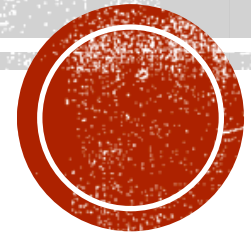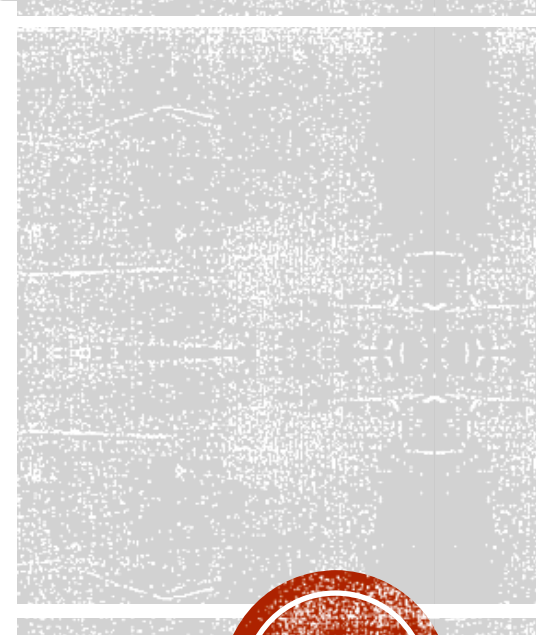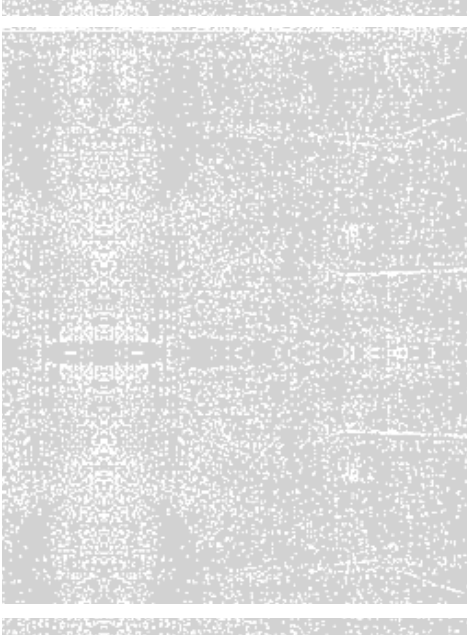# ARTIFICIAL INTELLIGENCE (AI) AND ECONOMIC GROWTH: OPPORTUNITIES AND CHALLENGES FOR AFRICA

BY:

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Feb 23, 2021

FES & EPRN Rwanda Discussion

WHAT IS ARTIFICIAL INTELLIGENCE (AI)?

- AI: computer systems that are able to learn from their surroundings and act like humans. They sense the environment, think, learn, and can take action in response to what they're sensing.

- Action taken can be in a form of information delivery (alerts to people) or in some cases doing an actual task by the machine itself.

- Key thing here is data/information because that's how the system is able to learn

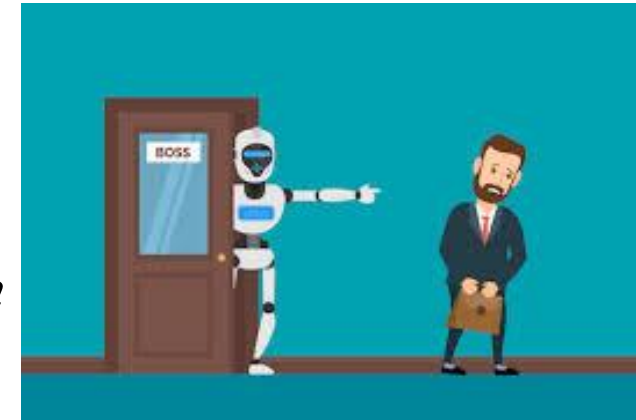# HOW AI WORKS:

data → Collected and Analyzed → **ALGORITHM**

→ new information → Learns

→ Existing information → Makes decision
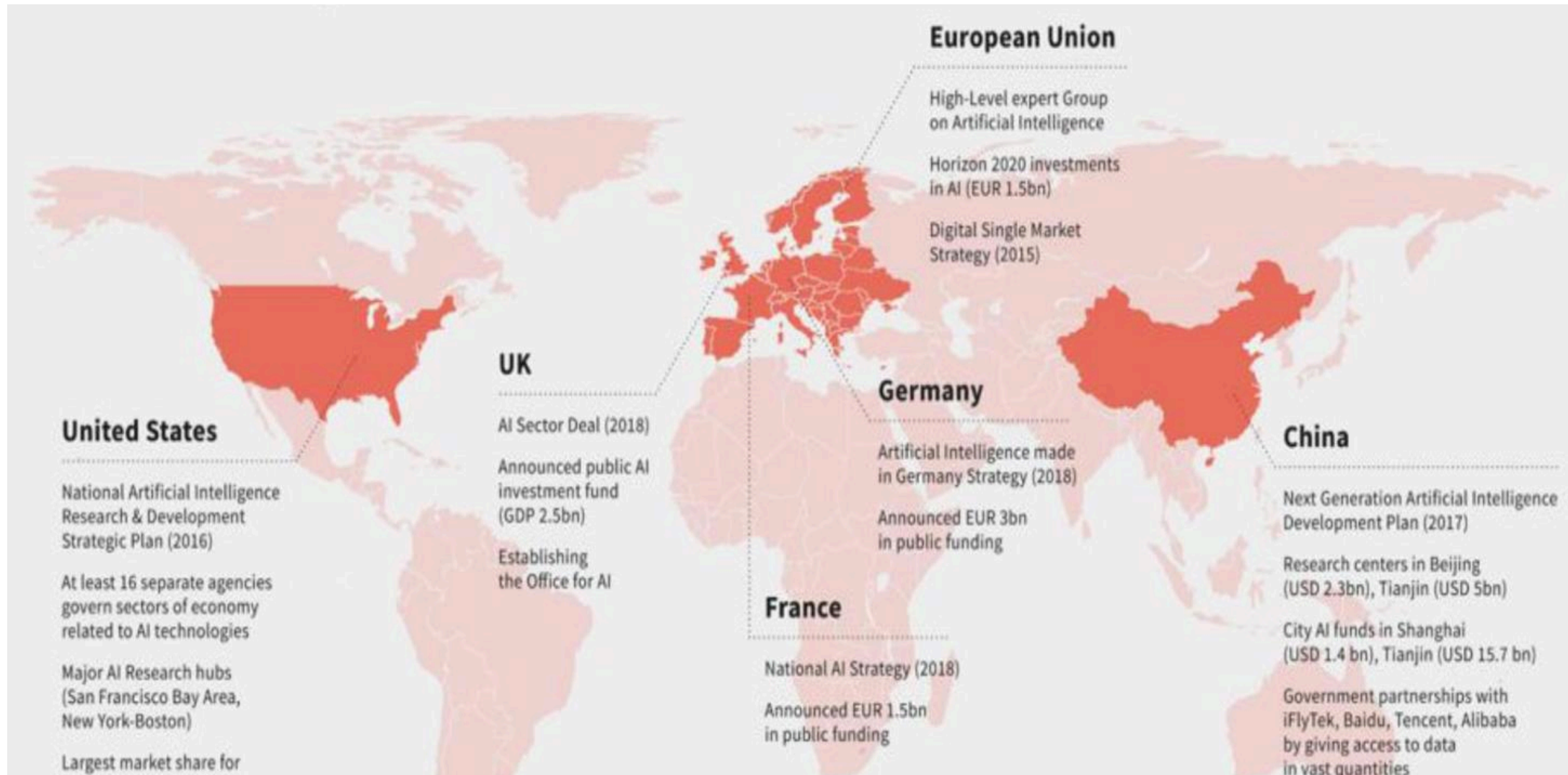
Examples of tools that use AI
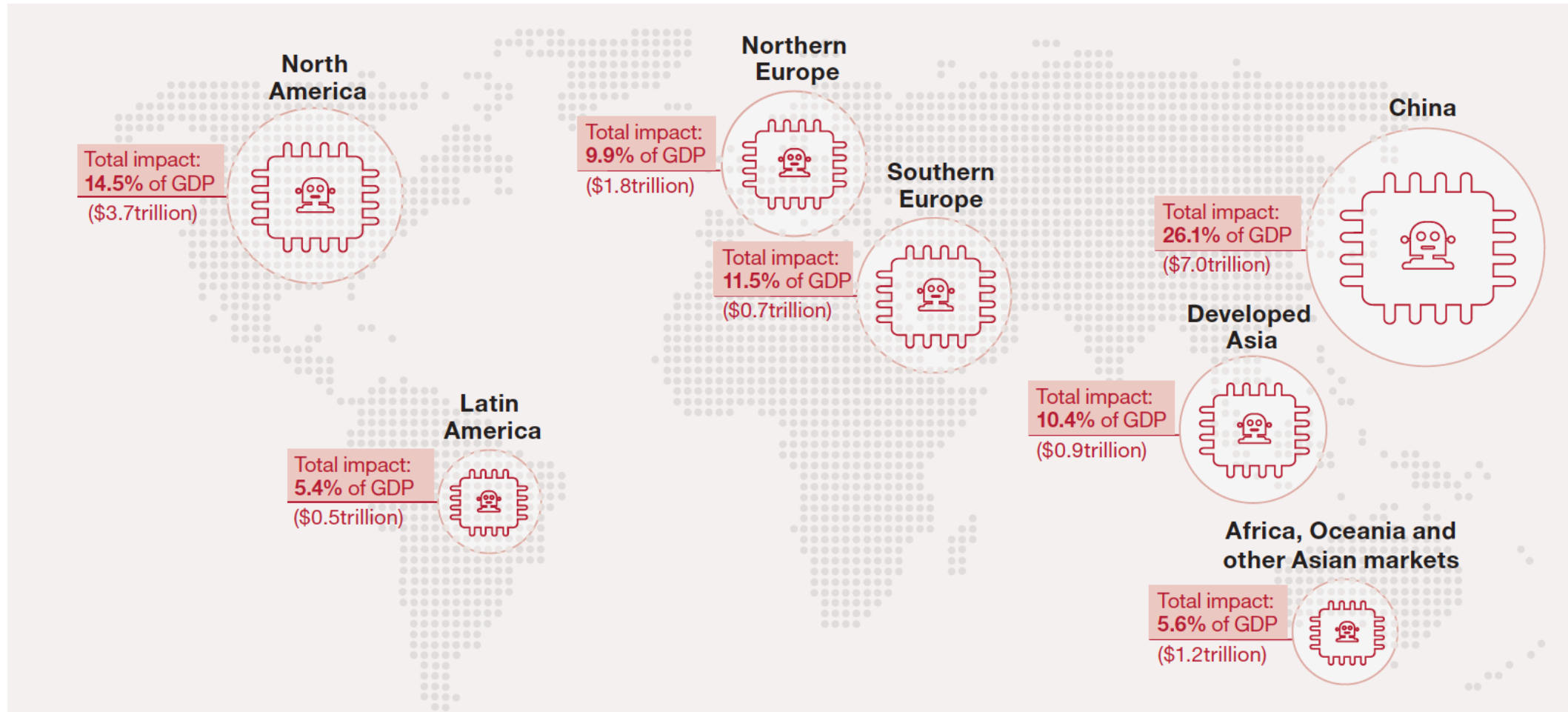(1) Global Positioning System (GPS)
(2) Social Media

AI STRATEGY AROUND THE WORLD

European Union

High-Level expert Group on Artificial Intelligence

Horizon 2020 investments in AI (EUR 1.5bn)

Digital Single Market Strategy (2015)

UK

AI Sector Deal (2018)

Announced public AI investment fund (GDP 2.5bn)

Establishing the Office for AI

United States

National Artificial Intelligence Research & Development Strategic Plan (2016)

At least 16 separate agencies govern sectors of economy related to AI technologies

Major AI Research hubs (San Francisco Bay Area, New York-Boston)

Largest market share for

Germany

Artificial Intelligence made in Germany Strategy (2018)

Announced EUR 3bn in public funding

France

National AI Strategy (2018)

Announced EUR 1.5bn in public funding

China

Next Generation Artificial Intelligence Development Plan (2017)

Research centers in Beijing (USD 2.3bn), Tianjin (USD 5bn)

City AI funds in Shanghai (USD 1.4 bn), Tianjin (USD 15.7 bn)

Government partnerships with iFlyTek, Baidu, Tencent, Alibaba by giving access to data in vast quantities

► https://www.forbes.com/sites/cognitiveworld/2019/11/27/the-artificial-intelligence-industry-and-global-challenges/?sh=2980b49d3deb

ESTIMATED AI IMPACT IN THE WORLD

North America

Total impact:
14.5% of GDP
($3.7trillion)

Northern Europe

Total impact:
9.9% of GDP
($1.8trillion)

Southern Europe

Total impact:
11.5% of GDP
($0.7trillion)

China

Total impact:
26.1% of GDP
($7.0trillion)

Latin America

Total impact:
5.4% of GDP
($0.5trillion)

Developed Asia

Total impact:
10.4% of GDP
($0.9trillion)

Africa, Oceania and other Asian markets

Total impact:
5.6% of GDP
($1.2trillion)

Sizing the Price: What's the real value of AI to your business and how can you capitalize, by PwC in 2018
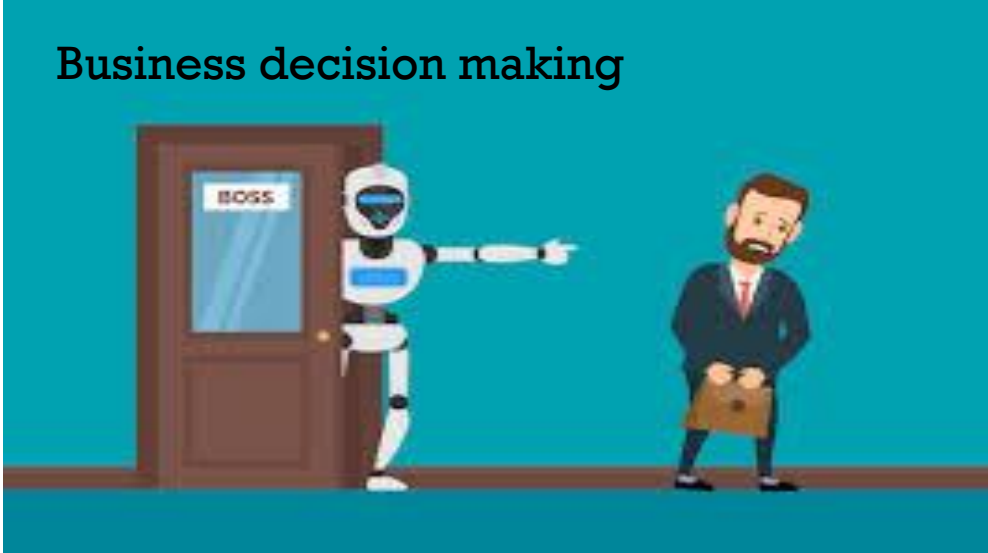
AI IN AFRICA

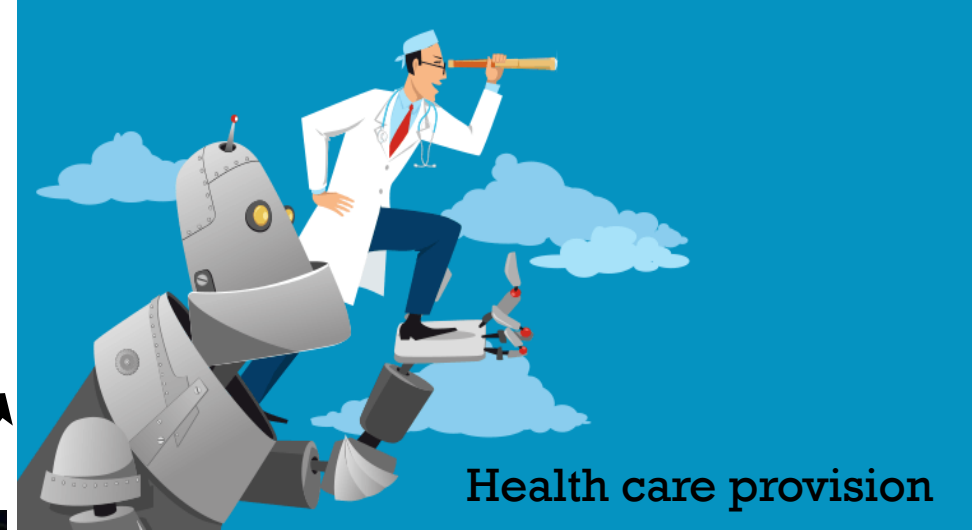Google's AI Center in Ghana

TensorFlow

AI OPPORTUNITIES IN AFRICA

CHALLENGES

Smart phones users

Low Educated population

Infrastructure (electricity & network)

WAY FORWARD

- Develop a strategy (national and continental)
- Improved education system and R&D
- Manufacturing
- Rwanda's position

THANK YOU!

Q & A ?