

Knorr-Bremse and Google Strategic **partnership** combining **engineering excellence** and **innovation**

Cloud Services RfP Response
November 30 2020



Your Google Team



Lars Tinapp

Enterprise Account Manager
(returning Jan 2021)



Gabriele Eder

Segment Lead
Manufacturing & Automotive



Verena Schustereder

Customer Engineer Manager /
Bid Manager



Jürgen Schmailzl

Customer Engineer



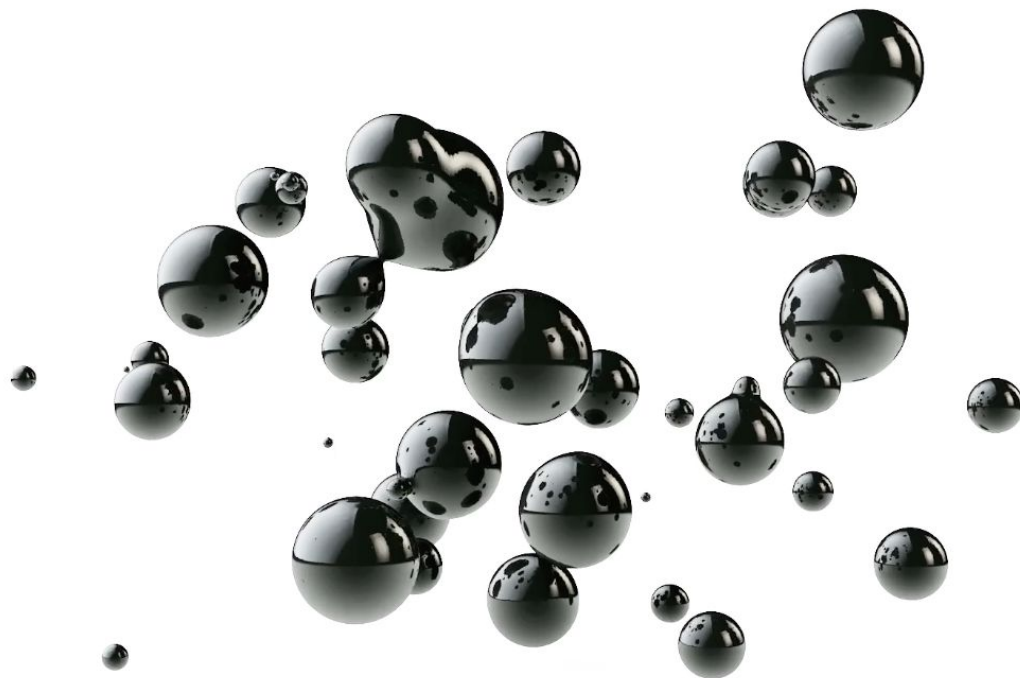
Ghoutam Banerjee

Customer Value Advisor



Tanja Svajda

Cloud Value Analyst



Setting the Scene (from RfP)

1

IT Architecture

Having state-of-the-art in place

Move and consolidate servers to cloud data centers

Replace locally operated services by “as a Service” products/solutions

2

Manage costs

Optimizing costs

Moving to the cloud allows Knorr-Bremse to move IT investment costs to the Google Cloud

A demand-based price model enables Knorr-Bremse to pay only for the workloads used

Google Cloud offers a billing structure to Knorr-Bremse, its subsidiaries, and departments

3

Cloud-native tools

Enabling business

Being cloud-native facilitates to react to changes with scaling up and out flexibly

Adopt new features in the area of big data and machine learning and enhance the impact of the IT division in the production cycle

4

Strategic Partnership

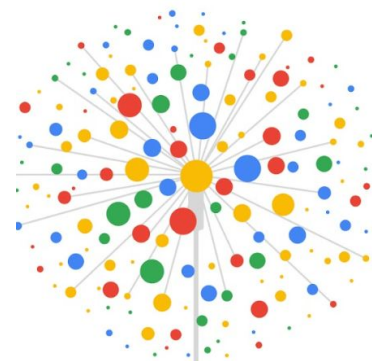
Long-term engagement

Knorr-Bremse is looking for a long-term commitment

Building a solid relationship on IT topics to jointly enable Knorr-Bremse's IT to develop the company's future

Agenda

- Why Google
- Commercials
- Solution highlights
- Migration options
- Partnership
- Summary
- What's next?





THANK YOU

Our Vision & Executive Commitment to Knorr-Bremse

Vision

Driving responsibility - together.

We empower Knorr-Bremse to stay ahead as global thought and market leader by combining your engineering excellence with unique digital capabilities from Google Cloud.

Values

Our guiding principles are commitment to **customer empathy, operational excellence and speed of actions.**

Our executive & leadership sponsors for Knorr-Bremse



Daniel Holz
VP EMEA North



Gabriele Eder
Segment Lead
Manufacturing & Automotive

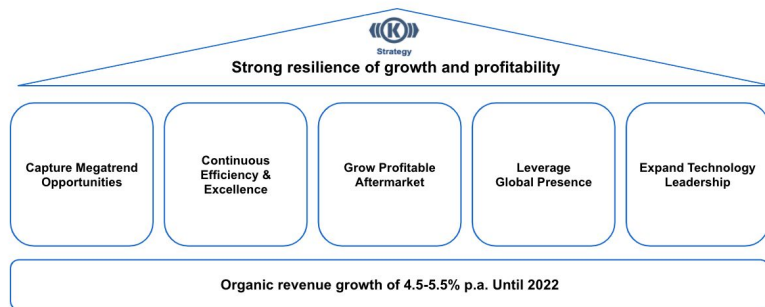


Verena Schustereder
Customer Engineer
Manager

01.

Why Google

Knorr-Bremse's priorities...



"We want to be the global **driving force** behind innovative and sustainable system solutions that make **mobility and freight transportation safer**, more **reliable** and more **efficient**."

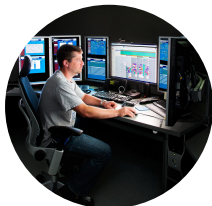
"We ourselves are driven by the desire to **add value for our customers** while also making a **positive contribution to society**."



The SDGs inspire us to use our financial strength and capacity for innovation to tackle financial, social and environmental challenges.

Stefan Bräuherr – Head of Corporate Responsibility

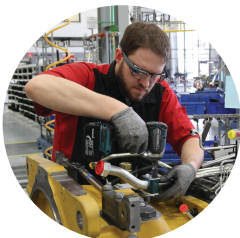
... can be supported with the best of Alphabet for **Knorr-Bremse**



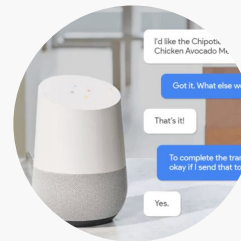
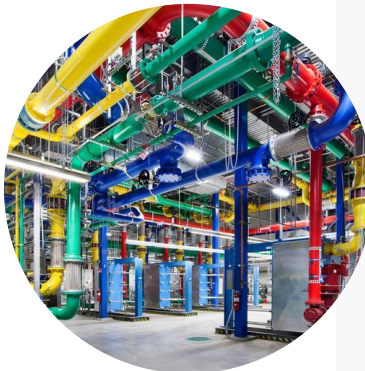
High Performance
Analytics



Collaborative
Workplace



Augmented
Manufacturing



Smart
Assistant



Self Driving
Car

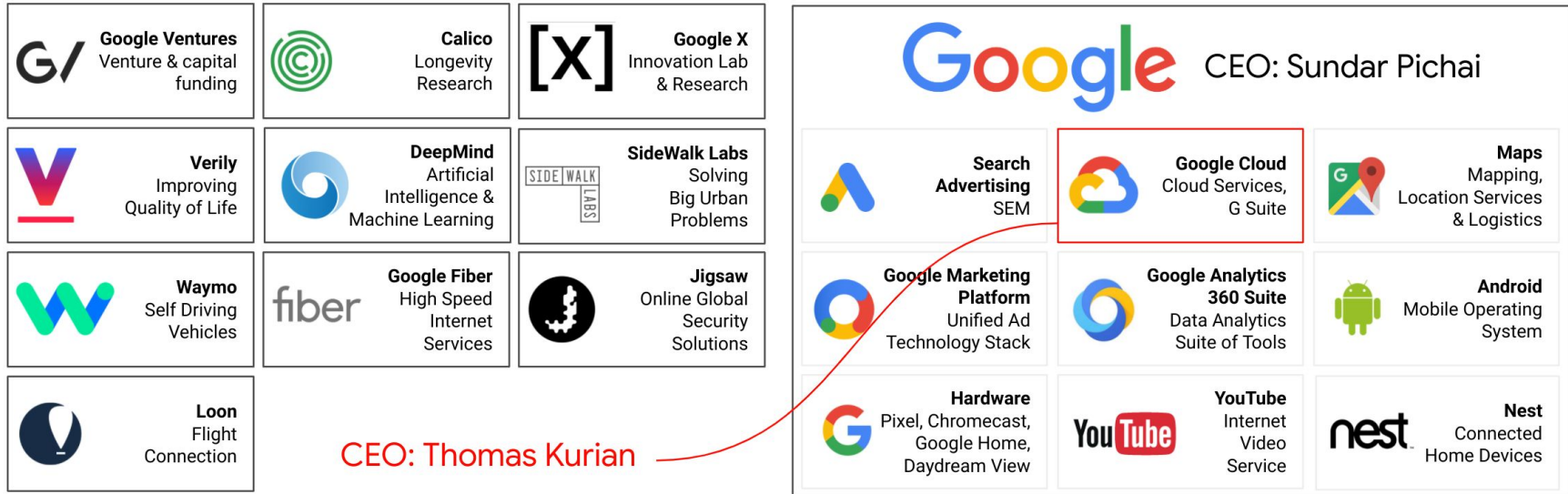


Health
Monitoring

Make it safe and easy for people
and things to move around

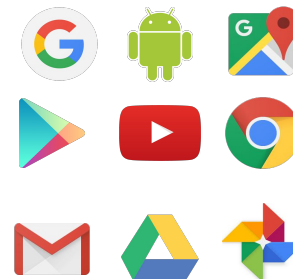
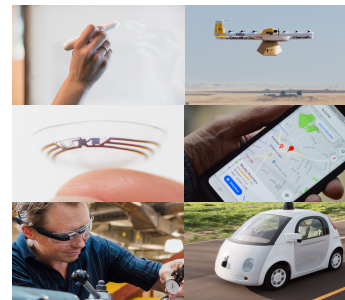
Alphabet > 100k employees

“Parent company of Google and several Google subsidiaries”



Why Google + KNORR-BREMSE

- 1 **Business Value and Innovation:** Combine Google Tech with KB Engineering excellence to untap new revenue potentials
- 2 **Choice & flexibility:** Only pay for what you use, no Vendor Lock-In, use of Open Source
- 3 **Leader in AI/ML:** Advanced embedded AI & ML capabilities from cloud operations to industry solutions
- 4 **Purpose driven:** Sustainability, diversity, equity, inclusion
- 5 **Data Privacy:** Your data is your data, embedded security, GDPR,...



Knorr-Bremse and Rail Vision to test obstacle detection systems for SBB Cargo

Knorr-Bremse Switzerland is to integrate Israeli startup Rail Vision's electro-optic obstacle detection systems into SBB Cargo shunting locomotives for extended prototype testing.





Google Cloud & **privacy**

You own your data,
not Google

Google **never** sells
customer data to third
parties

Google Cloud **does not**
use customer data
for advertising

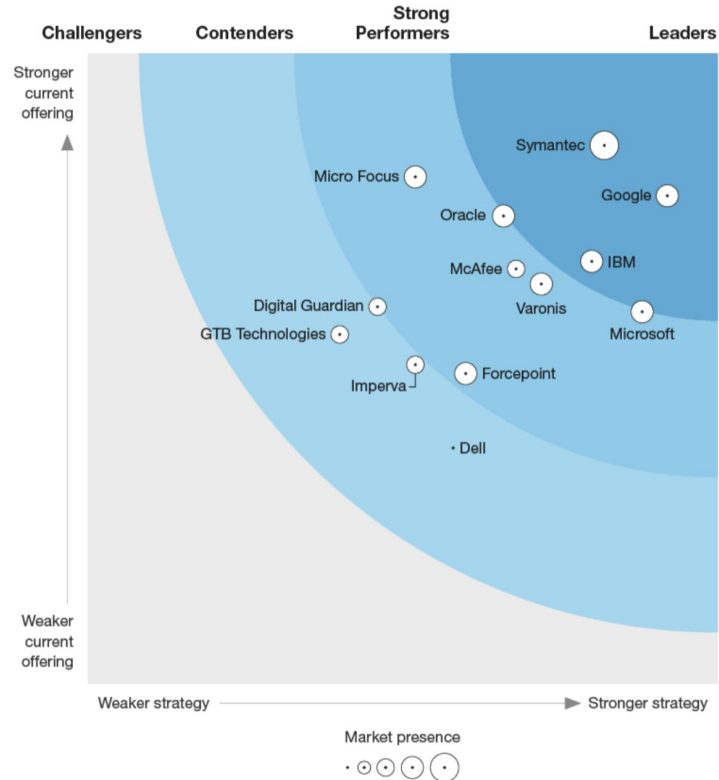
All your data is
encrypted at rest and
in transit by default

We **guard** against
insider access to your
data

We **never** give any
government entity
“backdoor” access

Our privacy practices
are **audited against**
international
standards

Google: a leader in data security



[The Forrester Wave™: Data Security Portfolio Vendors, Q2 2019](#) The Forrester Wave™ is copyrighted by Forrester Research, Inc. Forrester and Forrester Wave™ are trademarks of Forrester Research, Inc. The Forrester Wave™ is a graphical representation of Forrester's call on a market and is plotted using a detailed spreadsheet with exposed scores, weightings, and comments. Forrester does not endorse any vendor, product, or service depicted in the Forrester Wave. Information is based on best available resources. Opinions reflect judgment at the time and are subject to change.

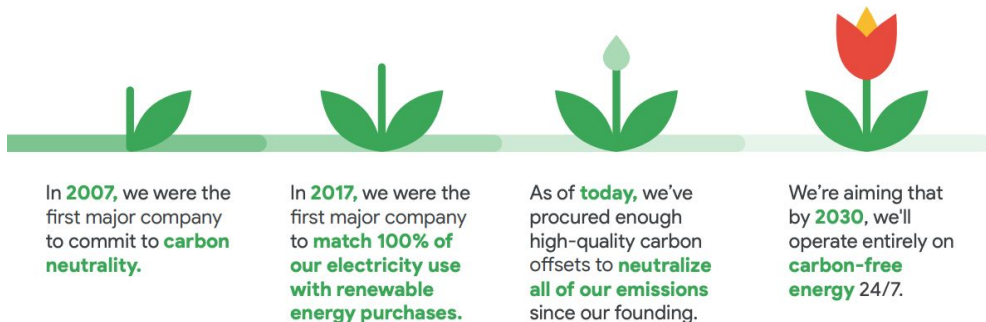


The Cleanest Cloud

Reduce your environmental impact with Google Cloud

Our most ambitious decade of climate action yet.

Google is entering its third decade of climate action with our most ambitious goal yet:
By 2030, we're aiming to operate entirely on 24/7 carbon-free energy.



1. Reduce CO2 emissions 50% from our locations by 2030
2. All locations carbon neutral from 2021

When you choose Google Cloud, you choose...

Less energy

AI algorithms work safely and autonomously to bring a **30% energy savings** to cooling systems in our data centers.

Compared with 5 years ago we're able to deliver **~7X more computing power** with the same amount of electrical power.



Zero net emissions

Google has eliminated all legacy emissions since 1998 and **matched 100% of electricity use with renewable energy** since 2017, including the electricity that powers your workloads.

Carbon free energy by 2030

We're setting the goal that by 2030, we'll run our business, including Google Cloud, on **carbon-free energy everywhere, at all times.**



Tools to reduce your impact

We're developing new tools for you to **track your own IT operations** and reduce your impact.

We're also **building tools and technology to help solve the unique challenges** that customers face in their respective industries.



We've developed the Industrial Adaptive Controls platform in **collaboration with DeepMind**. Now, the same AI technology that helps reduce the energy we use to **cool our data centers by 30%** will be available to customers.


Beyond data centers




02.

Commercials

Pricing options - Hourly-based pricing

- 
- On-demand / 1 year reserved / 3 years reserved
 - Prices are indicated as per hour per item prices (Stückpreis pro Stunde)
 - CUD (Committed Use Discount) is included for 1y or 3y option
 - Microsoft sole-tenant licenses options
 - New options of storage for compute

Pricing options - Commitment-based Deal

- 
- Additional discount and additional credits/incentives
 - Committed and agreed upon Dollar spend per year
 - Basis is a signed Cloud Master Agreement
 - Calculated on a yearly consumption plan basis
 - Roll-over & roll-under clause - “True-Up-Fee”

Consumption plan

Consumption plan, 5 years	Year 1	Year 2	Year 3	Year 4	Year 5
Current consumption	€275,000	€300,000	€300,000	€300,000	€300,000
Project Safety Direct	€458,000	€500,000	€500,000	€500,000	€500,000
Datacenter Elyria U.S.	€447,000	€766,000	€766,000	€766,000	€766,000
SAP BI/BO (HEC)	€350,000	€650,000	€650,000	€650,000	€650,000
Datacenter Munich Germany	-	€6,330,000	€8,632,000	€8,632,000	€8,632,000
Total p.a.	€1,530,000	€8,546,000	€10,848,000	€10,848,000	€10,848,000
	\$1,774,800	\$9,913,360	\$12,583,680	\$12,583,680	\$12,583,680

- Based on 1 year reserved instances assumption
- Ramp-up factors included
- Licensing costs for operating systems of VMs included
- No growth factor calculated
- Consumption plan is based on € prices, Commitment deal is based on \$ prices

Pricing structure

\$25M, 3 years		Year 1
Estimated consumption*		\$1,774,800
Enterprise Discount, 10% (EDP)		-\$177,480
Estimated consumption - Enterprise Discount		\$1,597,320
GCP Credits		-\$1,250,000
Estimated consumption - Enterprise Discount - GCP credits		\$347,320
Premium Support Costs, 4%**		\$70,992
Technical Account Manager		\$300,000
Estimated amount payable		\$718,312
Partner Services Funds (PSF)***		\$300,000

Both the EDP and GCP Credits are credited to Knorr-Bremse by means of a discount of the estimated consumption price.

In addition to estimated consumption costs, the estimated amounts payable also consist of Premium Support Costs (4% of consumed amount p.a.) and a technical account manager.

* Euros (€) consumption outlined in the Consumption Plan above is converted in US-Dollars (\$) with a current (02.11.2020) spot-rate of 1.16 \$/€

** Premium Support costs are 4% of consumed amount p.a.

*** Google will finance Partner effort to migrate workloads into Google Cloud Platform based on the later upon agreed Statement of Work agreed by Knorr-Bremse, its Partners and Google

3 years with a \$25M commitment

\$25 million commitment, 3 years	Year 1	Year 2	Year 3
Estimated consumption*	\$1,774,800	\$9,913,360	\$12,583,680
Enterprise Discount, 10% (EDP)	-\$177,480	-\$991,336	-\$1,258,368
Estimated consumption - Enterprise Discount	\$1,597,320	\$8,922,024	\$11,325,312
GCP Credits	-\$1,250,000	\$0	\$0
Estimated consumption - Enterprise Discount - GCP credits	\$347,320	\$8,922,024	\$11,325,312
Premium Support Costs, 4%**	\$70,992	\$396,534	\$503,347
Technical Account Manager	\$300,000	\$600,000	\$900,000
Estimated amount payable	\$718,312	\$9,918,558	\$12,728,659
<i>Partner Services Funds (PSF)***</i>	<i>\$300,000</i>	<i>\$450,000</i>	<i>\$0</i>

* Euros (€) consumption outlined in the Consumption Plan above is converted in US-Dollars (\$) with a current (02.11.2020) spot-rate of 1.16 \$/€

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5 years with a \$50M commitment

\$50M commitment, 5 years	Year 1	Year 2	Year 3	Year 4	Year 5
Estimated consumption*	\$1,774,800	\$9,913,360	\$12,583,680	\$12,583,680	\$12,583,680
Enterprise Discount, 14% (EDP)	-\$248,472	-\$1,387,870	-\$1,761,715	-\$1,761,715	-\$1,761,715
Estimated consumption - Enterprise Discount	\$1,526,328	\$8,525,490	\$10,821,965	\$10,821,965	\$10,821,965
GCP Credits	-\$1,774,800	\$1,225,200	\$0	\$0	\$0
Estimated consumption - Enterprise Discount - GCP credits	-\$248,472	\$9,750,690	\$10,821,965	\$10,821,965	\$10,821,965
Premium Support Costs, 4%**	\$70,992	\$396,534	\$503,347	\$503,347	\$503,347
Technical Account Manager	\$300,000	\$600,000	\$900,000	\$900,000	\$900,000
Estimated amount payable	\$122,520	\$10,747,224	\$12,225,312	\$12,225,312	\$12,225,312
Partner Services Funds (PSF)***	\$800,000	\$700,000	\$0	\$0	\$0

* Euros (€) consumption outlined in the Consumption Plan above is converted in US-Dollars (\$) with a current (02.11.2020) spot-rate of 1.16 \$/€

** Premium Support costs are 4% of consumed amount p.a.

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NEW: Updates on compute Storage pricing - Elyria

			old Disks	new Disks		
Elyria - Storage Profile	Region	#	per item / hour pay as you go	per item / hour pay as you go	Savings	%
P10	East/ Central / North US	19	0,0281 €	0,0281 €	- €	0,00%
P15	East/ Central / North US	3	0,0562 €	0,0329 €	0,0233 €	41,50%
P20	East/ Central / North US	1	0,1124 €	0,0657 €	0,0466 €	41,49%
P30	East/ Central / North US	1	0,2248 €	0,1315 €	0,0933 €	41,51%
P4	East/ Central / North US	11	0,0070 €	0,0070 €	- €	0,00%
P40	East/ Central / North US	2	0,4496 €	0,2630 €	0,1866 €	41,51%
P6	East/ Central / North US	2	0,0141 €	0,0141 €	- €	0,00%
P80	East/ Central / North US	1	7,1932 €	4,2074 €	2,9859 €	41,51%

NEW: Updates on compute Storage pricing - Elyria

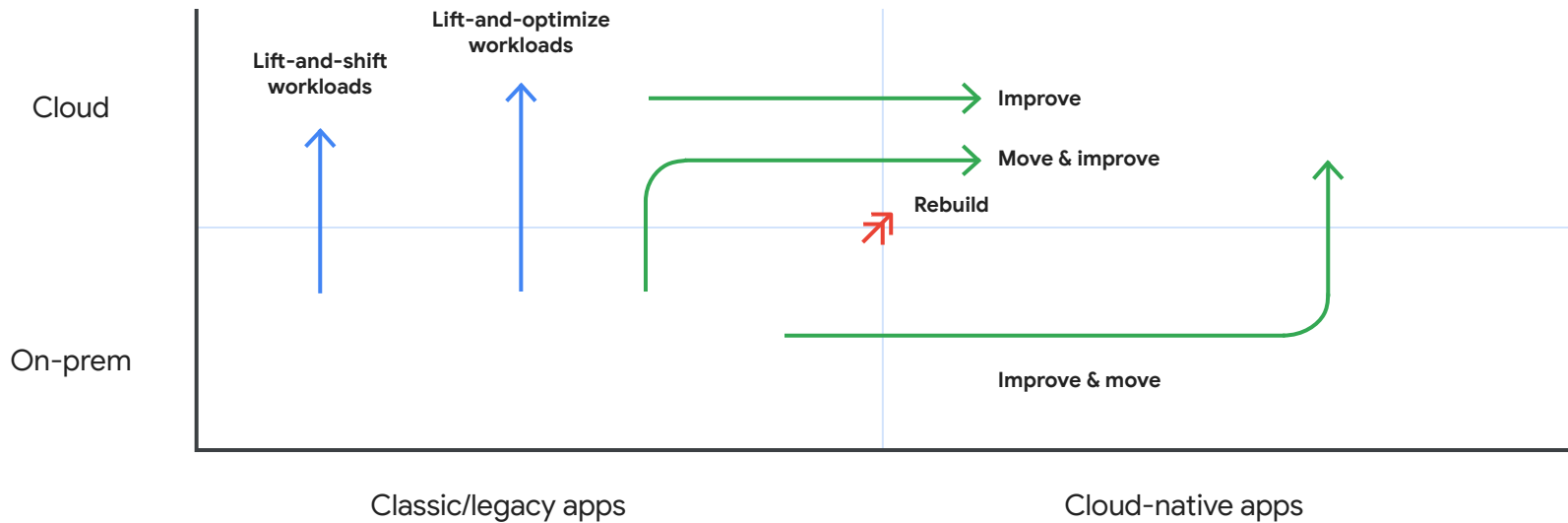
			old Disks	new Disks		
Elyria - Maschine Profile		#	per item / hour pay as you go	per item / hour pay as you go	Savings	%
A4m_v2	East/ Central / North US	2	0,3513 €	0,3472 €	0,0041 €	1,16%
D16_v3	East/ Central / North US	4	1,2404 €	1,1995 €	0,0409 €	3,30%
D2_v3	East/ Central / North US	10	0,1648 €	0,1648 €	- €	0,00%
D3_v2	East/ Central / North US	2	0,3320 €	0,3116 €	0,0204 €	6,16%
D4_v3	East/ Central / North US	5	0,3101 €	0,2999 €	0,0102 €	3,30%
D8_v3	East/ Central / North US	3	0,6202 €	0,5998 €	0,0204 €	3,30%
D8s_v3	East/ Central / North US	4	0,5904 €	0,5839 €	0,0065 €	1,11%
E20_v3	East/ Central / North US	1	1,9818 €	1,9205 €	0,0613 €	3,10%
E4_v3	East/ Central / North US	1	0,3556 €	0,3454 €	0,0102 €	2,87%



03.

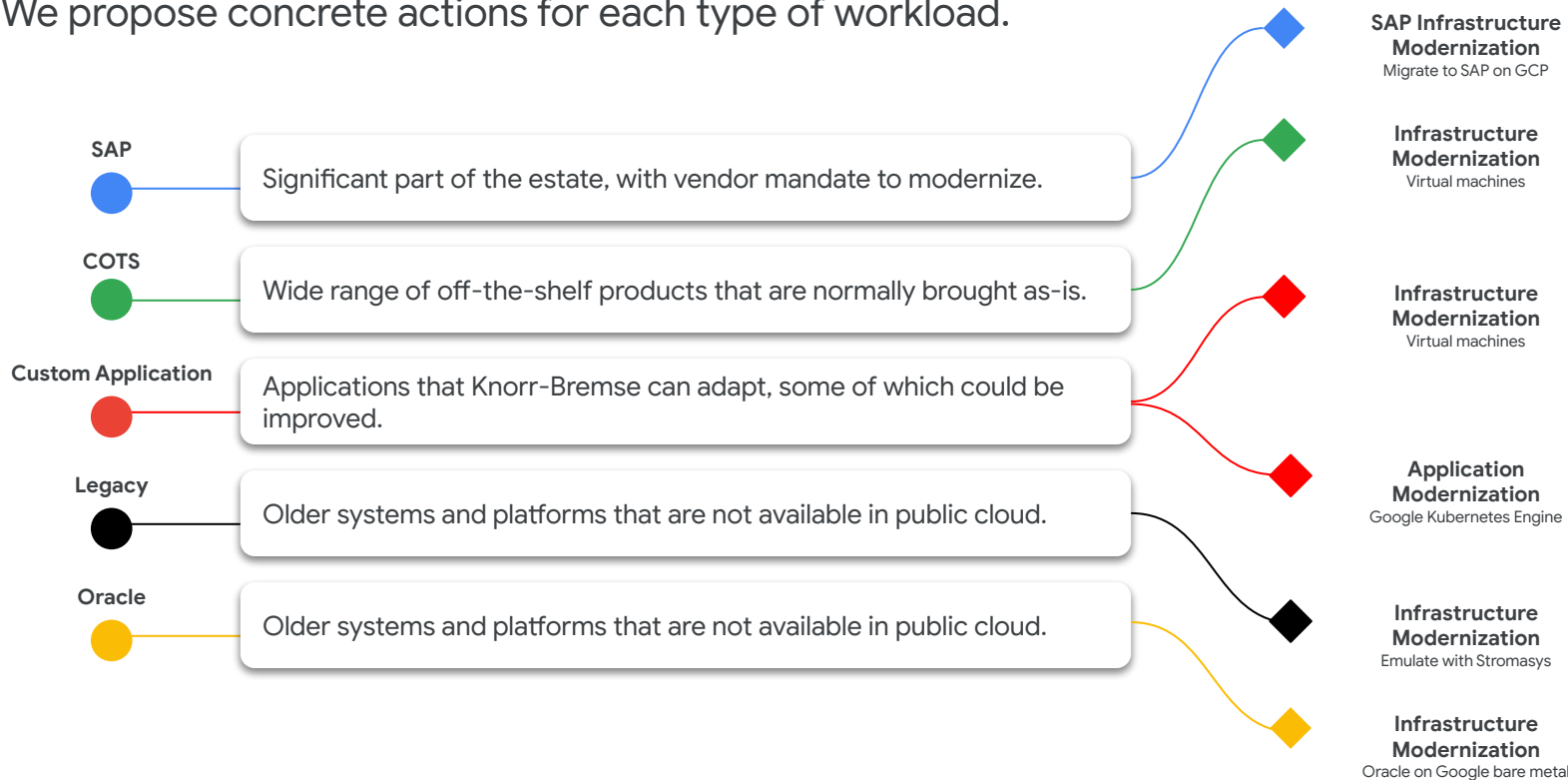
Solution highlights

There are many migration pathways to pick from

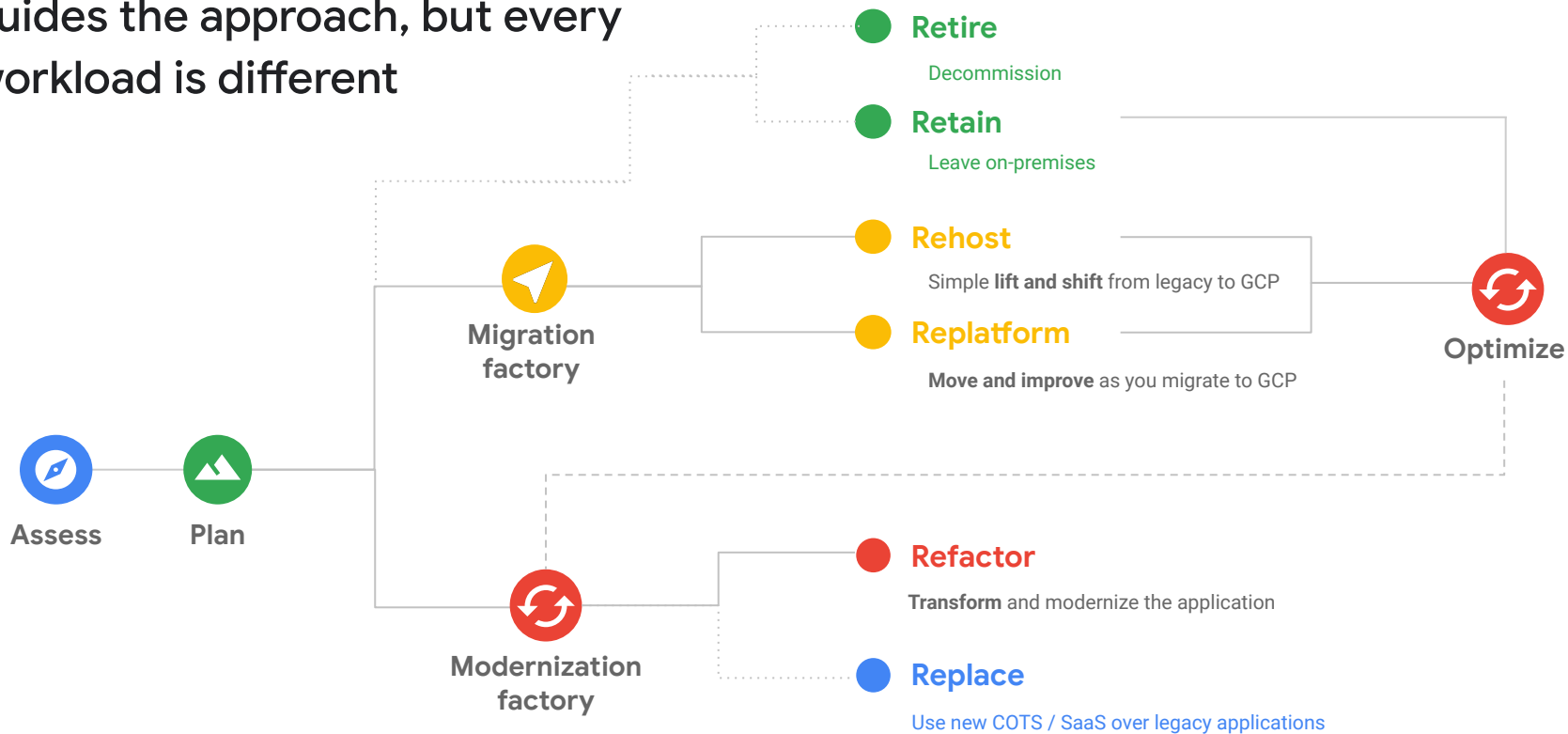


Migration approach

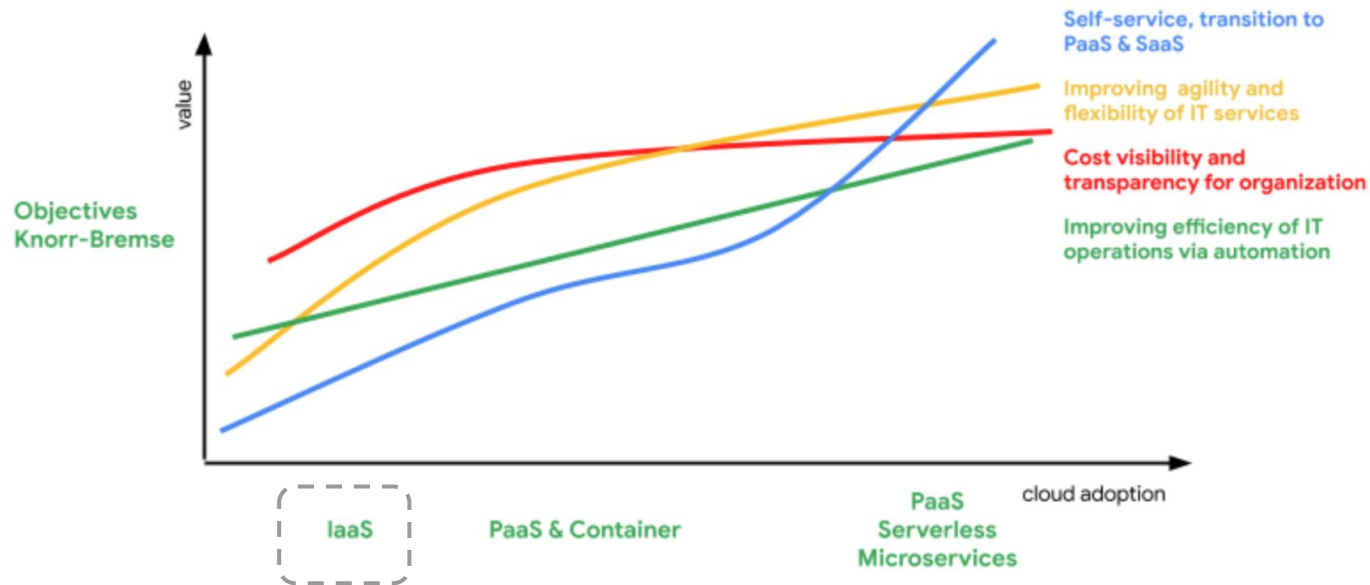
We propose concrete actions for each type of workload.



Your strategy for cloud adoption guides the approach, but every workload is different



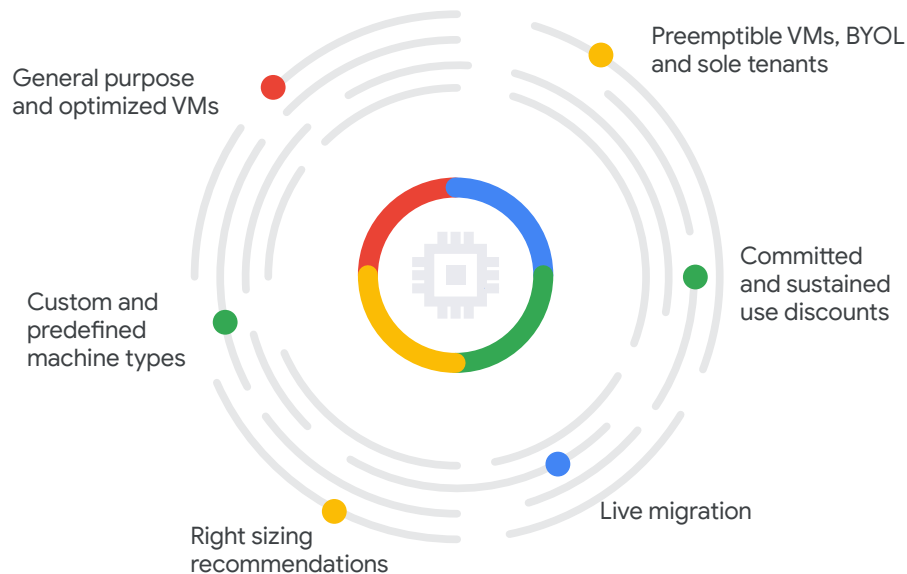
Different paths, one journey




Introducing Compute Engine


Compute Engine lets you create and run virtual machines on Google infrastructure.

Get access to a [variety of predefined and customizable VM families](#) coupled with consumption and pricing models, as well as functionality for [all of your application and workload requirements](#).





Business Trends


Thomas Lee 

June 12, 2020 1 minute read

An SAP Data Center Powered by Google Cloud

SAP and Google Cloud partnership: Our joint cloud journey continues

Published on June 12, 2020



Gary Slater

Senior Vice President, Head of Global Cloud Services & Infrastructure at SAP

1 article [+ Follow](#)

[illegible]

Business Value

- 1. Increased productivity 27%
- 2. Reduced costs 22%
- 3. Improved customer experience 21%
- 4. Increased sales 18%
- 5. Reduced risk 15%

Executive Summary

Our study demonstrates the value of SAP on Google Cloud. The study was conducted by SAP and Google Cloud, and the results show that SAP on Google Cloud can help businesses achieve their business goals. The study was conducted by SAP and Google Cloud, and the results show that SAP on Google Cloud can help businesses achieve their business goals.

- 1. Increased productivity by 27%
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FORRESTER

Business Value of Google Cloud for SAP Environments

EXECUTIVE SUMMARY

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FORRESTER

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FORRESTER

IDC Report

References

 **CardinalHealth**  **McKESSON**






 **KAESER**
COMPRESSORS  **THE HOME**
DEPOT  **Whirlpool**
CORPORATION

 **COLGATE-PALMOLIVE COMPANY**

ORACLE® → SAP HANA

32

SAP on Google Cloud is uniquely differentiated to any other Cloud provider

What Knorr Bremse's SAP Platform needs	 SECURITY	 PERFORMANCE	 RELIABILITY	 FLEXIBILITY	 FUTURE READY
What Google Cloud Platform offers	Global VPCs Encryption By Default	Premium Network Tier Highest SAPs per vCPU VMs	Live Migration Fault Tolerant Infra	Custom Machine Type No Upfront Fees	Integration with Data & ML Services
What Proposed Solution offers	Single VPC across all SAP deployed regions with security across all layers of the architecture without the need for peering allowing for easier operations without compromise.	Powerful instance types, delivering highest SAPs count; best global networking performance with low latency integration	Robust HA/DR with automatic async replication for storage snapshots to multi-region and increased reliability for google compute with >99.99% uptime inclusive of infra maintenance.	Optimized customized compute based on usage and flexibility within commit to reallocate CPU and RAM as needed while retaining committed use discount.	Leverage Google technology Innovations & IP to automate and extend SAP capability

Risks Reduction

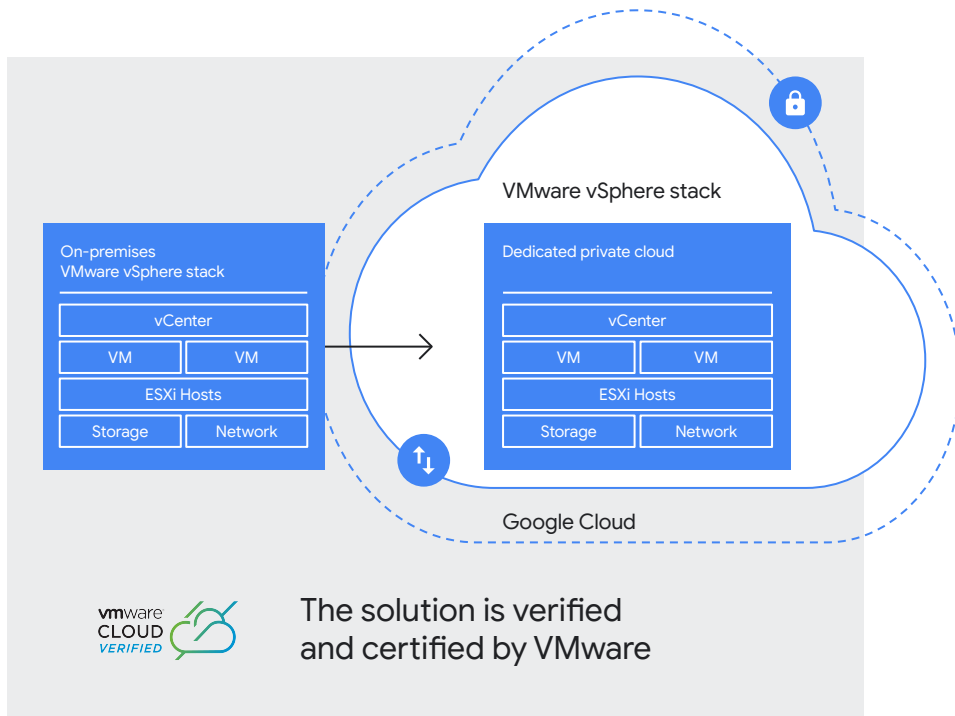
Google VMware-aaS highlights: Your Easy “On Ramp” to the Cloud

Provision your VMware environment in Google Cloud in minutes

Bring your VMware-based environments to Google Cloud
without major modifications

Management, networking services, operating platform
and backend infrastructure run at scale by Google Cloud

Sold and supported by Google



Oracle on Bare Metal Solution

For applications that require an Oracle Database

A set of hardware certified
and optimized to run
the Oracle workload

A fully managed data center,
with enterprise grade
security and reliability



Run old versions of
the Oracle databases,
packaged apps, hypervisor
of your choice

Availability across 9 data
centers, 1 ms away from
GCP

Migration timelines
traditionally between 8
to 10 weeks.

Licensing Models w/ MSFT workloads

Buy from Google
(Pay-as-you-go)*

Bring your own license
(BYOL)



- Google-engineered images
- Pay-per-second licensing

- Must deploy on sole-tenant infrastructure
- Eligibility depends on some conditions (covered in next slides)



- Google-engineered images
- Pay-per-minute licensing

- BYOL-Eligible via License mobility**

Others (SharePoint,
Exchange...)

- Pay-as-you-go licensing and images from partners

- BYOL-Eligible via License mobility**

Scenarios

Spiky workloads / no MS relationship / Keep it simple

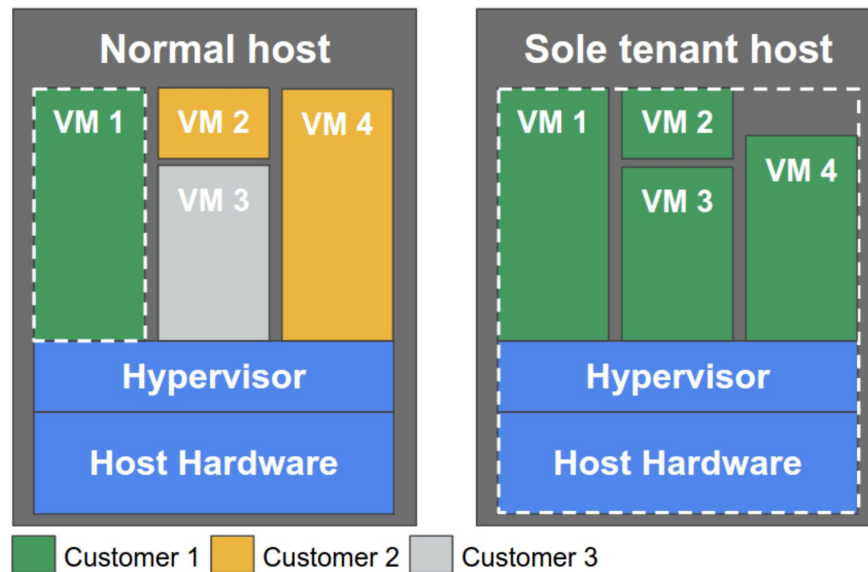
24x7 workloads / existing MS licenses (SA) / Self-mgmt of licenses

*Google is Microsoft SPLA partner

**Google is Authorized Mobility Partner - [Link](#)

Sole Tenant Nodes

- ✓ Dedicated hardware to meet MSFT BYOL requirements.
- ✓ Mix-and-match VMs to consume host resources.
- ✓ Configure host-level autoscaling and CPU Overcommit.
- ✓ Control maintenance windows and maintenance behavior.



Licensing overview

Disclaimer:

Licensing information provided is for general information purposes only. In the BYOL use case, we're presenting information validated by licensing experts in advisory capacity. However, customers own the license with Microsoft and are responsible for compliance.

#1 for virtual machines

Live migration

Eliminate all VM downtime windows for planned infrastructure maintenance on Google Cloud. You should never have to plan around the platform. Free of charge.

Size to exact fit

Choose **VM sizes that fit** your workloads down to the exact number of vCPUs and RAM, making true rightsizing savings a reality.

Global networking

Google Cloud networks are global. Benefit from Google's encrypted backbone with **automatic worldwide connectivity** without additional setup and maintenance.

Managed patching

Manage patch status, reporting, and rollout for all virtual machine in one place. Google Cloud manages **OS patching for both Linux and Windows**.

Strong security

Trust that your software **runs on a secure foundation**, cryptographically verified from the hardware up through every layer of the infrastructure.

Sole tenancy

Bring your own software licenses by reserving hardware tenant nodes for your virtual machines, allowing utilization of existing license assets.

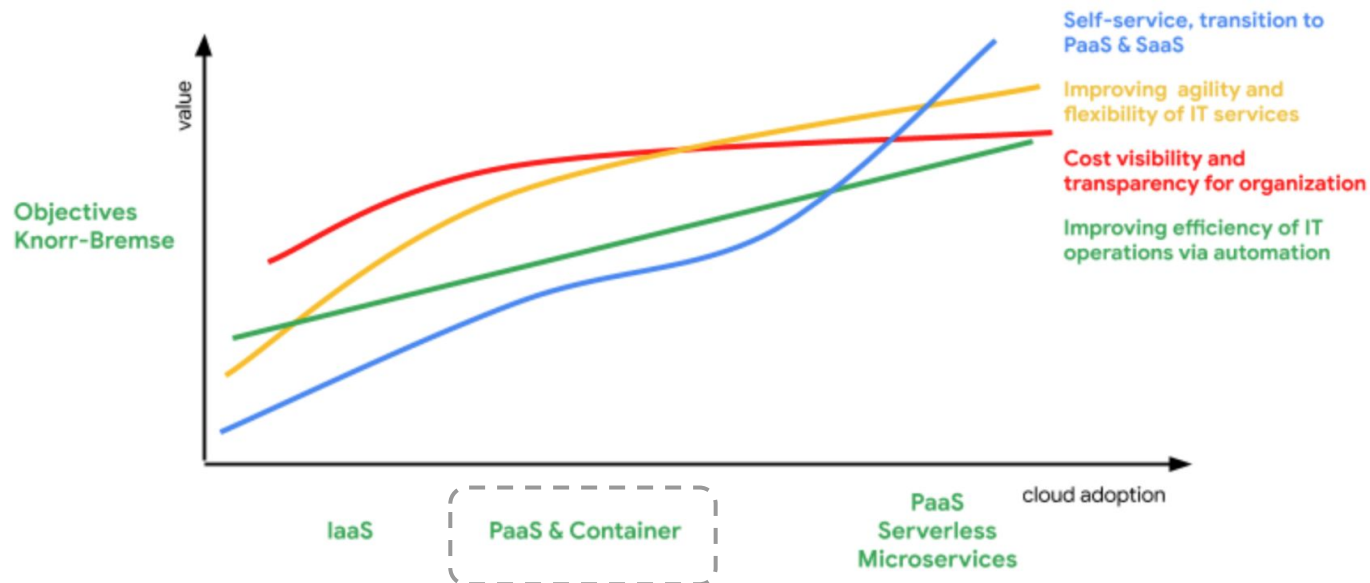
Overcommit possibility

Google Cloud gives you the **option to configure overcommit** for VM resources on sole tenant nodes as a lever to further perform cost optimization.

Google Cloud runs the most stable VM infrastructure in the world, perfect for enterprise applications requiring uptime and performance.



Different paths, one journey



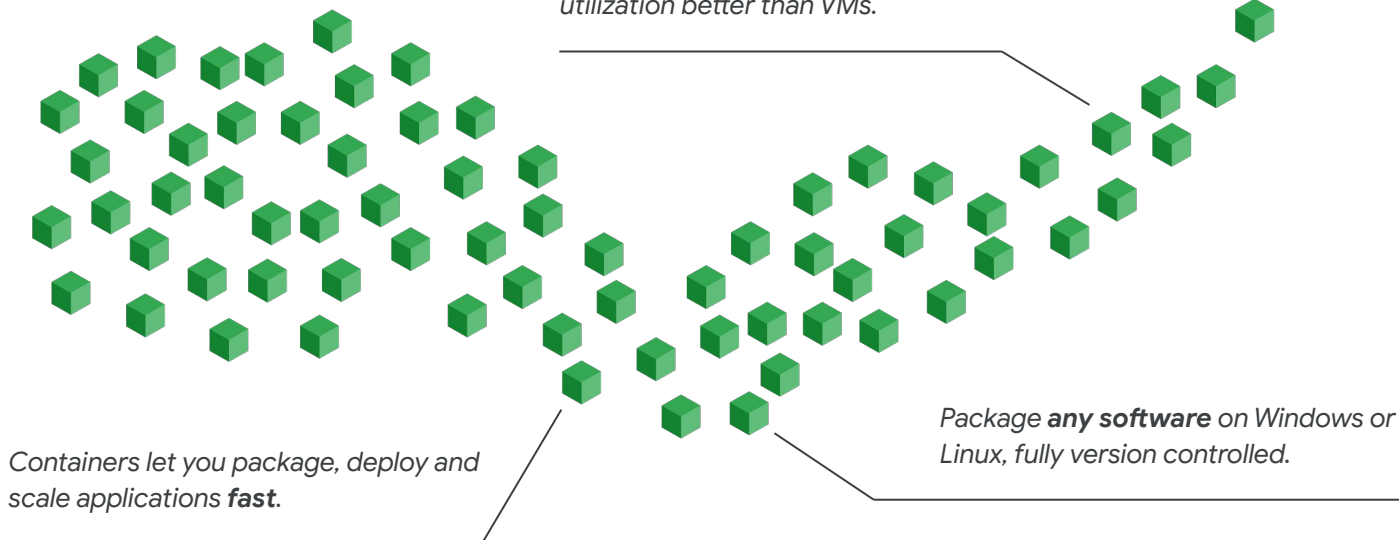
#1 for containers

14 years ago Google invented containers as we know them, and open-sourced the code. We have been running our entire business on containers for the past decade.

With this experience we built Kubernetes, an open-source system to run containers at scale.

Run containers on Google Kubernetes Engine, the world's leading Kubernetes service, maintained by the engineers that originally built Kubernetes.

Containers let you **optimize** your hardware utilization better than VMs.



Containers let you package, deploy and scale applications **fast**.

Package **any software** on Windows or Linux, fully version controlled.

Application modernization and multi-cloud with Anthos

Open

Decouple app and infrastructure
with open source leadership in
Kubernetes

Hybrid

Consistent platform capabilities
on-prem and in multi-cloud,
supporting on-prem, AWS and
Azure (soon)



Automated

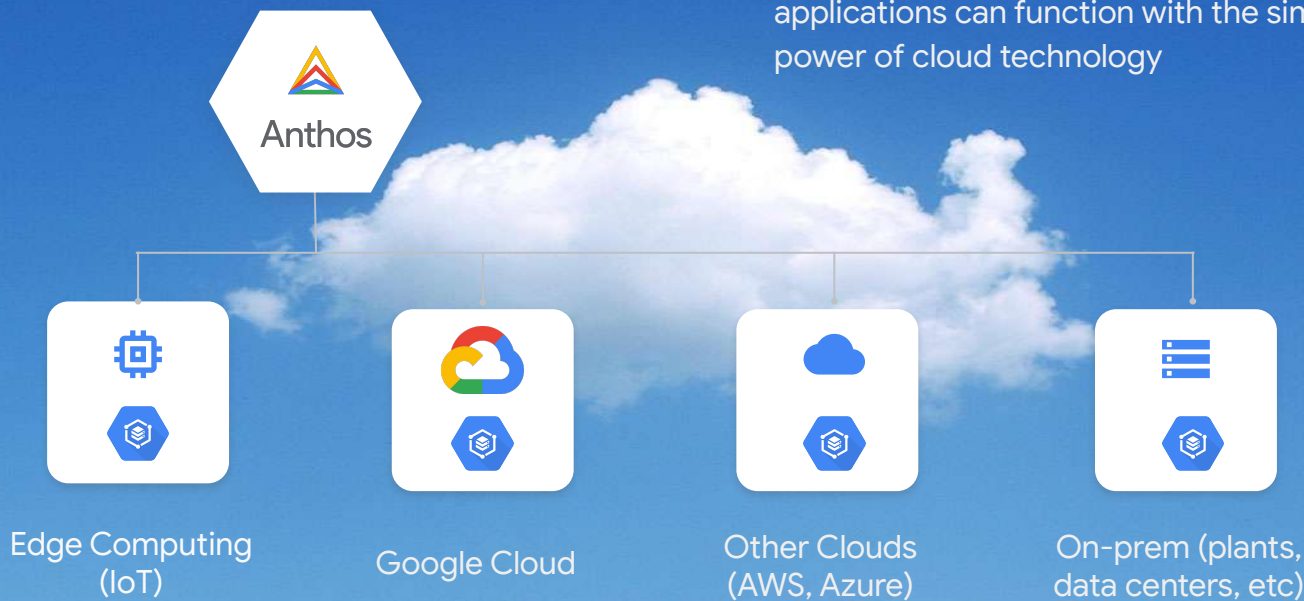
Self reconciling infrastructure and
application software management

Fast

Accelerate app innovation with
low friction development cycles
and rapid conversion from VMs to
containers

Google Anthos

With Anthos, regardless of location, IT and OT applications can function with the simplicity and power of cloud technology



Anthos can help accelerate Industry 4.0 use cases like real-time AI/ML without typical DevOps complexities

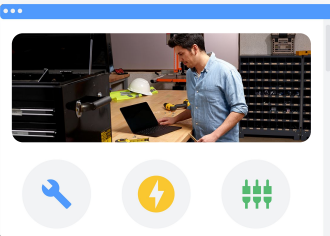


Anthos

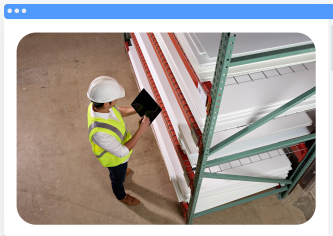
Predictive
Maintenance



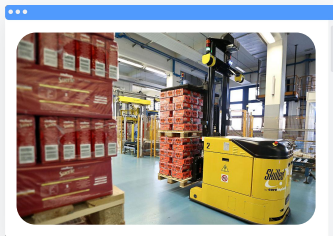
Connected
Operations



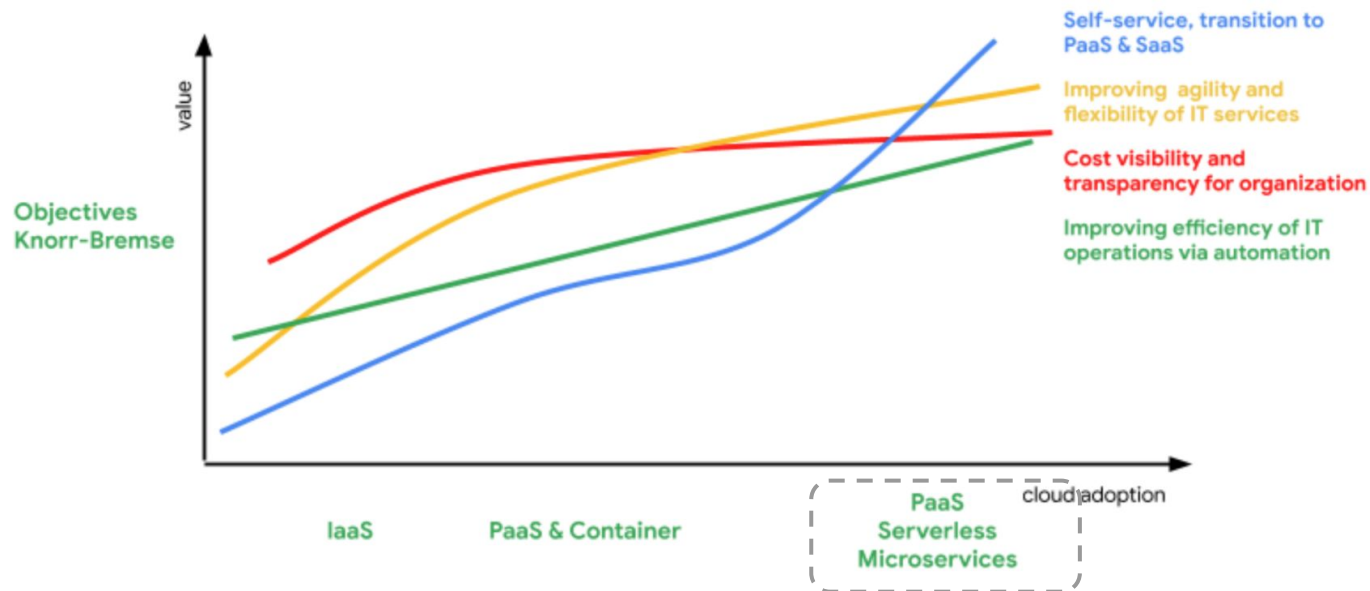
Manufacturing
Visual Inspection



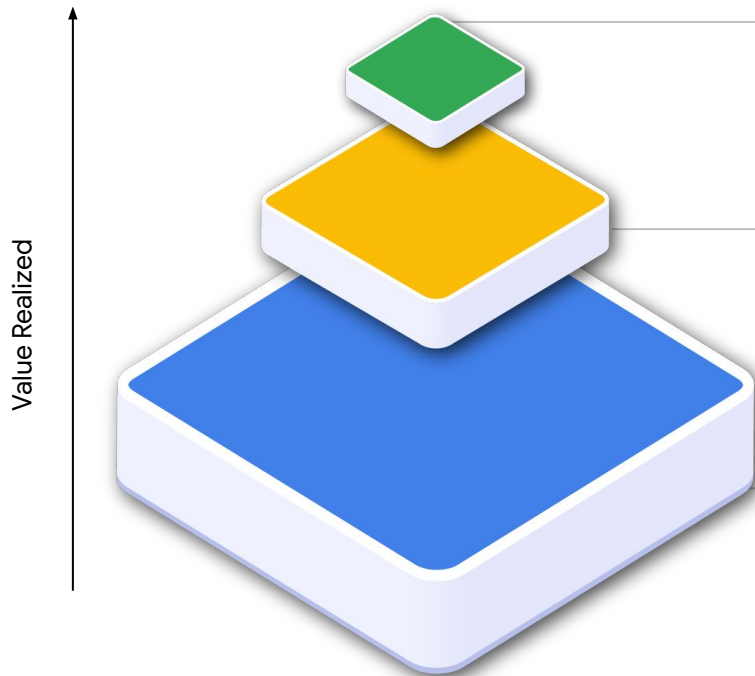
Supply Chain and
Inventory Tracking



Different paths, one journey



Value from Data Warehouse modernization solutions is generated at **three levels**



Rethink the business - Transformational Impact

New products, services, and markets by combining data transformation with AI/ML, APIs, and collaboration tools leading to **Co-Innovation / Business Transformation**

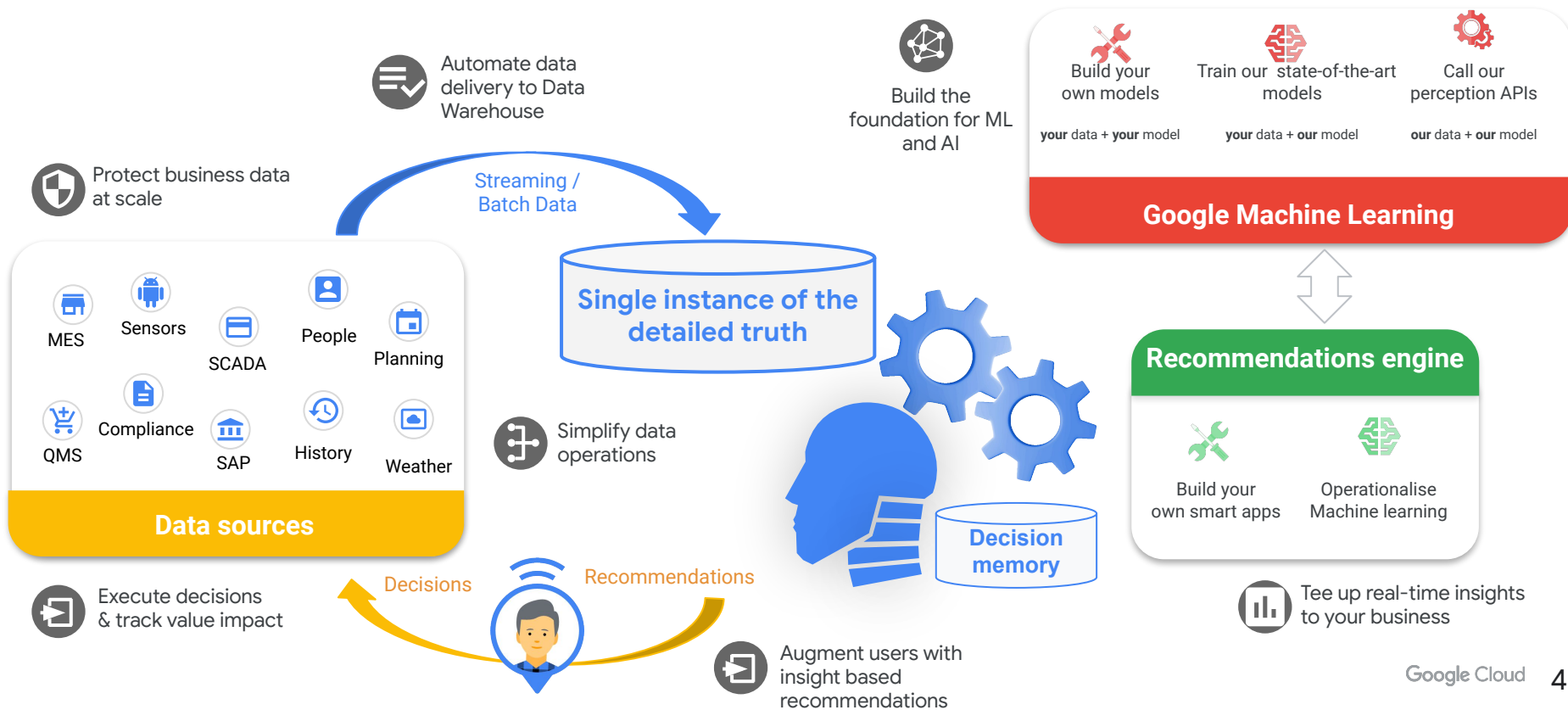
Build new capabilities - Maximize Revenue & Lower Risks

Usage of data analysis to enhance business processes, increase product penetration, improve risk management, etc. thereby improving on **Revenue / Business Cost / Risk Drivers**

"Move & Improve" Data Warehouse Infrastructure - Lower TCO

IT cost reductions due to lower storage and administration costs, improved development time, and enhanced flexibility - **IT Total Cost (TCO) Reduction**

Is fully supported by our AI-ready data solutions

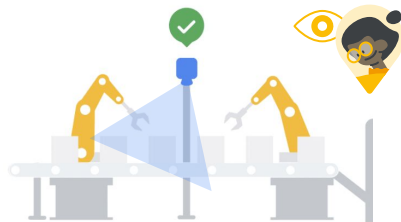


Google Cloud helps you realize your AI vision

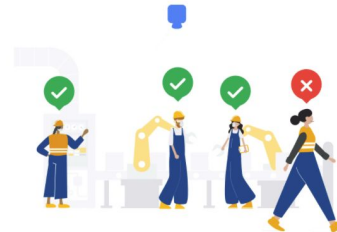
Unified data analytics and AI
for manufacturing systems



Intelligent, automated quality
and assembly conformance



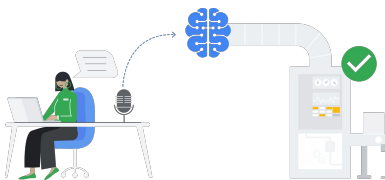
Detection of occupational health
and safety conformance



Process automation and
integration using Document AI



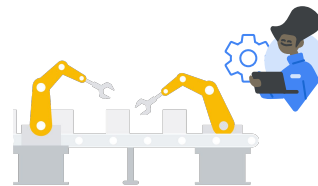
Natural language interaction



Intelligent adaptive control to
reduce energy consumption



Predictive maintenance for
operational excellence



Open digital Ecosystems based
on APIs



Serverless Compute

Develop, deploy and scale applications
fast and securely in a fully managed
environment



Auto-scaling



Fully Managed



Speed to
Market

04.

Migration options

An established model to accelerate migration

The **Google Cloud Adoption Framework** gives you the tools needed to assess where you are and to help guide your cloud journey.

Learn



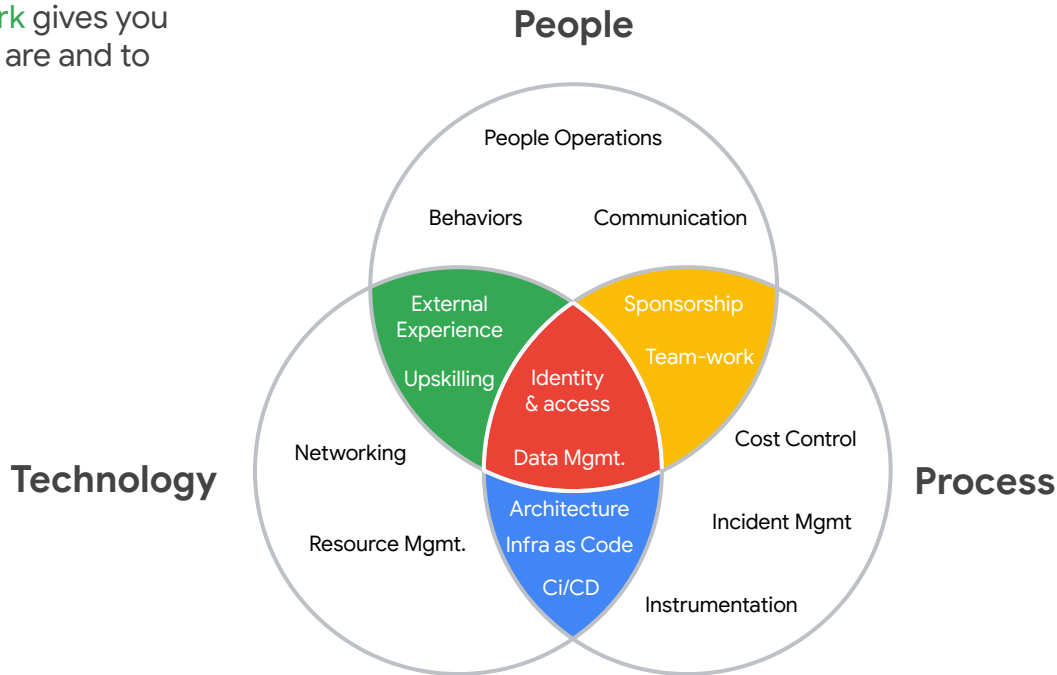
Lead



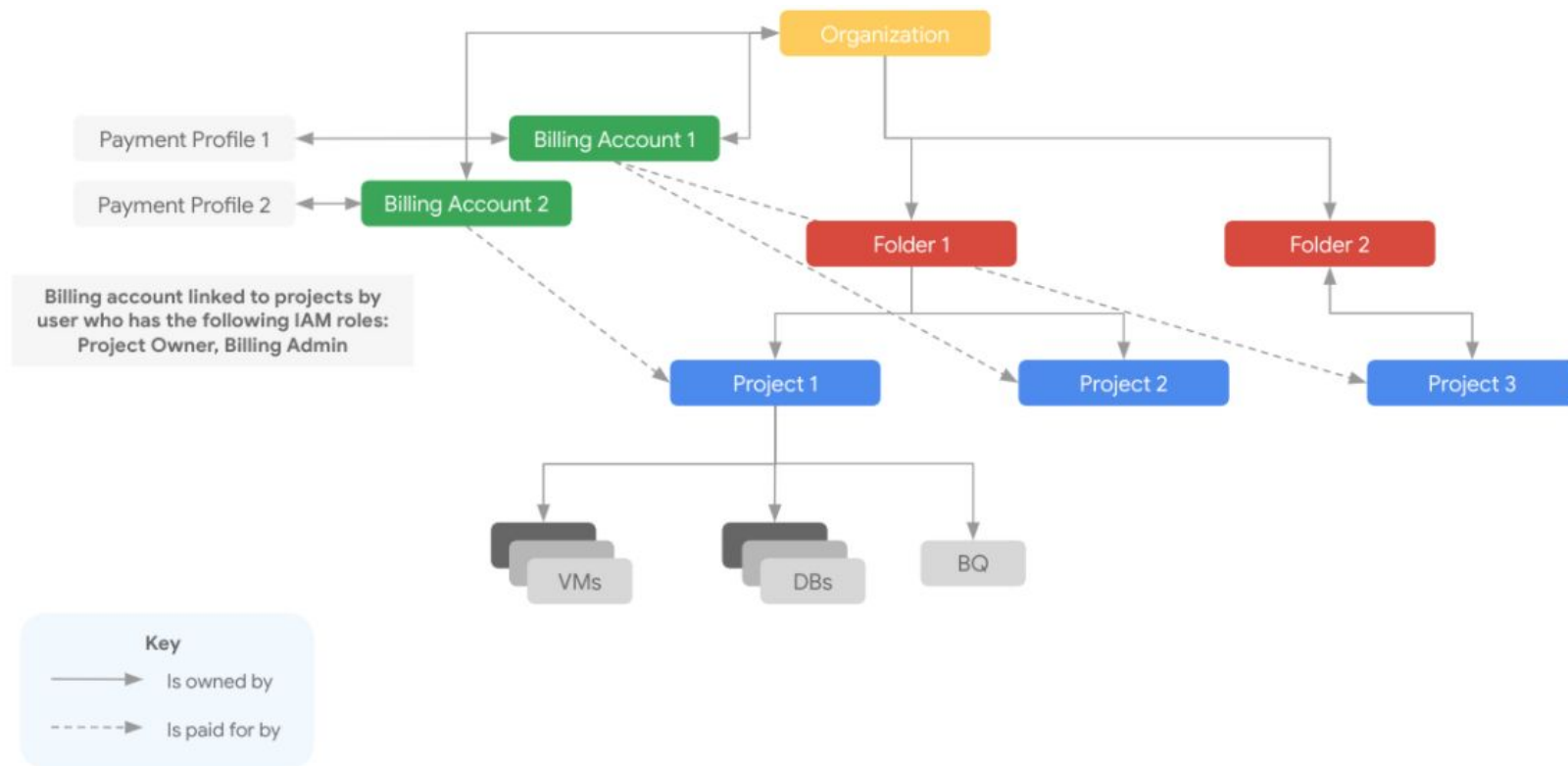
Scale



Secure



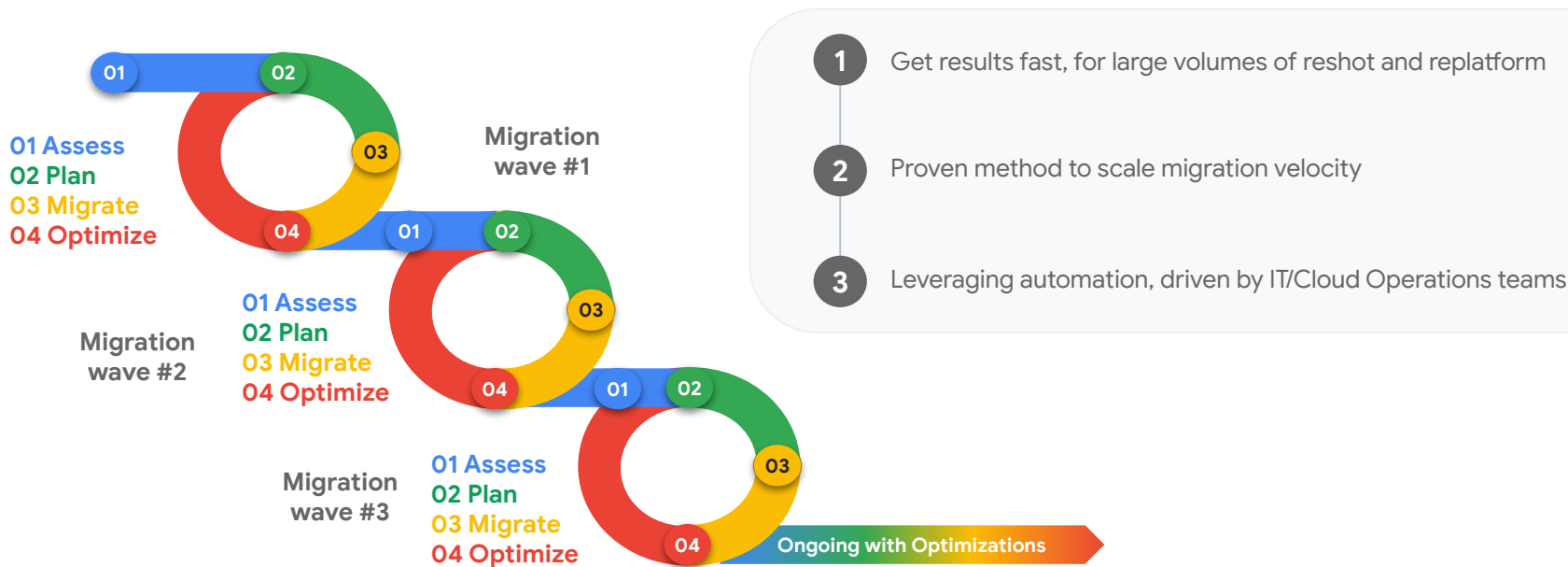
Landing Zone: Billing resource hierarchy



Migration factory

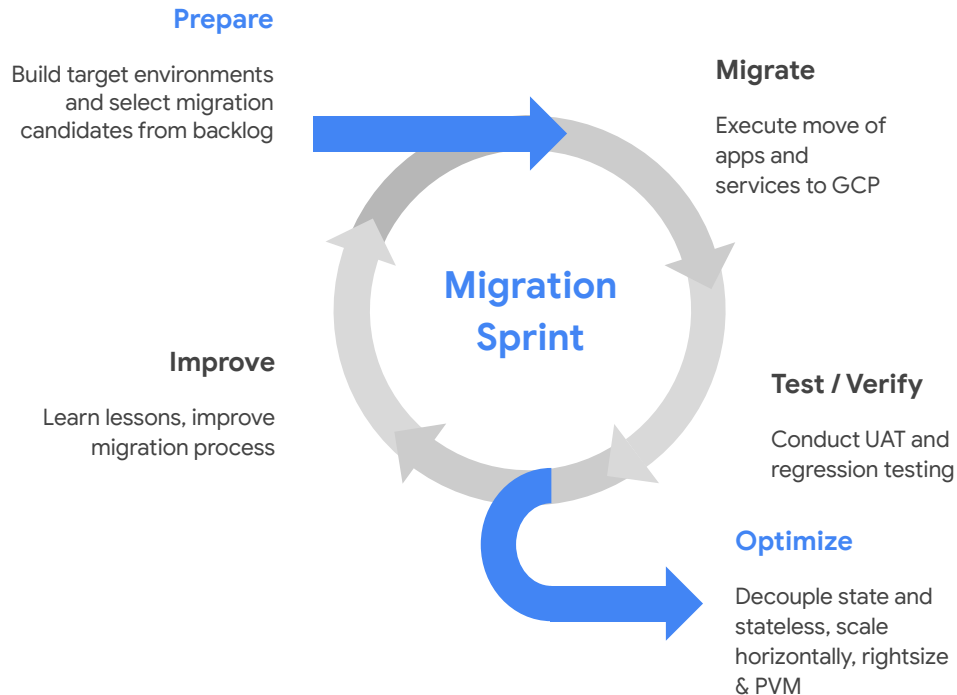
The migration factory is a centralized, top-down, structured approach to migration.

The migration factory takes groups of identified applications and migrates them to the cloud in “migration waves”

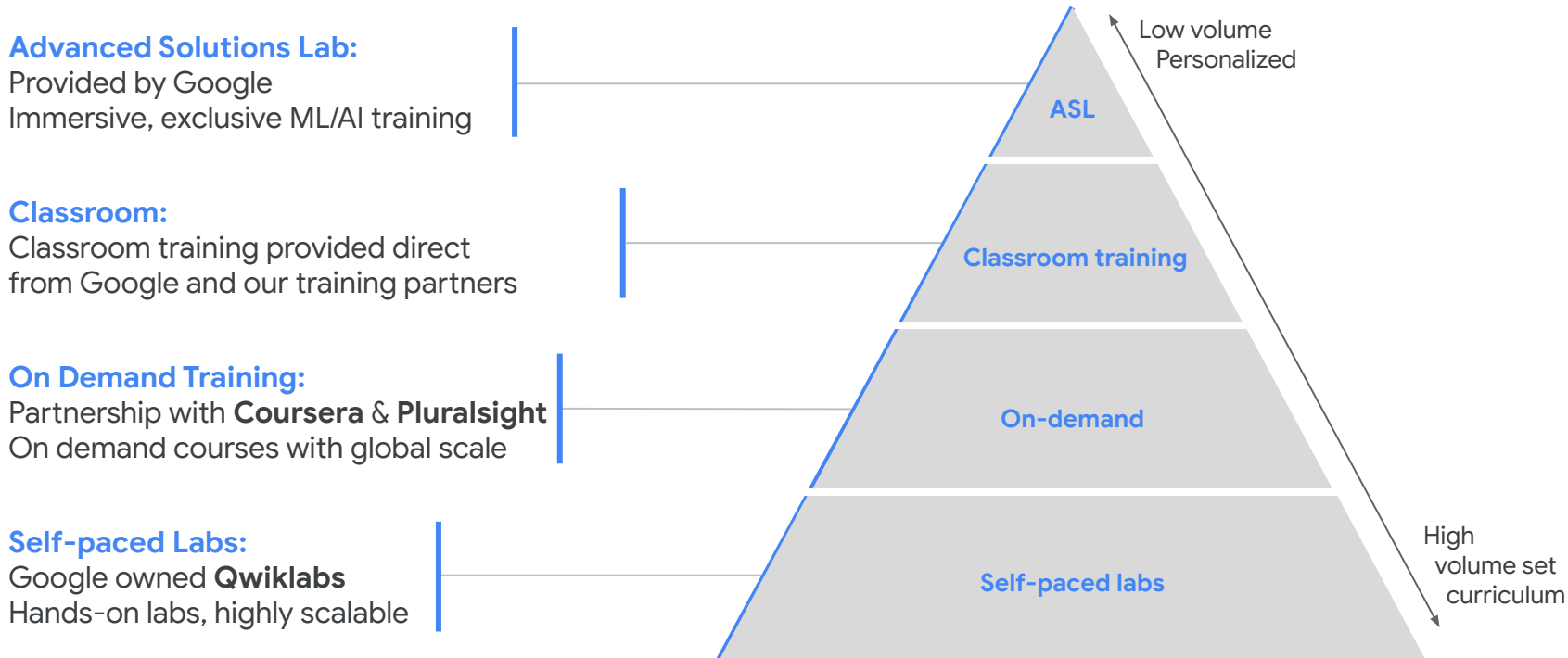


Planning your migration

- Cycles are self-contained groups of apps
- Can be run in sequence or in parallel
- Continual process improvement
- Maintained velocity
- Low-hanging fruit/quick win/rapid start with refining along the way



Google Cloud Learning



Introduction to Google Cloud Professional Services Organisation (PSO)

Technical Account Management

Bring **dedicated Google expertise** to your business challenges, recommending solutions based on proven methodologies and best practices and managing issue escalations.

Digital Transformation

Leverage best practices from Google's **culture, SRE, and innovation** to help customers build new digital capabilities and adopt Google Cloud technology



Consulting

Support customers to **build, deploy, scale and secure solutions** in GCP through specialist input, best practices and industry insights.

Digital Program Management

Lead, build, mobilise and manage large scale GCP Programs.

Why Google Cloud Professional Services?

Our consultants come to help you scale, not to stay.

Google Cloud's **core business** is consumption **not consulting**.

We're here to encourage and support **ramp, adoption** and **success in the long run** by helping you **scale your platform** and **enable your people** instead of scaling the numbers of consultants.

Direct Access to Google, Google's culture and Googlers.

You work with people who live and breath **the Google culture** and **can bring it to you**.

Working with us will grant you **access** to all parts of the **Google organization** including our **product engineering teams**.

Focussed Expertise and proven Approach

Our staff, part of the 1% of applicants Google hires, is **highly trained** and **exclusively focused** on Google Cloud.

They leverage **proven assets** and **experience** built on **thousands of cloud projects**.

All-in pricing based on engagements

We work with you on a **fixed-price and outcome-base**.

This includes **all Googlers** we'll need to achieve the outcomes, their **travel costs** and a structured proven approach including **project management**.

Our unique services accelerate your transformation

Role-Based Learning

Develop talent and scale workforce fluency and adoption with hands-on training and robust certification standards



Technical Account Management

Build a roadmap for long-term success with dedicated program management and Google thought leaders



Consulting

Jumpstart your cloud journey with our proven practices - migration, data analytics, ML, app development, change & culture, security & trust



Engineer to Engineer Support

Maximize reliability with deep technical expertise fully vested in your operational success, available 24/7/365



Technical Account Management

Our technical account managers help you get the most out of your Google Cloud investment. This support spans all phases of your journey to Cloud adoption.



Cloud strategy & technical consultancy

Cloud strategy (G Suite and GCP), account planning, KPIs



Program management

Program/Project status, architectural best practices, launch planning, issue tracking, escalation management, SME access



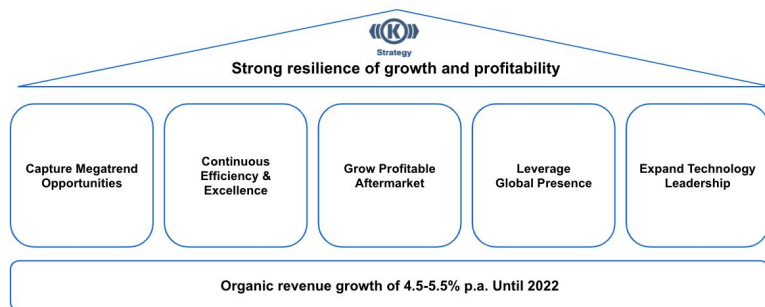
Advocacy & thought leadership

Quarterly business reviews, executive briefings, roadmaps, early access, and product feedback

05.

Partnership

Knorr-Bremse's priorities...



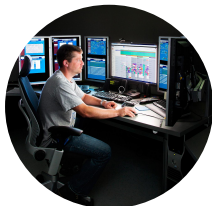
"We want to be the global driving force behind innovative and sustainable system solutions that make mobility and freight transportation safer, more reliable and more efficient. We ourselves are driven by the desire to add value for our customers while also making a positive contribution to society."



The SDGs inspire us to use our financial strength and capacity for innovation to tackle financial, social and environmental challenges.

Stefan Bräuherr – Head of Corporate Responsibility

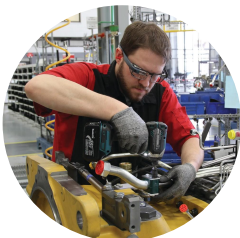
... can be supported with the best of Alphabet for **Knorr-Bremse**



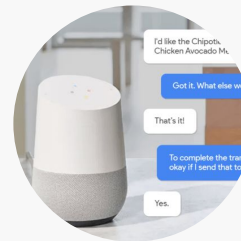
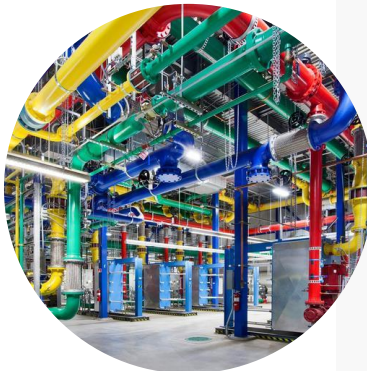
High Performance Analytics



Collaborative Workplace



Augmented Manufacturing



Smart Assistant



Self Driving Car



Health Monitoring

Strategic partnership. Daimler Trucks and Waymo

October 27, 2020 Daimler Trucks and Waymo have signed a broad, global, strategic partnership to deploy autonomous SAE L4 technology

Based on our collaboration with **Waymo**, we will be in the unique position to be able to provide our fleet customers with a choice among the best solutions for their individual requirements.”



Roger Nielsen, Member of the Board of Management of Daimler Truck AG

Two automotive giants are teaming up to bring self-driving semi-trucks to market. Under this deal, **Waymo** and Daimler Trucks are partnering to build an autonomous version of the Freightliner Cascadia truck.



Joint 10 x approach from Data Center Modernisation into new revenue revenue streams along the ecosystem

Operational Excellence

Secure value from IT Modernization and Infrastructure Outsourcing (Focus of this RFP)

Accelerate transformation towards an innovation-centric, digital operating model.

New products and services

Help accelerate transition.

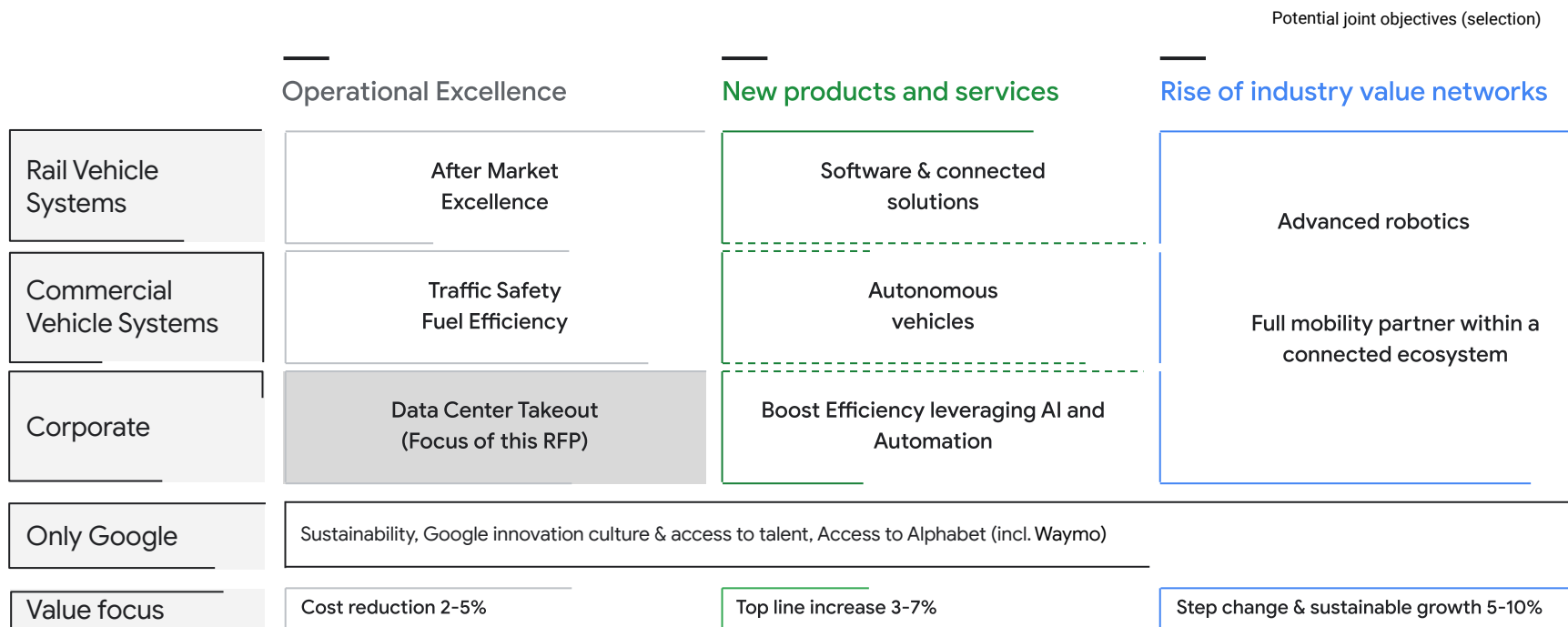
Develop new business models and deliver more personalized products, messages and services for intralogistics and beyond.

Rise of industry value networks

Leverage digital platforms to unlock ecosystems.

Close collaboration with customers, logistic providers, equipment manufacturers and startups to strengthen Knorr Bremse's market position.

Because there's value to be gained along the journey



Yielding solid financial benefits

Knorr-Bremse's priorities...



Organic revenue growth of 4.5-5.5% p.a. Until 2022

Capture Megatrend Opportunities

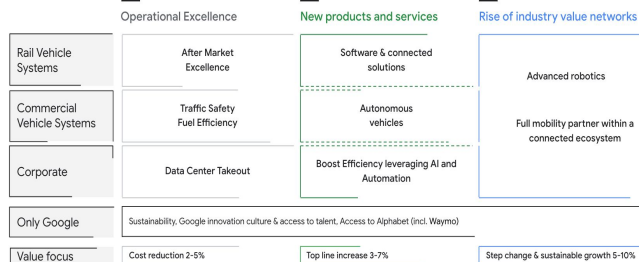
Expand Technology Leadership

Leverage Global Presence

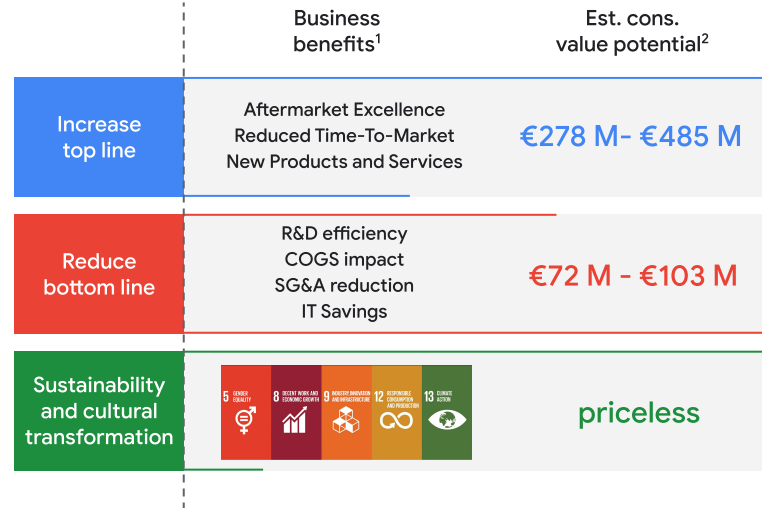
Grow Profitable Aftermarket

Continuous Efficiency & Excellence

Potential high impact business initiatives



... and how Google can help



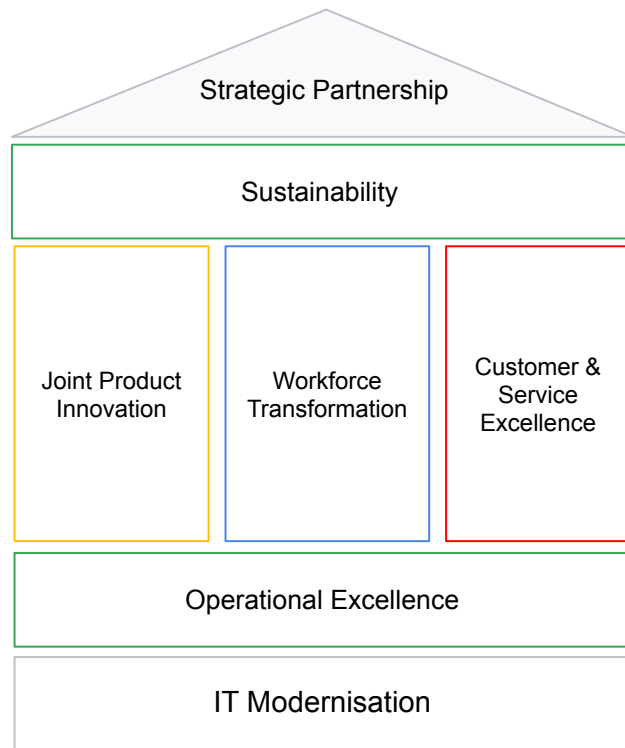
¹ Forbes: 10 Ways AI Is Improving Manufacturing In 2020

² Initial value est. based on KB data: Rev. € 6.9 b, COGS € 5.3b, R&D spend € 397m, SG&A € 134m
3-5% revenue increase through New Products and Services, 1-2% Cross & Upsell, 4-5% R&D Efficiency, 2-3% SG&A reduction, 1-1.5% COGS impact

Potential joint collaboration topics (Google view)

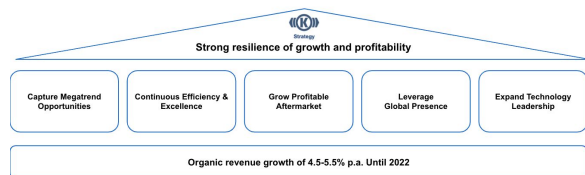


+



Leveraging a collaborative transformation roadmap and governance

Knorr-Bremse strategy



Joint innovation culture

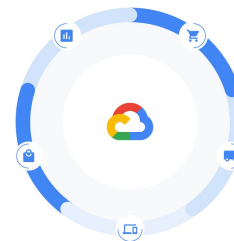


Joint initiatives roadmap



Joint governance

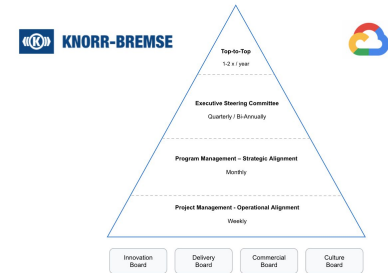
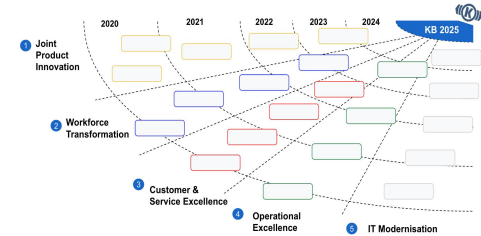
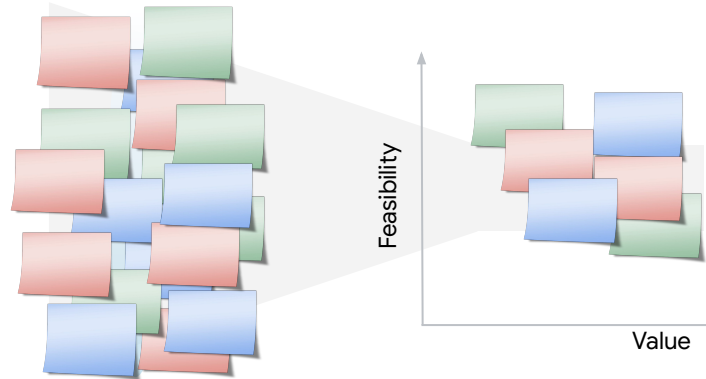
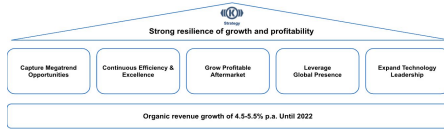
Only with Google



GLASS

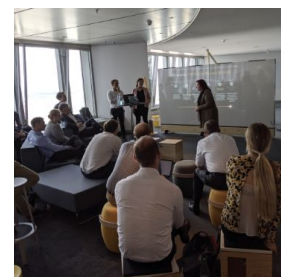
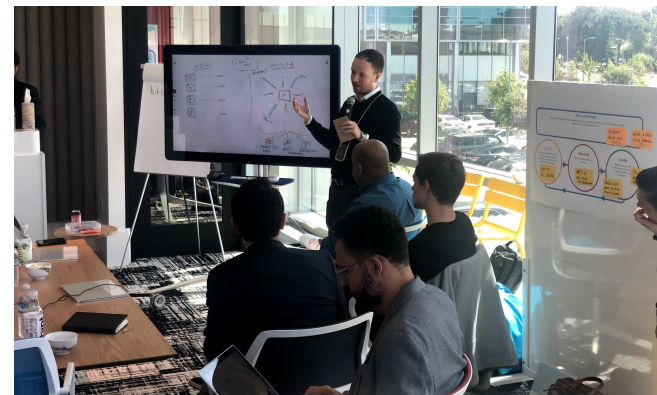
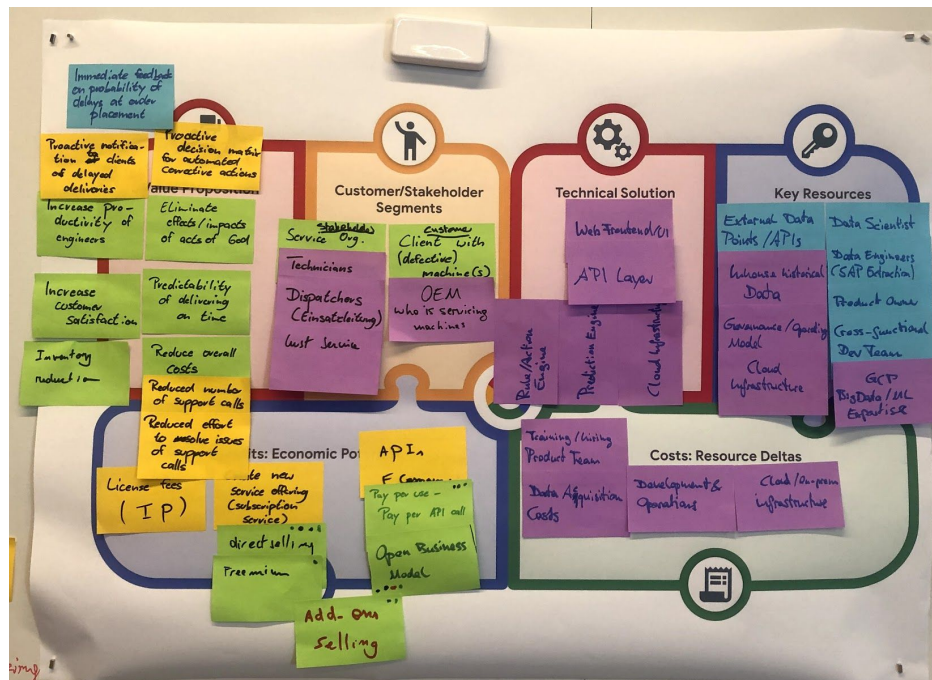


Leveraging a collaborative transformation roadmap and governance



3i Innovation Workshop

Ideate | Iterate | Implement



DRIVING RESPONSIBILITY TOGETHER FOR A SUSTAINABLE FUTURE



Grow the Partnership with Google Cloud

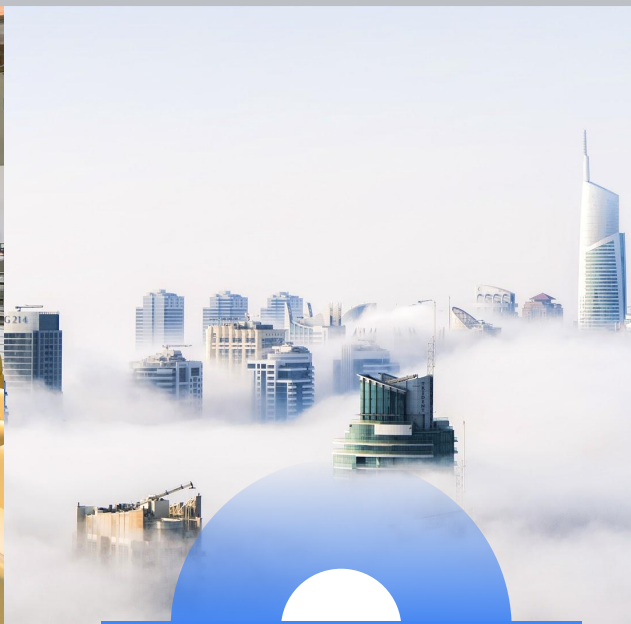
This is beyond a Cloud relationship. This is beyond a vendor relationship.

This is a Partnership with Google



Org constructs

Culture & Organisation Transformation Playbook



Instant & Agile IT

Go all in with Google Cloud



All pervasive data

Journey to become a data driven company

Our beliefs

These are the things that we believe are essential for a transforming organisation to get right



Talent



Strategy



Structure



Empowerment



Innovation



Environment



06.

Summary



“ Driving responsibility - together.”