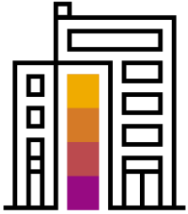




SAP® Innovation Awards 2020 Entry Pitch Deck

Digitalizing Manual Meter Data Capture & Analysis on SAP Cloud Platform

Xerox



Company Information

Headquarters	Norwalk, Connecticut, USA
Industry	Print and digital document products and services
Web site	https://www.xerox.com/

Xerox Holdings Corporation is an American global corporation that sells print and digital document products and services in more than 160 countries and has revenues of approximately \$10B, 2018. This Fortune-500 company has a long history of research and innovation. Xerox has more than 18K active patents for innovation. John Visentin was appointed Vice Chairman and CEO, Xerox in May 2018. Mr. Visentin has promoted a culture of innovation and digital transformation.

Xerox, UK brought up a portal on SAP Cloud Platform in June 2018 to enable customers interactions end to end in their Order-to-Cash (OTC) process with Xerox. The UK based Xerox, multifunction device group reached out to SAP Leonardo Innovation Services, UK to discuss how to better use SAP technology. Starting in October 2018 SAP ran a Design Thinking workshop for Xerox and four POCs came out of the effort: Meter Reading Digitization (replacing a manual process with a digitized process), Automatic Supplies Replenishment Registration (Xerox service that automatically orders supplies based on meter data), Remote Solve (enabling call center customer resolutions), and Business Operations Self-Healing Service (SAP out-of-the-box customer service ticket offering that utilizes SAP Conversational AI, SAP Service Ticket Intelligence, SAP Intelligent Robotic Process Automation and Machine Learning (ML) with Qualtrics to empower call center employees).

This IA 2020 entry will focus on the Meter Reading Digitization application on SAP Cloud Platform and SAP on-premise technology as the base for a mobile smart phone application using SAP Intelligent Technologies. The mobile application reads images of a multifunction device meter and uploads the image to a backend billing system thus replacing a cumbersome and error prone manual process.

Digitalizing Manual Meter Data Capture & Analysis on SAP Cloud Platform



Xerox



The Meter Reading App will give our customers a simpler, more efficient way to complete a mundane task if they have opted out of automatic meter collection.

By integrating the image capture into the Xerox Cloud Portal on SAP Cloud Platform we can easily validate and export data, making this App simple to integrate with our various back end systems across the world.

Karen Durant,
European Process Owner for
OTC IO, Xerox

Challenge

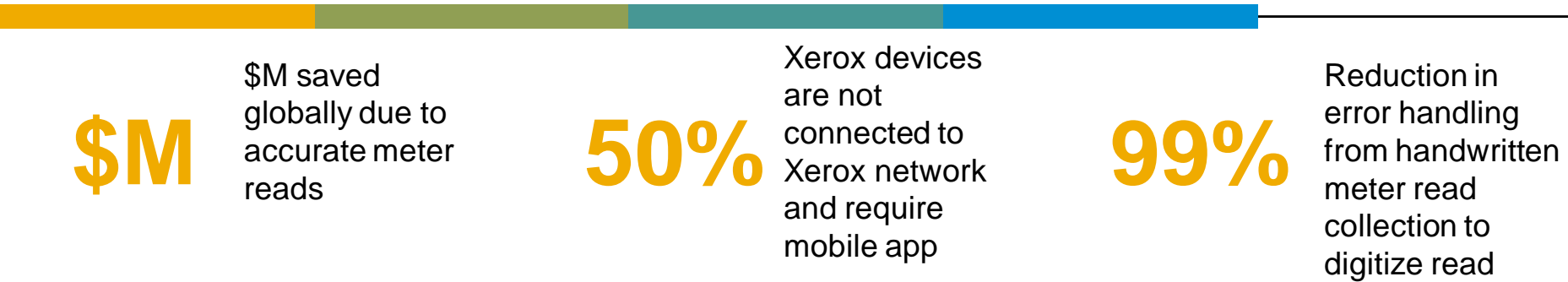
Roughly 50% of Xerox multifunction devices globally are not connected to Xerox’s network for automated meter reads for pay-for-use services. The meter reads are done manually and entered manually which is error prone and does not provide an audit trail for Xerox.

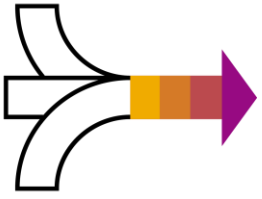
Solution

Xerox and SAP Cloud Platform Intelligent Services developed a mobile smart phone application that reads meter data from the multifunctional devices, takes an image of the device meter and uploads the data and image to Xerox’s backend billing system on SAP Cloud Platform to process. This data feeds back to Xerox’s SAP HANA Cloud database and is then consumed by SAP and third party on-premises environments for billing. The image is also used for on-screen validation and in case of dispute.

Outcome

The image-based meter reads provide accurate transactional data to Xerox’s billing system, provide an audit trail and increase customer satisfaction with the Xerox pay-for-use service. It also dramatically reduces the pay-for-use processing time and improves cash flow for Xerox.





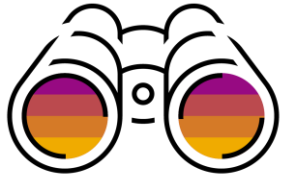
Business Challenges and Objectives

50% of Xerox's European multifunction devices (or about 400K devices) are not connected to Xerox's pay-for-use billing network. The meter information is read and entered manually, which is an error prone process.

For example, in Italy and Spain, Xerox customers contract students to ride their bikes to their offices to collect and enter the information manually. In addition, defense and banking customers with high security concerns do not want to be connected to the Xerox network to record multifunction device usage. Thus billing was inaccurate and difficult to resolve, as there was no audit trail. Note that some Xerox multifunction devices are \$M in value and operational cost, so fast and accurate data is key for Xerox's business.

SAP Leonardo Innovation Services developed a mobile smart phone image recognition application based on Xerox specifications that can scan the screens of a multifunctional device and at the same time take photos from the mobile app.

The device meter data is uploaded into the backend solution, residing in SAP Cloud Platform. This data feeds back to Xerox's SAP HANA Cloud database and is consumed by SAP and third-party on-premise environments for billing. The data can be verified and changed by the user if needed based on the image produced by the app before uploading to further ensure accuracy, providing an audit trail and maximizing Xerox's revenue.



Project or Use Case Details

Xerox VP at SAP Sapphire & Architect at SAP TechEd presented solution

In Q3'18 SAP Leonardo Innovation Services held a Design Thinking workshop for Xerox to further explore SAP Cloud Platform possibilities (SAP Cloud Platform went live Q2'18). Four POCs came out of the workshop. The Meter Reading Digitization is the focus of this entry. In Q4'18 the POC logistics were worked out (funding, NDAs, licenses, etc.). By Q1'19 the POC was developed and deployed in Q4'19.

In Q2'19 [Michael Frey](#), VP IT Strategy and Architecture, Xerox presented the solution at SAPPHERE NOW. The solution has also been presented at SAP TechEd Barcelona, SAP MaxAttention Forum London and SAP UKISUG in 2019 by Avinash Rajan, Xerox SAP Architect.

The application is technically live and is due to be fully productive by Q1 2020.

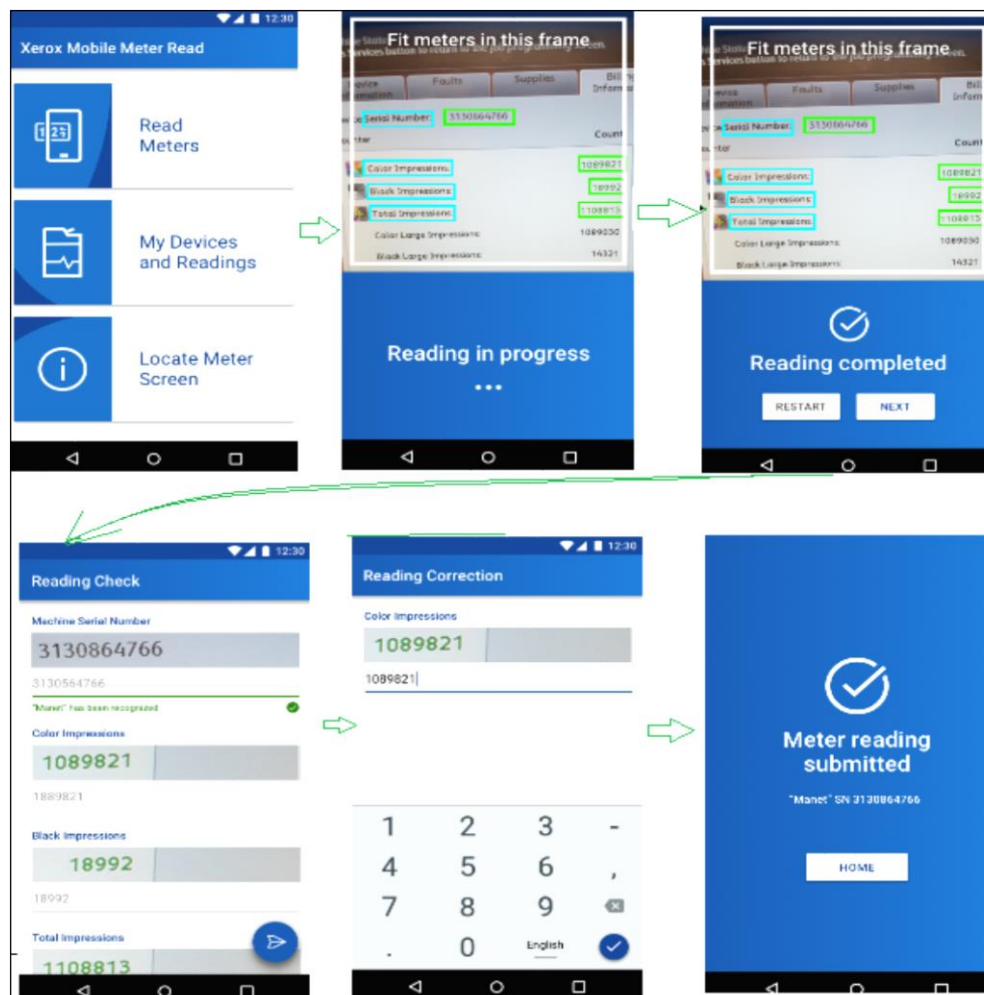
SAP and Xerox co-development:

Xerox and SAP developed the POC to provide meter reading using an app on a smart phone that is now in production. The customer/partner simply opens the app on the smart phone, scans the Xerox device meter, confirms the image is correct and submits the reading. The user can edit the entry before upload as well.

The readings are transmitted to SAP Cloud Platform for processing and subsequently sent to Xerox's data center for on-premise billing systems (hybrid architecture with third party support). Any changes to the data are registered and validated in the backend, by Xerox billing administrators. The cloud-based solution supports a global roll-out to several countries with multiple languages targeting 400K users Q4'2020.



Project or Use Case Details



The **Xerox MeterRead** app is allowing any user to register themselves. This then allows them to send meter readings from multi-functional devices.

This can be done by Xerox meter read agents or customers themselves and will dramatically speed up the process of data collection.

The target group for this are the about 50% multifunctional devices that are not connected to the Internet for automatic meter read sharing, due to technical or security reasons.



Benefits and Outcomes

Business or Social

Several \$M saved in operational cost of manual meter readings

Digital audit trail replaces paper

Increase Xerox working capital through accurate billing

Customer satisfaction is increased with digitized billing

Compatible with future billing systems

IT

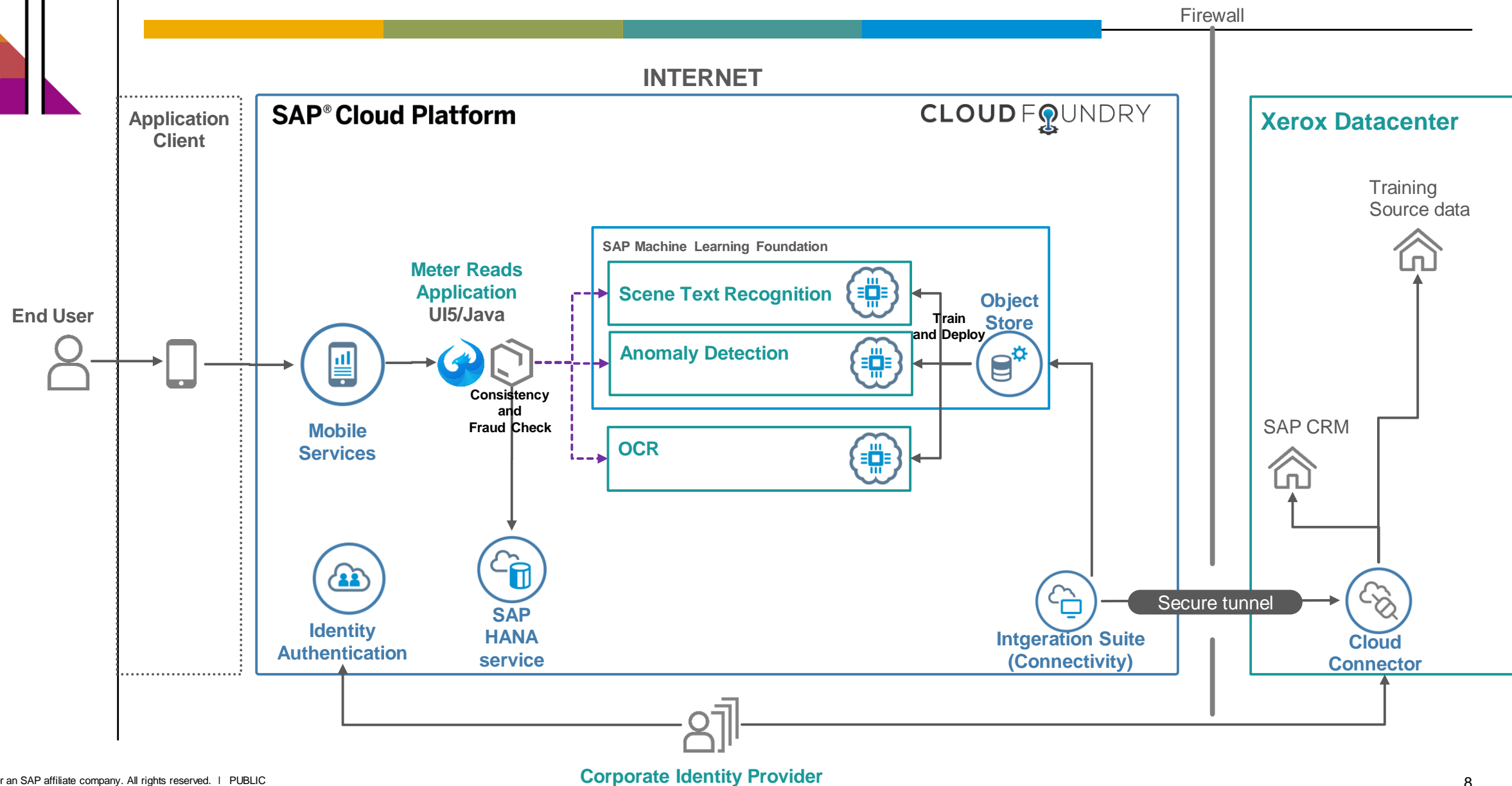
Cloud solution allows for easy solution rollout to 120 countries with multiple languages

Human Empowerment

Call centers support 12 languages, accurate data reduces call center interactions and potential customer challenges



Architecture





Deployment

Deployment status Live

Date 10th December 2019

Number of users ~400,000 by Q4 2020

SAP technologies used:

	SAP product	Deployment status (live or proof of concept [POC])	Contribution to project
1	SAP Cloud Platform	Live	Rich set of platform services enabling a bi-modal architecture.
2	SAP Cloud Platform Mobile Services	Live	Native Mobile Applications digitising meter readings
3	SAP Leonardo Machine Learning Foundation	Live	App uses AI for image recognition
4	SAP HANA Services	Live	Repository to monetize data for meter reads & rich augmented analytics capability. Dashboard that provides heatmap for adoption rates.
5	SAP Cloud Platform Integration Suite	Live	Integration with Datacenter

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



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SAP Model Company



SAP Innovative Business Solutions



SAP Advanced Deployment



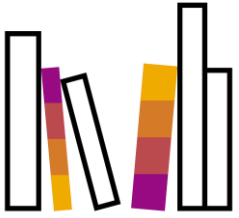
Others:



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	Smart phone sensors
4	Machine learning or AI	Yes	App uses AI for image recognition
5	Conversational AI	No	
6	Robotic process automation	No	In discussion
7	Data anonymization	No	
8	Augmented analytics	Yes	Mobile OCR screen reading and conversion



Additional Information

- Avinash Rajan, Xerox Technical Engineering & Integration Manager, SAP TechEd Barcelona, 2019 Presentation on Three POCs including Meter Reading Collection <https://dam.sap.com/mac/embed/public/pdf/v/gpXLove.htm>
- Meter Read screen shots, next slide