# 9th AU Private Sector Forum

Robotics & Artificial Intelligence in the African Context

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# What is Artificial Intelligence

- Computerized system that performs tasks that are normally associated with people

- Enabled by advanced computing power, sophisticated algorithms and machine learning

- Encompasses compute methods such as: *advanced data analytics*, *computer vision*, *natural language processing*, *semantics graphs*, *machine and deep learning*

- **General AI** – ability of computerized systems to portray human-like intelligence across a multitude of tasks

- **Narrow AI** – Application of AI to accomplish a specific task or set of tasks

*AI will transform the way business operate and how people engage with the world*

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# What is Robotics

- Use of computer-controlled machines for automated design, construction, manufacturing and operational functions

- To a certain extent, it can be seen as the physical/mechanical manifestation of AI

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# Examples of AI

**Classic Examples:**

- Web searches, to enhance capabilities of search engines

- Talk-to-text technology

- Photo-tagging on social media

- Fraud detection technologies used on online commercial platforms

**More Elaborate examples:**

- Precision medicine e.g. advanced surgery, documentation of ailments

- Injury detection in emergency rescue missions

- Autonomous driving technology

*All the above examples have a direct relevance and application to Africa to improve access to information, reduce crime levels and to improve access to medical care*

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# Intel AI Initiatives

**Hack Harassment**

- cooperative effort with a mission to reduce prevalence and severity of online harassment

- The initiative develops an intelligent algorithms to detect and deter online harassment

**Collaborative Cancer Cloud**

- Partnership between Intel and Oregon Health & Science university, Ontario Institute for cancer Research, and Dana-Farber Cancer Institute

- Enabling the use of distributed machine learning to speed up discovery of new variants and biomarkers associated with cancer progression

# Future Challenges for Governments

## Invisible government

Government services become seamless and painless for citizens to use.

Commercial Services set the bar for Government Services delivery.

Private partnership to replace gov't operation

## Inclusive Government

Gov't need to accelerate Policy, Legislation and Trust

i.e. Inclusion of citizens and Business to help to transform Government.

## Real-time Decision making

Government uses real-time data as a basis of decision making and Policy changes.

Adjust for future trends

i.e. sectorial, unemployment

## Business Model & Technology

Advanced Technology will greatly impact Government on revenue and infrastructure spending.

Technology will replace human jobs at a pace not seen before

## Digital Citizenship

The need for electronic ID will require massive changes to regulations, laws and citizen trust and culture

# Implications for Governments

**Jobs**

Millions of jobs will be impacted by the Digital transformation in all industries

**Economy**

Government leaders need to accelerate the transformation of their country into the new Economy

**Skills Development**

Upgrade education to prepare people for the jobs/skills of the future

**digital inclusion**

Enabling Access & Affordability, Improving Digital Literacy and Financial inclusion

**Improve government services**

Citizens expectation are at all time high and Gov't need to embrace Digital Services

**Evolve Government IT infrastructure**
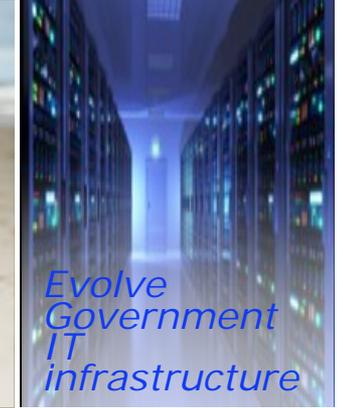
Modernize & Transform ICT to enable Digital Government eServices Platform foundation

# Public Policy Considerations

1. Foster Innovation and Open Development:
   - Promote investment in R&D and address barriers to AI/robotics development and adoption
   - Support AI use to address societal challenges such curing cancer, climate control and achieving inclusive economic growth

2. Create new human development opportunities and protect people:
   - Government should focus on retraining and upskilling the workforce to ensure that AI delivers inclusive growth

3. Liberate data responsibly:
   - Without severely compromising privacy, governments should make useful datasets available to public to enable Small and Medium businesses to offer services

4. Rethink privacy:
   - Adopt robust privacy laws based on Fair Information Practice Principles
   - Encourage privacy by design to ensure data is kept secure

5. Require accountability for ethical design and implementation:
   - Policy makers to encourage the application of the Information Accountability Foundation's (IAF) principles to AI.
   - Ensure right processes, policies, and resources are in place for IAF

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