

Portfolio of dedicated aid schemes complementing the joint call for projects:

Various aid schemes to foster computational R&D and HPC usage



As emphasized in the “context of the call” and visualized in the dedicated figure, the joint call for projects is accompanied by a portfolio of dedicated aid schemes by the Ministry of Economy that takes into account the different skill levels of the private stakeholders in the use of computer-aided R&D or HPC. The goal is to create a general awareness in the use of simulation and modeling techniques in companies’ R&D activities and to help companies to innovate at different computer-aided R&D/HPC maturity stages. Unlike the main call for projects, these aid schemes are for companies only, have no fixed deadline and are non-competitive. The aid schemes are defined in the RDI law [1] and companies that want to benefit must fulfil the general eligibility criteria of article 2 of that law and the respective criteria of the specific state aid scheme they apply for as set out in the R&D [2] or SMEs aid schemes [4].

- **Aid scheme 1:** Aid for external consulting for SME's to demonstrate the potential of simulation-based R&D, data exploitation or HPC usage in company’s innovation or business processes.
This aid scheme targets SMEs that have no, or only very little expertise and knowledge, in the above mentioned fields. External expertise should be solicited from associated external consultancies in order to analyze the innovation processes and provide specific recommendations, as well as to propose tools and methods for the applicant to implement computer-aided R&D or HPC use in its innovation or business processes.
- **Aid scheme 2:** Aid for a technical feasibility study for the evaluation and analysis of the potential to implement R&D projects based on simulation and modeling.

The aid scheme intends to support private actors (SME or large company) to assess the potential of a computer-aided R&D or HPC project. The study should include all the preliminary analyses necessary to define the key elements to be implemented, in order to carry out industrial research activities based on simulation, modeling or data analysis

requiring intensive computing power. This includes project design, assessment of the challenges and skills needed to successfully transfer physical R&D processes to virtual prototyping, data availability to train AI algorithms, software needs, etc. to demonstrate the technical feasibility of the project. Evaluation of the transformation of existing software, codes and tools to open source and HPC may be part of the feasibility study as well. External expertise may be sought from DIH, NCC-HPC, academic or private partners.

Note, that for aid scheme 1 and aid scheme 2, projects can benefit from innovation support for SMEs to finance the detachment of highly qualified personnel who will contribute to the implementation of digital programs and software in innovation processes.

- **Aid scheme 3:** Joint call for projects (as defined above) to support the implementation of industrial research projects that aim to benefit from high-performance computing.

Note that companies that have already a considerable level of competencies in the use of HPC applications can make use of the aid for industrial research or experimental development projects under the RDI law [1] to carry out innovative research and development projects.

References:

[1] Modified law of May 17, 2017, on the promotion of research, development and innovation.

[2] <https://quichet.public.lu/en/entreprises/financement-aides/aides-recherche-developpement/rdi/aides-rdi.html>

[3] [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0627\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0627(01)&from=EN)

[4] <https://quichet.public.lu/en/entreprises/financement-aides/aides-recherche-developpement/rdi/aide-innovation-pme.html>