PPS-I 2026 Call: Chemicals and Materials for Defence

The Ministry of Defence and the Ministry of Climate and Green Growth are making €3.76 million available for the PPS-I 2026 Call: Chemistry and Materials for Defence, which will be implemented by the TKI Green Chemistry and Circularity. Under this call, funding is available for public-private research that contributes to achieving the objectives of the Knowledge and Innovation Agenda (KIA) for Circular Chemistry and Materials and the KIA for Security, and in particular for projects falling within the following themes:

1. **Coatings**
2. **Technical ceramics**
3. **Additive manufacturing**

- **Applications may be submitted between 12:00 on 1 August and 14:00 on 29 October via the call page on the ChemistryNL website.**

This call for proposals sets out the conditions for this PPS-I 2026 grant for Chemistry and Materials for Defence.

Introduction

Europe's changing security context and the increasingly frequent use of export restrictions as a means of political pressure underscore the importance of a strategically relevant and united Europe. The Netherlands aims to strengthen the role of its industry in defence supply chains in order to be more flexible and less vulnerable to such developments.

Commissioned by the Ministries of Defence (Defence), Economic Affairs and Climate Policy (EZK) and the TKI Green Chemistry and Circularity (ChemistryNL), a joint study was carried out into the role of the chemicals and materials sector for Defence. The public version of this study can be downloaded from https://open.overheid.nl/details/06c954f9-bbee-4c45-970e-5a0cb3543014

Among other things, the study highlights that collaboration between the chemicals and materials sector, research institutions and the Ministry of Defence can be strengthened. The conduct of this study, in which a broader steering group comprising representatives from the chemical industry and researchers was closely involved, marks an important first step towards strengthening this mutual connection.

This call for proposals takes this collaboration a step further by harnessing the innovative power of public-private partnerships to make progress in the field of advanced materials for defence. The objective is to expand the knowledge base for the Ministry of Defence and encompasses the entire knowledge chain, from fundamental research to dual-use pilot projects. The call focuses on ceramics, coatings, technical ceramics and additive manufacturing.

The call is being implemented within the context of the KIA Circular Chemistry and Materials and the KIA Security, with a focus on the priority areas set out in the Defence Strategy for Industry & Innovation, which can be downloaded via this link.

A total of €3,7760.00 is available under this call for projects within these themes. The call is open to collaborative projects between research organisations and private companies (SMEs and large enterprises).

Scope of the call

The call focuses on (dual-use) innovation challenges within three themes: coatings, technical ceramics and additive manufacturing. Projects may cover the entire value chain, from raw materials through to

experimental development (pilots) in a civil environment. Experimental development (pilots) in a defence environment is not part of this call.

The three themes of the call are described in more detail below.

Theme 1 – Coatings

Operational relevance: Coating systems are used to enhance the operational readiness and survivability of equipment under extreme conditions. They protect against corrosion, increase wear resistance and provide camouflage to minimise detection by the enemy. This operational relevance translates into two key questions within this theme.

The first key question concerns improving the corrosion resistance of, for example, military aviation systems. A key focus here is the development of alternatives to chromium-6 that offer at least equivalent or better corrosion-resistant performance than chromium-6, but with superior properties in terms of application safety, effectiveness and efficiency, including the development of solutions to repair localised damage to the coating. Solutions are also being sought for carbon-based multi-material applications (carbon fibre-reinforced polymer–aluminium combinations), as chromium-6-containing systems offer insufficient protection against corrosion in these cases. Research and development within this sub-theme may focus on the entire value chain of (organic) alternative systems and material structures: material development, active corrosion inhibitors, production processes, application and measurement methods.

The second key question concerns the modification and/or reduction of the electromagnetic signature and detectability of military systems. Research and development within this part of the scope may focus on modifying and reducing visual visibility, temperature, noise, electromagnetic radiation and radar, and on the targeted (in situ) control of material properties to achieve specific desired signatures. Research and development within this sub-theme may focus on the entire value chain, from raw materials and the production of semi-finished and finished products through to their application in military systems.

Theme 2 – Technical ceramics

Operational relevance: Due to their high wear resistance and heat resistance, ceramics are used to provide or optimise ballistic protection. Ceramics are relatively heavy but, when combined with other materials in limited quantities or as thin layers, can offer advantages without adding unnecessary weight. Ceramics are used in, amongst other things, personal protective equipment and vehicle armour. However, they are also used in heat shields, such as in space travel, where the material provides protection during re-entry into the atmosphere.

Within this part of the scope, the focus is on developments that represent a breakthrough compared to the current state of the art in this field. These may include solutions for weight reduction through clever combinations with other materials, as well as improvements in design freedom, durability, wear resistance, damage tolerance, heat resistance and hardness of technical ceramics. Research and development may focus on ceramics and hybrid ceramic structures, including new architectures, ceramic/metal and ceramic/polymer composites, and innovation in production and application techniques – including on-site repair (using, for example, additive manufacturing) of these materials – whereby it is important that minor combat damage can be quickly repaired on site with minimal use of specialist equipment and energy.

Theme 3 – Additive manufacturing

Operational relevance: Additive manufacturing is important for improving military materiel logistics and short-cycle innovation. Through additive manufacturing, spare parts can be produced in the field and delivered immediately when required. This ‘ ’ shortens delivery times, reduces dependence on vulnerable supply lines and increases operational readiness.

Within this part of the scope, support may be provided for projects that contribute to increasing the

operational autonomy of military units through additive manufacturing. Research and development may focus on the development of new materials, new additive manufacturing processes and recycling. A number of key priorities can be identified within this area:

- Development of optimised and new materials (polymers and metals) with a 'Recycle by Design' life cycle, whilst maintaining quality and material properties. The focus is not only on the material itself, but we also require traceability and a closed-loop supply chain for the material throughout production, use (printing) and return.
- On-site additive manufacturing, producing spare and replacement parts in the event of damage. Key aspects here include the methodology for creating digital production files, production speed, minimal logistics and energy consumption.
- On-site verification of material properties and quality control of parts produced using additive manufacturing.
- Reducing dependence on (raw) critical earth metals by reusing them in the printing process or replacing them with non-critical materials possessing the same required properties.

Knowledge dissemination and shared knowledge-building

The TKI Green Chemistry and Circularity, in collaboration with the Ministry of Defence, promotes knowledge dissemination and shared knowledge building. As part of this, project leaders and participants are expected to attend a programme day to share their project results. In addition, a support team will be set up for each project to consult with the project on a regular basis regarding its progress.

Application criteria

➢ Applicants

These are applications from public-private consortia. The lead applicant must be a researcher employed by a Dutch research institution for at least the duration of the project. In addition, the consortium must include at least one Dutch private-sector partner.

➢ Scope of the call

The application must fall within the scope of this call as described above.

Conditions for the PPS-I 2026 grant

The grant conditions set out in Annex A apply to this PPS-I 2026 grant.

➢ Maximum PPS-I 2026 grant per project and call budget

A maximum grant of €500,000 may be applied for per project, subject to the grant conditions set out in Annex A.

A total of €3,760,000 is available for the entire call, with no breakdown by theme.

➢ Submission of applications – templates and deadline

- Applications must be submitted via the call page on the ChemistryNL website. The application consists of answering the questions in the web form on the call page, a project plan (see Annex B) and a budget form (see Annex C). If an SME (or several SMEs) within the consortium wishes to receive a grant, an SME declaration and a declaration stating that the company is not in financial difficulties must be attached to the application.

  Applications may be submitted between 12:00 on 1 August 2026 and 14:00 on 29 October 2026 via the call page on the ChemistryNL website.

Please note that applications which are incomplete or have been filled in incorrectly will not be considered. To avoid this, you can have your application checked for completeness before submitting the final version. You can do this by sending your draft application to harmen.veldman@chemistrynl.com. Please state that this is a draft application. Draft applications can be checked until 14 October 2026.

The final application must be submitted **by 29 October 2026 at 14:00**.

- Project end date

  This is a research project with a final deadline of 31 December 2031. This deadline cannot be extended.

- Critical raw materials and materials

  The TKI Green Chemistry and Circularity aims to avoid the use of critical raw materials. Research proposals that do not use critical materials are therefore preferred.

- Required co-funding from the private sector

  The project must involve genuine public-private partnership, and the private partner must co-fund the project. The minimum level of private co-funding is described in detail in point 3 of Annex B.

Procedure

1. Applications must be submitted via the call page on the ChemistryNL website. The application consists of answering the questions in the web form on the call page, a project plan (see Appendix C) and a budget form (see Appendix D). If an SME (or several SMEs) within the consortium wishes to receive a grant, an SME declaration and a declaration stating that the company is not in financial difficulties must be attached to the application. **Applications may be submitted between 12:00 on 1 August 2026 and 14:00 on 29 October 2026.**

2. Following submission, applications will be assessed by a committee. This committee comprises, amongst others, representatives from the ChemistryNL programme councils. The committee will advise the Board of Directors of the TKI Green Chemistry and Circularity on whether to approve the application for the 2026 PPS-I grant. The assessment criteria are:
   - alignment with the scope of the call,
   - feasibility of the research idea and project implementation
   - strength of the consortium
   - innovative nature and societal and/or economic impact.

3. The Board of Directors of the TKI Green Chemistry and Circularity is expected to decide in [month 2026] on the award of the 2026 PPS-I grant application. Should the budget of €[x] prove insufficient to cover the number of applications for which the committee has given a positive recommendation, the Board of Directors will decide on the allocation, taking into account policy considerations and diversity in research topics. No appeal may be lodged with the against this decision of the Board of Directors.

Enquiries and information

For any questions or further information, please contact the PPS-I coordinator at the TKI Green Chemistry and Circularity, Harmen Veldman (tel. +31 6 31976594,harmen.veldman@chemistrynl.com).

The TKI Green Chemistry and Circularity wishes you every success with the development of your public-private partnership projects and looks forward to receiving your application.

Appendices:

Appendix A: Conditions for grants and use of funds
Appendix B: Project plan template
Appendix C: Budget form (Excel)

Appendix A: Conditions for the award and use of the PPS-I 2026 grant call for Chemistry and Defence

The following conditions apply to the award and use of this PPS-I 2026 Chemistry and Defence grant.

1) Use of the PPS-I 2026 grant

The PPS-I grant must be used in accordance with the application and the project plan approved by the Board of Directors of the TKI Green Chemistry and Circularity. The project must involve genuine public-private partnership*.

**Genuine collaboration: collaboration between at least two independent parties to exchange knowledge or technology or to achieve a common objective based on a division of tasks, whereby the parties jointly determine the scope of the collaborative project, contribute to its implementation, and share its risks and results. One or more parties may bear the full costs of the project, thereby relieving the other parties of the financial risks associated with the project. Contract research and the provision of research services are not regarded as forms of collaboration.*

2) Conditions for the PPS-I 2026 grant

All activities to be carried out must comply with the conditions for PPS-I collaborative projects set out in the National EZK Grant Scheme, as stated on the RVO website (Link). The obligations of a recipient of the 2026 PPS-I grant, as set out in the regulations, apply in full to your organisation with regard to the funds made available to you by the TKI Green Chemistry and Circularity.

3) Maximum grant, grant percentage and private contribution

- The maximum grant per project is €500,000.00.
- The maximum grant for all research organisations in the project combined is €500,000.00
- The maximum grant for all private companies involved in the project combined is €250,000.00
- The project must involve genuine public-private partnership, and the private party or parties must co-fund the project.
- The applicable grant percentages and maximum grant amounts by organisation type and type of research are set out in the table below.

Table: Grant percentages and maximum grant amounts for the PPS-I grant 2026

	Research organisation	SME	Large enterprise
Basic research	80 %	50 %	0 %
Industrial research	50 %	50 %	20 %
Experimental development	25 %	25 %	20%
Maximum grant	€500,000	€250,000	

- The applicable minimum private contributions per grant percentage, by organisation type, and type of research, are set out in the table below.

Table: Co-funding requirements for the PPS-I grant 2026

	Research organisation	SME	Large enterprise
Basic research	No minimum co-funding requirements	50% of own costs in kind.	100% of own costs in kind.
Industrial research	No minimum co-funding requirements	50% of own costs in kind.	80% of own costs in kind.
Experimental development	No minimum co-financing requirements	75% of own costs in kind.	80% of own costs in kind.

4) SMEs

SMEs wishing to receive a PPS-I 2026 grant must declare that they are an SME and that they are not in financial difficulty (OIM). To declare that they are not OIM, the relevant decision tree must also be completed and attached to the application. The declarations can be generated on the RVO website.
For the SME declaration: https://www.rvo.nl/onderwerpen/subsidiespelregels/ez/mkb-verklaring
For the OIM decision tree and the non-OIM declaration: https://webform.rvo.nl/formule1/formulier/nl-NL/DefaultEnvironment/scB21BeslisschemaOIM.aspx

5) Cost accounting system

You must calculate the costs incurred for collaborative projects for which the PPS-I grant is used in accordance with the standard methods as described in Articles 10 to 15 of the Framework Decision on national EZK and LNV grants (Link). The costs are taken into account excluding VAT, provided that the grant recipient who incurred the costs is entitled to deduct VAT.

6) Allocation

The TKI Green Chemistry and Circularity makes the grant available to your organisation as an advance payment, subject to the grant conditions applicable to the PPS-I grant. The grant is paid out in several instalments, totalling up to 90% of the grant awarded. The remaining 10% will be settled upon final approval of the grant. Upon approval of your application, you will receive a payment schedule.

7) Period of use

The period of use for the PPS-I grant runs until 31 December 2031. After this period, you will no longer be able to use the PPS-I grant.

8) Reporting obligation

You are required to report annually in Q1 of each year on the progress of the activities, covering both project progress as well as financial aspects of the previous calendar year. This will take place as part of the monitoring carried out by RVO . In addition, the TKI may request information from you when drawing up the annual report of the TKI Green Chemistry and Circularity.

9) Application for Finalisation of the PPS-I Grant 2026

A complete 'Application for Grant Finalisation' has to be submitted to the TKI Green Chemistry and Circularity no later than eight weeks after completion of the project. The 'Application for Grant Finalisation' consists of a financial and technical report and an audit report from an independent auditor if the PPS-I grant exceeds €125,000. For amounts below €125,000, a management statement stating the incurred costs must be submitted.

10) Communication

- Upon written request from the TKI, you are obliged to provide up-to-date information about the collaborative project for which the grant is being used. This information should be suited for the general public.
- You must be available to consult regularly with your project's support team regarding progress.
- The TKI office will support you in communicating about your organisation's use of the PPS-I grant, including via ChemistryNL's (social) media channels.
- Furthermore, you must include the phrase 'this activity has been co-funded by the TKI Green Chemistry and Circularity through a PPS-I grant from the Ministry of Economic Affairs and Climate Policy' or words to that effect in any publications resulting from an activity that is partly funded by a PPS-I grant. Where possible, please use the ChemistryNL logo.
- RVO and ChemistryNL will publish a brief description of all projects funded by the PPS-I grant on their websites. This brief description will also list the participating companies.