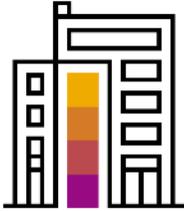# SAP Innovation Awards 2021 Entry Pitch Deck

Intelligent Asset Performance Optimization with SAP® Extension Suite & AllAssets™

Lloyd's Register

THE BEST RUN **SAP**

Company Information

Headquarters	London, United Kingdom
Industry	Professional Services
Web site	https://www.lr.org/en-us/

Lloyd's Register is an engineering and technology professional service company. We have been making the world run safer for more than 250 years. When you have been in business that long, you develop very deep subject matter expertise and knowledge—in this case, in the area of safety and risk.

Lloyd's Register is a global company with operations in more than 120 countries. We focus on providing engineering and technical professional services to customers in the oil and gas, marine, nuclear, renewal energy, manufacturing and transport industries. Our capabilities help customers optimize industrial asset, operational and supply chain performance and mitigate risks.

We are also going through a major cultural transformation to become much more partner-centric. The future of Health, Safety and the Environment (HSE) is moving beyond protecting people and the environment. It's now becoming about prevention and driving performance across the entire enterprise. By optimizing the intersection between equipment, human operator, and the environment, Lloyd's Register is helping customers reduce loss of life and equipment, while increasing productivity and operating performance.

Intelligent Asset Performance Optimization

Lloyd's Register

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"A full understanding of risk in relation to industrial assets, plant performance and reliability is a critical component of any APM strategy. LR understands how risk impacts asset performance. They have been helping customers address these issues for more than 250 years."

Paula Hollywood
ARC Advisory Group

Challenge

There are many examples from recent history where the intersection of equipment failure, human failure and environmental impacts have resulted in catastrophic events that compromised safety, assets and shareholder value. In many instances risks associated with operations was not taken into account, or even unknown, leading to maintenance and inspection activities – the first line of defense – that were not optimized with risk in mind.

Solution

With Lloyd's Register AllAssets™, their risk assessment expertise has been built into an enterprise software platform, with the proven methodologies and advanced analytics needed to reduce risk, optimize business operations and increase reliability.
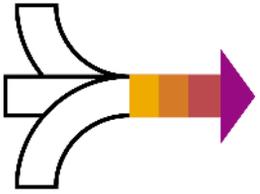
Outcome

Using the SAP Internet of Things (IoT) portfolio, Lloyd's Register is delivering Asset Performance Management software (AllAssets) with **faster and easier time to insight**, including a unified view of the customer's data across various systems, improving data collection, transparency & quality as the first key step to better utilizing resources, preventing failures, improving ROI and helping the world run safer.

20% Increase in equipment/asset uptime

1 year Timeframe within which the system pays for itself

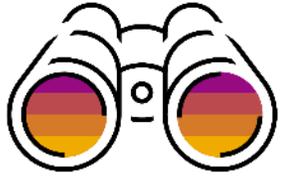**50%** Reduction in planned maintenance and inspection costs

Business Challenges and Objectives

All businesses have risk, and all businesses have a certain level of risk tolerance. Many tools that focus on Asset Performance Management disregard the foundation of safe operations, including understanding risk exposure from an operational standpoint and how to mitigate that risk. It's not only about recognizing that a pump might fail in 2 weeks based on current conditions, but considering the impact to safety, production and the environment if the pump fails, and also considering other pumps with similar characteristics and operating conditions. Lloyd's Register wanted to make risk a key part of their Asset Performance Management solution, AllAssets.

Innovation and improved APM (asset performance management) has the power to materially reduce cost, improve business performance, and, most importantly, keep workers safe. The objectives of the project included:

- Streamlining the way customers work and breaking down silos
- Ensuring there is a centralized/single point of data
- Use of AllAssets to enhance decision making
- Ability to seamlessly work with big customers from an infrastructure & systems integration perspective
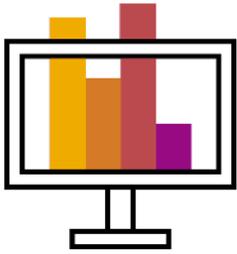- Increasing operational efficiencies and return on investment

Project or Use Case Details

The Lloyd's Register AllAssets platform is a cloud-based SaaS product that solves the problem of giving a comprehensive view of the asset and facility performance while also being able to identify any risk to productivity, safety and the environment. It allows customers to build, test and deploy risk and reliability models quickly without the need for coding. The risk-based inspections module looks at the risks of fixed equipment and structures. This is accomplished by bringing together all of the potential risk sources to build a new form of Risk Matrix. Using the AllAssets Model Designer, engineers and business performance professionals are able to quickly build risk and reliability models that draw knowledge from many different sources. The Model Designer assembles the risk inputs into a static risk and reliability model.

When connected to SAP Engineering Control Center or SAP S/4HANA, Lloyd's Register is able to help the equipment owner optimize their inspection schedule, reducing servicing and maintenance costs, and also ensure the equipment is maintained in the most optimal way, ensuring safety and peak performance.

Using the power of the SAP IoT portfolio, with real time data from IoT sensors, Lloyds Register will be bringing disruptive technologies to market in Q3 2021, that enable corrective action to be taken *before* an incident happens, turning static risk and reliability models into dynamic models that lay the foundation for prescriptive analytics. With prescriptive analytics, they can more accurately predict when an event is going to happen and alert the team so they can intervene early to prevent an event.

Benefits and Outcomes
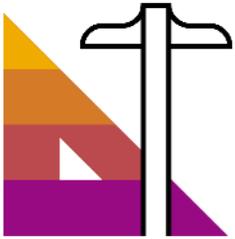
Business or Social

- Improvements in data quality and utilization, which has driven improvements in process safety, asset integrity and efficiency amongst customers

- Increased asset uptime

- Reduction in inspection & maintenance costs

- Optimized maintenance intervals
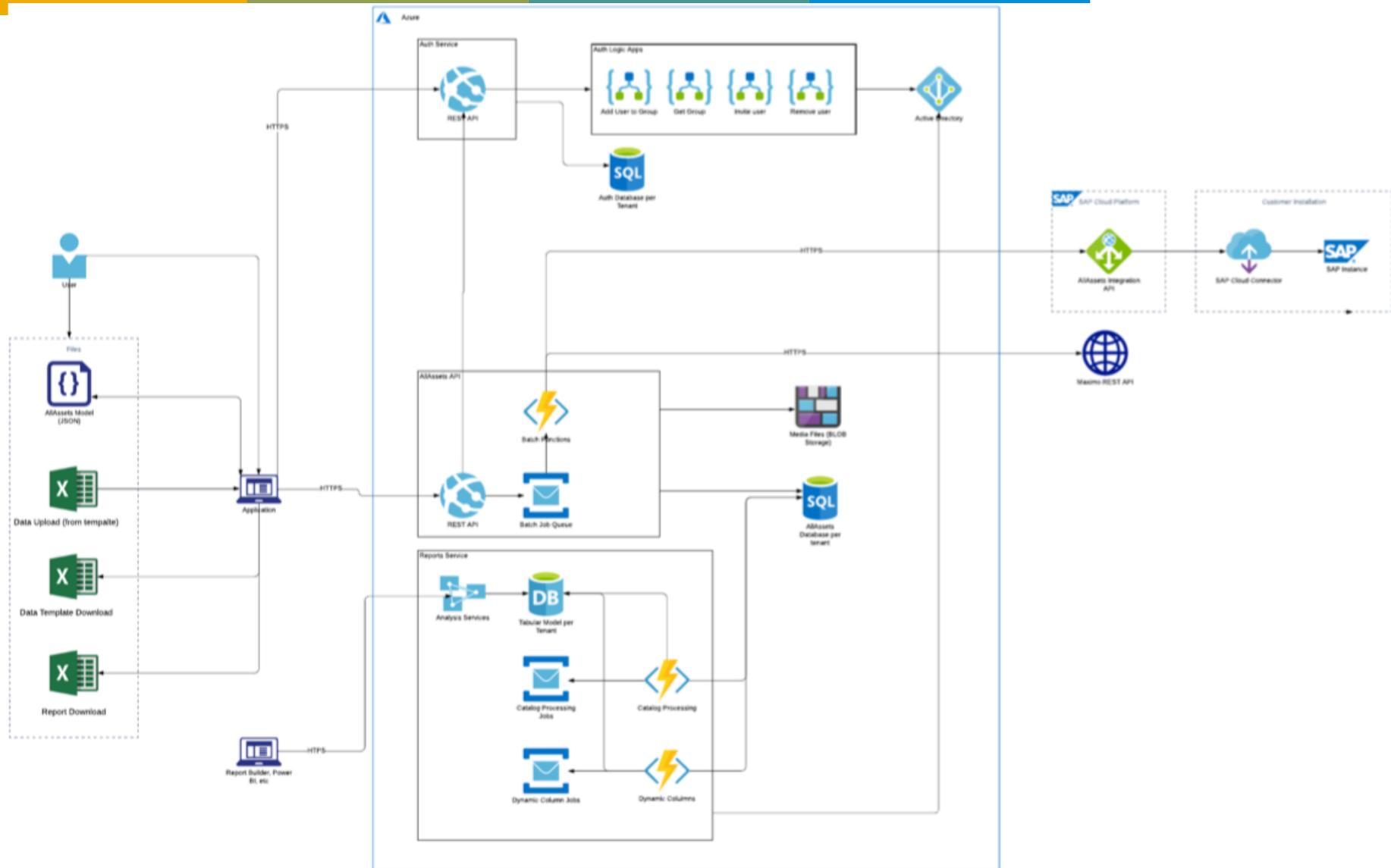
IT (optional)

- Ease of integration with SAP for seamless workflows

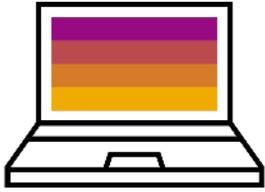- Low code architecture allows the customer to perform custom configurations themselves

Human Empowerment

- Improved data collection, analysis and platform integration lead to inspection and maintenance and workforce hour(s) savings

- Flexible/low code solution to allow for customization of asset hierarchies, equipment datasheets, risk matrixes, inspection templates and reports

Architecture

Deployment

Deployment status   Live

Date   March 2019

Number of users   5 customers; hundreds of thousands of data points being measured
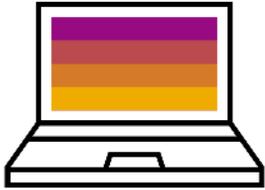
SAP® technologies used:

	SAP product	Deployment status (live or proof of concept [POC])	Contribution to project
1	SAP Extension Suite	Live	Allow AllAssets to connect to SAP instance
2	SAP Analytics Cloud connectors	Live	SAP Integration Suite connects to SAP instances
3	SAP IoT	Live	Dynamic risk modelling for prescriptive analysis
4	SAP S/4HANA	Live	Optimization of inspection schedules
5			

If you have used one or more of the services or support offerings from SAP Services and Support during the implementation or deployment phase, please indicate which one(s) below with an ☒
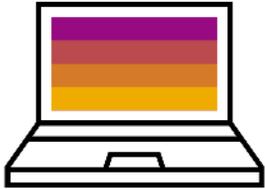
☐ SAP MaxAttention™   ☐ SAP ActiveAttention™   ☐ SAP Advanced Deployment

☐ SAP Value Assurance   ☐ SAP Model Company   ☐ Others:

☐ SAP Innovation Services   ☐ SAP Innovative Business Solutions

Advanced Technologies (1 of 2)

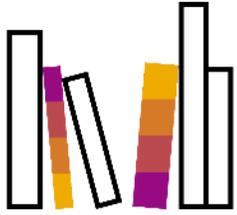The following **advanced technologies** were part of the project.

Technology or use case	Product used*	Contribution to project and how product used integrates with SAP products
1 Machine learning or artificial intelligence **Robotic process automation**, conversational AI, AI-based knowledge graph		
2 Intelligent data management Multi-cloud, data virtualization and governance, smart data tiering, persistent memory, data privacy		
3 Advanced and augmented analytics • Real-time and streaming analytics, spatial analytics • Natural language query and generation • AutoML to identify trends, patterns, outliers • Predictive analytics (time series analysis and forecasting, regression, classification)		
4 Data and analytics solutions in the cloud • Unified data and analytics cloud platforms by SAP • Modern/self-service data to analytics		

*If this is not an SAP product, explain how it integrates with SAP products.

Advanced Technologies (2 of 2)

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

Technology or use case	Product used*	Contribution to project and how product used integrates with SAP products
5 Advanced cloud integration • API economy (monetization and API marketplaces) • AI-based or crowdsourced integration • High throughput, low-latency digital integration hub		
6 Industry cloud platform		
7 Blockchain		
8 Internet of Things		
9 3D printing		

*If this is not an SAP product, explain how it integrates with SAP products.

Additional Information

Lloyd's Register Video:

AllAssets, A New Approach to Asset Performance Management
https://store.sap.com/en/product/display-0000059067_live_v1/AllAssets