



EPoSS

European Technology Platform
on Smart Systems Integration

The 12 Commandments for Successful SME R&D Funding

Requirements for an Effective and Efficient Participation of High Tech SMEs in European Programmes

EPoSS, the European Technology Platform on Smart Systems Integration, represents the Smart Systems community and hence also acts as the voice of SMEs, particularly high-tech SMEs. Correspondingly this position paper describes view of EPoSS concerning the crucial determinants for future funding schemes in Europe with respect to significantly increasing the participation in future of high-tech SMEs which offer excellent skills and equipment relative to their size and are fully capable of performing ambitious R&D activities.

In a series of European programmes the participation of small and medium-sized enterprises (SMEs) is below the intended threshold. Also in ECSEL, the Joint Undertaking for Electronic Components and Systems for European Leadership, only a small part of funding goes to SMEs (ca. 13%). Much better results in terms of SME participation have been achieved in transnational projects supported in the EUREKA Clusters. Hence it could be useful to draw inspiration for European R&D projects from the EUREKA model and also from national practices.

EPoSS, the European Technology Platform on Smart Systems Integration, represents the Smart Systems community and hence also acts as the voice of SMEs, particularly high-tech SMEs. Correspondingly this position paper describes view of EPoSS concerning the crucial determinants for future funding schemes in Europe with respect to significantly increasing the participation in future of high-tech SMEs which offer excellent skills and equipment relative to their size and are fully capable of performing ambitious R&D activities.

According to our members, without focusing on any one specific European funding programme, in general the following aspects are essential in order to increase the interest and participation of high potential SME in future collaborative programmes:

1. Topics

- The technological topics to be addressed by an SME-friendly call/ programme have to be tailored to SMEs, i.e. their size, role in the value chain, competencies and capacities, etc. They should address functional aspects of technical devices as well as application areas, where SMEs are being active (e.g. robotics, sensors for industry, medical applications and others). Topics which require a too high investment are inappropriate as are those which require a deviation from the company's business scope.
- Alternatively "Open Calls" (without thematic restrictions), but with specific quotas for SME participation would offer SMEs the chance to place their ideas "bottom up" ("KMU-innovativ" in Germany could serve as a model).

2. Ambition and TRL

- Neither projects at low Technology Readiness Level (TRL) nor projects at a close-to-market level of pre-commercial development (as long as these are collaborative projects) are attractive to SMEs. The first are too far from SMEs' reality, whereas the latter create the risk of knowledge or IP leakage. Ideally the TRL range for publicly funded high-tech SME project is between 5 and 7.
- At the same time, the potential gain in knowledge and innovation from funded projects should open-up the short- to mid-term perspective for the realisation of new products. Usually SMEs do not have the financial 'perseverance' required for strategic long-term developments: usually time-to-market is much shorter for SMEs than for large enterprises (LE) that typically follow longer-term roadmaps.
- Evaluation criteria for SMEs regarding level of innovation and ambition should differ from those for large enterprises and RTOs: technological progress should not be measured in absolute terms, but in terms of the progress made by the SME.

3. Project Format and Size

- SMEs prefer controllable and transparent projects. The attractiveness of a project decreases with growing size. Ideally a project consortium does not exceed seven partners, and provides a relatively balanced distribution of tasks among SMEs, LEs and public research organisations. Projects directly involving their customers are particularly attractive to SMEs.
- SMEs should not to be forced to carry out close-to-market activities (TRL8) in funded projects together with competitors or with any further commercial partners (but may allow activities to be subcontracted).
- Alternatively, a model where LEs must involve a minimum number of SMEs into the consortium in a “piggy-back” model (excluding subcontracting) could help SMEs to enter the European funding mechanism while gaining access to relevant technologies, experience and know-how.
- Fixed project duration should be avoided.

4. Funding Rate

- The level of funding should be a real incentive. It should, however, not entirely relieve SMEs of their responsibilities to bear part of the entrepreneurial risk intrinsic to collaborative, public-funded R&D projects. A funding rate of 50% of actual costs (plus a 10% bonus in the event of technologically ambitious projects) is a minimum requirement to make SME involvement sufficiently attractive. Costs for management and protection of Intellectual Property should be entirely financed by the funding.

5. Funding Instrument

- Funding instruments should be as lean as possible.
- Applicants should have a maximum of freedom to define their priorities within a given policy mission.
- Regular sequence of calls would enable follow-up funding to escalate the future product up the TRL range.
- A rule that a certain percentage of project partners should consist of SMEs might be particularly effective in terms of get more SMEs involved in specific programmes.
- Cascade funding - led by cluster managers or research and technology organisations (RTOs) - is a proven instrument for SME funding (cfr. Smarter SI project).

6. Success Rate

- An SME-friendly programme would need a success rate in excess of 30%.
- In order to achieve a higher funding rate, it is necessary either to narrow scope or the increase the available budget of the Call – or do both.

- Allowing to evaluate up-front the potential prospect of a proposal gaining approval would help to avoid useless applications of SME with little or no chance for funding and thus avoid frustration.
- Upfront, dedicated budgets for SMEs in larger programmes/ calls would be helpful.

7. Application

- Requirements for proposals have to be simplified in such a way that they are easy to manage for SMEs. Standard templates (eg. questionnaires) could be used to receive the necessary information from the SME applicant, with the level of complexity being proportional to the activities and requested funding level.
- Proposals should be drastically reduced in size with strict fixed page limits for the information to be provided. For example, the technical part of a Full Project Proposals (FPP) should not exceed 20 pages in total (including the financial plan and time-schedule).
- One stage procedures enable the time to grant to be reduced and project proposals could even be approved on the basis of a project outline.
- If a two-stage procedure is unavoidable, it has to be ensured that during the project outline (PO) phase:
 - applicants will explain the idea of the project in a concise manner not exceeding a maximum of 10 pages,
 - the proposed subject shall be analysed together with the funding entity with regard to its general possibility to be funded,
 - constructive feedback from experts shall be given in order to further improve the proposal for the FPP phase,
 - procedures are fast and efficient.
- In order to reduce the effort for SMEs, in larger projects either a participating LE or a RTO could be asked to prepare the common project outlines POs and FPPs and act as mentors for SMEs.

8. Evaluation

- Specific SME related evaluation criteria should assure that the business perspectives and knowledge provided by SMEs (including skills, new technologies used, new techniques applied, expected market expansion etc.) would be valued at least as high as the progress achieved in terms of innovation.
- The expected progress made in the company should prevail as a criterion against absolute technological progress.
- Experts on SME matters should be involved in the review and selection processes (instead of youngsters from academia).

9. Time to Grant

- Time to Grant should not exceed a maximum of 6 months.
- Furthermore, programmes could allow for “quick start” procedure to enable projects to start, as soon as a first positive feedback to the application is provided.

- The SME programme ZIM (Zentrales Innovationsprogramm Mittelstand) could serve as a model in terms of demonstrating how lean processes can drastically reduce time to grant.

10. Management

- Offer a service programme: RTOs could handle cooperation with SMEs, assist them in project management issues and offer their infrastructure, know-how and qualified personnel.
- Organise a contest for the most innovative idea and select projects that should be realised together with RTOs (Smarter SI could serve as a model).

11. Reporting

- Reporting bureaucracy has to be downsized by introducing check-lists and defined report frames for each action item/ work package.
- Financial reporting has to be limited to the necessary minimum.
- Reporting should concentrate on the final result and future impact.
- Introduce a “trademark” as a quality signature for successful projects.

12. Communication

- Ensure effective information for SMEs via local clusters or funding agencies.
- Introduce SME specific networking via European technology platforms (ETPs) on new funding programmes.
- Decentralize events and webinars.