



SAP  
Innovation  
Awards 2019



# SAP Innovation Awards 2019 Entry Pitch Deck

Reimagine Financial Closing with Artificial Intelligence

Gazprom Neft

THE BEST RUN





<https://youtu.be/68EkSTcoc8k>





# Reimagine Financial Closing with Artificial Intelligence

## Gazprom нефт



### “Quote”

*“Accurate prediction of PL figures based on actual transactional data is one of the key outcomes and insights that finance function can provide to Business that creates real business value”*

Olga Makretskaya, CA

### Challenge

The ability to make quick business decisions is a critical factor in an unstable environment: oil prices, exchange rates and other quick changes in economical environment. Existing forecasting methods (such as “what if analysis”) usually not take into account a wide range of internal and external factors and as a result can provide the business with very limited /inacurate predictions that are not enough to support decision in the innovation economics

### Solution

Create new data modeling process that ensures that all internal / external factors will be considered by (a) combining data from SAP ERP, financial consolidation system (BPC) and other data sources into one data model based on SAP HANA and (b) using SAP Predictive Analytics Machine Learning algorithms to obtain accurate results

### Outcome

The use of machine learning methods allows you to predict the result of the company for 15-10-5 days before the end of the period. To build an accurate model, you need the most detailed data for the longest possible period. The level of forecasting is determined experimentally based on the maximum model accuracy. Revenue - Oil products - MAPE 6,77%, Interest payable - MAPE 1.31%, Interest receivable - MAPE 2.93%.

Overall monthly closing process – 25% faster

Overall prediction accuracy – less then 5% of deviations

Earlier information for management decisions



## Business Challenge & Objectives

- In today's constantly changing business environment the ability to quickly respond to change is a critical success factor.
  - The current closure processes at Gazprom Neft assume the receipt of financial indicators only on the 6th day after all books are closed. However, for timely response and management decision making, the final financial information is needed as soon as possible.
  - In addition, the current closure processes use only actual data from transactions without taking into account other factors and dependencies (predictors).
  - Receiving financial indicators for 5-10-15 days before the closure of the period will allow our company to imagine our future and possibly adjust the action plan.
- 
- The objectives of the project were to use current data, methodology and expert knowledge to predict financial performance before the actual closure of the period.
  - To arm the CFO with this power tools so that he can correct the movement of our company and make the right management decisions.
  - Technological capabilities of the SAP HANA platform and SAP Predictive Analytics capabilities were used as a solution.
  - The machine learning model was trained on a five-year amount of data. The last quarter was used as a control sample.



## Project / Use Case Details

- Predictive closure models require up-to-date reliable information about intra-month operations performed prior to the time the forecast was built.
- This information is already accumulated in Gazprom neft in SAP ERP. It now accumulates for auditors and analysis. Modern technologies allow it to be used to predict future indicators.
- Reducing the time and cost of closing allows you to monetize this data, increasing the effectiveness of capital investments that have already been made in accounting systems and the SAP reporting system
- Now, together with our auditors and consultants from PwC, we are considering a methodology so that the results of predicted closure can be used and confirmed by auditors.
- Now we spend quite a lot of time on obtaining forecast indicators using traditional models. This work takes considerable time. Using machine learning we will be able to reorient the work of our experts on analytical tasks.
- The use of artificial intelligence in the preparation of forecasts of financial indicators will allow us to look with confidence to the future of our company.



# Benefits and Outcomes

## Business / Social

Monthly closing process for IFRS is established with 25% faster outcome

Management decisions are done earlier and are based on accurate predicted figures (less than 5% of deviations)

Management immediately understands the impact of internal / external changes on the PL and can act accordingly

## IT

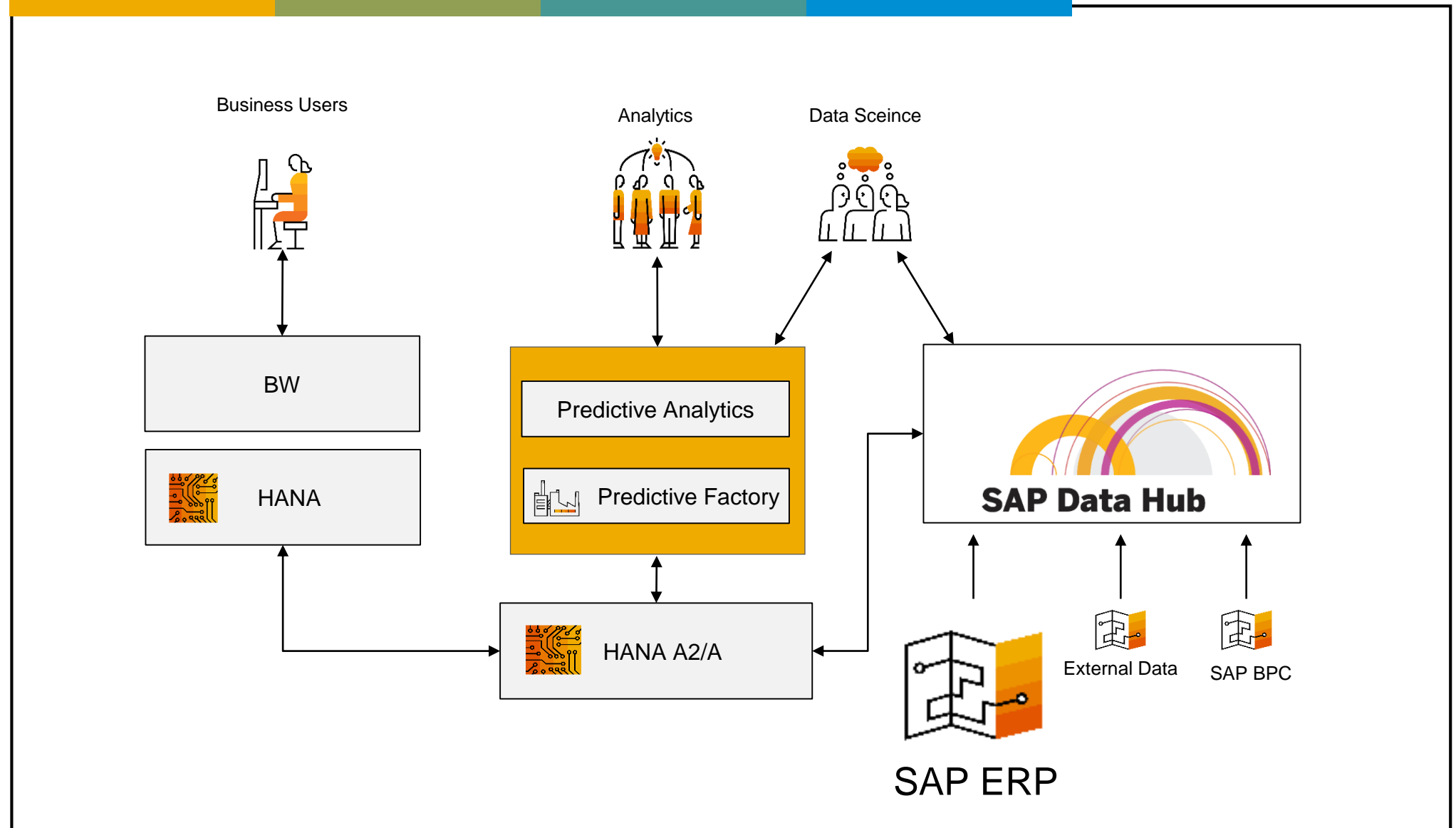
Technology saltation through approbation of key new SAP technologies in finance processes that can be easily applied to operational business having sufficient business effects (e.g. repairs, transportation and etc.)

## Human Empowerment

Development of internal team with proper skill set – both in business and IT



# Architecture





## Deployment

Date of Deployment or POC: 18<sup>th</sup> of October 2019

Number of live users: 7

### SAP Technologies Used:

SAP HANA

Proof of concept

SAP Predictive Analytics

Proof of concept

Server Processor: unknown

Linux Distribution: unknown





# 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	Yes	Artificial Intelligence is a key feature of project. Using of AI gets insight into financial figures before customer closing books
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	