

MARKET CONSULTATION

ROMO² (Road Monitoring)

Connekt
PROMAR90.10.001

Colophon

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1 Introduction

1.1. Background

This market consultation (RFI) is in preparation of the initiative **ROMO**² which is an evolution on the project ROMO (Road Monitor)¹.

"Modern cars produce, collect, and share ever increasing quantities of data. At present, European manufacturers provide about 37% of new cars with pre-installed Internet connection. Over this Internet connection, data from the car is transmitted to cloud servers, from which the car is also able to retrieve data. Almost all newly sold cars in the European Union are connected to the Internet. The growing amount of vehicle data that cars produce and share creates opportunities for many parties; the possibilities include product improvements by car manufacturers, maintenance and repair, and consumer (driver) products and services that are innovative in terms of infotainment, mobility, and beyond. In addition, the exchange of data provides great opportunities in terms of traffic management, traffic information, and incident management, with positive effects on traffic flow, safety, and car traffic emissions."

Following the success of the ROMO (Road Monitor), the Netherlands stays committed to further use the probe vehicle data technology. This second iteration, where we start with a clean slate, focuses even more on the actual usage by road operators (innovation towards production).

In working with this technology for several years, I&W is of the understanding that its potential can be fully reached by combining multiple sources (pieces of the puzzle). Therefore, within the tendering process, I&W will construct a mechanism where multiple suppliers are contracted, all to build collectively a complete overview of the entire road network in the Netherlands. This coopetition should foster continuous development, better reliability, and a more complete overview of the road network as more probes are available.

1.2. Aim of the market consultation

Connekt has published this market consultation document on Tendered with the aim of reaching as many market parties as possible, to interest them and to encourage them to think along and to contribute.

Coopetition can be a complex strategy to navigate, as it involves both collaboration and competition. It is crucial to establish clear agreements, respect the boundaries, and always act in accordance with competition laws. It's about finding a sweet spot where collaboration benefits all parties without jeopardizing individual competitive edges.

With the market consultation, I&W would request to gain insights on

1. Current B2G product portfolio's
2. The appetite of industry players to act within a coopetition ecosystem

¹ [website](#)

3. The soft cooperation rules under which an individual player wants to cooperate...
4. The constraints and boundaries an individual player might have²
5. Suggestions on the organisation of such an ecosystem
6. Suggestions on the financial mechanism of such an ecosystem
7. The willingness to, if any, further develop customized data products with Dutch Road Authorities

Connekt on behalf of I&W emphasizes that this consultation is not in any way an integral part of a tender. No rights can be derived from this document.

Relevant insights derived from this consultation may be used by Connekt and/or I&W for future tenders and studies to develop government policies. Connekt and/or I&W however are not obliged to use any or all insights gathered from this consultation.

1.3. Target group of the market consultation

I&W is in the process of exploring advanced technologies that can assist in improving our asset management practices and is particularly interested in Probe Vehicle Data (PVD). As a part of our market consultation, we are seeking information from technology providers offering off-the-shelf solutions that are operational and have a proven track record in this field.

Organizations of interest are vehicle manufacturers, data aggregators and other technology providers. The aim of ROMO² is the actual usage by road operators. Responders offering a specific data item or hardware instead of a service are therefore unfavorable.

1.4. Approach of the market consultation

The market consultation will take place as follows. As from publishing, market parties are given the opportunity to submit a written response to the questions posed by the consulting party.

Subsequently, market parties may be invited to an interview to further explain their written response. Details on the interview will be provided after the term of submitting the questionnaire has been closed. At the time of arranging an appointment an agenda for the interview will be set.

Chapter 3 describes the working method and approach of the market consultation.

1.5. About

Ministry of Infrastructure and Water Management (facilitator)

The Ministry of Infrastructure and Water Management is committed to improving quality of life, access, and mobility in a clean, safe and sustainable environment. The Ministry strives to create an efficient network of roads, railways, waterways and airways, effective water management to protect against flooding, and improved air and water quality.

² Exempt Legal constraints as those will be accounted for

Connekt

Connekt is an independent network for sustainable mobility and logistics. We connect governments, companies and knowledge institutions. A mix of knowledge, creativity and decisiveness.

We have observed a growing demand for affordable and accessible mobility of people and goods. As a non-profit member network, we see opportunities and possibilities to work together on the challenges in the sector on a public-private basis. Think of sustainability, digitization and urbanization.

However, Connekt is more than that. Connekt is able to run complex programs. We carry out various programs on behalf of the Ministry of Infrastructure and Water Management. Connekt is active in supporting programming and program management.

Connekt is entrepreneurial too. We can set up programs and projects based on the needs of the members and to further develop them as independent initiatives.

With over 500 partners worldwide, we tackle themes that can improve the world. Both economically and in terms of sustainability. Think of intelligent access to the city or smart and sustainable transport systems. Or properly arranging data sharing, which is also becoming an increasingly important theme in the world of mobility and logistics.

Rijkswaterstaat (experts)

Rijkswaterstaat is the executive organization charged with managing and developing national networks in a sustainable manner on the instructions of the Minister and the State Secretary for Infrastructure and Water Management (I&W). Rijkswaterstaat works to promote the safety and free flow of traffic, a safe, clean, and user-friendly national water system, and to protect our country against flooding. To that end, Rijkswaterstaat manages the national road network (5,695 km), the national waterway network (1,686 km of canals, rivers and 6,165 km of open waterways) and the national water system (65,250 km²).

The National Road Traffic Data Portal (NDW)

It takes a lot of effort to keep the continuous flow of mobility data sound and constant. The NDW does this centrally for all road managers. Much of our traffic data is collected by the authorities themselves, in the first place for their own use. But more needs to be done to get us where we need to be. The data quality needs to be monitored, the information must be stored quickly and correctly, offered in standardized form, etc. On behalf of the road managers, NDW takes care of the lion's share of those activities.

1.6. Policy

Within the framework of the Road Monitor (ROMO), the Ministry has launched an initiative with the car manufacturer Mercedes to detect, among other things, the quality of the markings, holes and wear marks in the asphalt using vehicle data across the entire road network. In addition, as part of this process, data is generated about the locations where automatic braking systems of vehicles must intervene regularly, for example to prevent an accident with a pedestrian. This information is available to every road authority in the Netherlands and ensures that the road authority gets a better

picture of the maintenance task or where it is dangerous in the city. The first results are promising and the ministry sees that it helps road authorities to carry out daily asset management and maintenance in a more targeted way. That is why the Ministry is going to follow up on this initiative by combining several service providers in order to obtain an even more complete picture of the state of the road network. Ideally, this offers an instrument to carry out targeted management and maintenance and to be able to repair damage earlier with contractors before they get worse.

2 Intended scope

Road operators lack a complete and up to date overview of the state of their road network. Road operators in the Netherlands, like in many other countries, utilize various tools and methods to monitor and maintain their road networks. However, some challenges may limit the extent to which they have comprehensive and up-to-date information on road conditions. Tools that are used today vary from civilians dialing in case of an event or anomaly, the call centers of road operator, visual inspections by staff and/or a specific measurement device which maps certain sections of roads.

Most of these methods are expensive and time-consuming. The responsibility for road maintenance in the Netherlands is shared among different authorities, including the national government, the highway operator Rijkswaterstaat, provincial governments, and municipalities. This fragmentation leads to a variation of methods and maintenance practices, ultimately affecting the overall understanding of the road network's condition. Whilst it is to be considered that Rijkswaterstaat has the best of practice methods in place as the highway operator, scarcity in resources also means they we need to find alternative ways and move away from equipping the road network with (additional) hardware.

It should be emphasized that this market consultation is not about the procurement of data, but about the procurement of insight/information that can provide road operators with insights about the condition of the roads, road furniture, bridges/tunnels, and other related matters.

We believe that the added value can help us achieve the following objectives:

- frequent and complete overview of road surface/assets conditions;
- assist in contract management towards contractors;
- improving response rate when hazardous traffic situations arise;
- assist in prioritizing maintenance.

Further criteria for preferred responders to the market consultation:

1. Provide coverage for the entire road network in the Netherlands;
2. Display the information within a user-friendly application; including explanation of the underlying data model;
3. Fulfil the ambition to spend time with road operators and help them understand how this information is accumulated to gain confidence in the observations without infringing upon the bidders' Intellectual Property (IP);

4. Develop (or co-develop) an API (Application Programming Interface) for the link to the road managers' systems.

3 Procedure market consultation

3.1. Procedure

This market consultation shall be construed as follows:

1. The market consultation shall commence when this consultation document is published on Tendered. This document contains the background, topics, questionnaire and process of the consultation.
2. All interested and capable parties are requested to contribute to this market consultation by submitting the questionnaire by e-mail: marketconsultation@connekt.nl before the date and time mentioned in paragraph 3.1.1.
3. Connekt on behalf of I&W will be allowed to invite contributing parties for an interview.
4. Connekt, on behalf of I&W, will analyze the questionnaires and the interviews. A short report on the consultation shall be drafted and published on Tendered. The published report shall be construed according to article 3.2 of this document.

3.1.1. Planning

Activity	Date and time
Publication market consultation document	24 th of May 2023
Closing submissions questionnaires	9 th of June 2023
Interviews	12 th - 16 th of June 2023
Completing and publication	30 th of June 2023

Contributor has the opportunity to ask questions via the Tendered message box until 31st of May 2023. Questions and answers will be made public through the Tendered system unless contributor requests to answer confidentially. It is at the discretion of Connekt to decide if a question can be answered confidentially. In case the question cannot be answered confidentially the contributor can withdraw the question which then will remain unanswered.

Connekt will answer the nonconfidential questions as soon as possible but not later than June 5th 2023.

Connekt may change the above planning in order to secure the quality and the usefulness of this consultation. No rights can be derived from the above planning.

3.1.2 Submission questionnaire

Any interested relevant party is invited and requested to answer the questionnaire as described in chapter 4. The questionnaire can be submitted by e-mail: marketconsultation@connekt.nl before the submission date mentioned in the planning as described in article 3.1.1.

3.1.3 Interview

Connekt on behalf of I&W will be allowed to invite contributing parties for an interview. Only parties that have contributed in a complete and constructive manner can be invited with a maximum of 15 interviewed parties. In case there are more than 15 contributing parties Connekt, on behalf of I&W, can select 15 parties, at their discretion, based on order of entry, completeness and usefulness of the submitted questionnaires.

Interviews will have a duration of approximate 1,5 hours on the premises of Connekt or by online conference between the 12th and 16th of June 2023. Connekt will coordinate the invitations and the planning of the interviews.

3.1.4. Completion of the market consultation

Completion of this market consultation shall be as per the timing mentioned in paragraph 3.1.1. Connekt, on behalf of I&W shall conclude this consultation by publishing a report on Tendered. In this report the main conclusion made by the project team shall be published.

In relation to this report Connekt stipulates the following:

1. Contributors to this consultation allow Connekt and I&W to use the input given by contributors through the questionnaire and or the interview to make a report for internal and confidential use.
2. The information used in this report will be anonymized.
3. A summary per contributor shall be construed and presented to its contributor to be reviewed on confidentiality.
4. All the summaries, reviewed by its contributor, will be used to generate a general summary of the report that will be published on Tendered, in accordance with article 3.2.
5. The report for internal use contains the conclusions as formulated by Connekt en I&W. The conclusions in the report are a representation of the analysis of Connekt and I&W and are not necessarily endorsed by the participating market parties.

3.2. Confidentiality³

Connekt and I&W, shall use reasonable efforts to retain all Confidential Information received under this Agreement in confidence. The “reasonable efforts” that Connekt and I&W use will be at least as

³ In case contributor is not comfortable with the stipulated confidentiality paragraph. A separate NDA, prepared and pre-approved by I&W can be requested one week before closing of the submission by e-mail: marketconsultation@connekt.nl

stringent as those that it uses to protect its own information that it considers proprietary and does not wish to become available to the public. Connekt and I&W will not use the information marked as confidential for any purpose except for the purpose as described in this market consultation.

Confidentiality will not prohibit Connekt and I&W, from making any disclosure that is required by law, governmental regulation, court order or subpoena.

Confidentiality will not apply to any information that:

- a. Is or becomes part of the public domain through no fault of I&W and/or Connekt;
- b. Was in Connekt and I&W's possession before being disclosed by contributor;
- c. Is disclosed to Connekt and I&W without obligation of confidence by a third party that has no obligations to contributor with respect to the information; or
- d. Is independently developed by employees of I&W and/or Connekt.

3.3. General

The market consultation is not part of a tender. In order not to put participants in this market consultation in an advantaged position, Connekt, on behalf of I&W, publishes the result of this consultation (in accordance with article 3.2) in tender documents in the case this consultation leads to a tender. In case there will be a tender there will be no distinction between parties that have or have not participated in this market consultation.

Information in this market consultation may deviate from information that is provided later (in the context of a tender or other acquisition process). No rights can be derived from the information provided in the context of the market consultation. The information is indicative and only intended to increase the quality of the market consultation. If this information conflicts with the information that is provided later (in the context of a tender or other procurement process), the latter shall prevail.

Connekt, on behalf of I&W, does not grant any compensation for submitting the questionnaire or attending an interview in relation to this market consultation.

4 Questionnaire

Product

1. Can you specify, in detail, your B2G product portfolio?
E.g. Traffic sign recognition, pothole detection, friction values with a certain IRI value etc.
2. Of the use cases mentioned under Q1, which are available in the Netherlands today? If there are limits to the geographical scope (*e.g. Highway network*), please indicate.
3. Would you be able to provide a breakdown of that fleet or any empirical evidence to support your coverage claim in the Netherlands?
4. Are there use cases in your pipeline that will become available within the duration of ROMO² (*approx. 2028*)?
5. How does your software collect, process, and analyse probe vehicle data to support road maintenance decision-making?
E.g. vision based to detect traffic signs aggregated with X etc.
6. How does your product support real-time decision-making and provide alerts for road maintenance issues?
7. Can you provide examples of successful implementations of your product in similar road maintenance contexts?
8. What are the key features of your solution that make it stand out from other solutions in the market?
9. Do you provide a user interface? If so, please provide us with screenshots.
10. What level of involvement/collaboration would you expect from the road operators? And what level would you wish for?
11. Can you provide information on the pricing structure, subscription options, and any additional fees associated with your software?
12. Can you provide references from other organizations that have used your software for road maintenance, and may we contact them to discuss their experience with your solution?

Coopetition

I&W strives for a model with a mix of competition and collaboration to foster continuous development, facilitating a level playing field and enhancing the overall quality of what is a relatively new market.

13. Is it in your view possible to collaborate within a use case (*e.g. potholes*)?
14. Is it in your view possible to collaborate within lots (*e.g. asset-management*)?

15. Is it in your view possible to collaborate within the overall project (e.g. communication)?
16. What level of cooperation with other suppliers would you applaud? What would you cooperate on and what will you not cooperate on?

Financial

The Netherlands aims to create a system in ROMO² where multiple suppliers can put events forward for a single use case (aggregating the aggregators). In doing so, the Netherlands not only wants to increase the overall coverage of ROMO² but also trigger a continuous improvement of the provided information and a fair output driven system. The reimbursement model should (at least) consider two metrics: volume and quality.

17. What is your overall reflection on this approach?
Feel free to be critical but provide detailed arguments.
18. Is there a missing metric within the model?
19. How would you recommend to measure quality? Could you provide best practices?
20. How can this reimbursement model stimulate innovation and development within the use cases? Do you foresee negative effects?

Please limit your response to a maximum of 5 pages with a fontsize of 11 (including attachments, (web)references).