decision on funding

The decision on funding is made by the RIC and communicated to the applicant in writing. If the application is approved, the conditions of cooperation are set out in a contract between the FOT and the applicant (cf. Art. 16 para. 2 and Art. 19 SubA). Generally, the decision on an offer of funding is valid for three months. It should be possible to finalise the contract

and obtain funding commitments for those costs not covered by the federal government within this time limit.

There is no right to funding.

## 3.6 Subsidy contract

A subsidy contract is concluded between the FOT and the applicant (Art. 16 SubA). The applicant must first provide the necessary proof of funding for the costs not covered by the programme.

The applicant must conclude contracts with its partners containing the conditions of the subsidy contract.

The following points are established when the contract is in the process of being prepared:

- Possible update of work packages included in the programme
- Possible update of the project schedule

- Possible update of the payment schedule
- Designation of the main contact person and the person responsible for the project at the RPT transport company submitting the application
- Designation of the main contact person and the person responsible for supervising the project at the FOT

The funding application forms an integral part of the contract, as does the outcome of any negotiations on technical or financial points that have taken place after the RIC's funding decision.

## 3.7 Publication of project information

Once the contract has been concluded, the FOT publishes the following information on the programme's website and/or on ARAMIS and in other federal databases: name and institution of the recipient of the contribution, title of the project, brief description of the

project, duration, and contribution amount granted. The final report is also published, at the end of the project. Depending on the programme, interim reports may also be published.

## 4 Project Implementation

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### 4.1 Project launch

The project may start at the earliest after the subsidy contract has been concluded. The FOT may grant an exception in justified cases. As a general rule, the

project may not start later than six months after the conclusion of the contract.

### 4.2 Project supervisor

If the RIC decides in favour of funding a project, the FOT appoints a project supervisor. Their role is to monitor the progress of the project and ensure that the terms of the contract are complied with, including monitoring the delivery and quality of reports and other corroboration such as project deliverables. The project supervisor also authorises the programme manager to release the interim payments. They report to the programme manager and are specifically responsible for immediately inform-

ing the programme manager if there are any problems, if the contract is breached, or if there are any unforeseen developments.

In order to maintain its independence and impartiality, the FOT does not participate directly in the pilot projects and only intervenes within the framework of its regulatory activities (e.g. safety, authorisations, licences, etc.). The applicant deals with the regulatory requirements related to the project directly with the relevant sections of the FOT and informs the project supervisor about them.

### 4.3 Reporting and payment of funding

The FOT must be informed in writing at least once a year about the progress of the project and the interim results. A report template is provided to project owners for this purpose. These reports can be published on ARAMIS if desired. Specific provisions are laid down in the subsidy contracts. At the end of the project, a comprehensive final report must be submitted to the FOT for approval. The structure of the report should be based on the model provided to the project owner by the FOT. The final report contains a detailed description of the results and findings of the project and is intended for publication on ARAMIS<sup>21</sup> and in other databases. In justified cases, publication

may take place at a later date to be agreed with the FOT.

At the end of the project, the project owner must be able to provide all supporting documents for the costs invoiced to the FOT, including for projects that could not be completed as planned (in the event of interruption or termination).

The subsidy instalments are only paid out once the contractually agreed objectives have been achieved and the services provided in each project have been accepted by the FOT.

### 4.4 Communication

#### With the cantons

As a general rule, the applicant must inform the cantons directly involved in the innovation project

(location of the applicant and/or location of the pilot project) and also request their financial support.

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<sup>21</sup> <https://www.aramis.admin.ch>



The applicant must confirm contact with the cantons concerned by completing Section 5.1 'Other sources of funding' of the application form.

The FOT may invite the cantons concerned to participate in assessing the funding applications.

If the RIC decides to support the project, the FOT informs the canton or cantons concerned.

**On the FOT website**

The programme page on the FOT website is constantly updated and provides information on the progress of the projects supported by the programme.

**On ARAMIS**

The final reports are published on ARAMIS.

## 5 Miscellaneous

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### 5.1 Intellectual property protection

The FOT does not lay claim to the intellectual property rights generated by the projects. It is expressly permitted to protect the intellectual property rights arising from a project supported by the FOT, pro-

vided that this protection does not affect the publication of the results and the implementation of the tested solutions by other transport companies and does not entail additional costs for the subsidised transport companies.

### 5.2 Contact persons

The contact details of the programme manager can be found [on the programme page](#).<sup>22</sup> Questions can also be sent to [forschung@bav.admin.ch](mailto:forschung@bav.admin.ch).

The FOT may call in external experts both to evaluate the applications and to supervise the project, and to review the final reports.

### 5.3 Confidentiality

The FOT's application procedure specifies that external experts are obliged to treat applications referred to them confidentially. If the applicant consid-

ers that its application contains confidential information (e.g. trade or manufacturing secrets), it is under an explicit obligation to clearly indicate which information is considered confidential.

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<sup>22</sup> <https://www.bav.admin.ch/bav/en/home/general-topics/research-and-innovation/funding-programmes/innovation-rpt.html>

# Annexes

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# Annex I: Additional Notes for Completing the Application for Funding

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## **Overview of the state of the art (Section 2.2 of the application form)**

The applicant must take into account the state of the art in Switzerland and Europe in the field covered by the project, as well as the research and pilot projects already documented. In this section, the applicant must describe the results of their information search and present their project in this context.

## **Description of the innovative solution and its benefits (Section 3.1 of the application form)**

It is advisable to use diagrams and other graphical representations to facilitate understanding.

## **Project aims and expected results (Section 3.2 of the application form)**

Project aims must be specific, measurable, realistic and achievable and include a clear deadline. They should bring about a noticeable improvement in the quality of services, a reduction in costs, an increase in revenues and/or efficiency gains.

## **Work packages and timetable (Section 3.3 of the application form together with Annex 1)**

Each work package should contain a short description of the tasks to be carried out, the name of the project partner responsible for the respective task and the planned results (deliverables).

The total duration of the project may not exceed three years.

## **Regulatory approval (Section 3.4 of the application form)**

If specific approval from the FOT is required (e.g. a temporary operating licence or licences for trials), the applicant must contact the relevant specialist section to determine the modalities and the documents to be submitted and to estimate the deadlines and costs for this procedure. The applicant must verify that the application complies with the legal basis (e.g. PTA, PTO, RailO, etc.).

## **Project organisation (Section 4 of the application form together with Annex 2)**

The project organisation is led by the applicant transport company. It can involve partners such as private companies (e.g. an industrial company or an engineering firm) or research institutes (e.g. a higher education institution). The FOT may not participate.

## **Financial information about the project (Section 5 of the application form together with Annex 3)**

The budget should present the total costs of the project in a transparent and detailed manner, as well as the financing details in the Excel file spreadsheet template to be attached to the application form. In particular, transport companies must declare their labour and material costs attributable to the project. All project costs must be in Swiss francs excluding VAT.

The disbursements (due date and amount) in Section 5.2 of the application form must correspond to the milestones defined in Section 3.3. Generally, the first down payment at the beginning of the project should cover the period until the first milestone. Subsequent payments should be planned in the same way for subsequent milestones. The final instalment (20% of the funding) is paid at the end of the project, after acceptance of the final project deliverables, acceptance of the final report, and approval of the final accounts.

Annex III of this guide lists the costs that may or may not be taken into account by the programme.

For project funding and personal contributions, please refer to Section 2.7 of this guide.

The applicant is also expected to seek financial support from the canton and/or the cities involved in the pilot project.

## **Innovation (Section 6.1 of the application form)**

See the conditions in Section 1.3 of this guide.

**Risk management (Section 6.2 of the application form together with Annex 4)**

The success of a project depends, among other things, on good risk management. The federal government must ensure that public money is spent prudently by selecting projects that have a good chance of success.

Project risks must be identified and assessed. In order to assess the risks, each risk must be evaluated in terms of its probability of occurrence and its degree of impact. The variables involved are defined here.

Assessment scales (probability of occurrence and impact):

	Probability of occurrence
<b>1 = low</b>	Unlikely – below 20%
<b>2 = medium</b>	Moderately likely – between 20% and 50%
<b>3 = high</b>	Highly likely – over 50%

	Impact assessment		
	Project results	Dead-lines	Costs
<b>1 = low</b>	Slight defect	Minimal	None
<b>2 = medium</b>	Moderate defect	Medium	Medium
<b>3 = high</b>	Serious defect	Serious	Serious

All risks are listed in the table in Annex 3. Preventive measures are indicated for each risk identified.

**Applicability in RPT (Section 6.3 of the application form together with Annex 5)**

The Programme to Promote Innovation in RPT is mainly aimed at transport companies that receive operating subsidies under Article 2 of the Ordinance of 11 November 2009 on Subsidies for Regional Passenger Transport ([RPTSO](#), SR [745.16](#)). The innovation projects may be carried out jointly with universities and/or companies from the private sector.

The applicant must find at least three other transport companies expressing interest in the programme with a view to possible implementation within the framework of their activities.

**Public interest (Section 6.4 together with Annex 6)**

The Programme to Promote Innovation in RPT is intended to encourage transport companies to help shape, prepare for, and adapt to the development of transport. It is also intended to contribute to the further development of RPT by increasing its efficiency and attractiveness. The innovation projects should be linked to one of the five priority areas of support of the 2021-2024 programme and lead to qualitative improvements for transport users and/or, if possible, to long-term cost reductions.

**Cost-benefit analysis**

The main objective of a pilot project is to realise an innovation by implementing and testing a prototype. As the scope and duration of a pilot project are limited, it is not possible to assess the medium and long-term profitability of the solution. Therefore, in order to assess the potential and impact of the proposed innovative solution (cost reduction, revenue increase, etc.), the applicant must provide a cost-benefit analysis<sup>23</sup> based on the assumption that the potential of the tested solution has been confirmed and that it will be implemented in the company. This analysis aims to show the changes compared to the status quo that will be brought about by implementing the solution in terms of additional costs and benefits or cost savings. The aim is to monetise all the benefits that the solution brings. The period considered for the analysis should take into account the lifetime of the investments and may not be less than 10 years. These forecasts are, of course, without guarantee.

The applicant company must present the cash flows including investments, additional costs (or cost savings) and additional benefits generated by implementing and maintaining the solution over the period concerned in the Excel spreadsheet template in Annex 6 of the application form.

<sup>23</sup> The cost-benefit analysis evaluates the profitability of investments over time. It consists of comparing the additional costs and benefits generated by the project in terms of discounted cash flows.

The applicant must provide explanatory notes for all estimates used. The analysis must contain all information necessary to verify the plausibility of the results.

The company should investigate several scenarios (best case, trend case and worst case) to consider the margins of error. The benefit-cost ratio<sup>24</sup> (BCR) is calculated automatically for all three scenarios by applying a discount rate that takes into account interest rates and inflation of 5% per year.

It should be noted that the cost-benefit analysis is crucial for assessing and calculating the amount of funding. It should therefore not be neglected.

### **Signatures (Section 8 of the application form)**

The transport companies and its partners (e.g. higher education institutions, private companies providing personal contributions as per Section 2.7 of this guide) must sign the funding application. If the private partner is to be selected through a tender procedure, only the transport company needs to sign the application.

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<sup>24</sup> The benefit-cost ratio is the ratio of discounted benefits to discounted costs.

## Annex II: FOT Funding Sources for Innovation Projects in RPT

The Programme to Promote Innovation in RPT is the main instrument for funding innovation projects in regional passenger transport. Its main objective is to promote innovation by testing new solutions that do not yet exist in Swiss public transport. In contrast, new products for operating regional public transport already available on the market are acquired within the framework of the RPT services ordering procedure (cf. [RPTSO approval](#); not available in English).

The vehicles and other means ordered to operate RPT may contain innovations. These are predominantly long-term planned investments and industrialised products only. RPT orders never fund the realisation and testing of prototypes. This is the sole responsibility of the programme promoting innovation.

The following examples show the main types of possible cases and indicate the type of funding:

Examples	Source of funding	
	Programme to Promote Innovation in RPT	RPT ordering procedure
Pilot projects to test an innovative idea, a new technology, a new process or a new service that has not yet been tried in RPT.	●	
Acquisition of vehicles and other equipment for operating RPT as part of long-term investment plans and incorporating innovations or new technologies.		●
Pilot projects to test an innovative means of transport that is not yet available in RPT in Switzerland. Realisation of a prototype or purchase/lease of a unit for testing.	●	
Acquisition of a new or innovative solution that will be used as a standard for the entire RPT sector (e.g. a new web platform).	●	
Acquisition of new and industrialised products for RPT resulting from a pilot project supported by the innovation programme.		●

The programme and the RPT ordering procedure are essentially two complementary sources of funding. The programme focuses primarily on implementing innovative solutions by funding the development and testing of prototypes as part of pilot projects. At the

end of the prototype testing, the results are evaluated and compared with the aims of the project.

If the solution tested is a product that demonstrates real added value for RPT and a benefit-cost ratio

greater than 1, it is likely to lead to full-scale production. In this case, and provided that the products are industrialised or even already approved, RPT companies can order these finished products and integrate their financial effects (i.e. operating costs and revenues) into their RPT services. Depending on the

size of the investment, the prior approval of the FOT's Passenger Transport Section may be required.

## Funding innovation in RPT

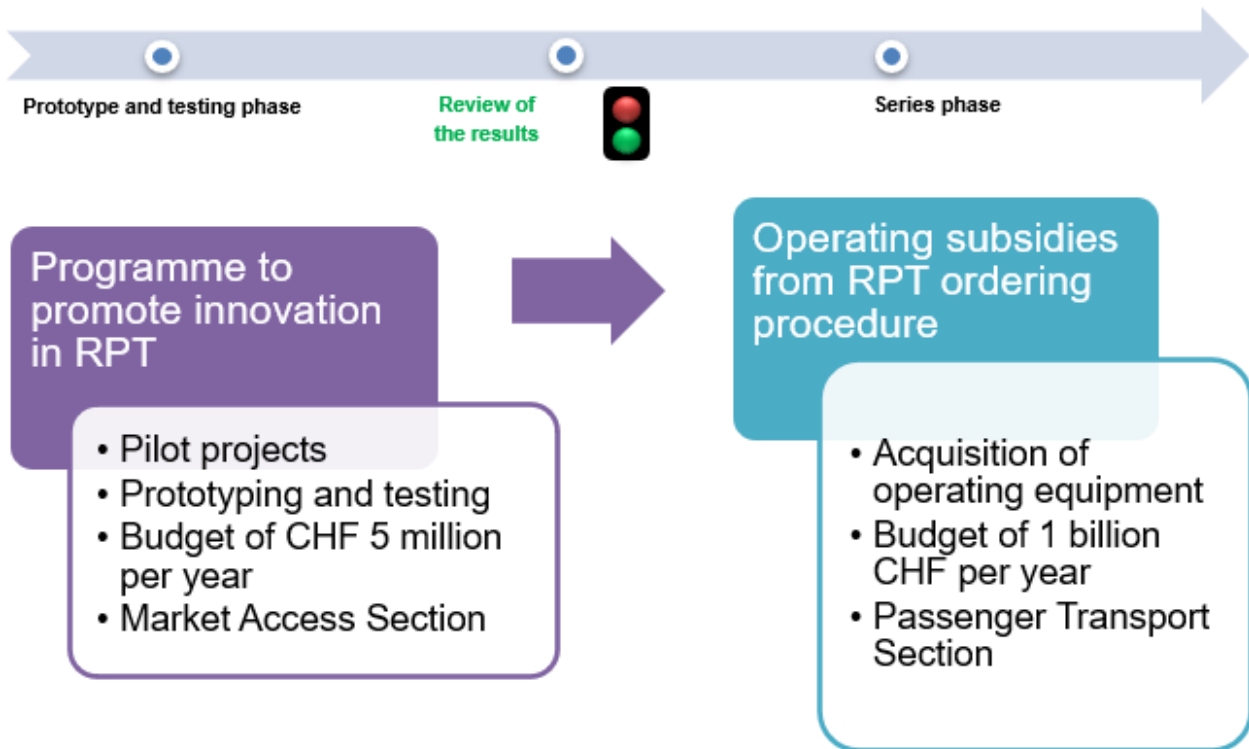


Figure 5: Sources of funding for innovation projects



## Annex III: Costs Attributable to the Programme

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In principle, only costs that are absolutely necessary for the project are taken into account. The transport company's costs that are already covered by RPT operating subsidies, for example, are not attributable. No monies may be claimed retroactively, nor is preliminary work attributable to the project. The start date of the project as agreed in the subsidy contract is the relevant date for recording the costs attributable to the project.

The following costs, for example, may be charged to the programme:

- Project management costs
- Costs for preliminary studies (e.g. technical feasibility)
- Costs for realising the prototype (conception, production, other costs related to the prototype)
- Costs for applying to the FOT for a temporary operating permit for test runs

- Costs for prototypes (preparing and carrying out tests, evaluating the results)
- Costs for preparing interim and final reports

Conversely, costs related to the industrialisation, approval and marketing of the product, for example, cannot be allocated to the project.

### Treatment of Value Added Tax (VAT)

Non-refunded projects are not subject to VAT. For example, the ET beneficiary of a non-repayable grant cannot charge VAT on its working hours charged to the innovation programme (internal costs). On the other hand, it is allowed to charge back to the innovation programme the VAT charged to it by its suppliers and other service providers (external costs).

## Annex IV: Additional Programme Documentation

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The following documents are also available on the FOT website at [www.bav.admin.ch/innovation-rpv](http://www.bav.admin.ch/innovation-rpv):

- Programme to Promote Innovation in RPT 2021-2024 (not available in English)
- Self-assessment questionnaire
- Project idea form
- Funding application form including Excel annexes

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## Annex V: List of Abbreviations

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Abbreviation	Description
ALEO	DETEC Ordinance on Accounting in Licensed Enterprises
Art.	Article
BCR	Benefit-cost ratio
CHF	Swiss francs
DDA	Disability Discrimination Act
DETEC	Federal Department of the Environment, Transport, Energy and Communications
EBIT	Earnings before interest and taxes
EnO	Energy Ordinance
ESPT	Energy Strategy for Public Transport
FoIA	Freedom of Information Act in the Administration
FOT	Federal Office of Transport
Let.	Letter
OECD	Organisation for Economic Cooperation and Development
Para.	Paragraph
PTA	Passenger Transport Act
PTO	Passenger Transport Ordinance
RailO	Railway Ordinance
RIC	Research and Innovation Committee
RIF	Rail Infrastructure Fund
RIPA	Research and Innovation Promotion Act
RPT	Regional passenger transport
RPTSO	Regional Passenger Transport Subsidies Ordinance
SR	Classified Compilation of Federal Legislation
SubA	Subsidies Act