

The certification body of TÜV Informationstechnik GmbH hereby awards this certificate to the company

**Stadt Zürich**  
**Organisation und Informatik**  
**Albisriederstrasse 201**  
**8022 Zürich, Switzerland**

to confirm that its security area

**Rechenzentrum Hagenholz**

fulfils all requirements of the criteria catalogue

**Trusted Site eEfficiency TSe<sup>2</sup> V1.0**  
**Level 4**

of TÜV Informationstechnik GmbH. The requirements are summarized in the appendix to the certificate.

The appendix is part of the certificate and consists of 4 pages.

The certificate is valid only in conjunction with the evaluation report.



Certificate ID: 6910.19

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Certificate valid until

2020-12-31

Essen, 2019-12-18

Dr. Christoph Sutter  
Head of Certification Body

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**Certificate**

## **Certification Scheme**

The certification body of TÜV Informationstechnik GmbH performs its certification on the basis of the following certification scheme”:

- German document: “Zertifizierungsprogramm (nicht akkreditierter Bereich) der Zertifizierungsstelle der TÜV Informationstechnik GmbH”, Version 1.0 as of 2015-08-24, TÜV Informationstechnik GmbH

## **Evaluation Report**

- German document: “Prüfbericht – Trusted Site eEfficiency (TSe<sup>2</sup>), Rechenzentrum Hagenholz und Rechenzentrum Albis”, version 1.0 as of 2019-12-09, TÜV Informationstechnik GmbH

## **Evaluation requirements**

- “Trusted Site eEfficiency – TSe<sup>2</sup> Kriterienkatalog”, Version 1.0 as of 2015-11-16, TÜV Informationstechnik GmbH

The Evaluation Requirements are summarized at the end.

## **Evaluation target**

The target of the evaluation is the security area “Rechenzentrum Hagenholz” of the Stadt Zürich. This is detailed in the evaluation report.

## **Evaluation result**

The result is “Level 4”.

## Summary of evaluation requirements

Evaluation requirements for Trusted Site eEfficiency (TSe<sup>2</sup>),  
Version 1.0:

### **Level 1 - Establishment of an energy management system**

The following requirements for an energy management system (EnMS) based on ISO 50001 are implemented:

- Energy review
  - Determination of the energy sources and evaluation of energy consumption
  - Determination of the areas with significant energy use
  - Determination of variables affecting significant energy uses
  - Determination of opportunities for improving energy performance
- Determination of an energy baseline
- Definition of Energy Performance Indicators (EnPIs)
- Establishment of energy objectives
- Creation of a document template for introduction, documentation and updating of action plans
- Establishment/definition of responsibilities
- Communication of the energy management system
- Documentation of the energy management system
- Establishment of the scope of the EnMS
- Monitoring and measurement
- Creation of a document template for internal auditing
- Creation of a document template for the Management Review

Additionally, the following requirements are also fulfilled:

- Description of the measuring systems used (type, accuracy, installation sites)
- Basic determination of the Power Usage Effectiveness (PUE) value with  $PUE < 2$
- Calculation of the server virtualisation rate
- Comparison with the best available technology (BAT) or with sector-specific characteristic numbers
- Existence of an organigram with identification of the EnMS team
- Existence of a document list with all relevant documents
- Existence of schematics for supply of utilities/services to the data centre (energy supply, cooling supply)

## **Level 2 - Active energy management system and implementation of Best Practices**

The TSe<sup>2</sup> Level 1 requirements are fulfilled and the following requirements are implemented by the EnMS based on DIN EN ISO 50001:

- Documentation of changes in energy performance
- Introduction, documentation and updating of action plans
- Performance of internal audits
- Performance of management reviews

Additionally, the following requirements are also fulfilled:

- Existence of a monitoring system in accordance with EN 50600-2-2, Granularity Level 2, up to secondary distribution equipment for determination of energy consumptions
- Implementation of at least 50% of the Best Practices (following “The European Code of Conduct for Energy Efficiency in Data Centres”), in order to save primary energy

### **Level 3 - Monitoring and evaluation**

The TSe<sup>2</sup> Level 2 requirements are fulfilled. Additionally, the following requirements are implemented:

- Measurement of the energy consumptions for at least 12 months
- Evaluation of the measuring results and determination of the Energy Usage Effectiveness (EUE) value
- Review of the technical components of the supply systems with regard to energy-efficient operating conditions
- Use of the EnMS under operating conditions

### **Level 4 - Increase in energy efficiency**

The TSe<sup>2</sup> Level 3 requirements are fulfilled. Additionally, the following requirements are implemented:

- Evidence of increase in energy efficiency compared with the last TSe<sup>2</sup> Certification based on the Energy Performance Indicators (EnPI)