

Market Consultation

For the purpose of collection monitoring in non-accessible areas

Tendering Authority:	Koninklijke Bibliotheek
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Common Procurement	Primary CPV code: 35125100-7 – Sensors
Vocabulary code (CPV code)	Additional CPV code(s): 38344000-8 – Pollution-monitoring devices; 38400000-9 – Instruments for checking physical characteristics

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1 Introduction

1.1 Market consultation

The National Library of the Netherlands (Koninklijke Bibliotheek), hereinafter: the KB, is conducting this market consultation in preparation for a tender for the monitoring of collection preservation conditions in non-accessible areas. Monitoring can be performed in various ways, including measurements close to or on the collection, measurements on the air composition and measurements on building level.

In preparation for this tender, a written open market consultation is being conducted with the opportunity to engage in discussions with the participants.

1.2 Objective of this market consultation

The objective of this market consultation is to gather market insights to support the preparation of a potential procurement procedure, ensuring alignment with technological developments and market capabilities.

The KB wishes to use this market consultation to gain insight into the following aspects, including but not limited to:

- Overview of the current state of the art in monitoring air within a non-accessible space on temperature, relative humidity, specific gases, pollution particles and fungal spores;
- Overview of the current state of the art in monitoring within a non-accessible space on shock, vibration.

The KB is open to both integrated solutions and modular approaches covering one or more of the identified risk areas.

1.3 Public market consultation

This market consultation has been published via TenderNed and is not part of a tendering process. Participation in the market consultation is entirely without obligation and does not entail any commitments for the parties involved.

The results of the market consultation will be made public, with the exception of commercially sensitive information. This information will be treated confidentially by the KB.

The KB will compile an anonymised report summarising the main findings of the market consultation. This report will be added as a schedule to the tender documents.

2 About The National Library of the Netherlands (Koninklijke Bibliotheek, KB)

2.1 The KB

The KB is the national library of the Netherlands. Its task is to preserve and make available Dutch cultural heritage in printed and written form, and increasingly also in digital form. Since 31 August 1993, the KB has been an independent administrative body, funded by the Ministry of Education, Culture and Science (Ministerie van Onderwijs, Cultuur en Wetenschap). On 1 January 2015, the System of Public Library Facilities Act (Wet stelsel openbare bibliotheekvoorzieningen, Wsob) came into force, giving the KB a coordinating role within the network of public libraries and responsibility for the implementation of system tasks. Pursuant to this new law, the KB also became responsible for developing the national digital library.

The KB connects people and words, thereby contributing to a smarter, more skilled and more creative Netherlands, now and in the future. In the [KB Policy Plan 2023-2026 \(Beleidsplan 2023-2026\)](#), the following strategic goals have been formulated for the coming years:

1. **Reading and digital literacy:** providing more people with the opportunity to read and participate in the information society.
2. **Research and discovery:** strengthening the connection between research and society.
3. **Sustainable access:** ensuring the collection in our national library.

Below are some examples of the services, programmes and components of the KB.

Online Library

The [online Library](#) makes digital content available to the network of Public Libraries. Through the platform, we make it possible to borrow e-books, audiobooks and digital magazines. This can be accessed via the website or the online Library app. The online Library has a collection of nearly 40,000 e-books, 10,000 audiobooks, and 524,000 members, and is used intensively.

Delpher

[Delpher](#) is the online source for digitised newspapers, books and magazines. In 2022, this was supplemented by almost 28,000 books and 21,000 magazines from the collections of 13 partner institutions. With nearly 3.3 million visits per year by 1.3 million people who spend an average of 13 minutes on Delpher, it is one of our largest online services.

Data services

[Data services](#) (digital collections and metadata from the KB for scientific research)

In addition to smart services, we also invest in access to raw data. Interest in these datasets is growing across multiple scientific disciplines. In order to further stimulate and facilitate the use of our datasets, the KB will improve its range of data services in the coming years.

Public programming

In addition to being a source of and for research, we want our collections to be part of the social dialogue. We use our public programming to achieve this, sharing knowledge about the collections through publications, lectures and media appearances. Collection items are also loaned to institutions within and outside the Netherlands. The KB encourages creators, writers and thinkers to engage with the collection and share their perspectives on it.

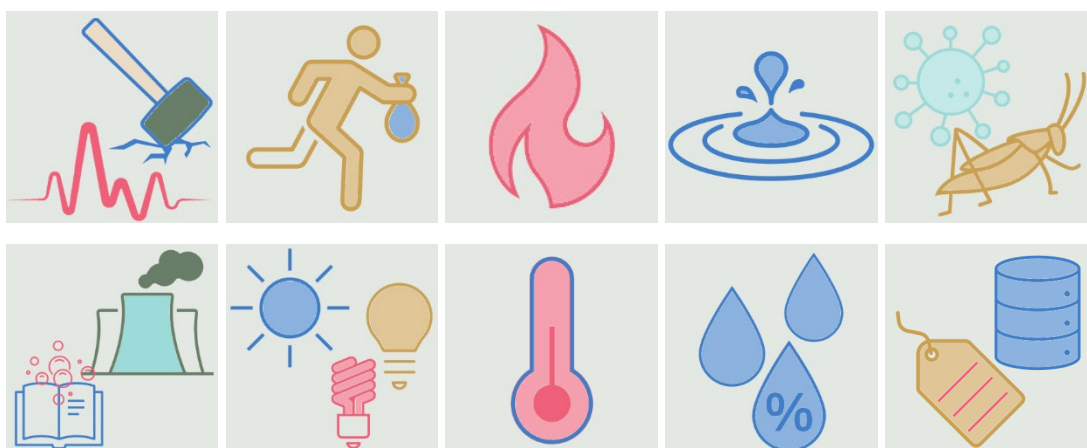
2.2 Current situation/ context of contract

The KB preserves the national library collection for posterity. Currently KB has 122 km of physical heritage collections (books, newspapers and periodicals). Some were printed yesterday, while others are 14 centuries old. These are stored in an on-site repository. Temperature and relative humidity are being monitored by an independent remote sensor system. Periodic inspections are carried out using handheld devices, e.g. spore counts, examination of the filters within the climate systems and Volatile Organic Compounds (VOC) measurements on possibly dangerous substances for humans. Traps are placed to see if insects or other pests are present. Condition changes and other visible defects are being noticed by staff trained to retrieve and handle the items.

The main goal is to keep track of all risks the collections are exposed to. These risks are (also see the image below):

1. Physical forces, e.g. shock, vibration, handling
2. Displacement, e.g. thieves but also misplacement by staff
3. Fire, e.g. extensive heat or exposure to fire products e.g. smoke and soot
4. Water, e.g. by leakages of roof or piping
5. Insects and pests, e.g. silverfish, firebrats, spiders, flies, moths, lice, beetles and a wide variety of species of fungi
6. Pollution, e.g. coming from the environment or from within the collection
7. Radiation, e.g. UV, infrared and visible light
8. Incorrect temperature, e.g. too high, too low or too high fluctuations
9. Incorrect relative humidity, e.g. too high, too low or too high fluctuations
10. Dissociation, e.g. loss of information about the collection item

Some of these risks are already tackled at building level. Displacement by thieves, fire and radiation are managed quite well. These risks are considered sufficiently controlled and fall outside the scope of this consultation. The others are important to assess at regular intervals to be aware of any risks and in order to take mitigation actions.



The 10 agents of deterioration

2.3 Desired situation

The KB is about to move its entire collection off-site to a new repository. This repository is passive in terms of climate control; temperature and relative humidity will be controlled by having a properly engineered design. The super high density stored collection of mostly hygroscopic materials creates a thermal and humidity buffer. The repository is also automated: the entire collection will be placed in containers in three different sizes. In total, a quarter million containers will be kept in one large space, which is under a low oxygen regime (13%). These containers will be handled by a robotised logistics system, not by humans.

People are not allowed in this repository because of the lack of oxygen and the robotic system that is present. The only time collection items can be inspected is when a container is retrieved because of a request for a specific book; an employee will pick the specific book out of the container at a picking station.

The new set-up limits or even excludes the use of our current monitoring techniques. The goal of this market consultation is to find out if systems exist that can help in getting insight in the risks collections might be exposed to. Of the 10 agents of deterioration posted above, KB is mostly interested in a party that can offer a solution for 1 or more of the topics listed below:

1. Fungi pose a threat: can the air be sampled at regular intervals to detect fungal spores? If encountered, how to find the cause of the fungal growth without the need to check all containers? A method is needed to provide insight.
2. Shock and vibration: what forces is the collection exposed to on a regular basis, by being stored in an automated storage and retrieval system in which the containers have no fixed position and are moved to allow retrieval of specific containers, by being in transit by the robot, conveyor belts and being handled at the picking stations? A method is requested to measure acceleration in 3 independent directions (X, Y, Z), to gather and analyse data.
3. Insects and pests: are any insects and/or pests present within the repository? If one is detected in one of the containers, what does that mean for the containers that are stored nearby and how can it be monitored to what extent these insects are present?
4. Pollution: how can pollution be detected? Pollution can consist of gaseous substances emitted as degradation products from the library collections, which might build up in concentration over time. Also there can be particles that come from the robotic system or other sources of dust. Can the air be used as an early warning system and more detailed measurements carried out to pinpoint what is happening? A method is requested to monitor pollution in all its forms and to pinpoint causes and find mitigation strategies.

The main focus of the KB is to acquire sensors that provide accurate data. Sensors that are not able to monitor in real time or need time to process data are within the scope of our interest.

The software of the robot allows KB to send containers to a specific location within the repository. This feature is seen as a means to carry out remote measurements. A fixed building management system will be able to carry out some measurements, such as oxygen level, temperature and absolute/relative humidity.

The KB is open to both integrated solutions and modular approaches covering one or more of the identified risk areas.

2.4 Planning

Activity	Planning
Publication Market Consultation	2 April 2026
Deadline for submitting clarification questions regarding the Market Consultation	20 April 2026 no later than 13:00 hours
Deadline for answering questions posed by the KB	28 April 2026
Deadline for submitting responses to the Market Consultation	4 May 2026 no later than 13:00 CET
Deadline for communicating online presentation for selected suppliers	7 May 2026
(Online) presentations (optional)	12 May 2026

The KB has the option to make changes to the planning. Any changes will be communicated by or on behalf of the KB via TenderNed.

2.5 Procedure

The procedure is as follows:

1. After publication on TenderNed, interested parties can download this document and the questionnaire (Word file) from TenderNed.
2. Market parties that have downloaded the market consultation document may submit written questions about the market consultation document and the procedure until the date mentioned in the planning, using the messaging module on TenderNed.
3. The anonymised questions and answers will be published on TenderNed on the date specified in the planning.
4. Your response to the questions included in the consultation document must be submitted by the date and time specified in the planning via the messaging module on TenderNed.
5. Based on the responses, the KB may invite the market party or parties for an in-depth discussion. These discussions will be one-to-one (bilateral) and will take place online.
6. The responses and overall results of the market consultation will be recorded in an anonymised market consultation report. This market consultation report will be part of the tenderdocuments.

2.6 Submitting answers

Interested parties are requested to submit the completed market consultation through the messaging module on TenderNed, in Word-format. **Answers may be given in English or Dutch.**

3 Terms and other provisions

The following terms and provisions are important with regard to the market consultation and this market consultation document:

- The KB is in an exploratory phase. Insights obtained from the market consultation will be utilised by the KB, where relevant, in the preparation of tenders and tender documents. Therefore, no rights may be derived from this market consultation or the information contained herein.
- If information is considered confidential, this should be clearly indicated by the respective market party. The KB will not disclose confidential business information during the tender process.
- The main language for this market consultation is English or Dutch.
- Any costs incurred in participating in the market consultation are the responsibility of the market party or parties.

Finally, we would like to thank you in advance for your input, perspectives and commitment. Your contribution helps to enrich our insights and thus to shape the multiple private tender process.