



SAP
Innovation
Awards 2019



SAP Innovation Awards 2019 Entry Pitch Deck

Making Butter in 5 easy steps

Fonterra Cooperative Group

THE BEST RUN





<https://youtu.be/qHnFVm7-fac>

Milk to Butter in 5 easy steps

Fonterra Cooperative Group



“Quote”

FIORI POM application has been a very positive on this site as we have found out there have been less errors made within the order, the operators are finding it a lot easier to use and it is not time consuming as it used to be. The best thing for me is saving time on Inspection when you used to pass/fail, click SELECT ALL, click CLOSE and SAVE. Now you just enter pass/fail and it automatically locks the line as completed.

– Jaron, Shop Floor Controller

Challenge

How do you take something as mundane and cumbersome such as keying in information related to manufacturing butter and cheese into SAP and turn into something simple, efficient and most importantly, likeable?

Solution

Enters Fiori Process Order Management (aka Fiori POM), our friendly wizard to guide our shop floor staff in taking a SAP Process Order from start to finish and if the production runs over their shift, well they just handover to the next person. 0 paper forms involved.

Outcome

Our factories across 3 countries use Fiori POM 24/7 to track, execute and close out process orders. This has been a cornerstone in bringing on our Asian factories onto SAP. There are fewer errors, more on time record keeping, less papers used.... And it also comes in blue!

30% reduction in data entry errors

Data entry time cut in half

Reduction in training costs for new and temporary shop floor staff. Down from learning 6 to 7 transactions to just 1 Fiori App



Business Challenge & Objectives

Fonterra is Cow to Consumer Dairy company. Being in Dairy means we have seasonal fluctuations in the supplied raw material - milk. This means we have the same amount of time to take all the milk turn it into butter and cheese or we risk throwing away precious milk from our farmers. In turn we need more staff during peak seasons. Add in a geographic spread of 3 countries and we have a wide demography of users with varying maturity in process and systems experience.

This presents a two fold challenge:

- How do we produce dairy products such as butter, cheese, cream etc. as efficiently as possible even when the raw material is at its peak without losing it to expiry.
- How do we ensure we consistently produce good quality products irrespective of who is running the machinery.

Our idea was simple

- Free up the human side to focus on the actual manufacture instead of data entry
- Take the human factor out of having to learn and recall the process. Instead let the system guide the human.
- Make the data entry simple and easy in order to motivate timely data entry and event recording.
- The more timely the data capture the more efficient the subsequent supply chain steps and lower the wastage



Project / Use Case Details

Fonterra uses SAP to manage the production process. Standard SAP PI sheets and SAP PP transactions had been in use for a few years. However all of these required time to get used to and constant retraining even for seasoned users. There was nothing to hand hold them through the system. This meant disgruntled shop floor staff, costly errors and time consuming corrections.

At the same time SAP Fiori was getting popular for its UX centric approach. Fonterra combined forces with SAP Innovative Business Solutions. Design Thinking changed the way we approached the problem. Rather than tackle it as a inventory keeping and reconciliation problem, we transformed the process into a system guided process. Fiori was chosen to provide a responsive modern user interface while still running the SAP production process on the existing SAP Business Suite backbone. Thus Fiori app – Fiori Process Order Management (Fiori POM) was born. A cockpit style landing page gave supervisors the ability to oversee all the current production runs at their site. This allowed supervisors to intervene in time in case of errors to avoid costly hiccups. While shop floor staff use the landing page to track how far a production has progressed and to handover to the next person that came in when their shift completed. A wizard based detailed page was employed to guide users through all the applicable steps for a production run.

The solution was developed in true Agile form with incremental delivery of functionality to realize value early and solicit feedback. To track usage and user experience we embedded Google Analytics. Today the Fiori POM App is used by shop floor staff across 3 countries with an average of 2000 page views a day and an average usage time of 2 minutes. The next steps in the pipeline are to create a native App with offline processing capability using SCP Mobility Services.



Project / Use Case Details

The Cockpit

Process Order Management

Help

*Plant

A001 (...)

Process Order Number

Material

PJ1 *

Advanced Search

System Status

Releas...

Resource

*Basic Start Date

20 Nov 2018 - 22 Nov 2018

Go

3 Process Orders

Created 0

Released 0

In Process 3

Error 0

Completed 0

TECO 0

Closed 0

Process Orders (3) | Standard

Search

Responsive Layout

TECO

Hide Header

Process Order Number	Material	Phases	Batch	Plant	Resource	Start Date	Target Quantity	Delivered Quantity	Confirmed Quantity	UI Status
<input type="checkbox"/> 1626212	WSR SOFT BLND LIT 12X500G TUB 104802	0030 - Packing Process	1832451200	A001	512	20 Nov 2018	100 CAR	0 CAR	0 CAR	INPROCESS >
<input type="checkbox"/> 1626228	FON BTR SLTD BULK 25KG FRZ 102906	0030 - Packing Process	1832551100	A001	511	21 Nov 2018	100 CAR	0 CAR	0 CAR	INPROCESS >
<input type="checkbox"/> 1626229	BTR SLTD EXP SFG 70173581	0020 - Bulk Butter making process	1832552200	A001	522	21 Nov 2018	1,000.000 KG	1,000.000 KG	1,000.000 KG	INPROCESS >



Project / Use Case Details

The Wizard - yes it really is 5 steps to make Butter!

Process Order Management

Help

70173581 - BTR SLTD EXP SFG

Print Shop Floor Papers

Refresh

Hide Header

Process Order Number :1626229

Phases :0020 - Bulk Butter making process

Plant:A001

Start Date :21 Nov 2018

Target Quantity:1,000.000 KG

Confirmed Quantity :1,000.000 KG

Batch :1832552200

End Date :21 Nov 2018

Status :INPROCESS

Delivered Quantity :1,000.000 KG

1 Batch

2 Goods Issue

3 Inspection

4 Confirmation

5 Variance & Shift Notes

4. Confirmation

Total Yield : 1,000.000 KG

Total Planned Yield : 1,000.000 KG

+

Yield (1)	Start Execution Date	Finish Execution Date	Confirmation Type	Status
1,000.000 KG	21 Nov 2018, 0:00:00	21 Nov 2018, 0:43:12	Partial	<div>Reverse</div> ✓



Benefits and Outcomes

Business / Social

Employing a wizard to guide the user through the process meant, the need to recall what needs to be done, in which sequence and to figure out what is remaining were all eliminated. The App tells the users what is completed, failed or pending all through intuitive colored icons to draw attention. The App only shows the minimum information required and the minimum input fields and automates data calculation where it can be derived. This has reduced errors by an average of 30%.

IT

Making it pleasing and simple to use is key for customer retention in IT. With Fiori we were able to create a solution that is light weight, works on any device, with the user's preferred browser and comes with personalization options. This is shown in the high number of page views but low time spent on each visit in the Google Analytics data.

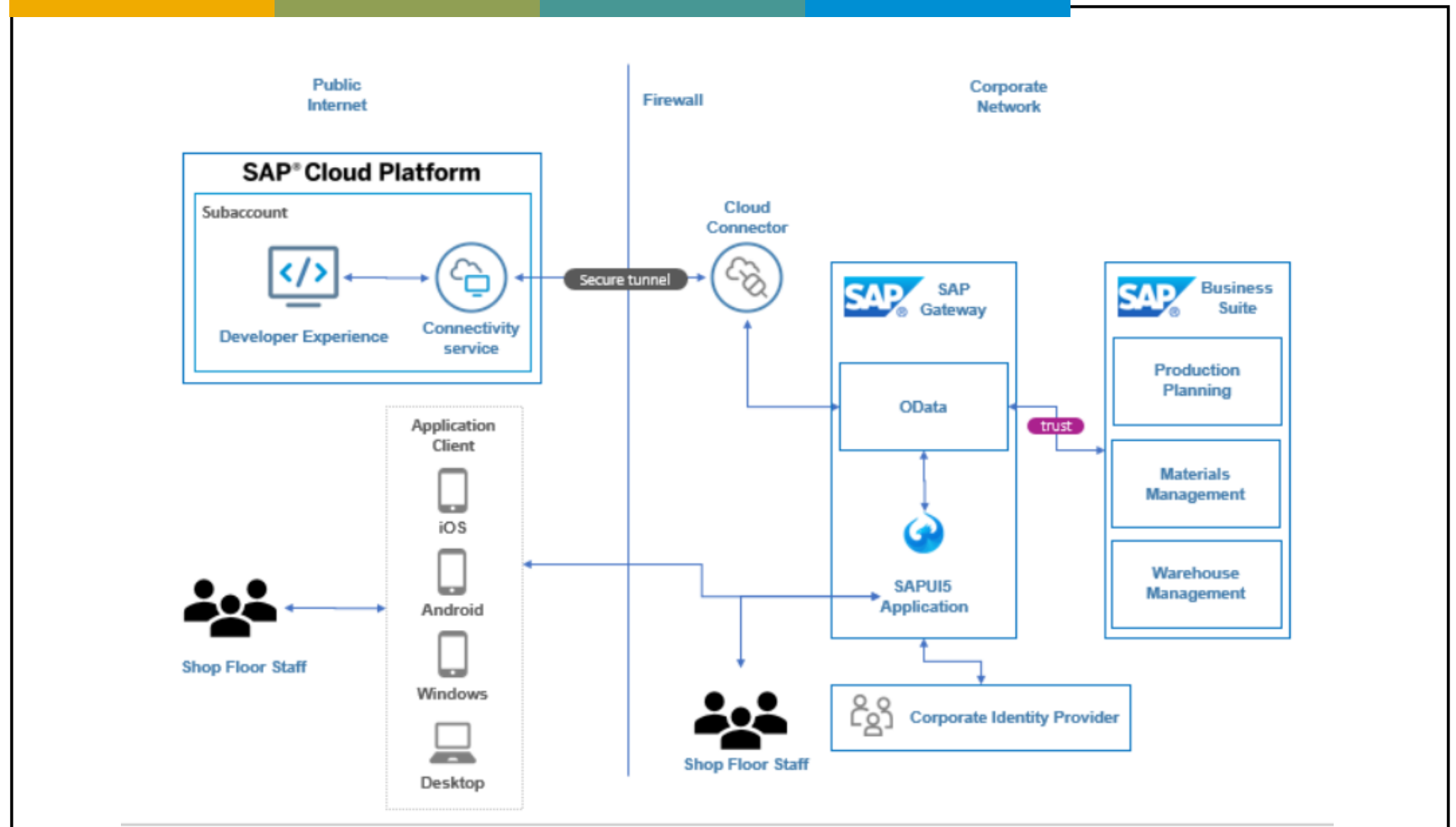
Quote: "The single biggest time saving for me is ***I do 90% less Bulk HU consumption reversal repairs*** the end-user HU Reversal button is my favourite Fiori feature" – Derek, Systems Coordinator

Human Empowerment

The Wizard style system guided approach has meant, no more navigating menus or memorizing transaction codes and having to know what field required to be entered on what screen in which sequence. The instructions are all on screen, subtle but consistent irrespective of who is interacting with the system. This means a new hire can pick up the system skills without having to first understand SAP, terminology and then the process but instead easily correlate what they do on the shop floor with what is seen on screen. This has given them the confidence to focus on their main task, the actual physical production.



Architecture





Deployment

Date of Deployment or POC: Phased Go-live between July 2017 to July 2018

Number of live users: 980

SAP Technologies Used:

SAP Fiori	Live
SAP Business Suite	Live
SAP Cloud Platform	PoC

Server Processor: Intel Xeon

Linux Distribution: Red Hat



Emerging Technologies and Use Cases

The following Emerging Technologies and use-cases are part of the project and describe the contribution

	Technology or Use Case	Yes/No	Contribution to Project
1.	Machine Learning / Artificial Intelligence	No	
2.	IoT	No	
3.	3D printing	No	
4.	Blockchain	No	
5.	API Economy / Integrate the Intelligent Enterprise	No	
6.	Cloud Native / Event Based Architectures	No	
7.	Extending the digital core with SAP CP / ABAP in SAP CP	No	
8.	SAP Leonardo Application (extending SAP application, using Industry Innovation Kits or result of Design Thinking workshop)	No	