



SAP
Innovation
Awards 2019



SAP Innovation Awards 2019 Entry Pitch Deck

Eskom's Digital Lift-Off

ESKOM Holdings SOC Ltd

THE BEST RUN





Company Overview

ESKOM Holdings SOC Ltd Eskom's Digital Lift-Off



Powering your world

Eskom is a South African electricity public utility, established in 1923 as the Electricity Supply Commission (ESCOM). They are the largest producer of electricity in Africa, and among the top seven utilities in the world in terms of generation capacity and among the top nine in terms of sales. It is the largest of South Africa's state owned enterprises. The company is divided into Generation, Transmission and Distribution divisions and together Eskom generates approximately 95% of electricity used in South Africa.



Eskom's Digital Lift-Off

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“SAP has had a positive impact on the utility's operations over the past ten years. With SAP's systems in place, we have seen a significant reduction in system outages due to the improvement in our internal processes. Our internal IT ratings have also improved by 15% and we have experienced 10% fewer outages due to the increased levels of accurate real-time data in our systems.”

Sean Maritz, Acting CIO and Divisional Executive at Eskom

Challenge:

Eskom had a highly complex SAP solution landscape, including 29 production and 63 non-production environments, with more than 100 databases and 200 application servers. There was intense demand on IT to automate processes and migrate the infrastructure to cloud services.

Project:

We presented the **SAP HANA Project**. This involved the migration and upgrade of ECC6 to **S/4HANA**, including migration from Oracle to Suite on HANA for all other SAP solutions at Eskom that were not currently available on S/4HANA.

Results:

Eskom experienced dramatic instant results, including faster dialog and customization response times, enhanced reporting capability and flexibility, and improved MRP.



Faster MRP Runs

72 Xs faster
Average MRP runs are

Improved productivity/usability

30 Xs Faster
Avg. customer code response

Streamlined Vendor Management

115 Xs Faster
for required reports



Partner Information

SAP – Max Attention Services Value Assurance Services



“It was impressive to have an SAP Project go-live date brought forward”

“You have a great team in the SAP CoE”

“Your resources have excellent skills”

*MaxAttention Services used; Development of cookbooks, ISR – Innovation Strategy and Roadmap
VIS – Value and Implementation Strategy, MPW – Migration Planning Workshop, MPS – Mandatory
Preparation Steps, PDS – Platform Definition Service, PED = Product Engineer On-Demand, TAI –
Technical Architecture and Infrastructure, BDS – Build Design Support (Functional Support), PE –
Platform Execution, Prototyping – Customer Vendor Integration Strategy

SAP MaxAttention



Business Challenge & Objectives

Eskom's largest challenge was the complexity of their SAP solution landscape (more than 100 databases and 200 application servers for 29 production and 63 non-production environments). Secondly, there was an intense demand on the IT team (aka Group IT) to automate processes, improve performance, and deliver faster solutions.

To solve these challenges, Eskom ran an **SAP HANA** project that included **SAP Suite on Hana (SoH)** and **S/4HANA** implementations. The intention was to leverage S/4HANA's most advanced in-memory platform and the latest modern user interface to enrich all Eskom business processes deployed through SAP.

The **Project Objectives** were to deploy SAP on a **cloud solution**, implement **ARIBA** and **cash management**, improve end-user experience, enable a digital core (for **Leonardo**, **Smart Grid**, etc), and optimize the **overall SAP implementation** at Eskom. The following systems were directly impacted by the project.

- Enablement of digital transformation as per Eskom and Group IT's enhanced digital strategy
- SAP innovations to be focused on HANA.
- Ability to leverage multiple innovations in SAP S/4HANA with a focus on integration of analytic capabilities into transactions.
- Finance, Logistics, and Plant Maintenance; reduce transaction response times, faster analytics and utilize the SAP Cloud Portal (FIORI) interface in the future



Project / Use Case Details

Establish a **SAP HANA Infrastructure Platform** to run the database and applications (server, storage, network, backup recovery, installation of the operating system, and installation of the SAP HANA software and configuration as per spec).

It is required that **SAP SoH and S/4HANA** be implemented as it is the next-generation business suite and SAP AG's replacement for R/3. It is a new product fully built on the most advanced in-memory platform available today – **SAP HANA**. Modern design principles with the SAP Cloud Portal (Fiori) user experience (UX) have been made available on this platform. SAP S/4HANA delivers massive simplification (customer adoption, data model, user experience, decision making, business processes, and models) and innovations (Internet of Things, Big Data, business networks, and mobile-first) to help businesses run simple in the digital economy.



Benefits and Outcomes

Business / Social

- ❖ Streamlined Vendor Management
- ❖ Better and Faster Financial General Ledger reporting
- ❖ More efficient Material Requirements Planning improved reporting
- ❖ Improved productivity and usability

IT

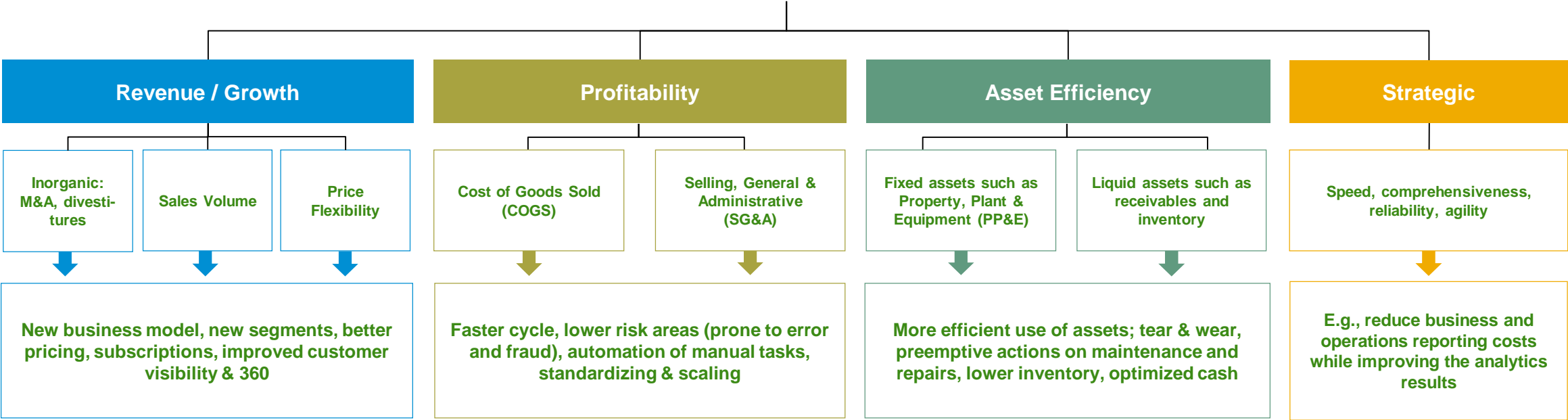
- ❖ Optimized daily reporting for vendor line items
- ❖ Consolidated reports, Expansive selection criterion
- ❖ Faster processing in dialogue from batch processing
- ❖ Wave 1 deployment of 18 SAP Cloud Portal apps (FIORI) across Finance (6), Purchasing (3), Plant Maintenance (6), and IT (3)

Human Empowerment

- ❖ Faster response time enables:
 - Better and faster processing of vendors and general ledger accounts
 - More efficient stock management
- ❖ Multi-form factor approval and support = Increased customer satisfaction

How does S/4HANA add value to Eskom?

Key Value Levers



operational data
for energy price increases via regulators decisions

shorter
customer collection time: critical for the current high debt to payment ration (low free cash flow)

operational foundation
for international growth & expansion

reduced
compliance expense

higher
labor utilization

procurement
savings

faster
invoice processing time

faster
material requirements planning

reduced
capital requirements

lower
Inventory levels

higher
asset uptime and workforce optimization

process
standardization

faster
to close books

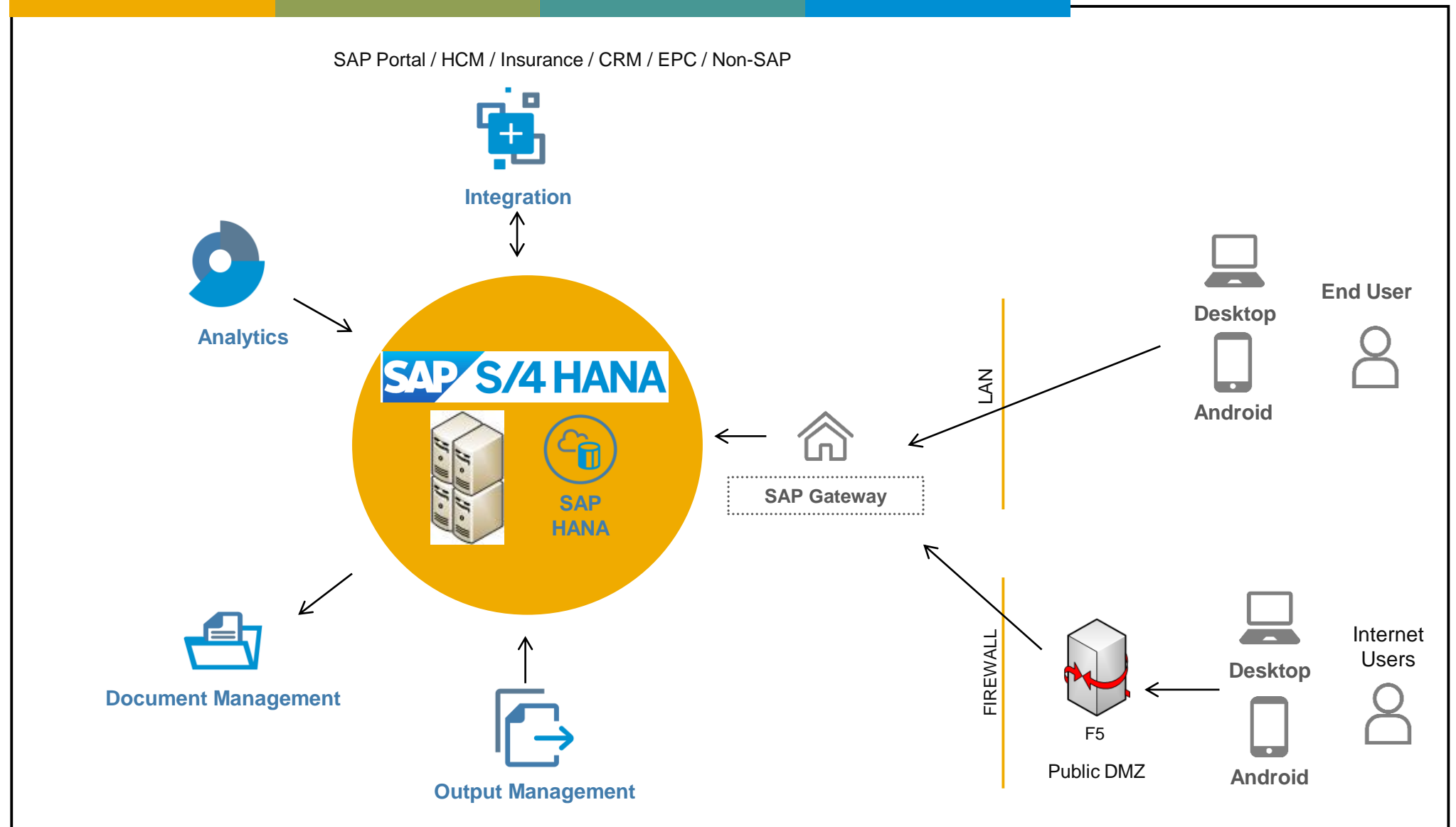
lower
areas prone to errors / fraud

faster
consolidations

saved
on audit costs



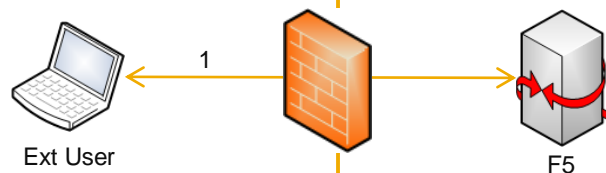
Architecture



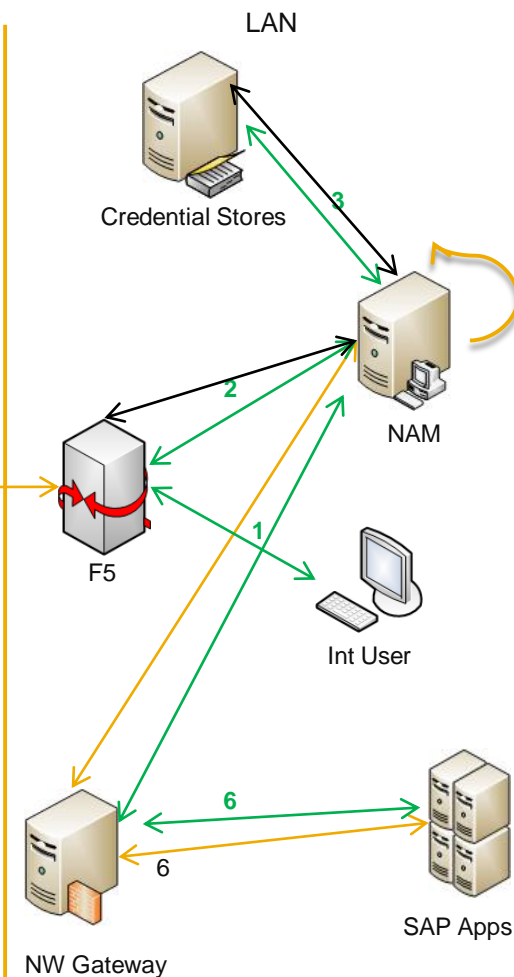


Architecture

- Internet
1. The user's request is sent via F5 DMZ;
 2. F5 DMZ applies WAF rules and directs user to NAM DMZ for credentials;
 3. NAM DMZ validates creds against Credential Store;
 4. Successful AuthN, NAM DMZ issue SAML2.0 assertion;
 5. 302 Redirect send user to NW Gateway;
 6. NW Gateway validates SAML token with NAM DMZ ;
 7. NW Gateway sends user request to SAP Apps.



- Private DMZ
1. The user's request is sent via F5 LAN;
 2. F5 LAN applies WAF rules and directs user to NAM LAN for credentials;
 3. NAM LAN validates creds against Credential Store;
 4. Successful AuthN, NAM LAN issue SAML2.0 assertion;
 5. 302 Redirect send user to NW Gateway;
 6. NW Gateway validates SAML token with NAM LAN;
 7. NW Gateway sends user request to SAP Apps.





Deployment

Date of Deployment or POC: 2018/12/12

Number of live users: 44 000 (including ESS users)

SAP Technologies Used:

SAP S/4HANA	Live
SAP Cloud Portal (FIORI)	Live
BW/4HANA	Live
SAP PPM 6.0 (SoH)	Test
SAP CRM 7.0 EP 4 (SoH)	Live
BPC 10.1 (Optimized)	Cancelled, target BPC11 Embedded

Server Processor: IBM P8, in the process of upgrading

Linux Distribution: SUSE for SAP 11 SP4, business HANA 2 upgrade, target SUSE for SAP12 or higher