ADVANTECH

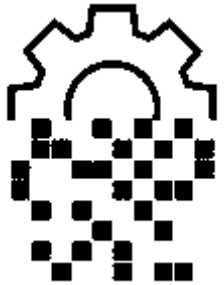
Enabling an Intelligent Planet

Top AIoT Trends that will Change Your Business

Tony Liu, Corporate Investment, Advantech

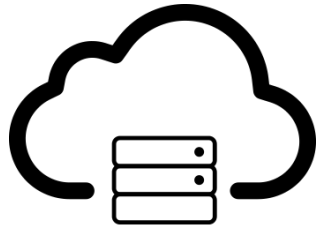
Jill Tseng, IoT.SENSE, Advantech

Key Technology Trend of the Year 2020



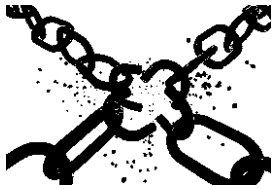
Digital Transformation

Artificial Intelligence



Edge Computing

IoT Platform



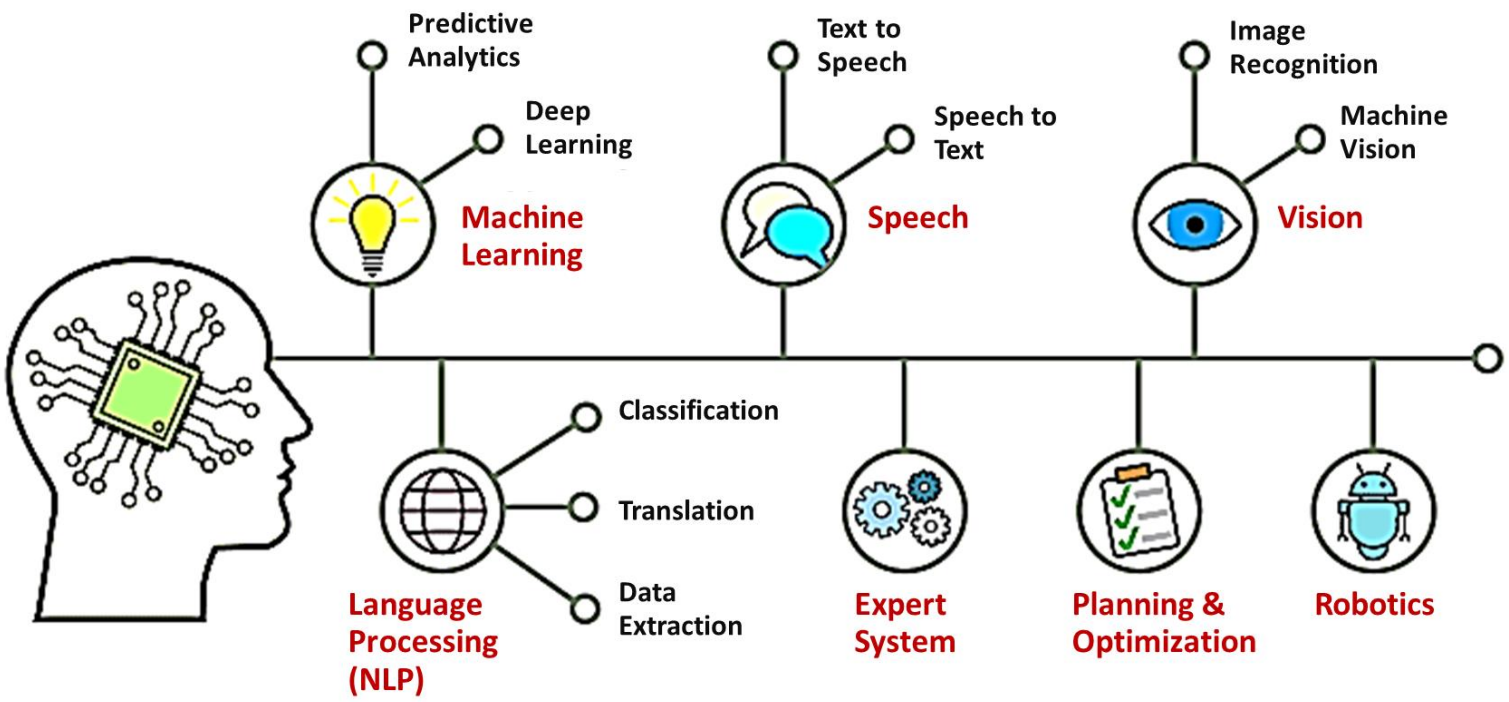
Decoupling

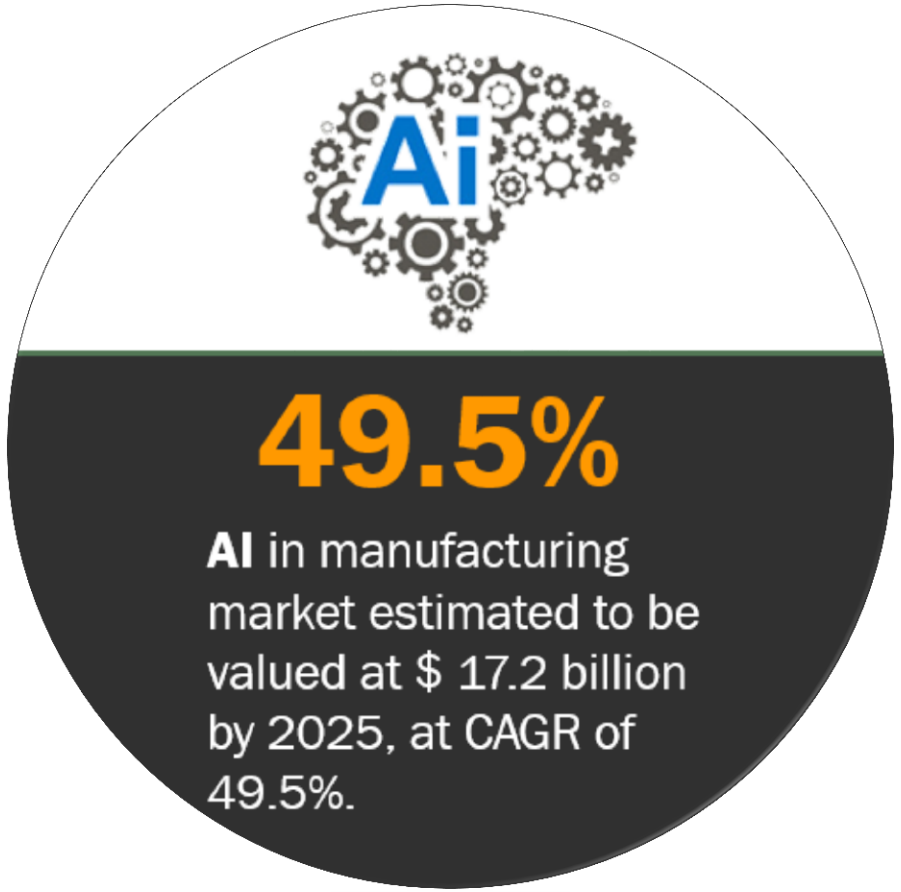
Eco-System

ADVANTECH

Is AI Meaningful for IoT Application?

Artificial Intelligence





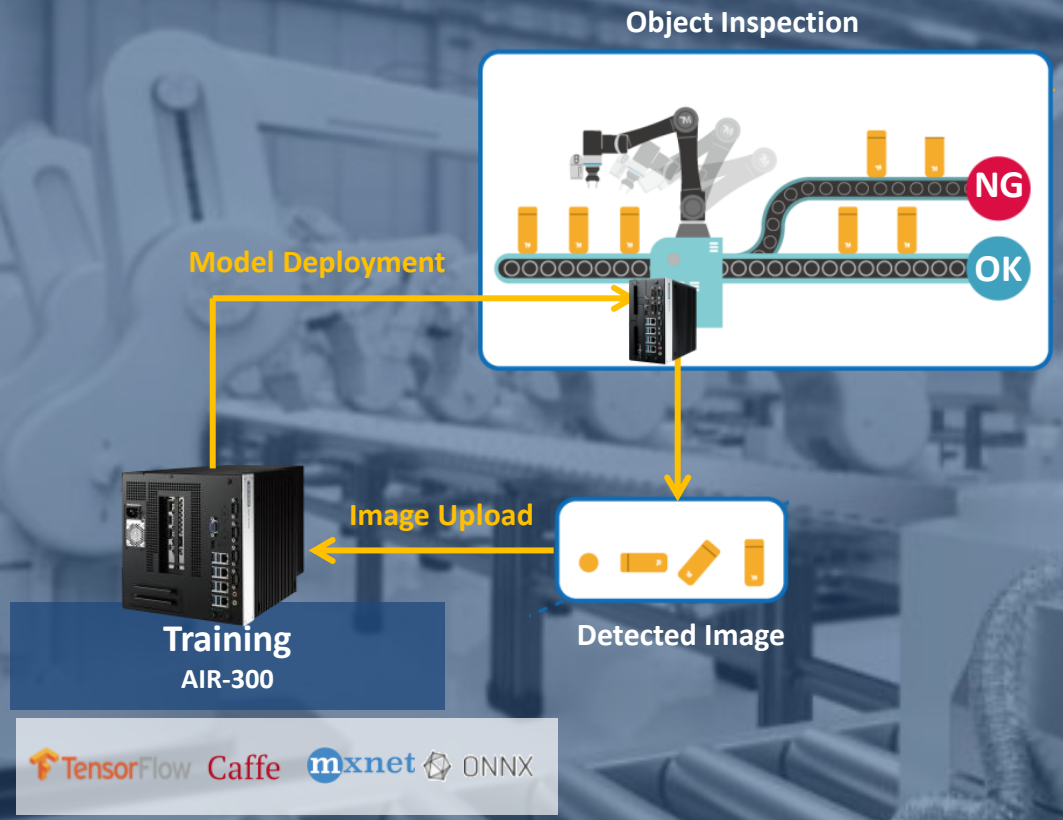
Source: By Samuel Greengard, Posted May 24, 2019

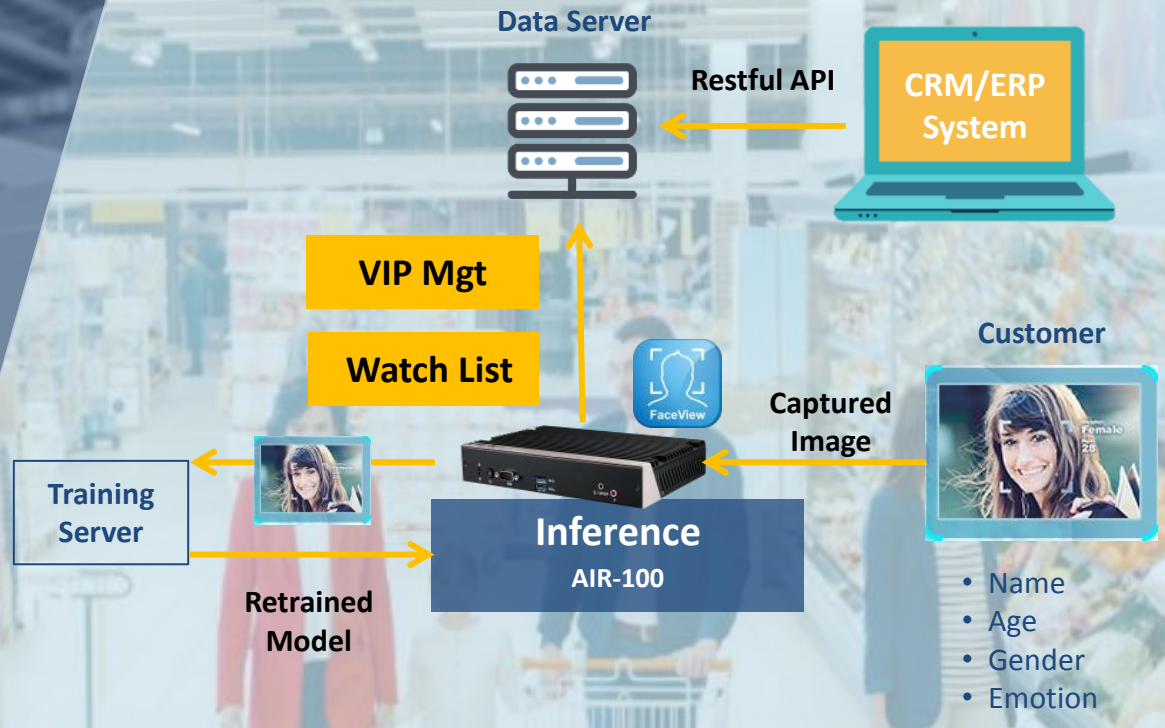
Source: MarketsandMarkets

ADVANTECH

Edge AI in Industry 4.0:

360 Degree Inspection with Robot Vision





Edge AI in Retail:

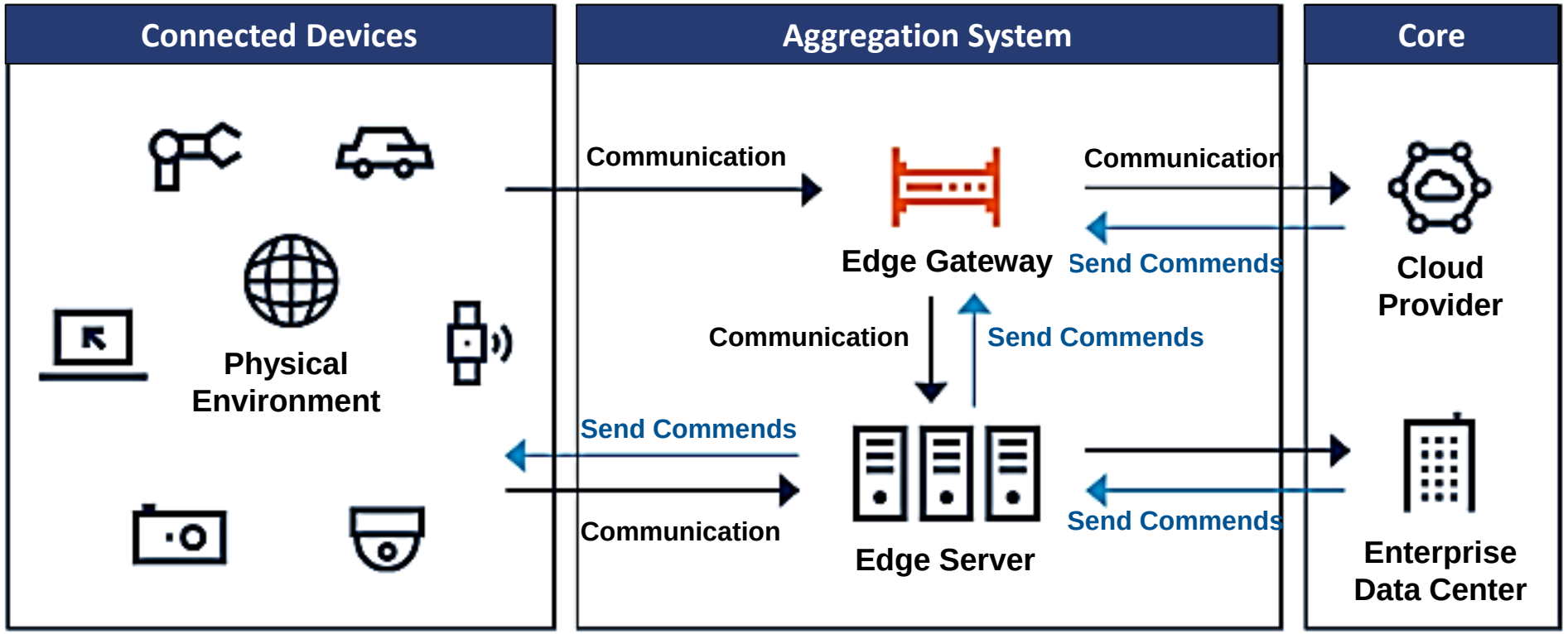
Real-time Customer Analysis & Management

ADVANTECH

Connected Edges will Spread out Everywhere

Edge Computing

A Complex Mix of Technology and Infrastructure



Thousands of Data Centers

Millions of Private Cloud Nodes

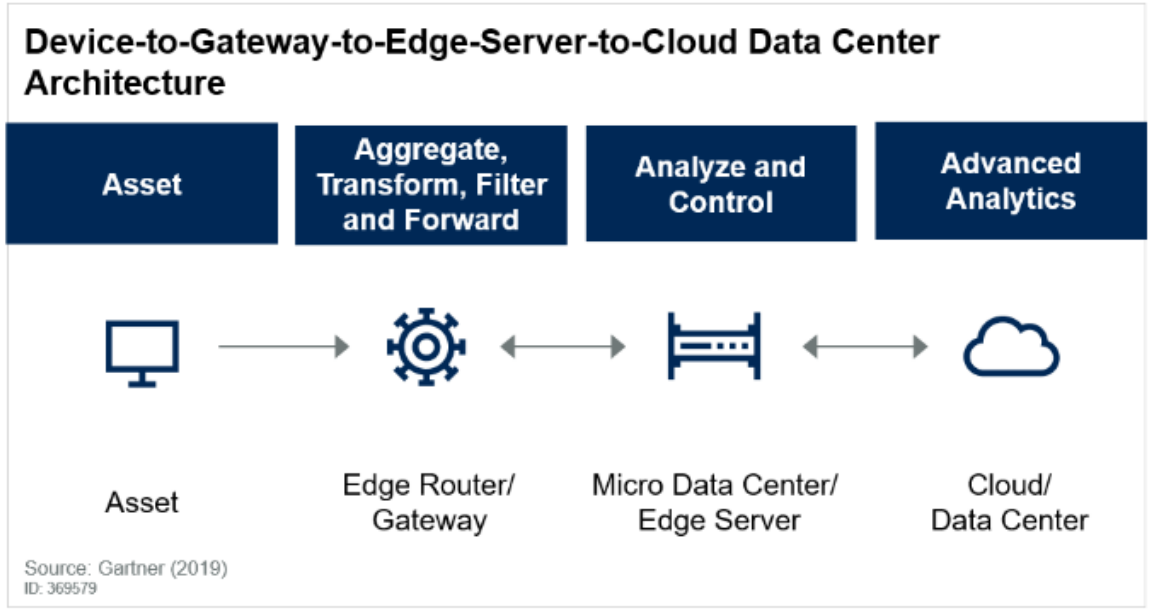
Billions of Connected Edges

Source: Gartner
ID: 447998

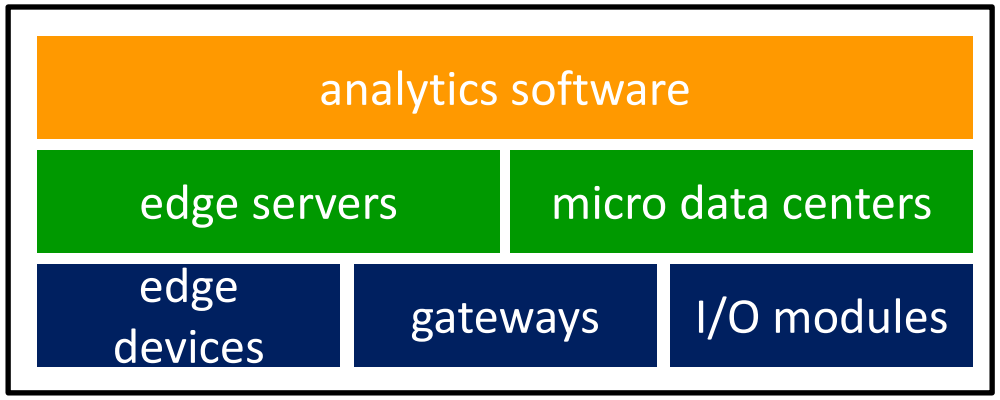
ADVANTECH

Edge Computing will still be Key for IoT Applications

- ✓ *By 2022, more than 50% of enterprise-generated data will be created and processed outside the data center or cloud.*
- ✓ *By 2022, 20% of new industrial control systems will include analytics and AI-edge inference capabilities, up from less than 5% in 2019.*



Edge computing solutions



Source : Market Guide for Edge Computing Solutions for Industrial IoT
Published 23 September 2019 - Santhosh Rao, Sr Director Analyst, Gartner

Source: Gartner

ADVANTECH

Empowering AI Services with Edge-to-Cloud Solutions

Model Development & Training

Industry AI Solutions

Inference Engine Remote Deployment

AI Inference & Training Servers

SKY-6100
1U 5 GPU Cards
Inference Server

SKY-6200
2U 4 GPU Cards Hybrid
Training Server

SKY-6400
4U 4 GPU Cards Hybrid
Training Server

SKY-6420
4U 10 GPU Cards Heavy
Training Server

WISE-PaaS/AFS

AI Framework Service

- Unified AI Platform
- Public, Private, Hybrid Clouds
- Edge Intelligence Enabling
- Model Management

Edge AI Inference Systems

Inference AI Solutions

MIC-770 + MIC-75G20
Compact System Support
up to 1 GPU Card

AIR-300
Server Grade Computing,
Up to 1 GPU Card

MIC-770
Compact Fanless
System

USM-VI
Video AI Edge

Edge AI Solutions

AIR-100
Low Power,
Quad Displays

AIR-101
12-28VDC
DIN Rail Mounting

AIR-200
Ruggedized Design,
High Performance

MIC-710IVA
8-port AI NVR
Edge System

MIC-720AI
Compact Edge
Syetem

MIC-730AI
Box Syetem

ML & DL Frameworks and Libraries

scikit learn · PYTORCH · Keras · TensorFlow · ONNX · theano · torch · mxnet · Caffe

SD Kand Tool Kits

Microsoft CNTK · OpenVINO · EdgeAI Suite

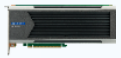
Silicon Partners

NVIDIA. · intel · XILINX®

AI Accelerators

VEGA-4000
Xilinx
Ultrascale+

VEGA-4001
2x Xilinx
Ultrascale+



VEGA-550
4x Xilinx
UltraScale+

VEGA-320
M.2, 1 Intel
Myriad X VPU

VEGA-330
miniPCIe, 2 Intel
Myriad X VPUs

VEGA-340
PCIex4, 8 Intel
Myriad X VPUs

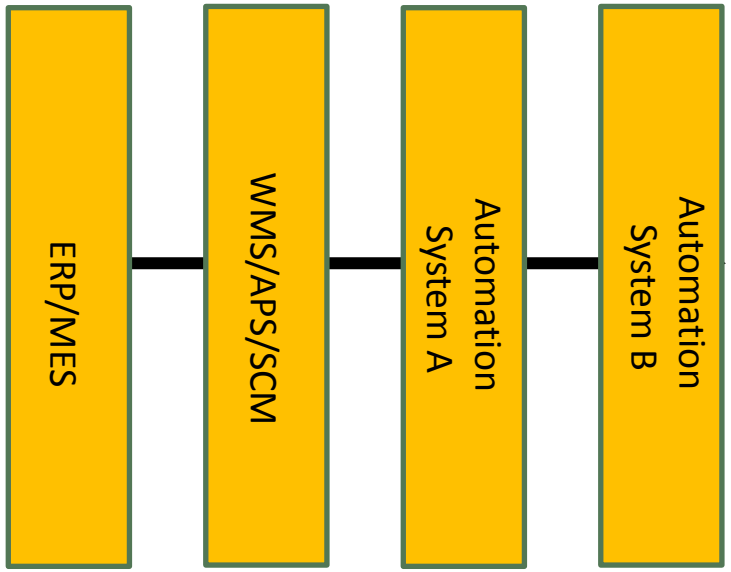
ADVANTECH

Cloud Based, Data Driven
Digital Transformation, From 1.0 to 2.0

IoT Platform

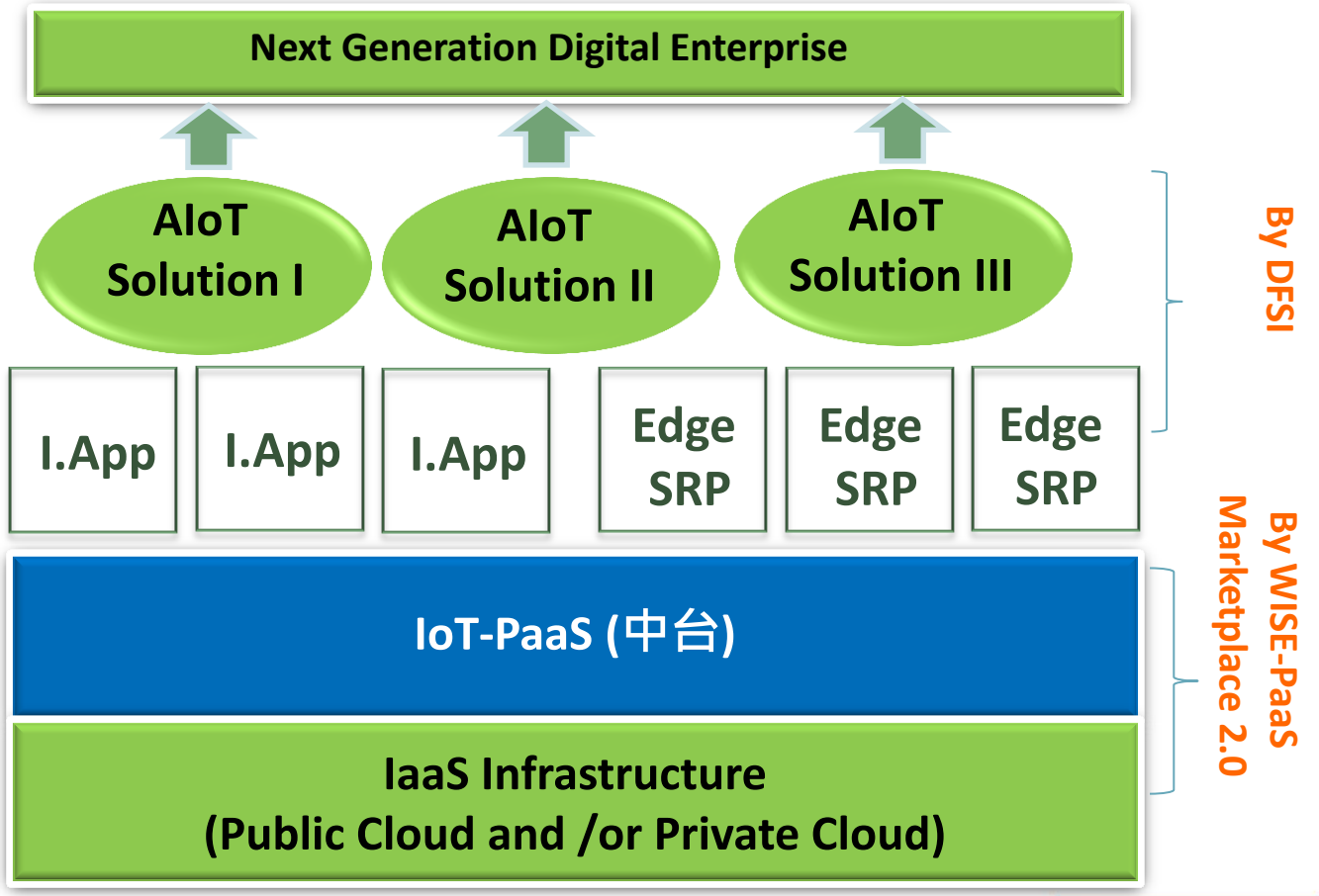
Digital Transformation 1.0

Internal Process Driven
IT & Automation Silos



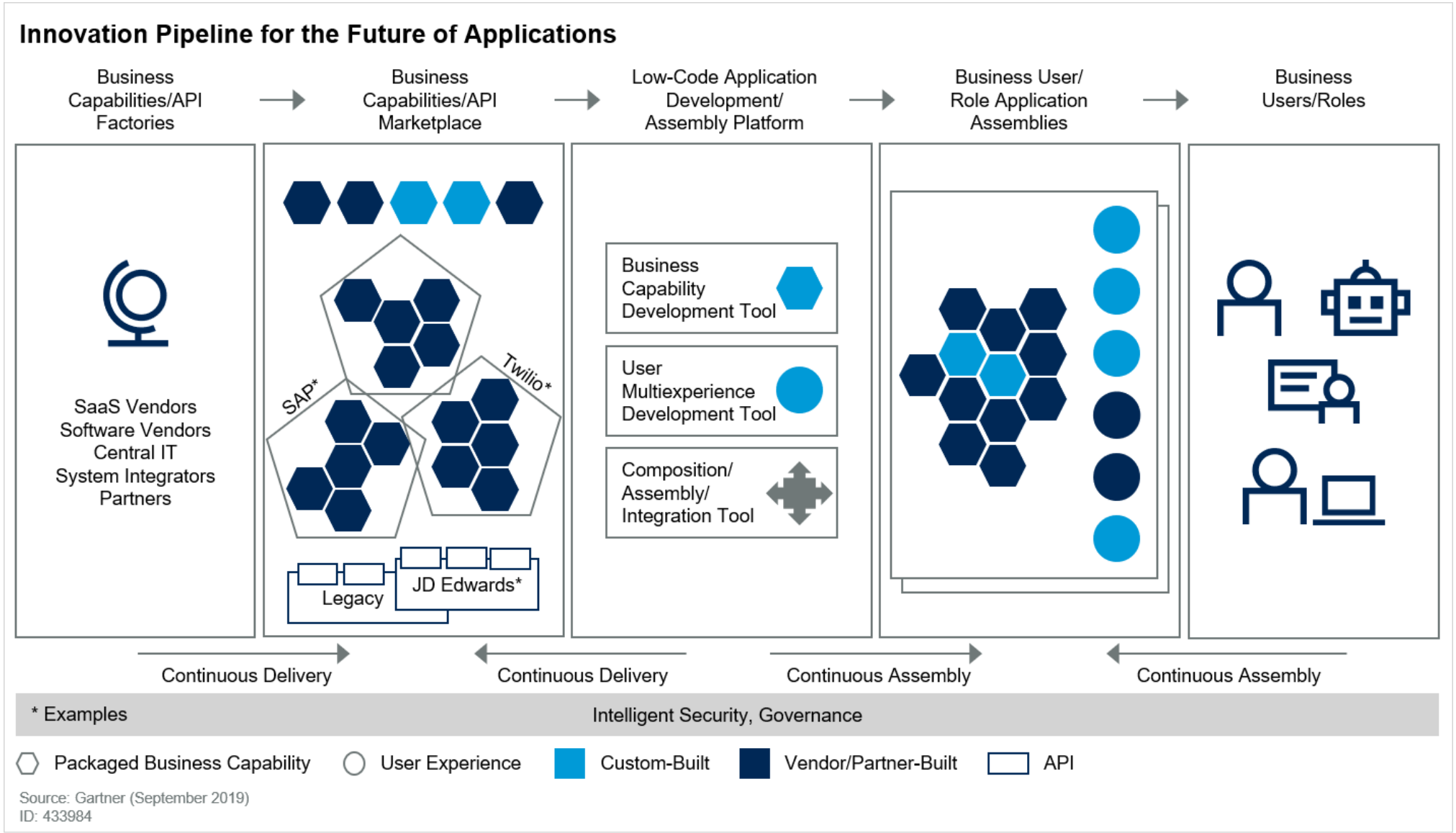
Digital Transformation 2.0

Cloud Based, Data Driven



ADVANTECH

Decoupling is the Key



I.Apps Portfolio on WISE-PaaS Marketplace 2.0

Domain-Focused Apps 行業專用

iFactory

- Drilling Diagnostic
- Preventive Maintenance
- Mold Design and Adjustment for Fastener
- Yield Rate
- PEM
- Factory Equipment Repairing & Maintenance
- Statistic Process Control
- Quality Abnormal Diagnostic for Fastener
- Mold Diagnostic
- Former Monitor
- SFT
- Forming defect and failure predictive module
- Lite MES
- Andon Monitoring
- Advanced Planing & scheduling
- PCM
- PMS
- Work Order
- Process Defect Detection
- Fault detection classification
- Metal Processing Management
- MQC

E&E

- Blowing ang Aeration Energy Saving
- Power Predictive Analysis
- Loading Predictive Analysis
- Maximum Demand Prediction
- Coagulation Sedimentation Process Dosing Control
- Optical Power Prediction
- Energy & Consumption Analysis by Category
- HVAC Strategic Evaluation
- Failure Prediction Warning
- Photovoltaic Power Generation Analysis
- Vibration Predictive Warning
- Influent Water Pump Energy Saving
- Equipment Predictive Analysis
- Membrane Bioreactor System

iCity Services

- Crowd Detecton Dashboard
- Facial Attendance
- Smart Display Control
- Signage Sensor Manager
- Customer Satisfication
- Visitor Mamagement
- Queuing Engine
- Interactive Sensor Manager

iRetail

- Store Traffic Dashboard
- Store Heatmap Dashboard
- Store Prediction
- Smart Manu Board Control
- Store Operation Management
- Refrigerator Management
- Customer Profile Dashboard

iHospital

- Hospital Queuing Monitoring
- Outpatient BI
- Operations Management
- iWard Control Center
- Nursing Station Dashboard
- Patient Call Engine
- ER Management
- ICU Management
- Patient Care Management
- Inpatient BI

Industry Apps 產業通用

iFactory

- Enviornment and Waste Monitoring
- Factory Energy Management
- Enviornment and Waste Monitoring
- Factory Asset Performance Mgt.
- APM OEE
- Mobile OEE
- Mobile FEMS
- ALM
- Equipment Management.
- APM CNC

E&E

- Failure Prediction & Grouped Analysis
- Domain Application Scenario Configuration
- Real-Time EquipmentMonitoring
- Performance & Statistics Analysis
- Equipment Digital Twin Object Configuration
- Alarm & Notifications

iCity

- People Counting Analytics
- APM IBMS
- Air Quality Management
- APM.CCM

iRetail & Hospitality

- Store BI
- POS Video Monitor

iHospital

- Hospital KPI Dashboard
- Hospital Asset Management
- Air Quality Management

Common Apps 中台

- WISE-PaaS/LwM2M
- WISE-PaaS/OTA
- WISE-PaaS/EnSaaS
- EnSaaS/Data Service
- WISE-PaaS/WISE STACK
- WISE-PaaS/SaaS Composer
- Command Center
- WISE-PaaS/Dashboard
- Mobile Dashboard
- WISE-PaaS/Signage CMS Management
- WISE-PaaS/AFS PHM
- WISE-PaaS/VPN
- WISE-PaaS/Command Center
- WISE-PaaS/SCADA
- WISE-PaaS/WISE.M+
- WISE-PaaS/Video Service
- WISE-PaaS/Notification
- WISE-PaaS/APM
- Android DM
- WISE-PaaS/AFS
- WISE-PaaS/AFS PQA
- WISE-PaaS/AFS AOI

- AWS
- Alibaba
- Azure
- McAfee
- Alleantia ISC
- Acronis True Image Personal OEM
- SignApps Express Cloud
- Machbase
- Parking Telecom Labs
- AWS
- IAdeaCare
- Intelli-Signage
- ISMS
- mbed Device Connector
- OpenR8 Professional Edition
- Tiandi hexing
- VNC Connect IoT

Edge.SRPs 邊緣功能模組

- Edge.SRP/EdgeLink
- Edge.SRP/AOI
- Android DM
- ME-Cell
- ME-Line
- Edge.SRP/SignageCMS
- Edge.SRP/Intelligent NVR
- Edge.SRP/People Counting
- Edge.SRP/Facial Recognition
- DeviceOn/OTA
- DeviceOn/E2I
- DeviceOn/ePaper
- DeviceOn/FaceView
- DeviceOn/Device Management
- DeviceOn/Security
- DeviceOn/Data Management
- DeviceOn/Connectivity Service
- DeviceOn/Rule Engine
- AINavi
- DAQNavi
- HMINavi
- MotionNavi
- VisionNavi
- WebAccess/SCADA
- WebAccess/DMP
- WebAccess/CNC
- WebAccess/NMS
- WebAccess/Wzzard

ADVANTECH

Ecosystem to Promote Industry Prosperity

Eco-System

Business ecosystem of Tencent 腾讯

Business ecosystem of 阿里巴巴

ADVANTECH

Co-Creation: Accelerate Your Business Growth with Advantech

ADVANTECH

ADVANTECH WISE-PaaS
AIoT Solutions & Marketplace

Marketplace 2.0

InnoWorks

I.APP Developer

Domain Solution Developer

Industry 4.0
Smart City
Energy and Environment
iHospital
iRetail
Transportation & Logistic

DFSI

Domain Focus SI

ADVANTECH

Co-Creating the Partnership for AIoT Era

Transportation

Digital Signage

Automation

Gaming

Medical

Kiosk/POS

Channel Partners

500+ Eco-system Partners

Channel Partners

Silicon Partners

WISE-PaaS

ELAA

m2.com

Co-Creating the Future of the IoT World