SAP Innovation Awards 2020

SAP® Innovation Awards 2020 Entry Pitch Deck

Promising Material Intelligence

Mitsui Mining & Smelting Co., Ltd.

THE BEST RUN SAP®

Company Information

Headquarters	Tokyo, Japan
Industry	Mining
Web site	https://www.mitsui-kinzoku.co.jp/en/

At Mitsui Kinzoku (Mitsui Mining & Smelting), a company which has its roots in the excavation of underground resources, we have positioned the preservation of the natural environment as one of our priority management Issues. Working in line with this policy, we undertake various initiatives to preserve the environment, conserve energy, and reduce CO2 emissions in all aspects of our business.

To pass on this sustainable society to the next generation, we will make our own contributions by applying the manufacturing capabilities that are the basis of all manufacturing companies.

Promising Material Intelligence

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Challenge

Because of the old system, it cannot respond to changes in the external environment.
Lack of experts, depend on particular employee, low yield rate.

Solution

Digitize the production process and the experienced employee knowledge/operations.
Automate with IoT / Machine Learning.
Implemented in collaboration with Ageo Plant and the Production Engineering Department at the Head Office.

Outcome

- *Improve production efficiency by about Greatly improved*
- *Digitalize expert skills that take 10 years to learn*
- *Go live within 7 months from the start of Project*
- *Mitigate silos between departments by this collaboration*

Greatly improved

Improvement of the whole production processes

1/500

10 years of technical learning reduced to one week by Digital Transformation

Participating Partner Information

QUNIE CORPORATION https://www.qunie.com/en/

Selected for the reason of knowing the most advanced SAP solutions,
QUNIE a consulting firm and member of NTT DATA Japan's biggest IT service provider, has performed everything from conception to execution for the client's digital transformation. QUNIE is the six-time SAP Award winner for six years consecutively.

The role of QUNIE in this project is as follows.
Project Manager : Shinya Umino
Consultant : 20members

- Business Consulting: Responsible for understanding current business conditions and defining business requirements
- Digital Transformation consultant: responsible for system analysis and business analysis
- System Integration : Responsible for service design and application development

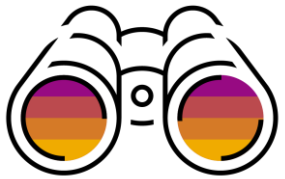
-Execution manager for the whole project
In addition to using SAP Leonardo IoT and SAP Leonardo Machine Learning Foundation, productivity was improved by building a system that using the customer environment by linking the core business system with SAP Cloud Platform.

Business Challenges and Objectives

- Paper based finalizing plan based on the quality inspection system
- Based on the Sales Orders, manually schedule the finalizing plan
- There was some risks, only 1 expert / Knowledge is in his head / Low yield rate.

- Digitize the proses/ Paperless
- Integration with the Quality Inspection system
- Automate the finalizing schedule

QUNIE



Project or Use Case Details

Copper foil rolls generated in the manufacturing process are used in a process of dividing them according to customer orders before shipping. The target process is always required various customer requests, shipping schedules, fallowing quality standards, and achieving the maximum work efficiency and the minimum dividing loss. In the past, dividing planning have been performed based on many years of experience and know-how of skilled expert workers , but we have developed a system for automating dividing planning with Leonardo Technology.

- Standardization
- Digital Transformation
- Design sprint
- Visualization
- Auto planning
- Real time sharing

Benefits and Outcomes

Business or Social

- *Greatly improvement in production efficiency*
- *Yield improvement*
- *Anyone can reproduce the skills of skilled engineers*
- *Plan to develop the developed system overseas*
- *10 years of technical learning reduced to one week by Digital Transformation*

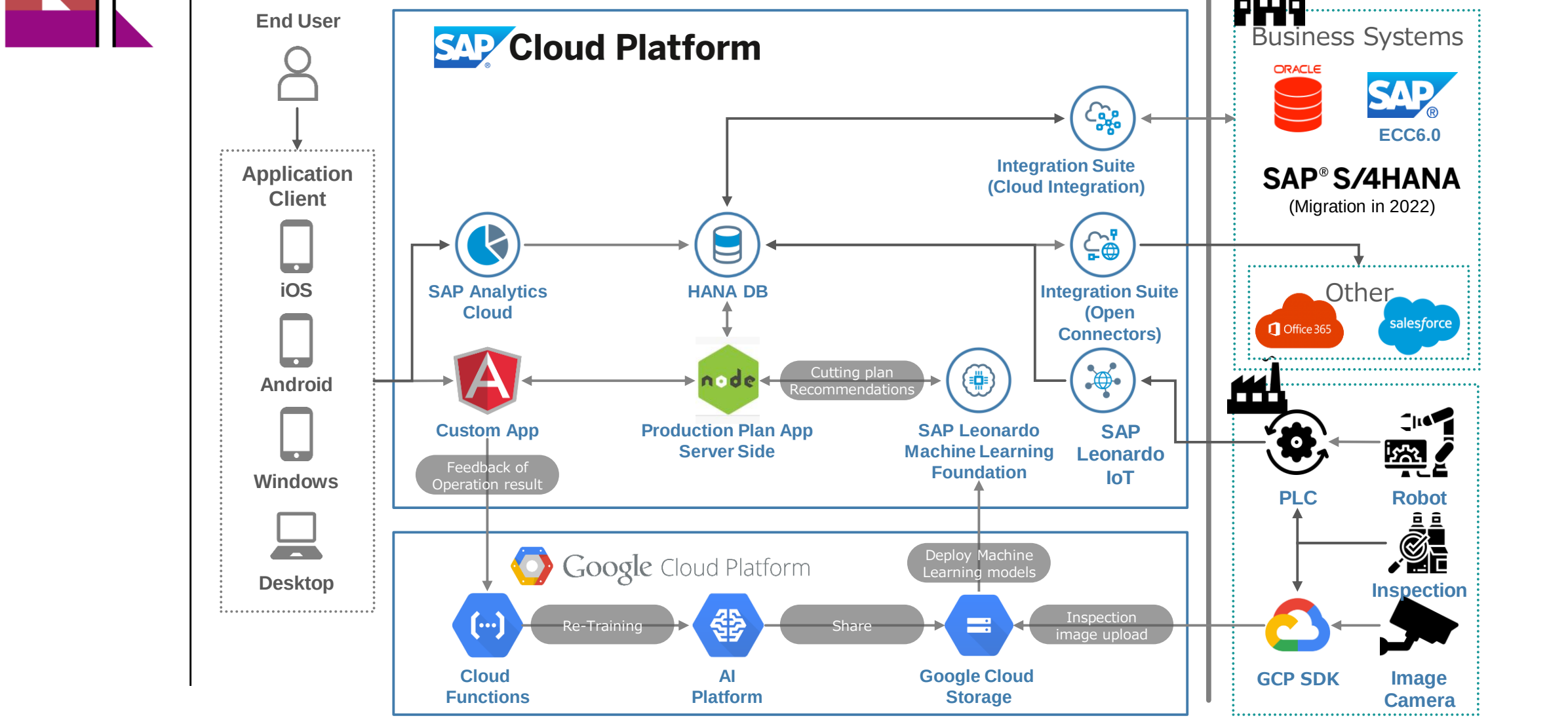
IT

- *Go live within seven months from the start of the project*
- *Detailed and quick traceability is possible by changing from paper base to database*
- *Work automation with SAP Leonardo IoT and SAP Leonardo Machine Learning Foundation*

Human Empowerment

- *Improve relationships between production management departments and process operators*
- *Improvement of knowledge of SAP system implementation process in IT department*
- *Raise awareness of IT governance*

Architecture



Deployment

Deployment status Live

Date 2019/12/24 **Number of users** 50

SAP® technologies used:

	SAP product	Deployment status (live or proof of concept [POC])	Contribution to project
1	SAP Cloud Platform	Live	The Fiori application was natively built on SAP Cloud Platform, and SAP Analytics Cloud is a native cloud solution and running on SAP Cloud Platform (CF)
2	SAP Analytics Cloud	Live	Advanced analysis
3	SAP Leonardo IoT	Live	Analyzing equipment data via Programable Logic Controller (PLC) and Integration of image data required for product inspection
4	SAP Leonardo Machine Learning Foundation	Live	Automatically calculate plans for processing according to product requirements (Customer requirements, shipping schedule, quality standards)
5	SAP Cloud Platform Integration Suite	Live	Cloud Integration and Open Connectors

If you have used one of SAP's services or support offerings from SAP Digital Business Services during the implementation or deployment phase, please select with X one or more of the following offerings:

- ☐ SAP MaxAttention™ services
- ☐ SAP Value Assurance program
- ☐ SAP Innovation Services portfolio
- ☐ SAP ActiveAttention offerings
- ☐ SAP Model Company service
- ☐ SAP Innovative Business Solutions organization
- ☐ SAP Advanced Deployment service
- ☐ Others:

Advanced Technologies

The following **advanced technologies** were part of the project.

	Technology or use case	Yes or No	Contribution to project
1	3D printing	No	
2	Blockchain	No	
3	Internet of Things (IoT)	Yes	Analyzing equipment data via Programable Logic Controller (PLC) and Integration of image data required for product inspection
4	Machine learning or AI	Yes	Advanced planning with algorithms and collaboration
5	Conversational AI	No	
6	Robotic process automation	No	
7	Data anonymization	Yes	Concealment when linking data from back-end systems
8	Augmented analytics	No	

Additional Information

- In the future, this system will be connected to SAP S/4HANA.
- Michael Bain (VP, SAP Cloud Platform Customer Success) endorses this project.