

Voluntary ex ante transparency notice regarding 'High-throughput automated 15 ML tube handling systems' for Naturalis Biodiversity Center

Organisation: Naturalis Biodiversity Center

Date: 13 December 2024

Naturalis Biodiversity Center (*hereafter: Naturalis*)

Naturalis is one of the world's major natural history museums. Our collection is one of the best in terms of both scale and quality. The institute is a valued partner within the network of the 12 largest museums of natural history in Europe and America (Washington DC, New York, Chicago, Denver, Los Angeles, Toronto, Berlin, Paris, London, Copenhagen, Brussels, and Leiden) and a core member of the Consortium of European Taxonomic Facilities (CETAF).

Thanks to our collection, scientific expertise, and research facilities, we play an essential role in biodiversity research at both national and international level. We work with all of the Dutch research universities and several universities of applied sciences. Our contribution towards the academic landscape in the Netherlands is substantial, in the form of chairs, lectorates, supervision of PhD candidates, and BSc/ MSc education, but also through scientific conferences, a national research agenda, and subsidy programs.

At an international level, Naturalis is a leading institute when it comes to compiling and providing access to digital biodiversity information. Naturalis employees fulfill management roles within the Global Biodiversity Information Facility (GBIF), the Catalogue of Life (CoL), and the international Barcode of Life (iBOL) initiatives.

As the largest museum of natural history and one of the largest science-oriented museums in the Netherlands, we are an impactful national provider of educational and public activities. Our activities in this context include membership of the Foundation for Dutch Natural History Collections (SNNC) and the Association of Science Museums and Science Centers in the Netherlands (VSC). The building and the new exhibitions, as well as our online campaigns and activities, are rated highly by the public and our peers.

In 2020, all Naturalis facilities were housed in an entirely new museum building that we have developed, constructed, renovated, and brought into use over the last few years. We have built an open IT infrastructure for national biodiversity data services according to the latest standards, which is suitable for managing large flows of information and high-performance computing applications. Many new employees have found their feet within our organization. We have expanded and strengthened our relationships with our partners in the scientific community, the corporate sector, government bodies, and society.

eDentity: a national eDNA infrastructure

Naturalis is building a large-scale research infrastructure for biodiversity monitoring through environmental DNA. This will allow, for the first time, a near-real time view of the state of biodiversity in the Netherlands. The project is called eDentity, and should be available in 2028. This infrastructure was made possible by a subsidy from the Applied Research Facilities funding program by the Ministry of Economic Affairs & Climate.

The eDentity infrastructure will allow for the analysis of large amounts of biological samples (soil, water, air filters, etc) through standard procedures. It aims to facilitate all steps of the analysis, from sampling to data analysis, quickly and at low cost, for a maximum of 250.000 eDNA metabarcoding samples per year.

This contract

The metabarcoding process will begin with filling a large number of 15 ml sample tubes with a lysis buffer. After the lysis step, the lysate must be transferred to a deep well plate. For this workflow, we are looking for two automated systems capable of handling the following two processes:

Process 1: will include opening 15 ml tubes, adding 5 ml lysis and closing tube

Process 2: will include buffer transferring, opening 15 ml tubes, aspirating x ul and dispensing to DWP, and closing tube

One system will handle process 1 by default and the other by default process 2 while each being the backup for the other. If one of the systems is not functioning properly then the other system can take over that process.

Process 1 in detail

1. Load tubes on deck
2. Start program lysis process
3. Pick tube from rack
4. Scan barcode from tube
5. Place tube in holder
6. Unscrew cap from tube
7. Move dispenser tool to tube
8. Dispense 5 ml lysis to tube
9. Move dispenser tool to home position
10. Recap tube
11. Place tube back in rack
12. Repeat step 2 till 11 until all tubes are handled

Process 2 in detail

1. Load tubes on deck
2. Load buffer tube on deck
3. Load destination plate on deck
4. Load tips on deck
5. Start program transfer process
6. Pick tube from rack
7. Scan barcode from tube
8. Place tube in holder
9. Unscrew cap from tube
10. Pick pipet tip from tip rack
11. Aspirate x ul from tube
12. Dispense x ul in DWP
13. Discard tip
14. Recap tube
15. Place tube back in rack
16. Repeat step 10 till 19 until all tube are handled
17. Generate pipetted sample position file (samplesheet)

Additional requirements

1. The systems must be able to handle plastics from other suppliers;
2. Naturalis would like to start running the systems by the end of Q1 of 2025;
3. A single system must be able to run multiple protocols;
4. The systems must be able to perform the processes quickly (minimum 1200 samples per day).

Naturalis needs two systems to automatically perform the above mentioned processes. The contract includes the turnkey delivery of the system, support, and maintenance for a period of 4-5 years and possibly longer.

Reason for this Voluntary ex ante transparency (VEAT) notice

Naturalis has not found other parties who can provide suitable systems. Through this VEAT notice, Naturalis is testing whether there are indeed no other suitable systems and therefore an absence of competition. If this procedure yields no other suitable systems then Naturalis awards the contract to the proposed party.

Submitting an objection

If you wish to object to the intended award of this contract, you should do so within a maximum period of 27 calendar days after publication of this notice by submitting a substantiated objection to the continuation of the award ([via TenderNed message module](#)). Naturalis will consider any substantiated objection. If no objection is made during the retention period, your rights to challenge the proposed award will lapse and Naturalis will award this contract to the proposed supplier.

Deadline

The deadline for submitting an objection in response to this VEAT notice is set at **10 January 2025, at 13:00h CET**

Yours sincerely,

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Naturalis Biodiversity Center