Celonis Security Model

The Celonis Execution Management System (EMS) has been designed to deliver end-to-end data security. We follow best-in-class standards to ensure the best possible protection for our customer data. Security in your EMS team is a shared responsibility between you as customer and Celonis, as service provider. Customers are responsible for both the configuration and usage of services provided by Celonis.

Celonis applies a multi-layered security architecture to protect customer data, which addresses the following:

- External interfaces
- Access controls
- Data storage
- Physical infrastructure

This security architecture is complemented by monitoring, alerts, controls and processes that are part of Celonis’ security measures.
External Interfaces

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- Celonis’ web-based interface
- Celonis’ on premise extractors
- EMS Data Push API

All communication between user and Celonis services is encrypted via HTTPS using TLS 1.2 or higher. The EMS supports IP range blocking to enable customers to restrict access to trusted networks only.
Access Controls

AUTHENTICATION

The EMS has robust authentication mechanisms in place. User password hashes are securely stored and strong password policies are enforced. The EMS offers built-in two-factor authentication. For customers who want to manage authentication mechanisms within their account, federated authentication can be set up via SAML 2.0 or OpenID.

AUTHORIZATION

The EMS provides a detailed, role-based authorization concept to ensure that data and information is only accessed by authorized users. User access to all objects and elements in the EMS can be specified with user and group permissions. Team administrators can choose from a set of user or role permissions templates or design custom permissions. Access to single data points in an analysis can be restricted using a sophisticated data permissions framework.

DATA STORAGE

We protect all data stored in the EMS from unauthorized access and from data loss by incorporating data encryption and access restrictions. Additionally, customers can select between regions in Europe, US and Japan to define where the data is stored.

DATA ENCRYPTION

In the EMS, all customer data, including backup data, is always encrypted at rest (AES-256) following best-in-class industry standards. All data transferred to the EMS via connector or data push API is always encrypted via HTTPS using TLS 1.2 or higher.
DATA ACCESS

Each customer has full ownership and access control for their EMS tenant. Tenant access is fully transparent via built-in audit logs, and multiple security measures can be set in place to further protect and restrict tenant access. Customers can restrict and delegate user authentication to an external identity provider, enforce two-factor authentication and/or restrict access to a tenant to specific IP ranges.

Similar to most major SaaS platforms, Celonis infrastructure administrators require privileged access to the underlying infrastructure of the EMS for maintenance. This administrative access is restricted to a small number of specialized Celonis employees whose access is logged, monitored and reviewed regularly to prevent abuse according to Celonis’ strict policies and access controls.

DATA INTEGRITY PROTECTION

Celonis protects data from accidental or intentional destruction due to user errors, system failures or malicious attacks. Backups for application and analytics data are created daily and, if necessary, can be recovered for 30 days.

SECURITY MONITORING AND ALERTING

To protect the platform from malicious attacks, the EMS architecture includes multiple layers of defense. To reduce the risk of malicious attacks, highly specialized systems are used for dedicated service tasks.

System hardening policies and guidelines are used to protect the operating system. Firewalls and network zoning, combined with access controls and application-level policies ensure only authorized users can access the Celonis application.

Celonis manages and orchestrates overall EMS system security via logging and monitoring. All telemetry data is captured and centrally stored.
**TENANT SEPARATION**

The EMS is run on a multi-tenant architecture in which each team in the EMS is one tenant. Tenant separation follows a metadata driven approach and industry best-in-class standards. Application data as well as analytical data are separated between all tenants.

**PHYSICAL SECURITY**

The EMS supports our main geographic regions (Americas/Europe/Japan) through data centers hosted by Amazon Web Services (AWS) and Microsoft Azure.

AWS and Azure data centers are certified as ISO 27001 and PCI/DSS Service Provider Level 1.

AWS and Azure data centers are state of the art and utilize innovative architectural and engineering approaches. They employ comprehensive physical security measures, including biometric access controls, 24-hour armed guards and video surveillance to ensure that unauthorized access is not permitted at any time. As a standard security measure neither Celonis personnel nor Celonis customers have access to these data centers.
Security Compliance

Celonis’ dedicated IT security team monitors platform security and works with certified third-party auditors to validate and maintain security. Celonis runs its own security tests on a quarterly basis and our infrastructure providers follow their documented standards. External application and network penetration tests are performed half-yearly.

Celonis is dedicated to high security across all aspects of the organization. Celonis holds a full ISO 9001:2015, ISO27001:2013, ISO27701:2019, SOC 2 Audit Type 1 and Type 2, and TISAX Compliance. For a detailed overview please visit celonis.com/trust-center.
Conclusion

The Celonis Execution Management System (EMS) is a platform developed in alignment with a security-by-design approach wherein security has been fundamental to the architecture, implementation and operation of Celonis from the very beginning. Across all scenarios and deployment options the EMS offers a secure and protected platform for customer data from current and evolving threats. The features built into the EMS provide enterprise-class security by default without the additional effort, complexity and management that traditional solutions require from customers. Every aspect of the EMS is built to protect our customers’ data.

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