

# Call for research proposals #2

## Kompetenscentrum vägteknik (KCV)

In order to secure a long-term competence within road technology, the Swedish Transport Administration has decided to initiate and fund the Swedish Competence Centre in Road Technology (Kompetenscentrum vägteknic, KCV). KCV aim to contribute to increased competence, increased knowledge, high quality education, high quality research, and increased attractiveness for the subject road technology. The work is performed in close collaboration between different actors within education, research, the public sector, and the private sector (consultants, industry). The research within KCV is organised in four multidisciplinary thematic research areas:

- Health, environment and climate effects
- Road condition assessment and prediction of its evolution
- Sustainable and resource effective roads
- Digitalisation, automation, and electrification for a modern road infrastructure

KCV therefor opens its second call for research proposals. The call has a total budget of about 40 million SEK (10 million SEK per year for four years) with the intention to lead to increased competence and knowledge within road technology in Sweden. The applications will be submitted using a two-step system. Deadline for submission of proposals in Step 1 is the 9 June 2024.

### Direction for call #2

The second call for the KCV focus on the challenges for the road network linked to operation and maintenance as well as the development of functional requirements. Traditionally, the requirements for the road infrastructure and the following operation and maintenance have been based on experience and proven methods.

Rapid technological development (e.g. electrification of roads, the introduction of automated vehicles, artificial intelligence, and digital twins), increased demands on management of resources (e.g. by circular material flows, increased reuse and recycling), increased demands to decrease environmental and climate impact, as well as increased needs to handle climate changes and climate adaptation of the infrastructure require more and new competence and knowledge within all the KCV research areas. This call therefor urges the KCV partner organisations<sup>1</sup> researchers to submit research proposals within the four research areas.

The proposals shall include research activities that leads to an increased competence and knowledge within road technology in Sweden, and that contribute to published knowledge in the form of scientific papers or in the organisations own report series. The proposals shall also relate to the Swedish Transport Administrations research needs<sup>2</sup>. The proposals may up to a certain degree also include educational moments, e.g. participation in courses of relevance for the project. The funds may not be used for undergraduate education.

The call is open for research proposals from fundamental research to more applied research (up to and including TRL<sup>3</sup> level 6), including licentiate and PhD projects.

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<sup>1</sup> KCVs partner organisations are Chalmers University of Technology, KTH Royal Institute of Technology, Luleå University of Technology, Lund University, the Swedish National Road and Transport Research Institute.

<sup>2</sup> The Swedish Transport Administrations research needs are available in the Swedish Transport Administrations Research and Innovation plan for the years 2024 – 2029. For more details, see <https://urn.kb.se/resolve?urn=urn:nbn:se:trafikverket:diva-12505>

<sup>3</sup> TRL stands for Technology Readiness Level and is an indicator for the maturity of certain technology with a scale 1- 9. For more information and definition for respective level, see <https://www.swedishmininginnovation.se/sv/utlysningar/trl-niva/>



In this call, collaboration between KCVs organisations and in new constellations will be especially considered, particularly for fully new collaborations, meaning that projects performed between persons who have had no previous collaboration in earlier, or current, projects. Projects may build upon earlier collaborations, but the constellation should then be complemented with new collaborative partners on equal terms.

Persons with multiple affiliations are only allowed to represent one of these in the research proposal.

## Scope and budget

This call is directed to researchers at the KCV partner organisations Chalmers University of Technology, KTH Royal Institute of Technology, Luleå University of Technology, Lund University, and the Swedish National Road and Transport Research Institute. The projects may also include partners outside of KCVs partner organisations. In such cases, proposals with co-funding from the participating organisations will be prioritised. Observe that the state aid rules (statsstödsreglerna) applies.

This call has a total budget of about 40 million SEK available for proposals granted support. In total about 10 – 15 proposals are expected to receive funding in this call. Of these funded proposals, at least 5 are expected to be research educational projects (licentiate, from licentiate to PhD, or directly to PhD). The proposals may run over a total of maximum four (4) years but can otherwise be of varied time lengths.

The proposals total cost shall be presented in the budget template (see the requirements below). The total budget shall include potential co-funding. No co-funding is required for partners within KCV. For partners outside of KCV the level of necessary co-funding depends on the state aid rules (statsstödsreglerna) and is dependent on the type of research and the size of the company. For more information regarding these regulations and which costs that are eligible for the research proposals, see the Swedish Transport Administrations website<sup>4</sup>.

Requisition of funds can be done at three occasions per year. The last requisitioning will be available after approved final report and presentation at the KCV result conference. For relevant proposals, a licentiate or PhD thesis can be counted as the final report.

## Requirements for the research proposal

The following requirements shall be fulfilled:

### For Step 1:

The proposal shall, in order to continue to the assessment step, fulfil the following requirements for Step 1:

- The main applicant shall be one of KCVs partner organisations: Chalmers University of Technology, KTH Royal Institute of Technology, Luleå University of Technology, Lund University, the Swedish National Road and Transport Research Institute.
- The following is required for the assessment of proposals in Step 1:
  - o The proposal shall be formed as a brief idea sketch with a simplified overview budget. It shall also contain a thought regarding cooperation and the start and end for the project. The template for proposals for Step 1 shall be used. The template may not be modified, and eventual limitations in the template may not be exceeded. Failure to comply will result in the proposal not being considered. The template is available at KCVs website in an Swedish and English version, respectively.
- Proposals containing the proposal in accordance to the template for Step 1 shall be submitted electronically in PDF-format at the latest 9 June kl. 23:59 to [ansokan@kcvag.se](mailto:ansokan@kcvag.se).

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<sup>4</sup> [Lämna forsknings- och innovationsförslag - Bransch \(trafikverket.se\)](#) – See the documents beneath the header ”Stödnivåer för företag och stödberättigande kostnader”.



## For Step 2:

The proposal shall, in order to continue to the assessment step, fulfil the following requirements for Step 2:

- The proposal must have gone through Step 1 in the process. It is not possible to only submit proposals to Step 2 directly.
- The main applicant shall be one of KCVs partner organisations: Chalmers University of Technology, KTH Royal Institute of Technology, Luleå University of Technology, Lund University, the Swedish National Road and Transport Research Institute.
- The following is required for the assessment of proposals in Step 2:
  - o A complete proposal with a project description including a project plan, time plan, budget, plan for reporting and presenting of results. The template for proposals Step 2 shall be used. The template may not be modified, and eventual limitations in the template may not be exceeded. Failure to comply will result in the proposal not being considered. The template is available at KCVs website in a Swedish and English version, respectively.
  - o A base information page. The template available on the KCVs website shall be used.
  - o CV for key persons from the respective participating organisation. The template for CV shall be used. The template is available at KCVs website in a Swedish and English version, respectively, and is available on the KCVs website.
  - o A complete budget. The budget template for Step 2 shall be used. The template is available at KCVs website in a Swedish and English version, respectively.
- The project shall in connection to the end of the project submit a research report<sup>5</sup> and a financial report to KCV. The research report shall be review and be made publicly accessible in a public database such as for example DiVA (Digitala Vetenskapliga Arkivet). Other potential publications shall be published in accordance to “open access”.
- The projects results shall be presented at the end of the project at the yearly KCV results conference in Lund. This is a prerequisite to receive the final payment of the project which corresponds to 10% of the total project budget.
- The proposal containing the proposal, the base information page, the budget, and the CV for key persons shall be submitted as separate files to [ansokan@kcvag.se](mailto:ansokan@kcvag.se). The budget file shall be submitted as an Excel file, the other as PDF-files. More information regarding the deadline for submission will be published at the KCV website after the finish of Step 1.

## Assessment of proposals and decision

Only the latest version submitted to KCV before the call deadline will be considered. No complements will be accepted after the deadline with the exception for those KCV specifically asks for. If KCV requires a complement, it is kindly asked to hastily submit the information asked for.

The assessment of the proposals will be done by the following descriptions:

### For Step 1:

The submitted proposals will be assessed by the Research Council in collaboration with the Research Areas. This assessment will be done using the criteria's described below. The recommendations from the Research Council

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<sup>5</sup> Scientific literature published open access with a Swedish summary fulfils this requirement. Licentiate and PhD-thesis also fulfils this requirement.

are given back to the applicants before Step 2 opens. Observe that while proposals will not be dismissed during Step 1, the recommendations will be considered in Step 2.

### **For Step 2:**

The submitted proposals will first be assessed by the Research Areas, followed by the Research Council together with input from the Swedish Transport Administrations assessment. This assessment will be done using the criteria's described below. The proposals will be ranked and divided into one of three categories based on the funding recommendations:

- Should be funded,
- Has potential but needs improvements before funding is applicable,
- Should not be funded.

The KCV board will then reach a decision regarding the funding recommendation. The recommendation is submitted to the Swedish Transport Administration for the formal funding decision.

The decision is expected to be taken by the Swedish Transport Administration during November. Decisions with motivation will be delivered to the applicants by the KCV office.

## **Assessment Criteria**

The following assessment criteria will be used:

### **For Step 1:**

- Does the proposed project answer to the call? (yes/no)
- Does the idea fit in the KCV?
  - o Does the idea follow the KCV research agenda? (yes/no)
  - o Are the needs within the Swedish Transport Administrations knowledge fields fulfilled? (yes/no)
  - o Does the idea contribute to increased competence in road technology in Sweden? (yes/no)
  - o Does the idea contribute to increased collaboration in Sweden? (yes/no)
- How realistic is the idea in relation to the suggested budget and timeframe, as well as staffing?
- Does the idea link to other submitted ideas? (yes/no)
  - o If yes, which ones:
- Should these be coordinated with other proposed projects? (yes/no)
  - o If yes, with which ones:
- Does the idea link to competences that are not included amongst the applicants in the Step 1 proposal? (yes/no)
  - o If yes, which ones?
- Are there others that should be included to increase the benefits of the proposed project? External who have competence that possible can contribute? (yes/no)
  - o If yes, which ones:

### **For Step 2:**

*The proposals scientific quality (1-7)*

Guiding questions:

- To what extent does the proposed research address important challenges in relation to existing knowledge and ongoing research in the area of KCV?
- To what extent is the project structured so that it can result in significant progress in addressing these challenges?
- When applicable, how are issues relating to sex and gender perspectives justified and handled in the research plan?



- When applicable, are the ethical considerations for the proposed project properly described and addressed? Does the applicant adequately consider potential suffering of humans and animals, and the balance of risk and value to nature and/or society?

#### *Competence and Collaboration (1-7)*

Guiding questions:

- To what extent does the proposed project increase competence inside the field of Road Technology?
- Is the project improving/increasing cooperation inside KCV?

#### *Innovative thinking and originality (1-7)*

Guiding questions:

- To what extent are the objectives novel, original and beyond the state of the art?
- To what extent does the research involve development of novel concepts and approaches, or development between or across disciplines?

#### *Feasibility (1-3)*

Guiding questions

- To what extent is the outlined scientific approach feasible considering the degree to which the proposed research is high gain?
- To what extent are the proposed research methodology and working arrangements (including participating researchers if relevant, and access to infrastructure, equipment, and other resources) appropriate to achieve the goals of the project?
- To what extent are the proposed timescales, resources, and applicant commitment adequate and properly justified?
- Does the applicant adequately consider relevant legal and formal requirements for the proposed research, for example ethical permits?

#### *Summative grade (1-7)*

The above criteria are weighted into a summative grade reflecting the assessing groups collected assessment of the proposal's scientific quality. The summative grade is produced without a predetermined numerical weighting of the base criteria. As guidance for the assessing group, the proposals scientific quality and ability to increase the competence within the area are the two most important criteria, while innovative thinking and originality should be given lower weight.

## Contact

For questions regarding this call, please contact:

General questions: [info@kcvag.se](mailto:info@kcvag.se)

Budget questions: [ekonomi@kcvag.se](mailto:ekonomi@kcvag.se)

