Panel Discussion II: Co-Creating with Advantech to Accelerate Domain Focus IoT Deployment

Moderator:
Tony An, Advantech Sales Director

Panelists:
Michael Huang, Advantech Project Associate Manager
Park Sam, Yujin Robot President & CTO
Ravi N. Amble, SUQUINO President & CEO
Ming Yeh Hsieh, HwaCom Systems Vice President
Create New Value with IoT Co-Creation

- Health Care
- Energy
- Manufacture
- Smart Home
- Finance
- Education
- Military
- Agriculture
- Distribution

Value > Domain SRP

Analytics > Industrial APP (LAPP) & Microservices

Management > Connectivity > Device >

Identify Pain Points of solution with Experts and Partners
Speaker Introduction

Park Sam
President & CTO

Ravi N. Amble
President & CEO

Ming Yeh Hsieh
Vice President

Michael Huang
Project Associate Manager
Autonomous navigation solution & Fleet management system on WISE-PaaS

Park Sam
Yujin Robot
Global Trend in appliance and machinery industry

Appliance to robot / automatic appliance
Future of devices with wheels in the factory, hospital and market
Autonomous Navigation Solution to enable manual devices to be robotic devices

- Fleet management
- 3D environment cognitive sensing
- SLAM & Navigation
Autonomous Navigation Solution
Demo – Mobile Cart, proof of concept
ANS component – 3D LiDAR

- 3D environment monitoring
- 3D map building - Autonomous navigation
- Safety – human & object detection
- AI – object recognition
3D LiDAR for AI – Object/location recognition on Odroid w/o additional GPU or CPU

1. Panoramic image of the room taken by camera

2. Intensity image from 3D Lidar

3. Depth image from 3D Lidar

4. Object recognition by 3D Lidar

5. Location recognition by 3D Lidar

Bed, Table, Chair, Sofa, TV
3D LiDAR for 3D Map building
ANS component – Various robots run with the same navigation SW
ANS component - FMS (Fleet management system)
Use case: Assign job, control and monitor multi ANS vehicle
**Use case:** Control traffic, elevator and automatic door
DFSI - Smart City

Mingyeh Hsieh
Vice President
2019-12-13
Integrate external data (such as: Central Weather Bureau Open Data Platform...), real time data (such as: pH, EC, SS...) and video streaming as a data repository.

Build data correlation analysis, AI deep learning, intelligent detection & warning and other functional modules to provide a complete intelligent environmental monitoring platform.

Provide intelligent environmental monitoring services such as water quality monitoring and air pollution monitoring, and extend other value-added application services through open API interface.

### IoT Data & Image Collection
- Integrate external data (such as: Central Weather Bureau Open Data Platform...), real time data (such as: pH, EC, SS...) and video streaming as a data repository.

### Analysis & Action
- Build data correlation analysis, AI deep learning, intelligent detection & warning and other functional modules to provide a complete intelligent environmental monitoring platform.

### Application Services Integration
- Provide intelligent environmental monitoring services such as water quality monitoring and air pollution monitoring, and extend other value-added application services through open API interface.

### External Platform
- Data Correlation Analysis
- AI Deep Learning

### Data
- Real Time Data
- Video Streaming

### Platform
- Water Quality Monitoring
- Air Pollution Monitoring

### Service
- Water Quality Monitoring
- Air Pollution Monitoring

### Integration
- IoT Data & Image Collection
- Analysis & Action
- Application Services Integration
When the water quality monitoring index abnormal situation occurs, the system can immediately inform the service center managers, in order to take the relevant action to avoid incidents.
Water Quality Monitoring Service Architecture

- **Central Management Center**
  - Water Quality Monitoring
  - Abnormal Event Notification
  - Electronic Map
  - Real-time Video Streaming
  - Historical Record Query

- **Monitoring Service Platform**
  - AI Big Data Analysis
    - Multidimensional Correlation Analysis
    - AI Deep Learning
    - Intelligent Detection Alert
    - Historical Data Warehouse

- **System API**
  - App, Message

- **Liquid Level Meter**
  - pH Meter
  - EC Meter
  - SS Meter

- **Environmental Management Bureau**
  - Water Quality Monitoring
    - Abnormal Event Notification
    - Electronic Map
    - Real-time Video Streaming
    - Historical Record Query
• **pH**: Display real-time pH value, when the value exceeds the threshold represents abnormality occurs.
• **Temperature**: Display real-time temperature, when the value exceeds the threshold represents abnormality occurs.
• **EC**: Display real-time EC value, when the value exceeds the threshold represents abnormality occurs.
When the air pollution monitoring index abnormal situation occurs, the system can immediately inform the service center managers, in order to take the relevant action to avoid incidents.
Air Pollution Monitoring Service Architecture

Central Management Center

- Air Quality Monitoring
- Abnormal Event Notification
- Electronic Map
- Real-time Video Streaming
- Historical Record Query

Monitoring Service Platform

- AI Big Data Analysis
- Multidimensional Correlation Analysis
- AI Deep Learning
- Intelligent Detection Alert
- Historical Data Warehouse

System API

App, Message

Air Quality Meter

Environmental Management Bureau
• **PM2.5** : Display real-time PM 2.5 value, when the value exceeds the threshold represents abnormality occurs.
• **Humidity** : Display real-time humidity value, when the value exceeds the threshold represents abnormality occurs.
• **Temperature** : Display real-time temperature, when the value exceeds the threshold represents abnormality occurs.
Co-Creating The Future of The IoT World “Co-Creation Program”

Michael Huang, ACI, Advantech
Advantech Co-Creation Program for Ecosystem of Industrial IoT

**Key Values:**
- Robust and Scalable Cloud Infrastructures
- Edge platforms and Universal IoT Cloud Solutions
- Domain Knowledge, Onsite Installation, Customization and After-sale Services

**IaaS** (Public Cloud) & Private Cloud

**SRP Co-Creation**
- **WISE-PaaS**
- **Edge-PaaS + SRP** (Solution-Ready Packages)

**SRP Developers**

**Domain-Focused SI (DFSI) Co-Creation**
- New IoT SI
- Traditional SI Transformation
- In House SI

**Key Values:**
- Digital Transformation of all Industries
- iFactories & Industry 4.0
- Smart City Solutions
- Energy & Environment
- Machine to Intelligence
- iHospital
- iRetail

**Partnership**

**Enable**

**Realize**
# SRP Co-Creation

## Objective
Establish strategic partnership and co-create scalable IoT solutions with co-creation partners through Advantech WISE-PaaS and HW Products.

## SRP Developers

## Main Tasks
- WISE-PaaS & Advantech HW integration into a duplicable SRP
- Solution productization
- Joint marketing and business development

## Benefits
- Global joint business development and promotion with Advantech
- SRP Co-Creation Sponsorship
SRP Co-Creation Case
RTLS SRP Service Developer

Partner: P Square
Established: 2014
Location: Taiwan
Type: SRP Co-Creation, Solution Partner
Domain: RTLS (Real Time Location System) Service for Building, Factory, Hospital, Hotel and etc.
Co-Creation Year: 2018

Co-Creation Process

- Innovative Algorithms
- Advantech High Quality Hardware
- Advantech WISE-PaaS Platform
- Advantech Global Sales Channels

Best RTLS Service

Expand Market
RTLS Case Sharing

➢ All deployed clients are highly satisfied with the Co-Creation RTLS

- Wan-Fang Hospital
- Min-Sheng Healthcare
- Taiwan Hospital
- Pohai Hospital
- Europe Hospital…
- U.S. Hospital…
- And More…
**Objective**

Establish strategic partnership with regional DFSI partners to jointly promote and implement WISE-PaaS & SRP within the region.

<table>
<thead>
<tr>
<th><strong>Main Tasks</strong></th>
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<tr>
<td>• DFSI core team establishment</td>
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<tr>
<td>• Joint marketing and business development</td>
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</table>

<table>
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<tr>
<th><strong>Benefits</strong></th>
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<tr>
<td>• Regional joint business development and promotion with Advantech</td>
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<tr>
<td>• Better pricing support from Advantech</td>
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<tr>
<td>• DFSI Co-Creation Sponsorship</td>
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<td>• Strategic minor share investment (by case)</td>
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DFSI Co-Creation Case
SW & System Integration for Enterprise & B2B Sectors

Partner: Nippon RAD
Established: June, 1971
Listed in: Tokyo Stock Exchange (JASDAQ)
Employees: 300 (250+ Engineers)
Location: Tokyo HQ, Osaka, Nagoya, Fukuoka
Type: DFSI Co-Creation
Domain: SW & System Integration for Enterprise & B2B Sectors
Co-Creation Year: 2018

Strategic Investment
• 10M USD Equity Investment for 19% Share

Core Team Establishment
• NRAD doubled its IoT team from 20 to 40 employees
• WISE-PaaS Certification Program

Co-Marketing
• 2 Local Demo Room Setup
• Japanese IoT News Distribution
• Joint Solution Day

Joint Business Development
• Joint Customer Visit
• Over 90 Project Leads
• Over 30 on-going projects
Co-Creating the Future of the IoT

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<tr>
<th>Industrial 4.0</th>
<th>Machine to Intelligence</th>
<th>Industrial IoT PaaS</th>
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</thead>
<tbody>
<tr>
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<td>Water Treatment</td>
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- RAD
- Phoxtex
- TBL
- ITTS

- YCM
- Alleantia
- AnCAD
- EnSaas IoT

- SoftStone
- iLink
- HwaCom
- SAP

- Discovery
- Mobagel
- Viscovery
- GSD Technologies Co., Ltd.
Booting up! Co-creation of phase II

不停！Co-creation IoT Journey