

The Future of Finance

Google Cloud for SAP

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01

Google's finance transformation



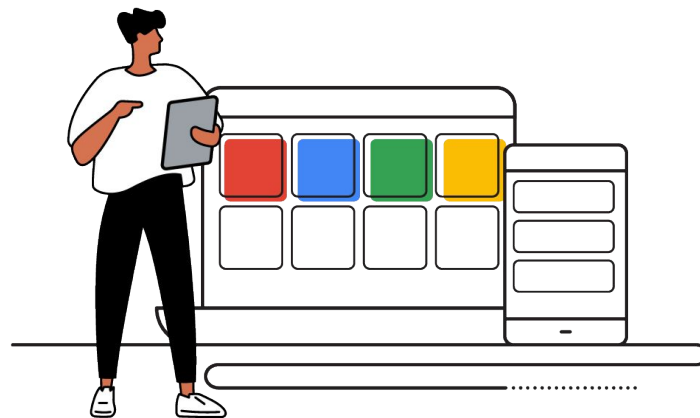
Agenda

01

Alphabet's finance transformation

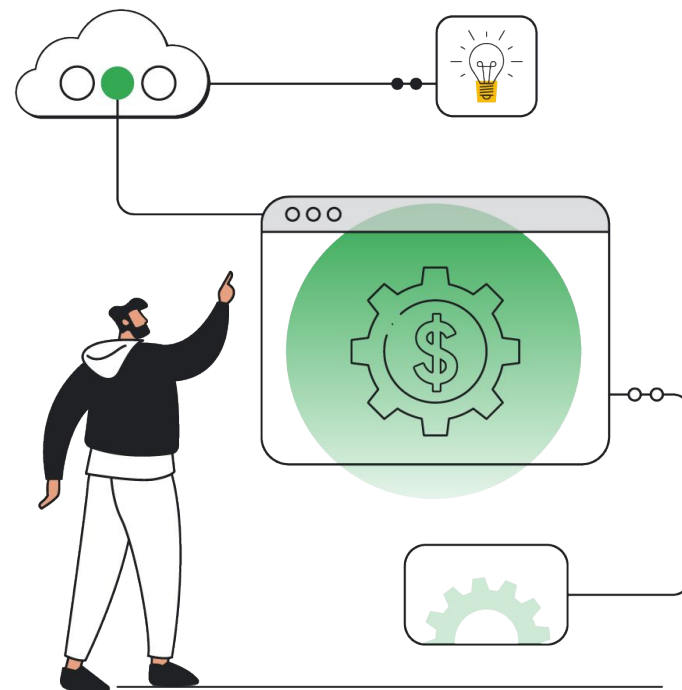
02

Accelerating value on Google Cloud



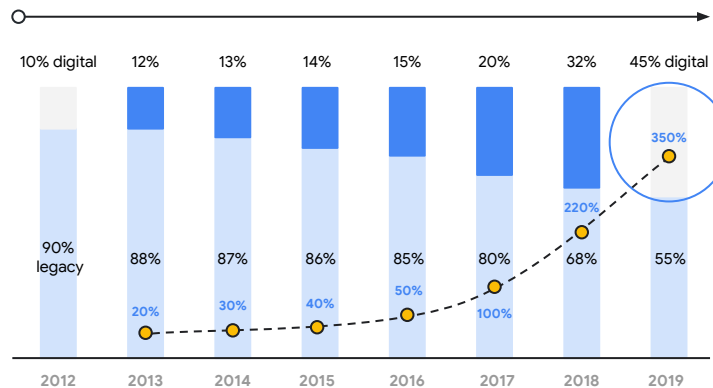
The case for finance transformation

- Efficiency and scale
- Enabling data as a strategic asset
- Security and compliance
- Optimize business process flows
- Technical agility to support new business models
- Reduce infrastructure costs

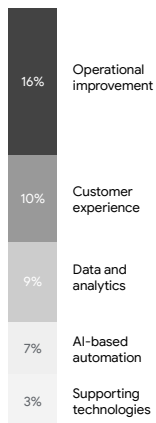


Economic value of cloud: Proven return on investment

Change in legacy vs. digital investments



45%



Cloud-driven savings enables increased investment in higher margin digital technologies

350%

Increase in spending for digital initiatives

39%

Reduction in spending on legacy technology



Cloud capability level

Google's finance transformation

Vision

Enable Finoooglers to deliver their absolute best

Mission

Create the financial infrastructure that supports Alphabet at \$200B+



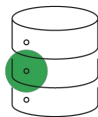
System

Tightly integrated, out-of-the-box, fewer moving parts



Process

End-to-end automation and integration



Data

Single source of truth, granular, accessible



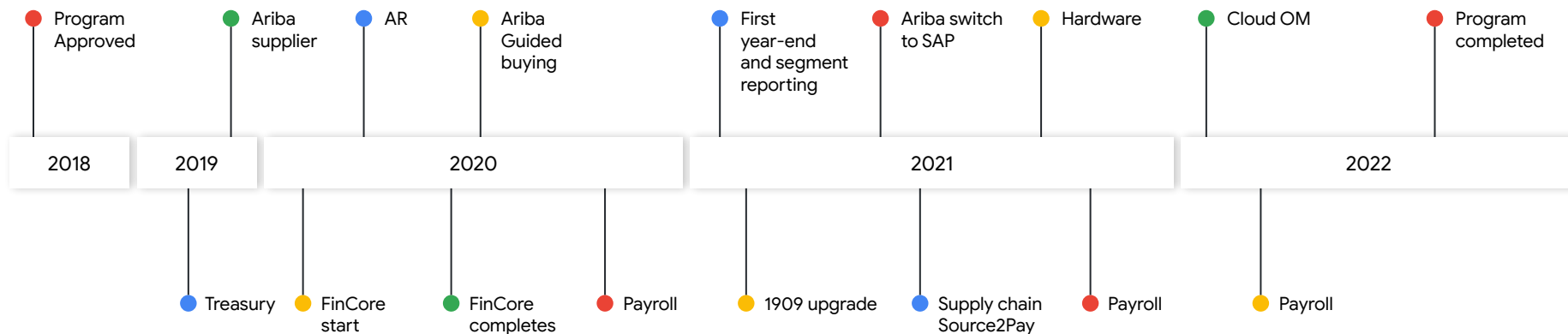
Operating model

Reinvent the way we work

Google finance transformation program summary

A four-year program with three main phases: SAP Treasury, General Ledger (R2) and Subledgers (R3).

Eight program pillars: Treasury, IT Asset Management, Core GL, Subledger, Buying & Procurement, Hardware, Payroll, Order to Cash. More than 15 releases were landed since 2018. Original business cases are on track.



Transformation program scope



Product area

- Waymo
- Verily
- Treasury
- IT Asset Management
- Hardware
- Technical Infrastructure



Finance core

- GL & close
- I/C & consolidation
- Cash accounting
- Tax
- FP&A/Internal reporting
- Stat and international reporting
- Fixed assets and cost / inventory



Source to pay

- Supplier enrollment
- Sourcing to contracts
- Procure to order
- Invoice to pay



Int'l payroll

- In-source payroll for 18 countries
- Automate payments and accounting functions

Horizontal workstreams

Change Management, Business Controls, Technology, Security, Data & Reporting, International Operations

Business outcomes



Process Standardization

Assets & Inventory, FP&A, Cash Management, Financial Operations, General Ledger, Intercompany, International Controllership, Tax, Accounts Payable, Procurement, T&E, Master Data, Consolidation, etc.



Effort reduction

- Reduced scope for business process outsourcing (BPO)
- Reduced number of manual steps and efforts for data extraction and manipulation
- Reduced number of boundary systems



Improvement

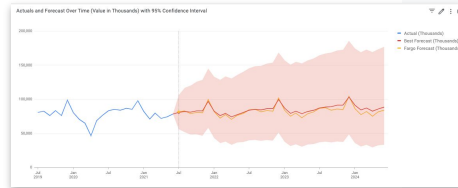
- More granular and accessible data
- End-user satisfaction
- Productivity
- Tighter system integration

Application of ML and advanced analytics

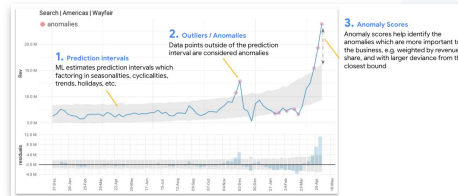
I want to... more efficiently



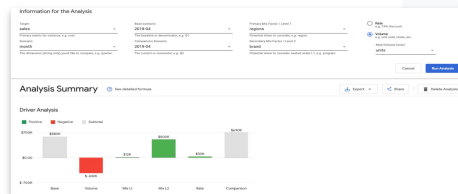
Spot pattern changes



Forecast trends



Understand what drives variances



Custom analysis tools

Controllershship

Credit and collections month-end close

Treasury

AR cash collection

Business vertical

Revenue analytics LTV analysis

Future innovations

- Intelligent reporting (ML-driven insights)
- Process automation (e.g. Spend management)
- Auto Narrative Summary (Robo-advisory)

Google runs SAP

Data and AI/ML at the heart of finance transformation

- Data and Analytics (DnA) teams identify, connect, and animate data with useful analytics to enable informed decisions
- Produce best-in-class strategic solutions across regional/functional boundaries aligned with Finance & Alphabet's long-term vision

Google ML use cases in finance

- **Revenue Forecasting**
Time Series analytics and forecasting for each product line
- **Faster Closing**
Item category (GL) prediction for purchase order (PO)
Auto-suggest line amount monthly distribution for PO
- **Strategic Sourcing**
Help Strategic Sourcing make more informed supplier decisions
Categorize invoices into supplier spend taxonomy
- **Risk**
PO risk profile for accounting operations
Employees corporate credit card limit management
- **Dispute Classification and Optimization**



The best thing I can do is give business leaders accurate data. It's really about the data”

Ruth Porat
Alphabet/Google CFO

Google ML use cases in finance

Revenue Forecasting

- Time Series analytics and forecasting for each product line

Faster Closing

- Item category (GL) prediction for purchase order (PO)
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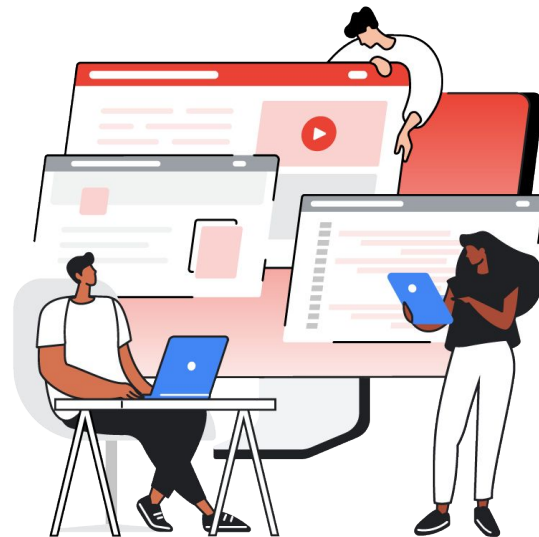
Strategic Sourcing

- Help Strategic Sourcing make more informed supplier decisions
- Categorize invoices into supplier spend taxonomy

Risk

- PO risk profile for accounting operations
- Employees corporate credit card limit management

Dispute Classification and Optimization



Google's SAP landscape

■ SAP solutions

■ Google Cloud solutions

■ Third-party SaaS solutions

Applications:

SAP S/4 - Finance, TI, DS S/4HANA and Fiori	Vertex Tax Validation	OpenText VIM Invoice Reconciliation	SAP BW4/HANA & BOBJ BI Reporting and analytics
SAP MDG Master Data Management	SAP Hybris Commerce platform	Corp Asset Management S/4HANA and Fiori	SAP BPC on BW4/HANA Planning and consolidations

Shared services:

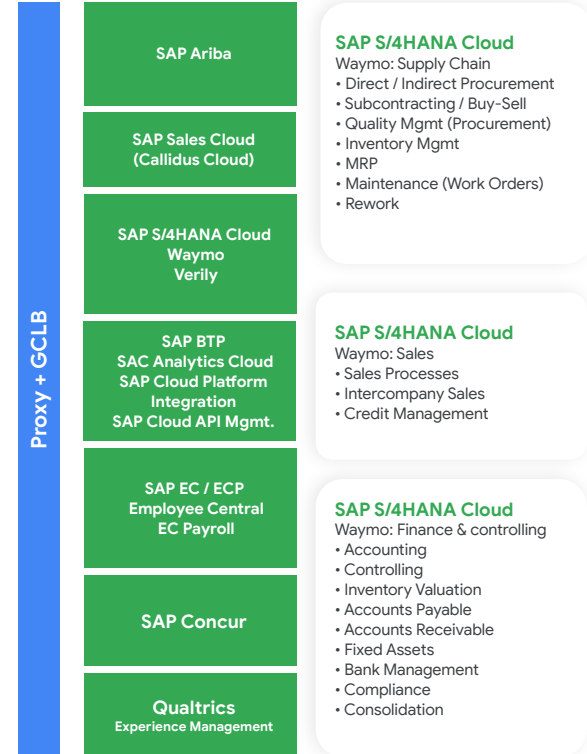
SAP Gateway OData API Gateway	SAP IDM Identity management
WorkSoft Test automation	SAP GRC Governance, risk, and compliance
SAP Cloud Connector Cloud and on-premise connector	SAP Solution Manager Application management
SAP Web Dispatcher http(s) request handler	SAP PaPM, BOBJ, AO, BPC Allocations and Reporting
SAP Router Support connection	SAP LaMa Landscape management
	Redwood Job Scheduler

Integration services:

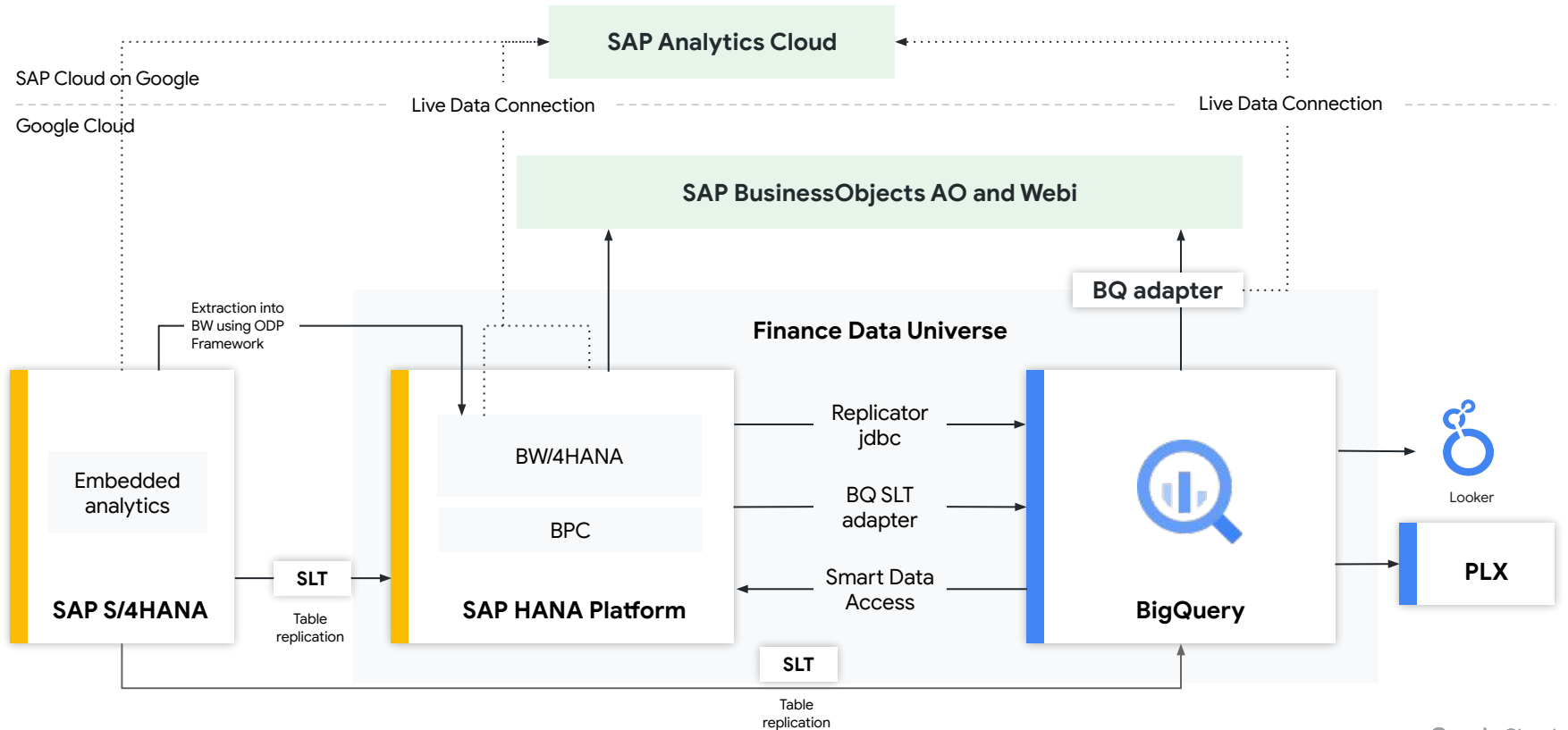
SAP PI/PO Process orchestration
SAP SLT Replication services
SAP SDI Smart data integration
SAP BOBJ DS Data services (Data integration)
Aris Process management
EPI-USE Data refresh

GCP Services:

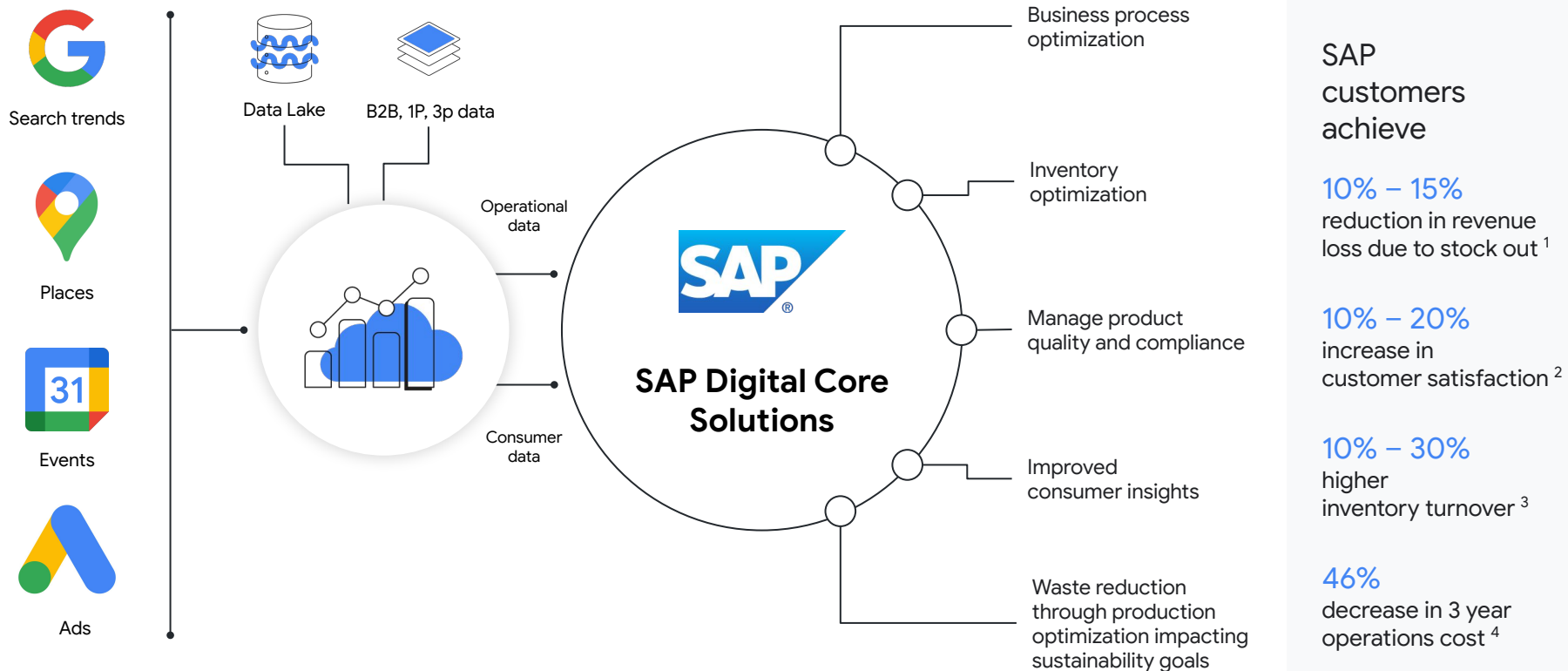
App Engine Application hosting service
Google Cloud Storage Storage services
Cloud Pub/Sub Messaging infrastructure
BigQuery Cloud data warehouse
Cloud API Translation API
VDI, Cloudtop Thick client



Reference architecture: BI



Google and SAP: Better together



Accelerating value on Google Cloud

Google Cloud for SAP

Differentiated technology pillars



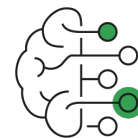
Modern infrastructure

Reduce risk, complexity, and costs



Smart analytics

Accelerate business outcomes



Machine learning extensions

Launchpad for future innovation



Global secure platform

Manage business risk



Global secure platform to manage business risk

Run SAP on the cleanest cloud in the industry



Meet locality needs with our global presence



Leverage leading security for your SAP core



Encryption by default



Manage keys



Bring your own keys

Fully automated management

More customer control

- Google is **carbon neutral** today
- GCP is **2X more efficient** than a typical DC
- Our goal is **24/7 carbon-free** by 2030

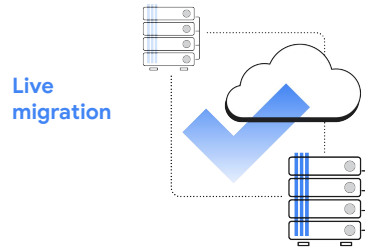
- Available in **200+ countries and territories**
- Google has **29 regions** today + **10 announced**
- Regions meet **rigorous compliance** standards

- **Secure-by-design** global network infrastructure
- **Encryption by default**, at rest and in transit
- Data privacy via **Enterprise Privacy Commitments**

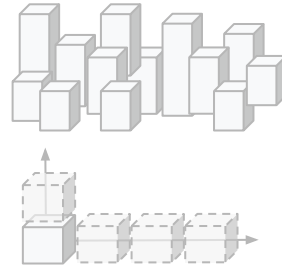


Modern infrastructure to scale without complexity

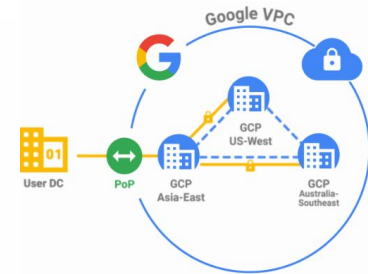
Realize higher uptime for SAP



Scale SAP at the speed of business



Optimize user experience with global control



- **Memory error correction** reduces SAP impact
- **No downtime** for planned maintenance
- **99.99% SLA** guarantees high availability

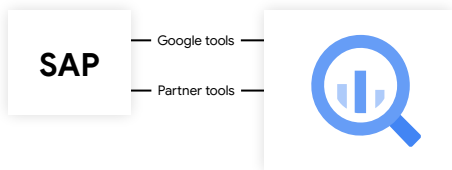
- **Scale-out** up to **48 TB S/4** and **192 TB OLAP**
- Certified **custom VM shapes** for AMD & Intel
- **World record** SAP on Intel **performance benchmark**

- **Lowest network latency** in the industry
- Risk mitigation with a **single global network**
- **Simple and cost-effective** HA/DR architectures



Smart analytics to accelerate outcomes

Integrate SAP for more insights at scale



BigQuery = Differentiated + Proven value
 Industry leading cloud data warehouse Serverless Petabyte scale Open integration Reduced Costs More Revenue Faster Answers

Connect SAP with unique data sets for all teams



200+ curated data solutions



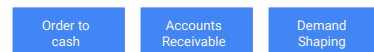
Data exchange platform



Analytics Hub

Extend SAP reporting with built-in advanced analytics

Predefined data analytics content for SAP



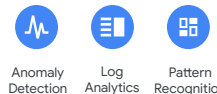
BigQuery ML

```

1 CREATE MODEL my_model
2 OPTIONS
3 (model_type='linear_reg', label='my_target') AS
4 my_table_name
5 ;
6 SELECT
7 count(*) as my_metric

```

30+ data analytics design patterns



● Industry leading & differentiated at scale

● Open integration with **no lock in**

● **Quantifiable value** for SAP enterprises

● Easily access **rich Google datasets**

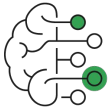
● Combine with SAP data for **new insights**

● **Securely exchange data** with Analytics Hub

● Leverage our **data foundation for SAP** content

● Execute ML with SQL **without moving data**

● Extend with our **analytics reference patterns**

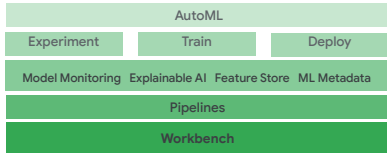


ML extensions to innovate faster

Cutting-edge ML solutions for your SAP data



Vertex AI: One AI Platform, Every ML tool you need



Google Research DeepMind

Quickly extend SAP with plug and play AI/ML solutions

Pre-defined AI APIs

- Sight
- Language
- Conversation



Example: AES Visual Inspection with AutoML Vision

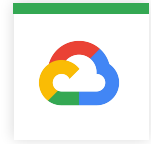


[All AI Solutions](#)

Leverage Google Innovations for AI/ML with SAP



E.g. Translation for local filing and statutory reporting



E.g. Recommendation AI for personalized product recommendations at scale

- Industry leading AI/ML research embedded
- Custom to predefined ML for every skill set
- Consolidated AI/ML platform with Vertex AI

- Best in class pre-trained APIs for fast ML
- Easily infuse ML for vision, video, etc into apps
- AutoML to build tailored ML models in less time

- Get started with horizontal and industry AI solutions
- Leverage Alphabet in-house innovation
- Accelerate with AI solutions for SAP scenarios

Solution accelerators for SAP



Modern Infrastructure accelerators

Reduce risk, complexity, and costs

Migration accelerators and tools for SAP

Deployment automation templates for SAP

Resize VM recommendations



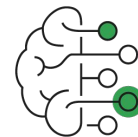
Smart analytics services accelerators

Accelerate business outcomes

BigQuery Integration Patterns

Data Analytics Reference Design Patterns

Plug and play Looker Dashboards



Machine learning extensions accelerators

Launchpad for future innovation

Easy train custom ML models with AutoML

Out of the box perception AI APIs

Ready to deploy AI solutions

Google Cloud Cortex Framework

A scenario-driven approach to accelerate cloud innovation & business outcomes



Reference architectures

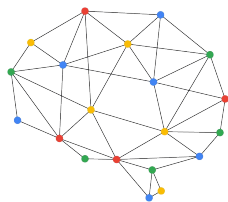


Deployment accelerators



Integration services

Google Cloud Cortex Framework



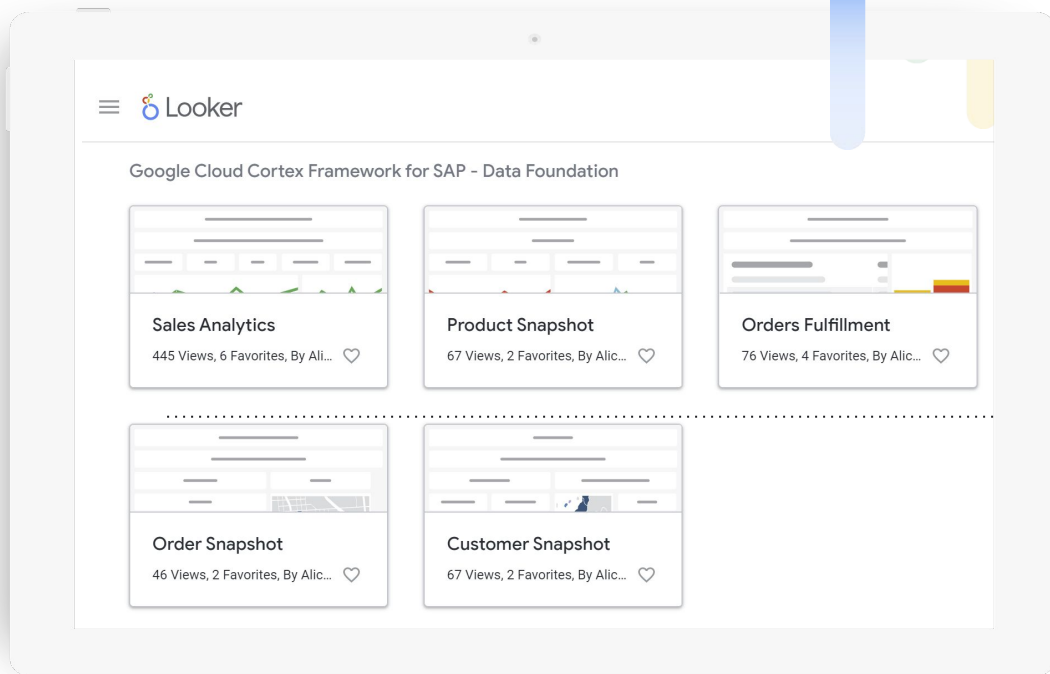
- 1 Reduce risk, complexity, & cost
- 2 Accelerate business outcomes
- 3 Launchpad for innovation

Cortex Data Foundation

- **Predefined data marts** for data modeling in BigQuery
- **Data processing scripts** for change data capture & hierarchies
- **Machine learning templates** for common scenarios with BQML & Vertex AI
- **Plug & play business dashboards** with Looker for supported use cases
- **Data foundation** for LoB and Industry solutions

Operational Analytics

- Quickly get started with SAP data in BigQuery
- Leverage predefined BigQuery models
- Solve for common business analytics



Q&A

