Voluntary transparency notice

Prototype Droplet Spotter System

1. Short description

The Netherlands Organisation for Applied Scientific Research (TNO) has awarded a contract to ETH for the supply and further development of a prototype Droplet Spotter system, including compatible high-density micro-array plates. The system will be used within the ASCOT (Applied Single Cell multiOmics Test Facility) research infrastructure in Leiden, the Netherlands. The contract has an approximate value of EUR 250,000 excluding VAT and a duration of three years.

2. Description of the contract

TNO is establishing the ASCOT (Applied Single Cell multiOmics Test Facility), a research infrastructure focused on droplet-based and single-cell biological analysis. A critical requirement is the ability to transfer incubated microdroplets containing biological samples to a format suitable for direct MALDI mass spectrometry analysis, while maintaining traceability of individual droplets and their experimental conditions.
The contract includes:

- Supply of a prototype Droplet Spotter system;
- Supply of compatible high-density micro-array plates;
- Joint research and development activities to further improve and optimise the prototype;
- Technical support and knowledge transfer relating to the operation and further development of the system.

Following the development phase, TNO intends to use the optimised system for scientific research activities. The research results are intended for scientific publication.

3. Justification for award without prior publication

The contract was awarded without a prior competitive procurement procedure pursuant to Article 2.32(1)(b)(2) of the Dutch Public Procurement Act 2012, because competition is absent for technical reasons.
TNO conducted market research to identify economic operators capable of supplying a prototype droplet spotting system that is compatible with TNO's droplet-based single-cell research infrastructure and the required MALDI mass spectrometry workflow. The market assessment showed that no alternative solution available on the market offered the required combination of functionality and technical compatibility.
The required solution combines:

- Transfer of incubated, water-based microdroplets onto high-density micro-array plates;
- Compatibility of the high-density micro-array technology with MALDI mass spectrometry analysis;
- Microscopic monitoring and traceability of individual droplets;
- A direct workflow between droplet incubation, deposition and MALDI mass spectrometry analysis.

Available solutions in the market were assessed against TNO's technical and functional requirements. This assessment demonstrated that no reasonable alternative or substitute could provide the required combination of droplet handling, traceability, microscopy integration and compatibility with the intended analytical workflow.
ETH possesses the specific technology, expertise and development capability required to supply and further develop the prototype system. On the basis of the market assessment, TNO concluded that ETH is the only economic operator capable of delivering the required prototype equipment and associated development activities.

4. Outcome

The contract has been awarded to ETH. The direct award is based on the absence of competition for technical reasons and on the conclusion that no reasonable alternative or substitute exists that meets TNO's technical and scientific requirements.