Google Cloud

Jack Ngare

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Office of the CTO,
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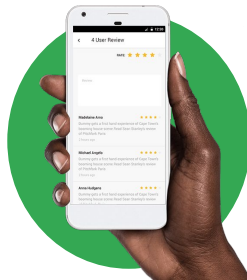Google Cloud

Africa is Developing **Fast**

People are living longer Life expectancy in Africa has improved from 54 yrs in 2000 to 70 yrs by 2030.

Living conditions keep improving. The middle class is growing at twice the rate of the general population
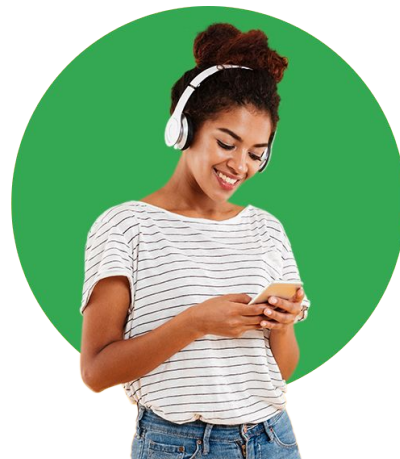

More people online - more than doubled since 2014 and 90% are expected to have digital wallets and accounts before traditional accounts when they turn 18

Africa is the youngest continent, With a median age of 19, the world's labour force, industries and digital economies by 2040 will be in Africa

Google's Partnership in Africa's Development

Between 2021 and 2023, third party estimates show that **Google's products and services provided more than $30 billion** of economic activity across Sub-Saharan Africa. This has the potential to grow to **$180 billion by 2025 – 5.2% of the continent's GDP, according to a report by the International Finance Corporation.**

Google's Partnership in Africa's Development

$16 bn of economic activity

In 2023 Google Cloud, Google Search, Android, Youtube, Google Play and Google Advertising helped provide an estimated **$16 Bn in economic activity** for businesses, non-profits, creators, developers and publishers **across Sub-Saharan Africa**. The Internet economy can grow to $180Bn, 5.2% of the GDP by 2030

Google's Partnership in Africa's Development

An estimated

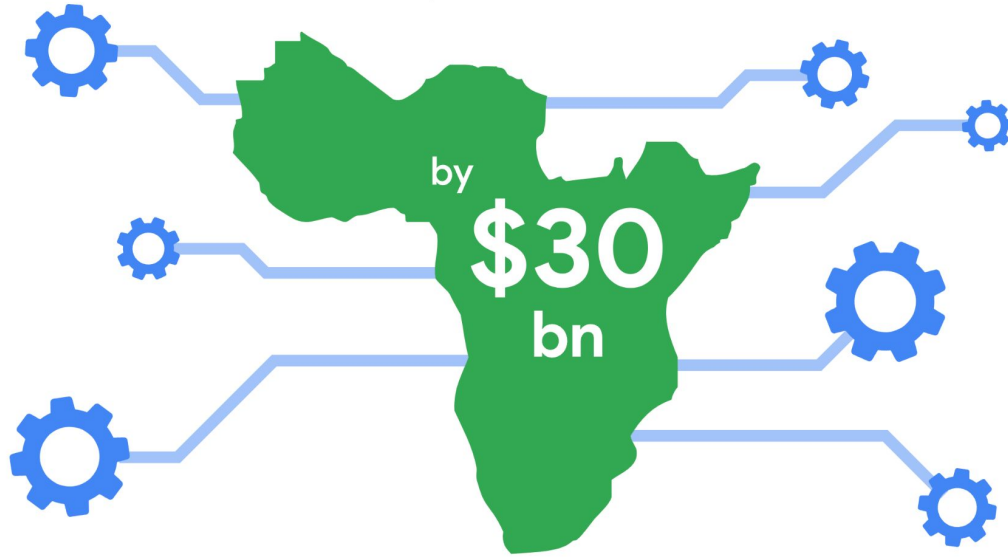## 6.5mn

young adults in Sub-Saharan Africa have learned a new digital skill through Google Search in 2023 $4M in .Org funding invested in entrepreneurs

Hustle Academy Business Bootcamp

Google.org

Google Cloud

Google Developer Groups

Google's Partnership in Africa's Development

Artificial Intelligence could increase the
economy of Sub-Saharan Africa

by
$30
bn

Google's Partnership in Africa's Development

x2

We estimate that every $1 invested in digital technology will return over $2 for the region's wider economy by 2030.
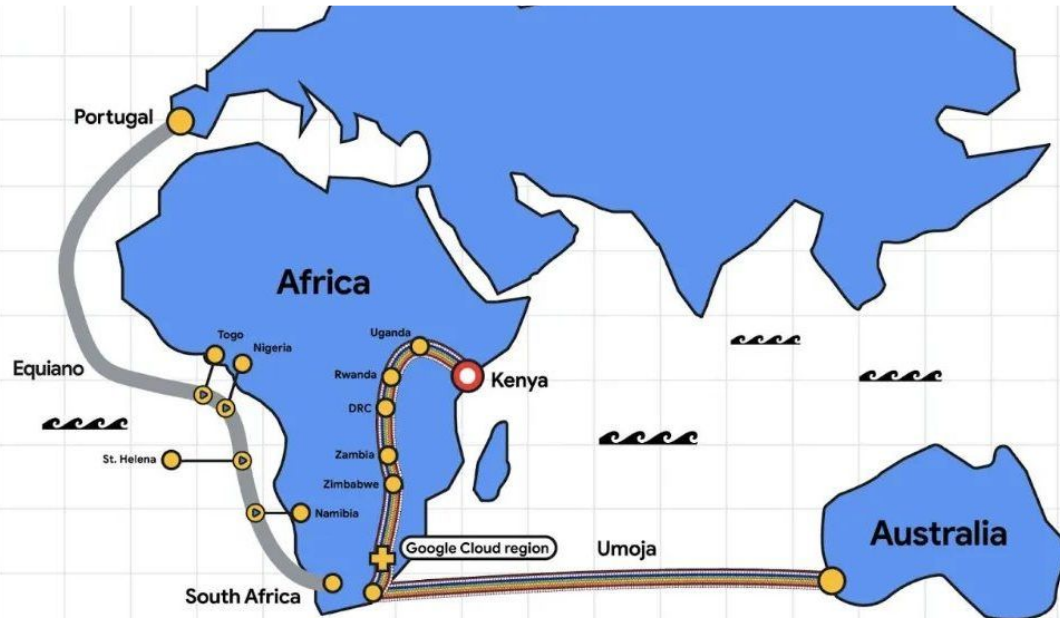
$1bn

In 2021, Google announced $1 billion of investment in Africa to support a range of priorities, from improved connectivity to investment in startups over a five year period.

Google's Partnership in **Africa's Development** - establishment of our first cloud region.

Map of Cloud Regions across the world

Oregon
Salt Lake City
Los Angeles
Las Vegas
Dallas
Columbus
Iowa
Toronto
Montréal
N. Virginia
S. Carolina
Queretaro
São Paulo
Santiago
Madrid
London
Belgium
Paris
Turin
Netherlands
Berlin
Warsaw
Frankfurt
Zurich
Milan
Finland
Tel Aviv
Dammam
Doha
Delhi
Mumbai
Hong Kong
Taiwan
Seoul
Osaka
Tokyo
Singapore
Jakarta
Johannesburg
Melbourne
Sydney

● Current region with 3 zones   ○ Future region with 3 zones

Google's Partnership In Africa's Development - by building network for internet access

Google Cloud

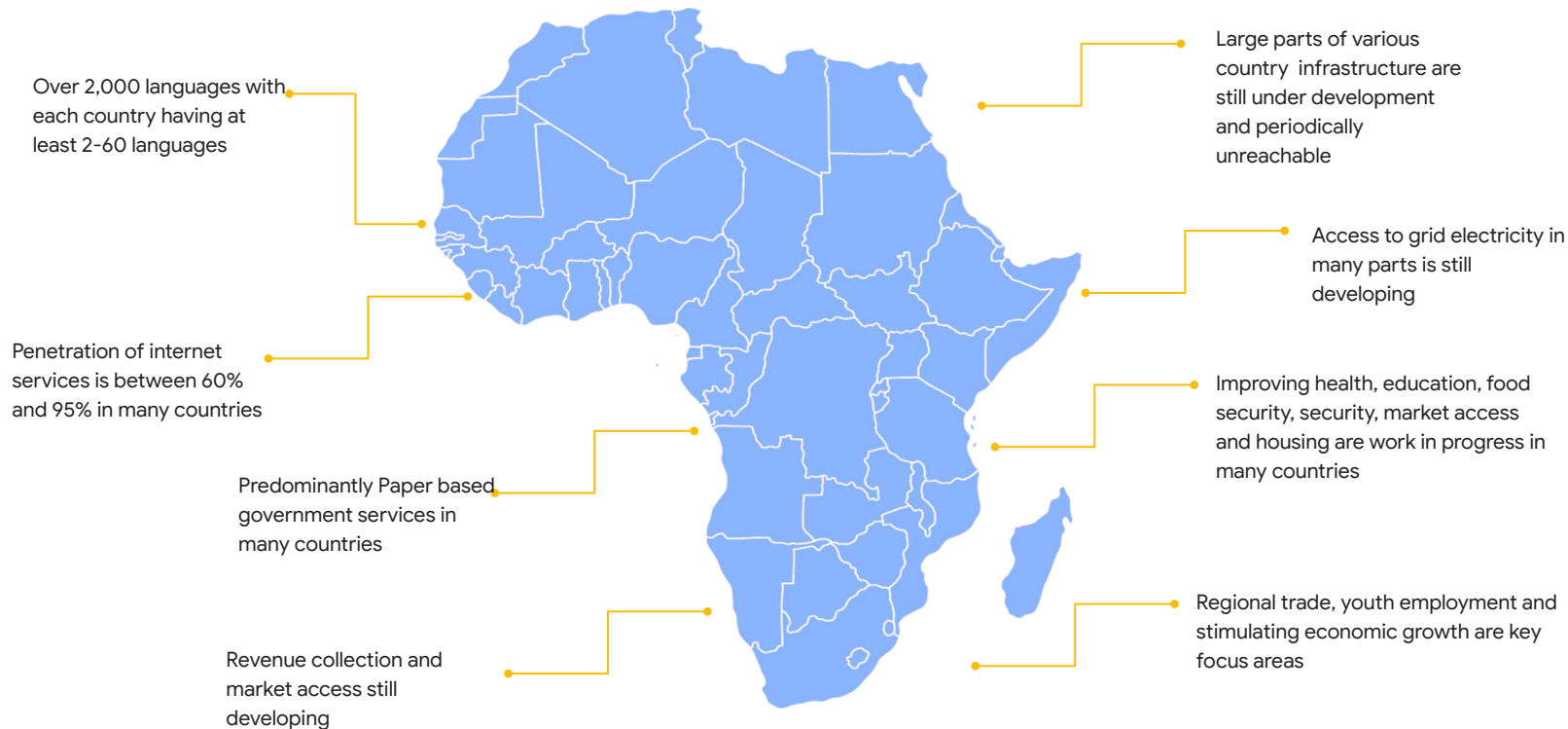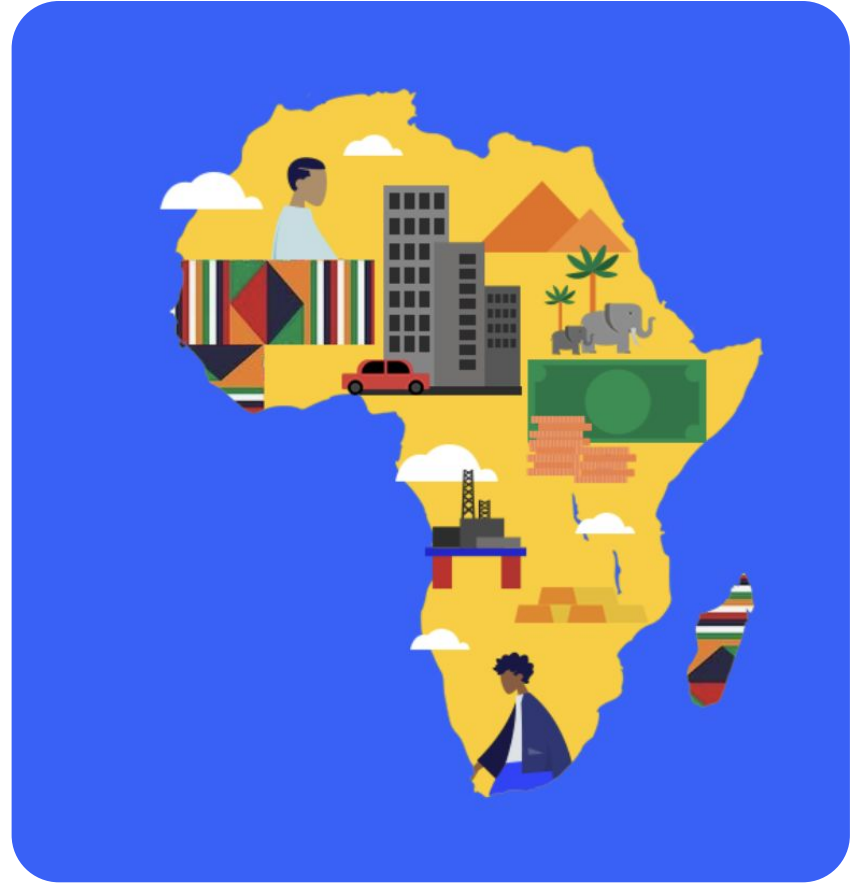# Google's Partnership In Africa's Development

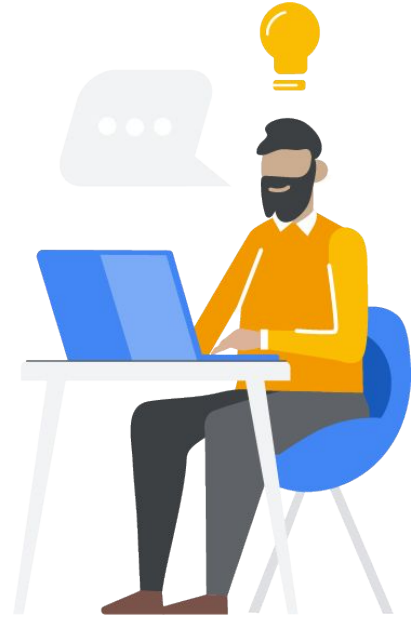Bringing affordable Android mobile devices to Africa

Digital Public Service Delivery Opportunities

Over 2,000 languages with each country having at least 2-60 languages

Penetration of internet services is between 60% and 95% in many countries

Predominantly Paper based government services in many countries

Revenue collection and market access still developing

Large parts of various country infrastructure are still under development and periodically unreachable

Access to grid electricity in many parts is still developing

Improving health, education, food security, security, market access and housing are work in progress in many countries

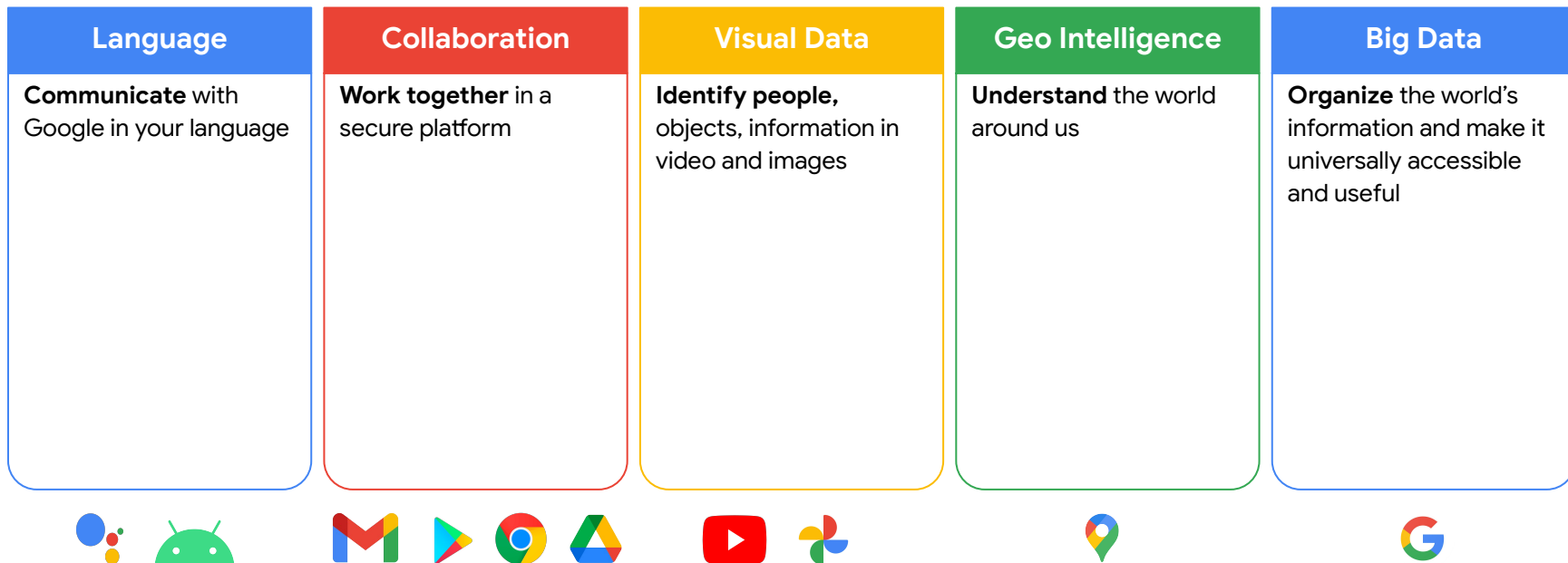Regional trade, youth employment and stimulating economic growth are key focus areas

Google Cloud is a Catalyst for Africa's Development

Towards Modern African Digital Governments with Google Cloud

Bringing the power of Google to public sector

Language	Collaboration	Visual Data	Geo Intelligence	Big Data
Communicate with Google in your language	**Work together** in a secure platform	**Identify people,** objects, information in video and images	**Understand** the world around us	**Organize** the world's information and make it universally accessible and useful

Bringing the power of Google to public sector

Language

Answer millions of constituent calls[1]

Translate 311 calls in multiple languages[2]

40k calls answered after hours[3]

Collaboration

Connect job seekers with employers

Empower a hybrid workforce

Power student success initiatives

107k malicious emails removed in one month[4]

Visual Data

Identify potholes to create safer streets

Facilitate document scanning and identification

2.4 million exemption requests processed[5]

Geo Intelligence

Understand air quality to improve public health

Improve civic planning using AI & GIS tools

Helped evacuate 1700 homes[6]

Big Data

Identify valid benefit claims among millions of items

Aggregate billions of security events

Catalog 20 billion galaxies

$2b distributed in unemployment benefits[7]

Google Cloud

Google Cloud for
Agriculture in Africa

Google Cloud Agriculture Platform

To build towards a **higher yield, lower environmental impact food system**, growers and businesses reliant on agricultural outputs need **insights** into **crop health**, productivity, and **water consumption**.
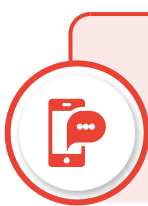
Google Cloud Agriculture Platform

Empowering Agriculture: Your All-in-One Digital Hub connecting Farmers, Authorities, Scientists, and Services for Innovative Growth."

Real-Time Crop Advisory: Personalized guidance using satellite data

Alerts for Farmers: Weather, prices, crop health updates

Comprehensive Advisories: Crop info, schemes, recommendations
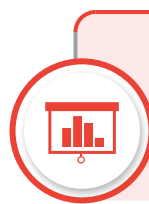
Optimized Agriculture Strategies: Distribution, marketing, storage

Geospatial Advisory Platform: Web-based, cloud-powered insights

Advanced Data Fusion: Satellite imagery, analytics, ML for agriculture

Built on robust cloud infrastructure, our platform offers scalability, security, and advanced data services including geospatial analytics, ensuring seamless data management and innovation

Case Study: Gujrat, India

Key Insights

33+ Crop Life Cycle Monitored

70 million + ha of crop type identified

1.3 million + ha of crop loss identified
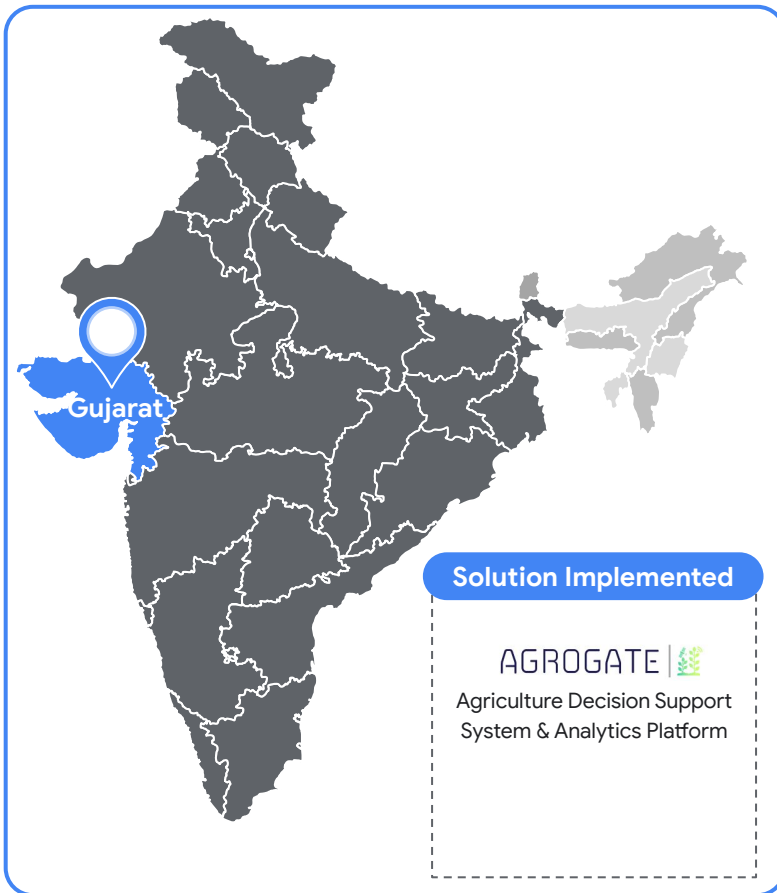
60+ Analytical Report at regular interval

40+ TB of Satellite Image Processed

10 million + Cadastral Level Data Analysis

8 million + Farmers Benefitted

Solution Implemented

AGROGATE

Agriculture Decision Support System & Analytics Platform

Gujarat

Google Cloud

Google Cloud for National Infrastructure, Coordination and Planning

Google Cloud using AI to help Governments in Africa plan and serve better

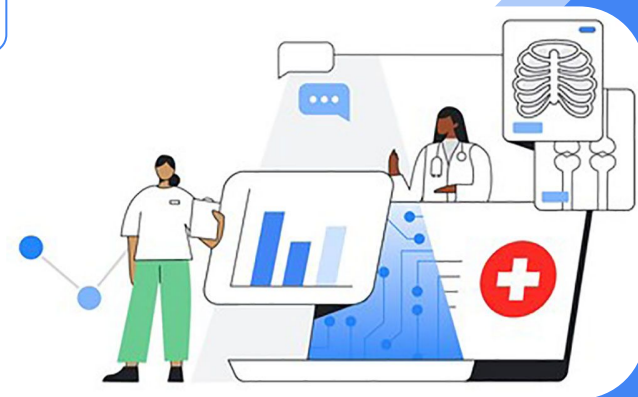**Using Google Cloud AI to map Africa's buildings**

500 million buildings across the African continent, the majority of which are less than 20 square meters. The full dataset encompasses 50 countries.

Helping Governments plan better for

- Population Mapping
- Humanitarian Response
- Vaccination
- Education distribution and resources
- Infrastructure Developments

Google Cloud for Health & Human Services

Healthcare: Our Core Building Blocks

01
Healthcare-grade
Infrastructure

Secure, Compliant
Reliable, Lower cost

02
Enabling
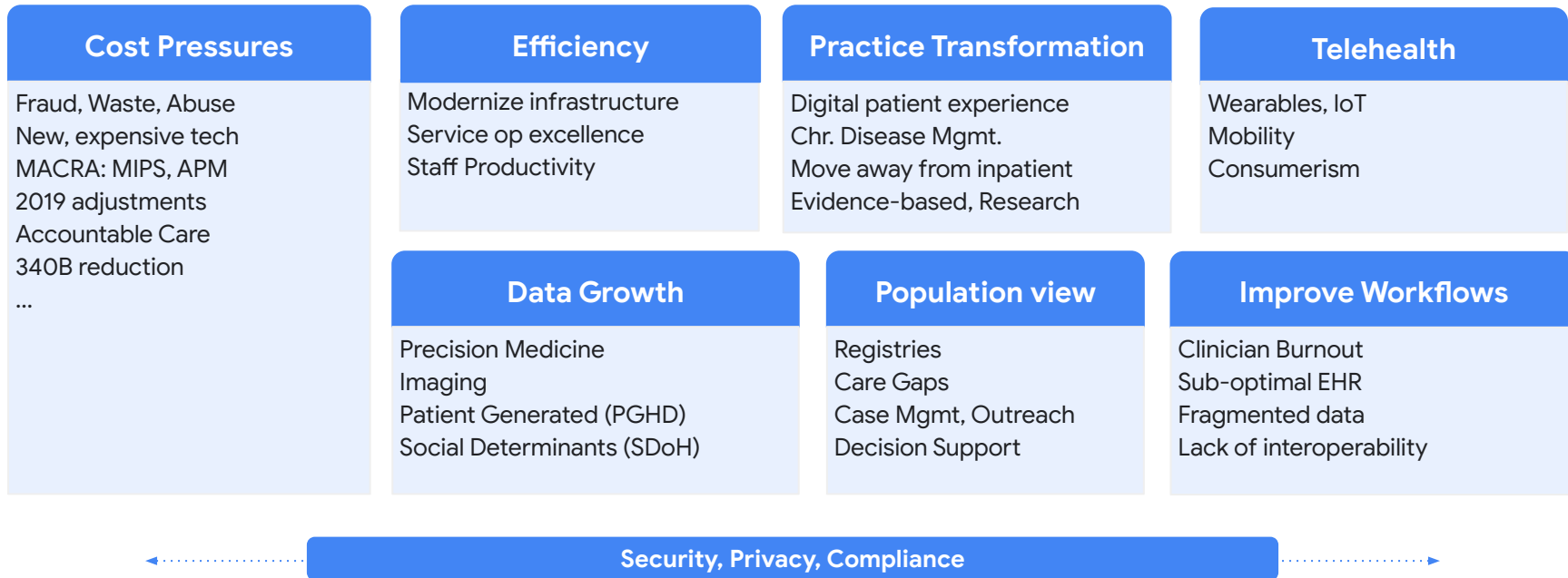### Interoperability

Liquid data
Standards-based
Security
Privacy

03
Actionable
Insights

Integrated in workflow
Enabling innovation, Service
delivery, research

Google Cloud

Google Cloud is helping Governments
Improve Healthcare outcomes

Cost Pressures

Fraud, Waste, Abuse
New, expensive tech
MACRA: MIPS, APM
2019 adjustments
Accountable Care
340B reduction
...

Efficiency

Modernize infrastructure
Service op excellence
Staff Productivity

Practice Transformation

Digital patient experience
Chr. Disease Mgmt.
Move away from inpatient
Evidence-based, Research

Telehealth

Wearables, IoT
Mobility
Consumerism

Data Growth

Precision Medicine
Imaging
Patient Generated (PGHD)
Social Determinants (SDoH)

Population view

Registries
Care Gaps
Case Mgmt, Outreach
Decision Support

Improve Workflows

Clinician Burnout
Sub-optimal EHR
Fragmented data
Lack of interoperability

Security, Privacy, Compliance

Google Cloud

Case Study: Maternal Health In Kenya

- Ultrasounds are effective in identifying potential issues in early pregnancy, but capturing and interpreting ultrasound is a complex medical imaging technique

- 50% of pregnant people in low-resource settings and more than that in Africa do not receive ultrasound screenings during pregnancy.

- AI models can make ultrasounds more accessible to lightly trained ultrasound operators in under-resourced settings.

- AI tools can support point-of-care ultrasound access for pregnant people.

Google Cloud for National Cybersecurity

Google Cloud is helping Governments protect their Information and Infrastructure

Chronicle CyberShield

A Central **secure and intelligent platform** to provide countrywide **Cyber Defence** to **protect** what is **critical** to a nation

Google Cloud Security Platform for Governments

Cultivate a collaborative culture of enhanced security and threat awareness with **security governance at scale**

Reduce the impact and severity of cyber attacks to Critical National Infrastructure and **secure the nation**

Accelerate innovation and drive repeatable outcomes through a **secure and reliable Cloud**

Empower the government entities with advanced skills and capabilities to **defend against tomorrow's attacks today**
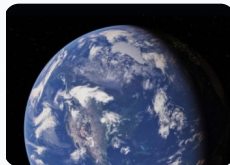
Google Cloud
Transforming Mining

Google Cloud is Transforming Mining

Helping Governments and Mining companies sustainably work towards economic growth of countries and communities

Sustainability and Social Responsibility

Climate

Community

Safe and Secure Operations

Reduce risk above and below surface

Transformation and Future Commodities

Digital Site Exploration

How can we help you accelerate digital transformation in the AI transformation era?