

Annex 1

Description of NCSD plans to migrate the Estonian e-Register system and the ESIS system (Electronic Shareholders Identification System) to the eServices platform (cloud)

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Nasdaq CSD SE (NCSD) has developed the [eServices platform](#), a web-based platform accessible via Internet browsers. The platform provides Baltic and Icelandic issuers with registered securities in NCSD an alternative way to submit corporate actions (CA) forms.

To further enhance the customer experience and improve the usability of NCSD's services, NCSD plans to migrate the Estonian e-Register system and the ESIS system (Electronic Shareholders Identification System) to the eServices platform, thus ensuring a single point of access to its services.

NCSD is and will remain responsible for maintaining the referred applications, while the infrastructure that will house the applications will run on Amazon Web Services (AWS) cloud, as does the eServices platform.

Summary description of the systems being migrated to the eServices platform and thus to Amazon Web Services (AWS) cloud:

- e-Register is an internet-based solution of the NCSD Estonian branch that is intended both for legal entities and natural persons who have securities accounts and may view related information via e-Register, or who would like to request shareholders' information about listed or non-listed companies in Estonia. Moreover, some contractual clients, including Estonian state entities, can access shareholders' and securities accounts information as required by the local Estonian laws and regulations, via e-Register.
- ESIS is a web-based application that provides support for various services, including shareholder identification, meetings, web service reports, and Investor Analytics. ESIS is utilized by issuers, issuer agents, account operators, and the Financial Supervision Authority (FSA). Communication with ESIS can be conducted through the application-to-application (A2A) mode and via a graphical user interface (GUI).

In addition to the above two applications, NCSD also plans to migrate the [NCSD website](#) to AWS cloud.

Types of personal data that will be hosted in the AWS cloud due to migration of eRegister and/or ESIS applications are the following:

- Personal Identification: Name, Surname, E-mail address, Phone number, Address, Birth date (Securities Register Maintenance Act § 5 (4), 1), 2), 3)).
- Government Identifiers: ID code (Securities Register Maintenance Act § 5 (4) 3)).
- Financial: Securities account number, Bank account number, Amounts/Balances of securities held, Pledges/Restrains (Securities Register Maintenance Act § 5 (4) 5), 6), 7), 9)).

Types of personal data that will be hosted in the AWS cloud due to the migration of the [NCSD website](#) are the following:

- Publicly available data such as:

- Name, Surname under disclosed shareholders lists of publicly listed regulated market equity issuers (EE) (Securities Register Maintenance Act § 7 (2) 1)).
- Search functionality for the securities account number (Securities Register Maintenance Act § 7 (6²)).

Summary description of the AWS technical and contractual setup:

The eServices platform is hosted on Amazon Web Services (AWS) cloud servers. The servers are in Stockholm, Sweden (EU-North-1 region), each with redundant power, networking, and connectivity, housed in separate facilities. This ensures that if one data center is down, the service can be picked up by another one, thus reducing the risk of service interruptions.

The eServices platform uses a microservices architecture. Microservices means the system is divided into smaller, independent services that work together. AWS provides auto-scaling, load balancing, and multi-availability-zones (AZ) deployments. This means the eServices platform's workload can be automatically spread across multiple servers and availability zones. Therefore, if one server or zone goes down, the overall system still stays operational since the work is distributed.

Data is neither transferred outside the EU, nor is it shared with third parties. Only external users with authorized rights can see the personal data contained in e-Register and ESIS. Internally, only users with defined access rights can see personal information.

The migration of the above applications to the eServices Platform and thus to AWS cloud is planned to start in December 2024, with the migration of the public User Interface (front-end) of the two applications, after which the back end will follow.

AWS is being utilized by Nasdaq for Infrastructure-as-a-Service (IaaS) platform. Nasdaq has an enterprise agreement with AWS that establishes a master service agreement covering all Nasdaq group companies including NCSD. This ensures consistent terms and conditions when using AWS cloud infrastructure services.

Nasdaq Stockholm has entered into an agreement with Amazon Web Services, Inc., ("AWS, Inc.") and an affiliate of AWS, Inc., Amazon Web Services EMEA SARL L (together with AWS, Inc., "AWS") related to generally available services made available by AWS through the AWS Management Console (hereinafter – AWS Cloud).

AWS Customer Agreement is available at: <http://aws.amazon.com/agreement> (as updated from time to time). Additionally, Nasdaq has signed addendums for, among others, data processing (data processing requirements and restrictions) and financial services (outsourcing related requirements).

Nasdaq Stockholm has outsourced the AWS Cloud through a sub-outsourcing arrangement to Nasdaq CSD SE and other affiliates on December 21, 2022.

The outsourcing chain used by Nasdaq CSD was assessed according to the outsourcing policy in place and brought to the Management Board for approval on November 19th, 2023. The assessment concluded that the outsourcing was not critical considering that only the submission of corporate actions (CA) was in scope. The results of the assessment were communicated to the Estonian Ministry of Finance.

Considering the addition of Estonian e-Register system and the ESIS system to the eServices platform, NCSD will revisit the outsourcing assessment and determine the current criticality.

In case of contract termination or non-compliance with the agreement, NCSD will enact an exit plan where the applications will be moved to another cloud provider or moved to on premises.

AWS commits to high service level agreements (SLAs) across metrics like uptime, availability, and responsiveness. AWS guarantees 99.99% uptime SLA for its core infrastructure services. This matches or exceeds the reliability Nasdaq sees in its own datacenters.

The Nasdaq procurement process validated that AWS has appropriate security, privacy, and compliance controls. The areas examined during the assessment are as follows: Enterprise Risk Management, Physical and Environmental Security, Operational Resilience, Environmental, Social, and Corporate Governance, Security Policy, IT Operation Management, Compliance and Operational Risk, Threat Management, Organizational Security, Access Control, Endpoint Device Security, Server Security, Asset and Information Management, Application Security, Network Security, Cloud Hosting Services, Human Resources Security, Cybersecurity Incident Management, Privacy.

Across all domains examined, the residual risk is deemed low, moreover risks identified with AWS are primarily under Nasdaq control based on usage and configurations. No remediation of risk is required by AWS at this time.

The agreement allows for audits of AWS to ensure they maintain regulatory requirements. As per the agreement, AWS will provide, with reasonable advance notice, the supervisory authorities (a) access to all necessary information related to the outsourced services, and (b) access to the AWS premises related to the outsourced services.

AWS is compliant with the NIST cybersecurity framework as well ISO27001 standard.