



Towards Standards Data Platform for IoT, AI and Emerging Technologies

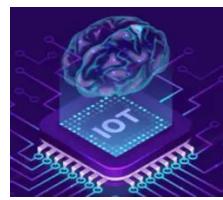
13. Feb. 2025

Prof. Song JaeSeung (oneM2M TP Vice Chair)
Sejong University
(jssong@sejong.ac.kr)

Contents

- IoT as Infrastructure for emerging technologies
- IoT for AI
- Data related standards work (Data regulations, License management, etc.)

IoT as Infrastructure



IoT make AI
smarter



IoT as
Metaverse
backbone



Data Trust
using
Blockchain

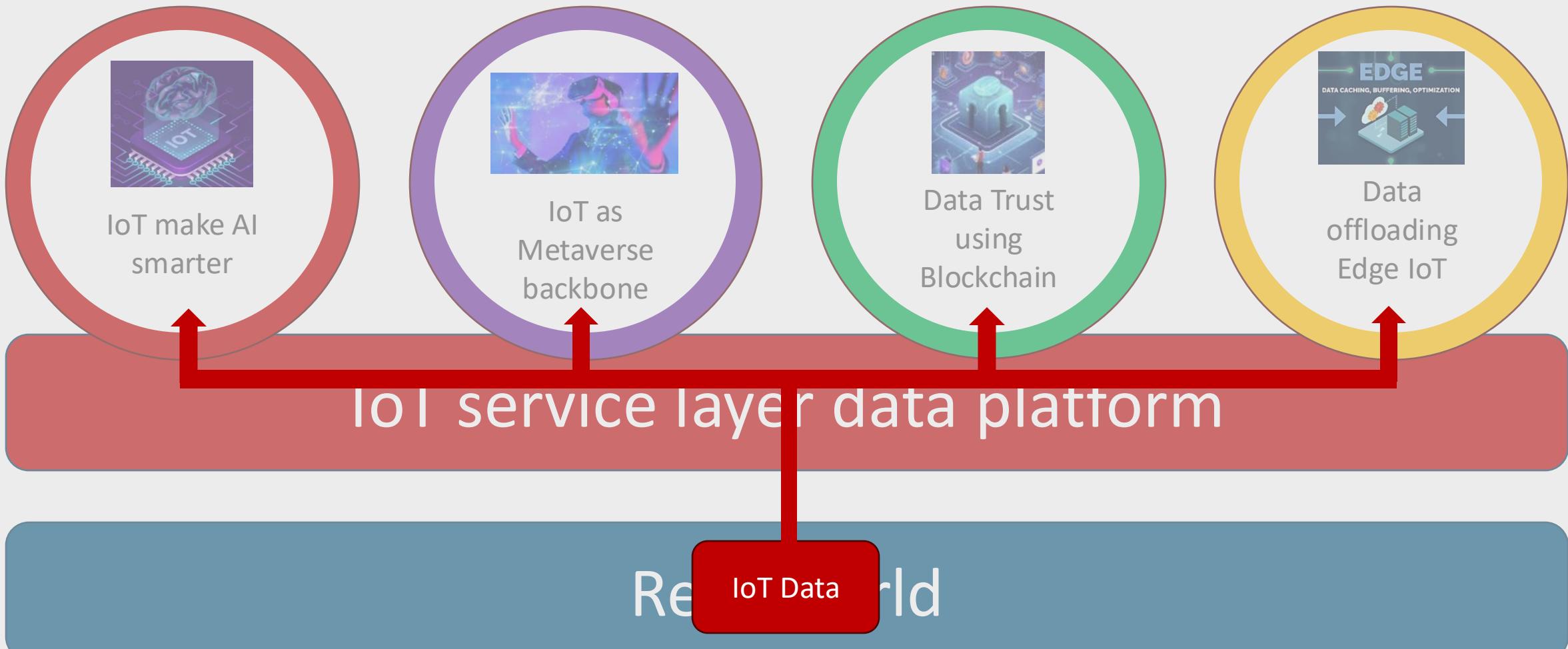


Data
offloading
Edge IoT

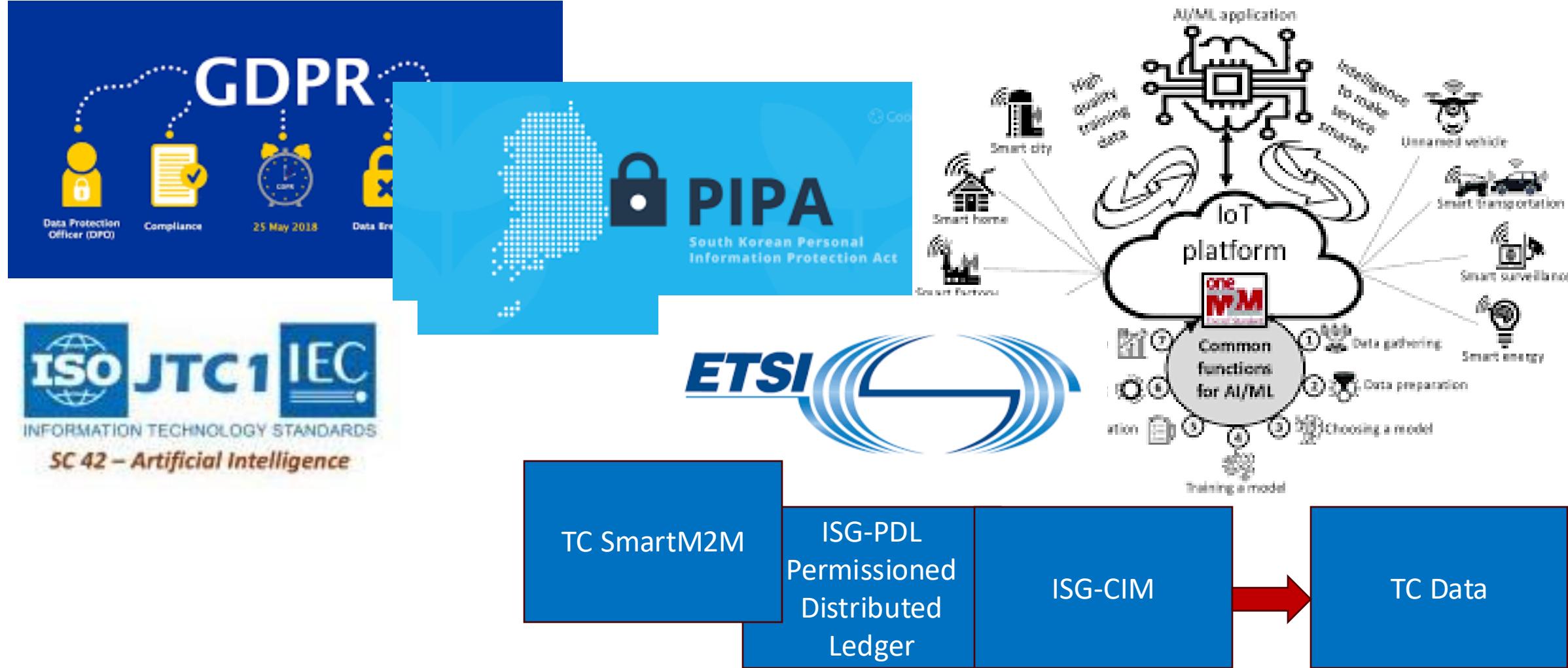
IoT service layer data platform

Real World

IoT as Infrastructure



Standards and Regulations Data



IoT and AI

Early stage relationship between IoT and AI

AI enabled IoT?

“AI can make IoT smarter”

IoT and AI

Current relationship between IoT and AI

AI enabled IoT?

“AI can make
IoT smarter”

“IoT can make
AI smarter”



AI-enablement to oneM2M

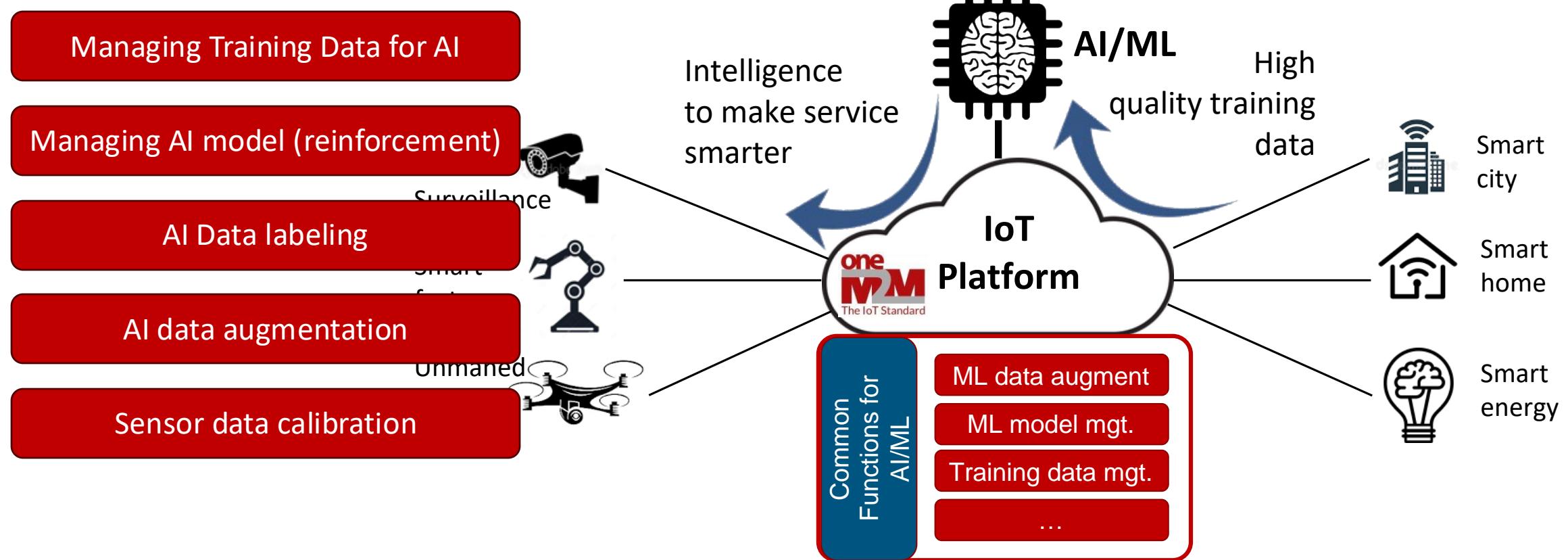
Make oneM2M platform to support data management for AI and provide AI/ML capabilities

WORK ITEM

Work Item Title:	System enhancements to support AI capabilities
Document Number	WI-0105
Supporting Members or Partner type 2	KETI, Hyundai Motors, Exacta GSS, Deutsche Telekom, SBS, Nokia, Hansung University, Orange, Convida Wireless
Date:	2023-04-21
Abstract:	This work item aims to enable oneM2M to utilize Artificial Intelligence models and data management for AI services.

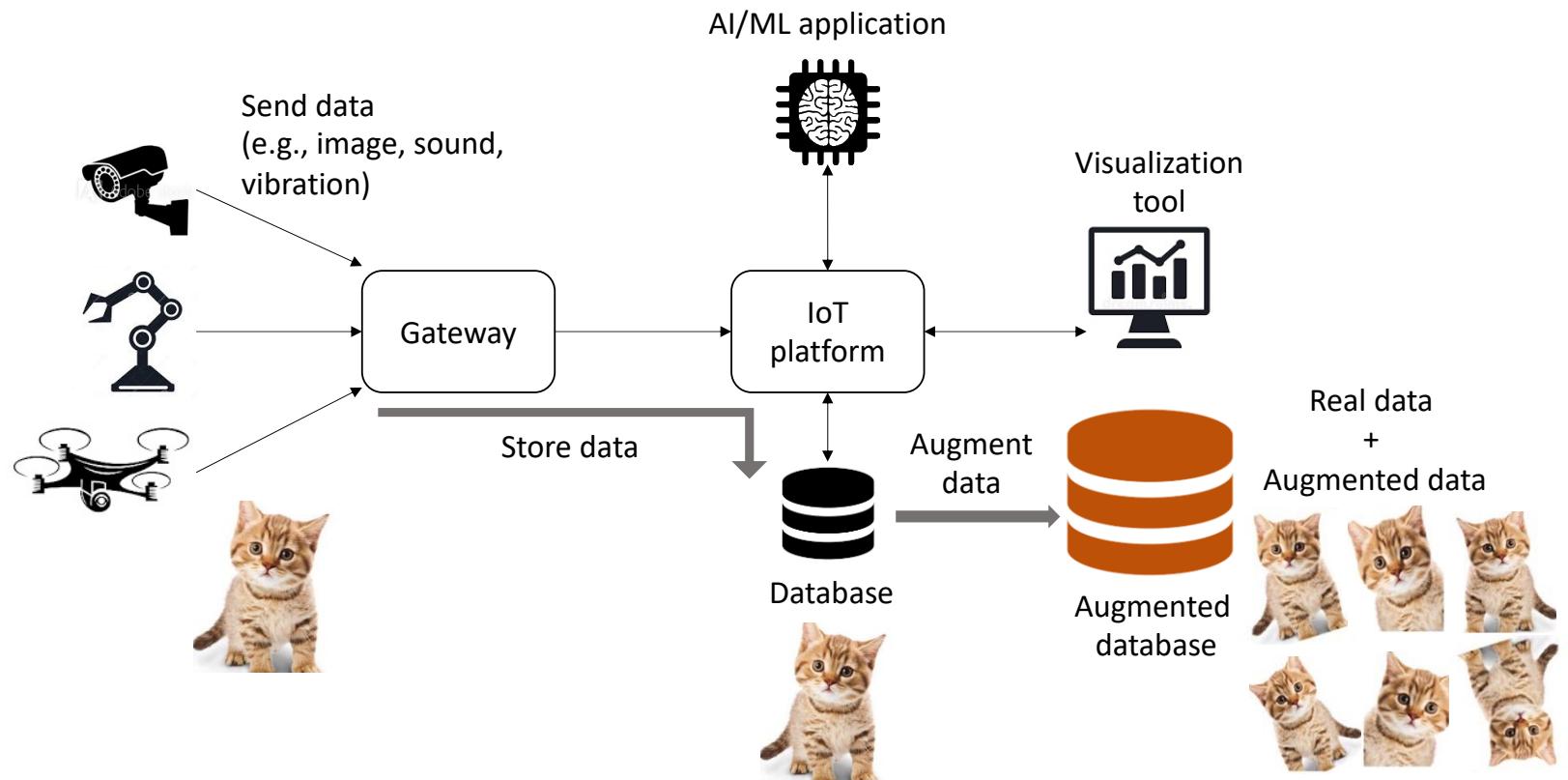
AI-enablement to oneM2M

- oneM2M system should be enhanced with A new common service function (CSF) to support AI capabilities



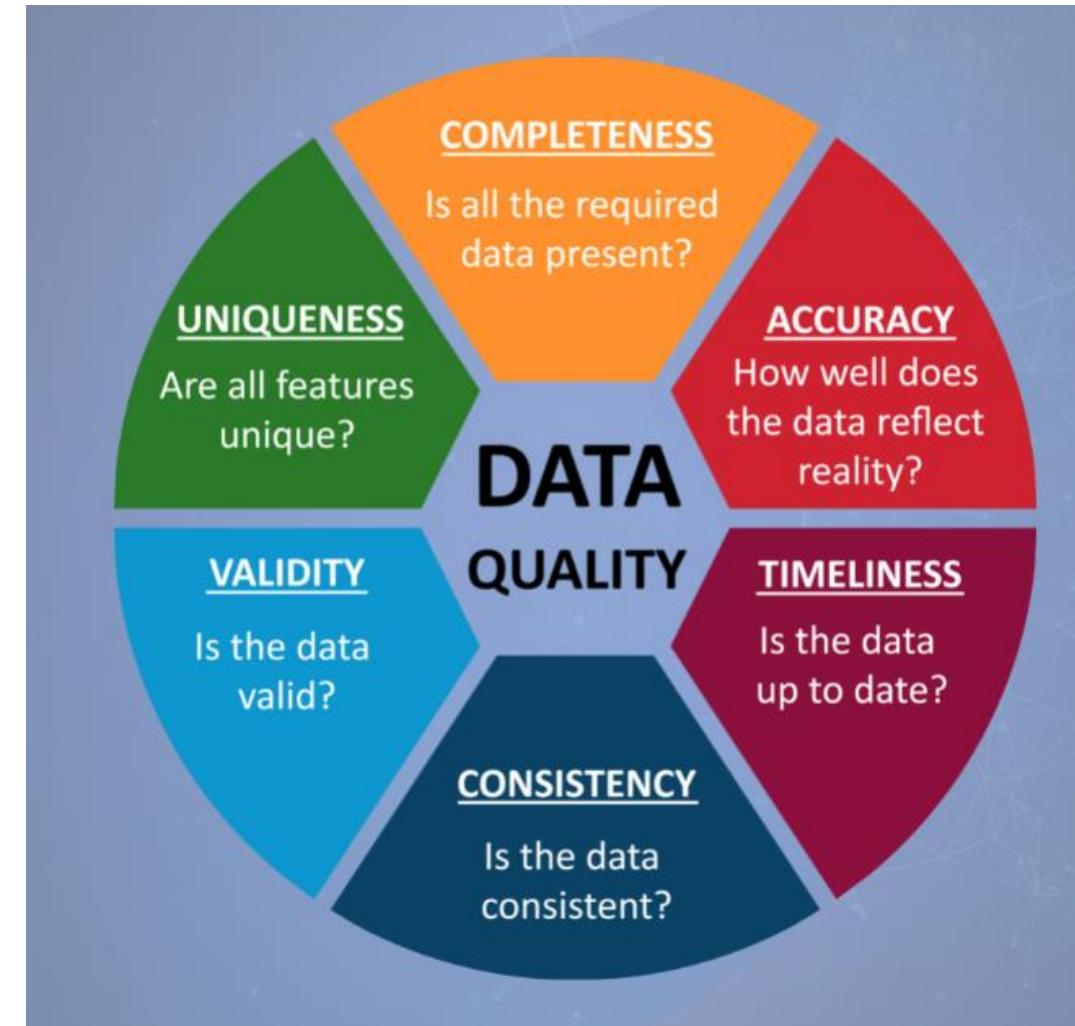
Data Augmentation for AI

- Introduce a new resource to oneM2M for data augmentation
- AI/ML developers simply request data augmentation to oneM2M platform
- Larger training dataset is given to AI/ML developers for training and build a model
- Augmented dataset can be reused by others



Data Quality of AI Training Data

- The quality and quantity of training data determine the accuracy and performance of AI model
- How to assess the quality of data?
 - Completeness
 - Uniqueness
 - Accuracy
 - Validity
 - Consistency
 - Timeliness
 - Many more



Data Protection Regulations

**Make oneM2M platform to be compliant with Data Protection
Regulations such as GDPR and PIPA**

WORK ITEM

Work Item Title:	System enhancements to support Data Protection Regulations
Document Number	WI-0095
Supporting Members or Partner type 2	Hyundai Motor, KETI, BT, SyncTechno Inc., Hansung University, EGM, Sejong University
Date:	2022-11-30
Abstract:	Proposes a work item to study oneM2M system enhancement to support data protection regulations such as General Data Protection Regulation from EU.

Template Version:23 February 2015 (Do not modify)

Transforming oneM2M to Data Platform



- Make oneM2M to Standardized Data Platform for IoT, AI, etc.
- oneM2M already supports IoT data management
- Now standardizing the management of data for AI
- Next step is to standardize more features to manage (store, discover, update, etc.) AI training data

Data License Management

Allow oneM2M to manage data license so support

- **Linked Open Smart City Data**
- **License-based discovery**

WORK ITEM

Work Item Title:	System enhancements to support Data License Management
Document Number	WI-0102
Supporting Members or Partner type 2	Hyundai Motors, KETI, Deutsche Telecom, Telecom Italia, Convida Wireless, BT, Orange
Date:	2020-05-29
Abstract:	Proposes a work item to study oneM2M system enhancement to support data license management.



SEJONG UNIVERSITY

Thank You!

JaeSeung Song

Vice Chair oneM2M Technical Plenary

Distinguished Professor at Sejong University

jssong@sejong.ac.kr