

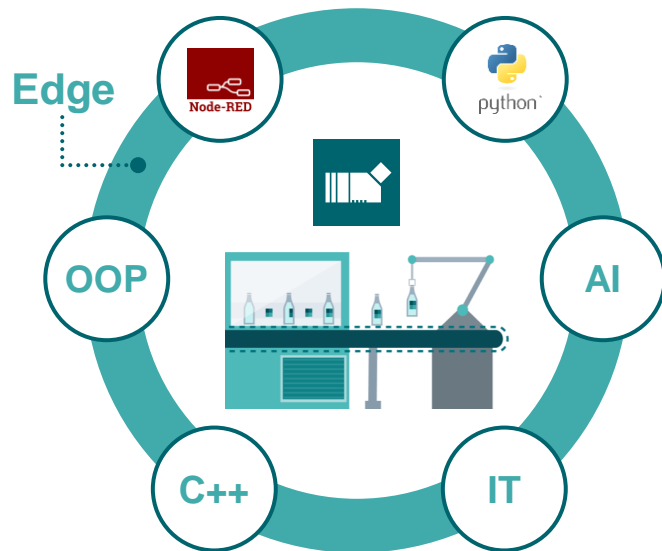


Industrial Edge

FIIF 29.4.2021

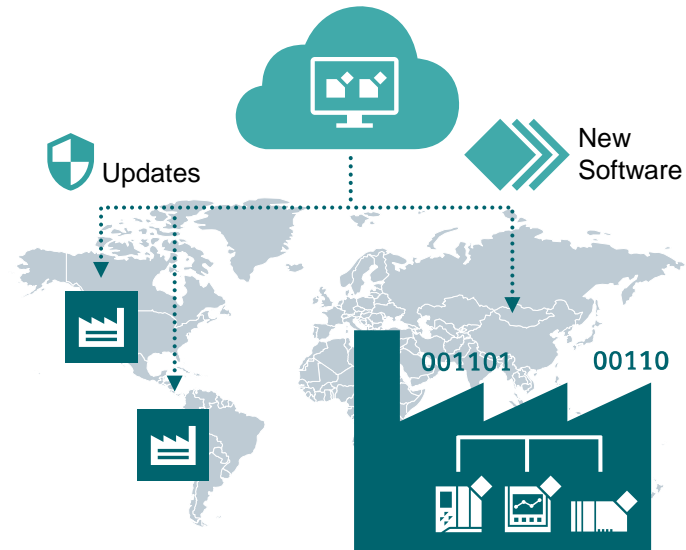
Typical application scenarios for Edge Computing

Extend machines with new, advanced functionality for data processing



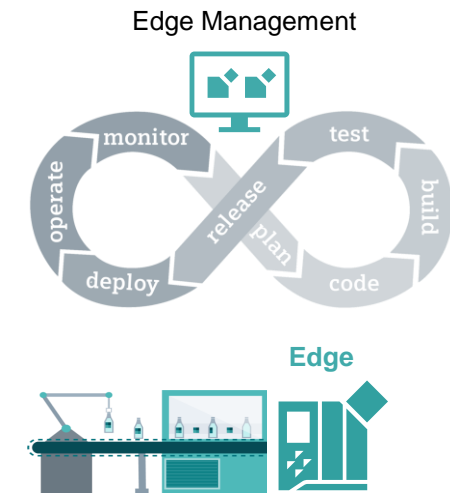
Integration of new technology into automation e.g. AI for data analytics near to the machine to e.g. predict next maintenance.

Increase operations efficiency with a global device, software & security management



More efficient software and version management as foundation for new business models for OEMs e.g. SaaS.

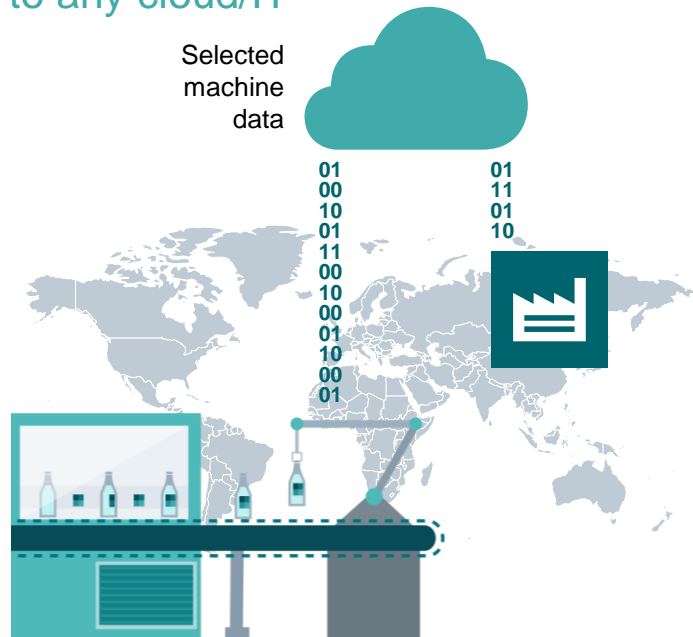
Increase software innovation cycles for machines with continuous updates for Edge devices



Separation of automation and Edge ensures high machine availability and on top fast innovation cycles with continuous updateability

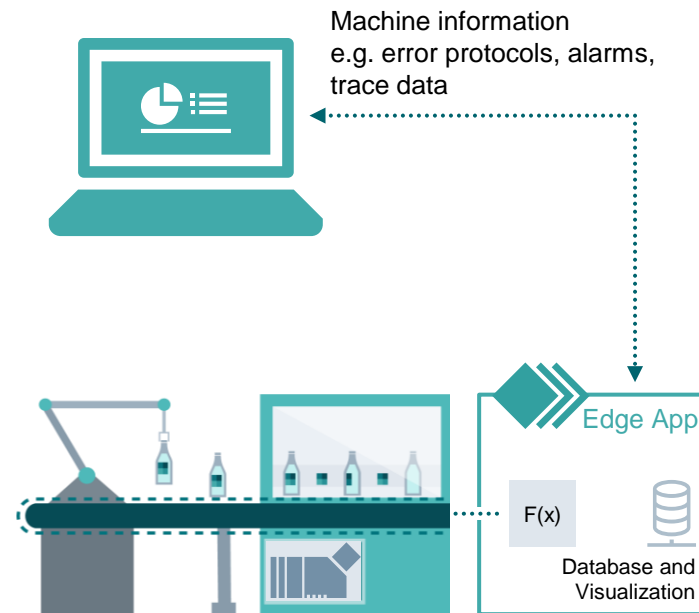
Typical application scenarios for Edge Computing

Preprocess data and transfer to any cloud/IT



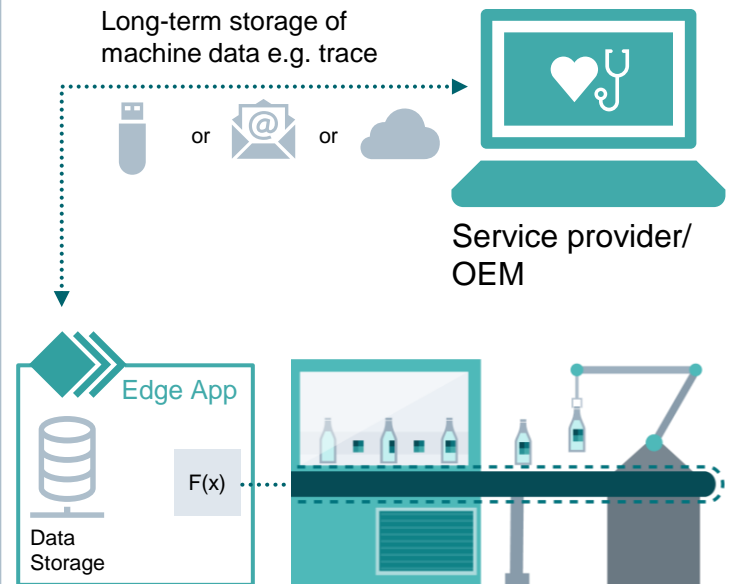
- Economical, secure and local data pre-processing for cloud/IT-systems
- Data access for global machine transparency in cloud for service planning, machine benchmarking

Process data for in-factory visualization



Access to machine information inside manufacturing e.g. flight recorder for machines for error tracing, data collection.

Process and store data for external usage e.g. data analytics services, warranty



Collect information for analysis external analysis and services, e.g. training of AI algorithms, data analytics services (external).

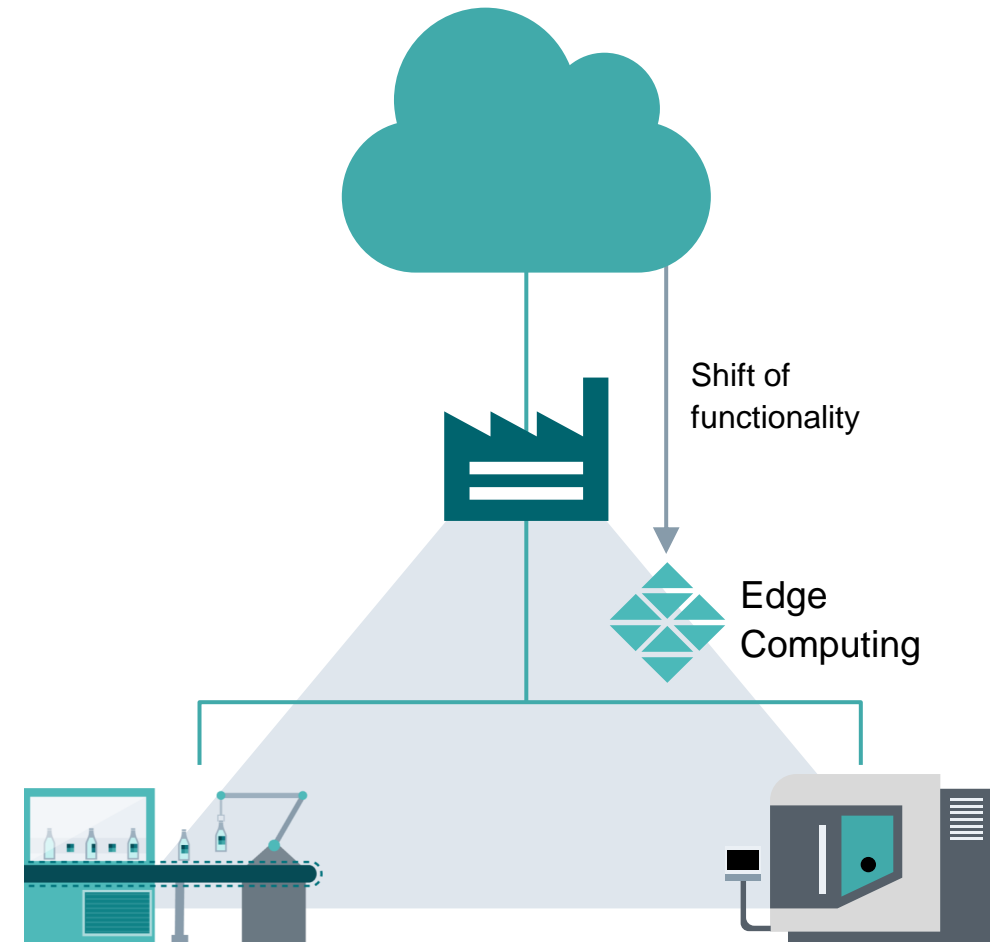
Edge Computing – Closing the gap between automation and Cloud

Limitations of pure cloud technology ...

- Physical
- Legal
- Economic

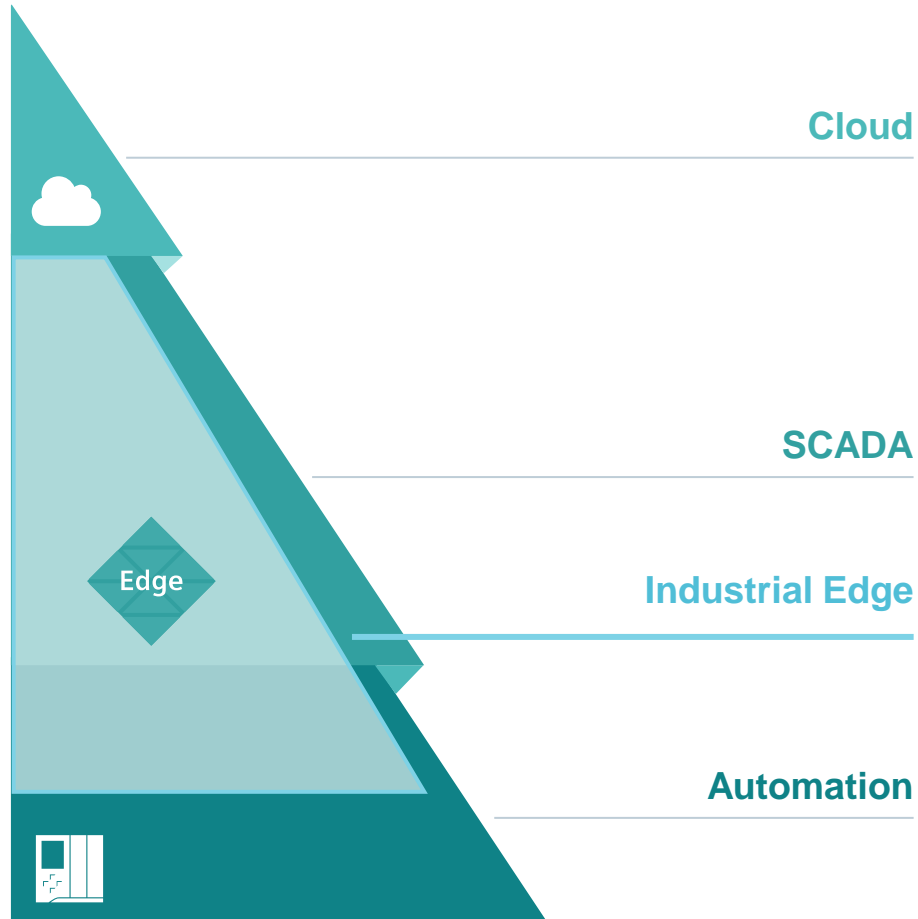
... leads to additional **functional enhancements of shop floor devices** with new functionality e. g. analytics, preprocessing and decentral intelligence

... and enables **short innovation cycles of IT** in automation



Positioning

Technology



Characteristics

Cloud

- Platform (as a Service) for **global** visualization and processing of data on a high-level language basis
- Integration of **IT functionalities** such as long-term data archiving, scalable computing power and software deployment

SCADA – Informational and mission critical operations

- **HMI Software** for controlling and monitoring of processes
- Basic analysis options e.g. KPIs and **IT** integration

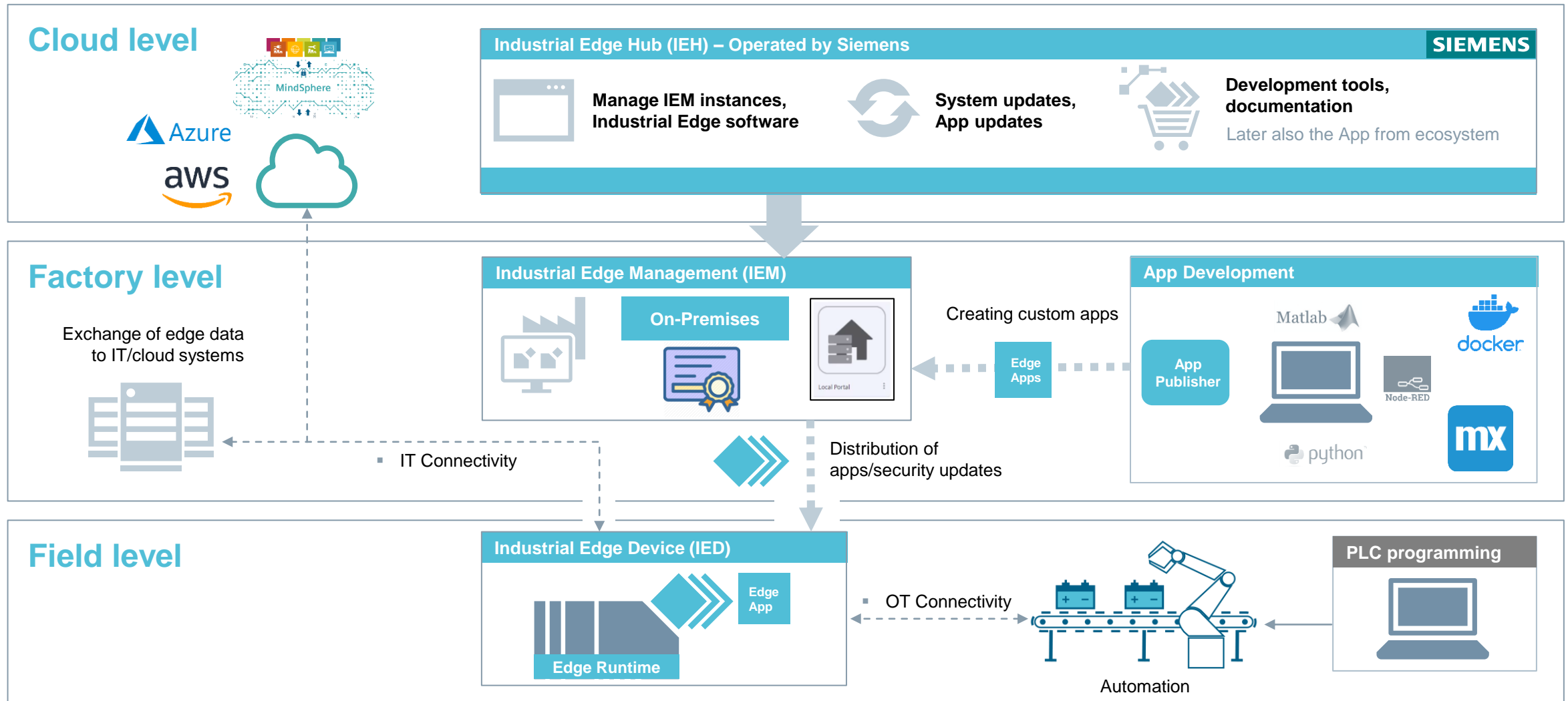
Industrial Edge

- **Open software platform** to execute software in a very efficient way with a central manageability and versioning
- Native integration of **IT functionalities into automation**
- **Software** with support for data collection, processing & exchange

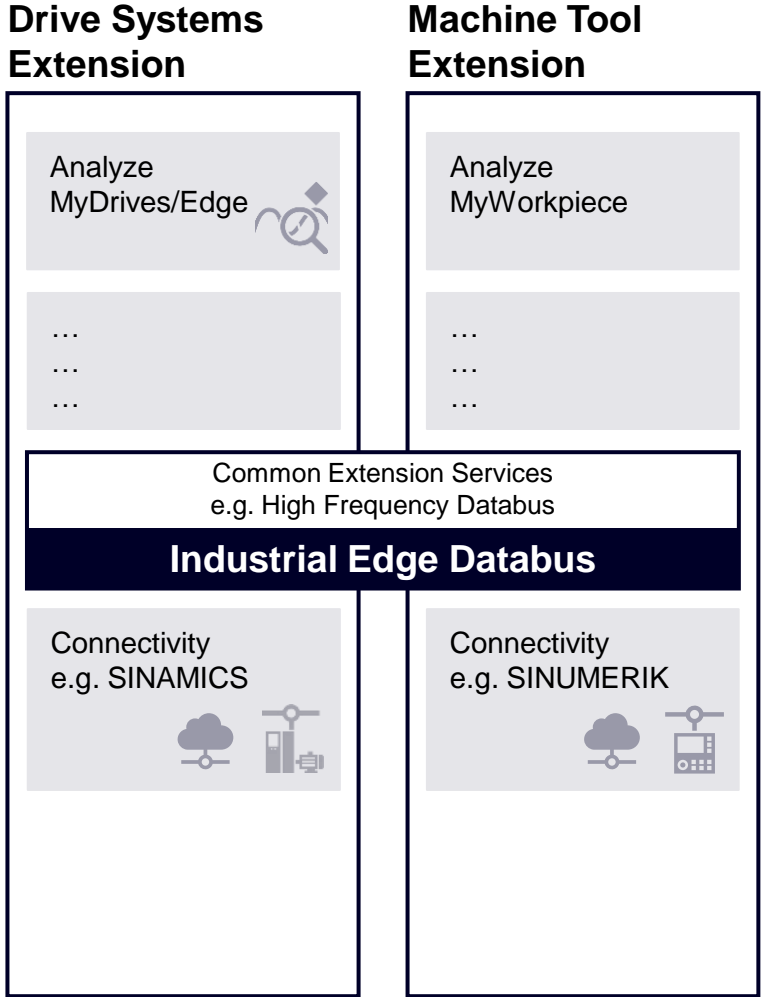
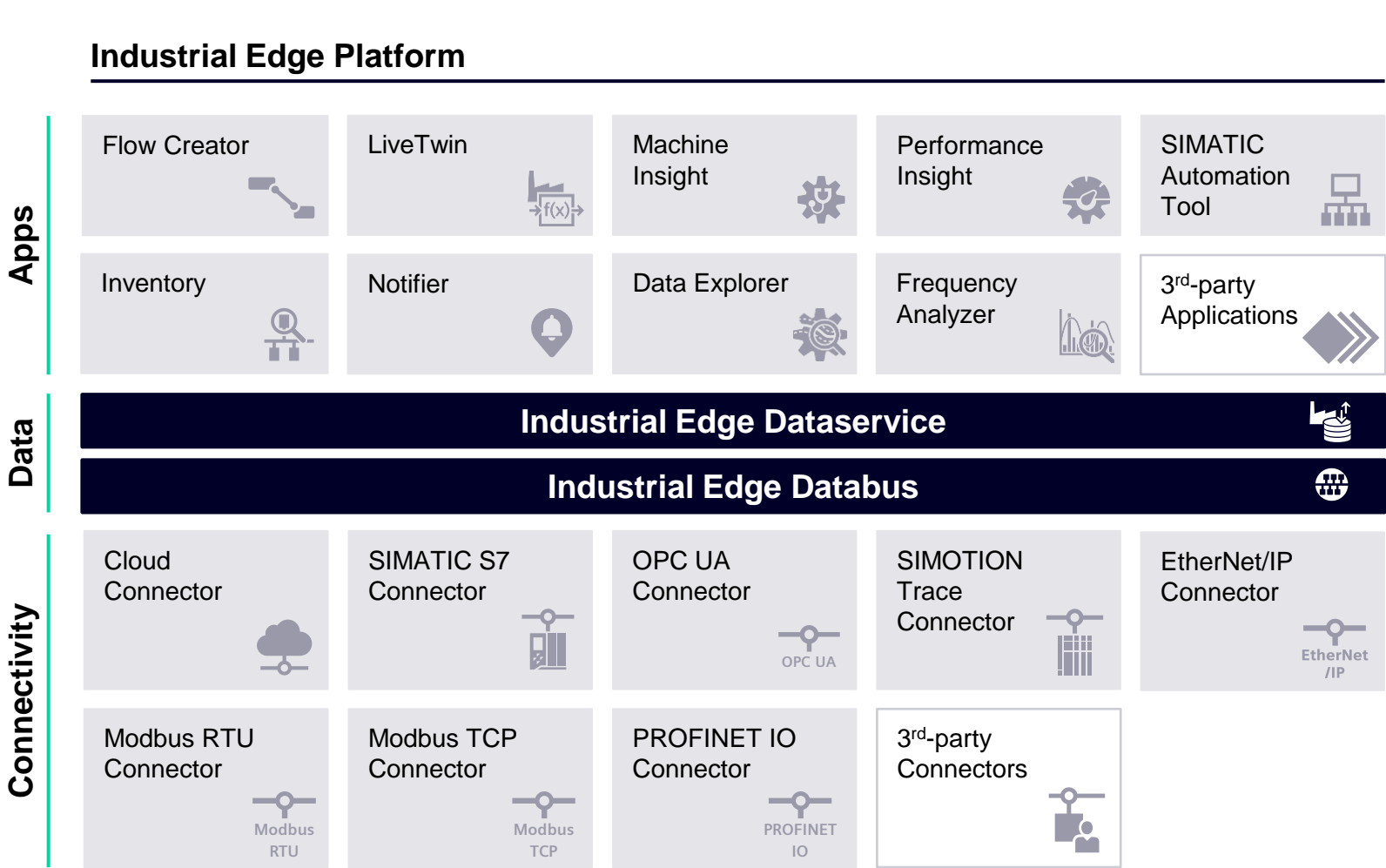
Automation – Mission critical

- Production/process control

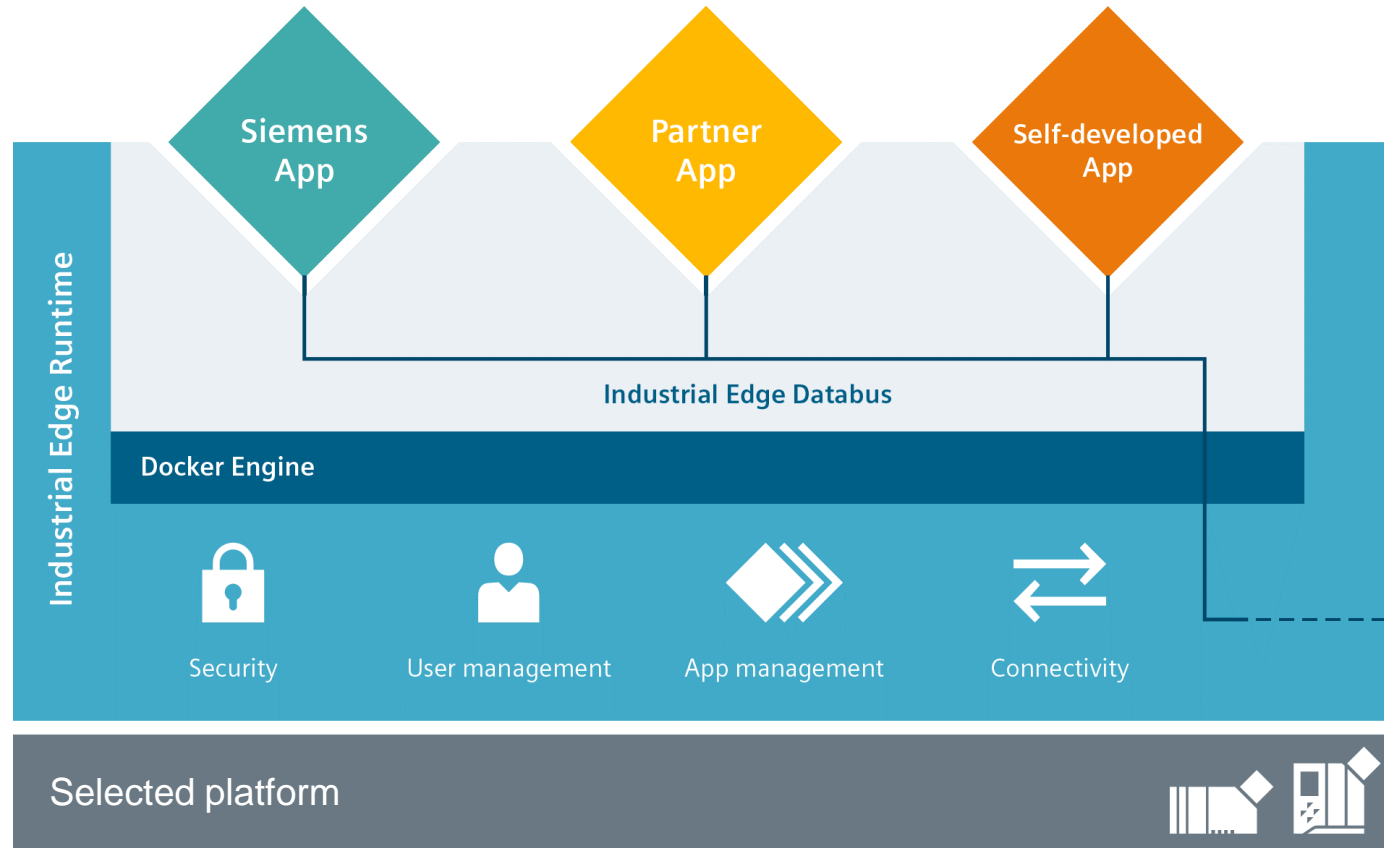
Industrial Edge – System Overview



Engineering efforts for software can be reduced by relying on existing connectivity and apps



Technology & Portfolio Industrial Edge Runtime



Benefits

- Integrate software easily on various hardware
- Security included by default by Siemens
- Docker container format enables hardware independence & scalability
- Choose any programming language available in a Docker container

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