

# AI & ML as future game changers in MENA



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AI Strategy



# UAE AI 2031 Strategy



**Saving 50% of annual costs using Artificial Intelligence**

## Energy

Facilities management and smart consumption

## Technology

Raising the percentage of production and communication effectiveness

## Education

Reducing costs and enhancing the desire to learn

## Transportation

Reducing accidents and operational costs

## Space

Accurate testing and reduction of costly error rates

**250**

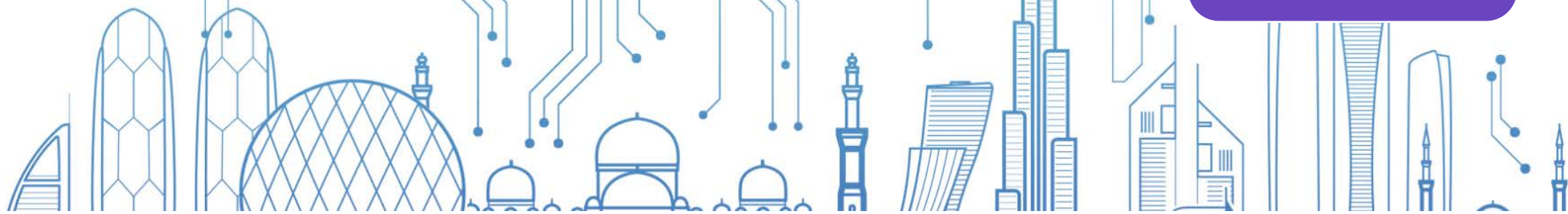
million paper transactions per year in the federal government

**190**

millions of hours a year are wasted because of transactions

**1,000**

million KM covering long distances in the UAE to finalize transactions



The UAE AI 2031 strategy is based on 5 drivers Energy, Technology, Education, Transportation, and Space Du as a telco provider in the UAE is supporting the realization of the 5 drivers

# UAE AI Strategy



## There are eight strategic objectives outlined in the AI Strategy:

Build a reputation as an AI destination.

Increase the UAE competitive assets in priority sectors through deployment of AI.

Develop a fertile ecosystem for AI.

Adopt AI across customer services to improve lives and government

Attract and train talent for future jobs enabled by AI

Bring world-leading research capability to work with target industries.

Provide the data and supporting infrastructure essential to become a test bed for AI

Ensure strong governance and effective regulation.

Technology  
Creation

versus

Technology  
utilization

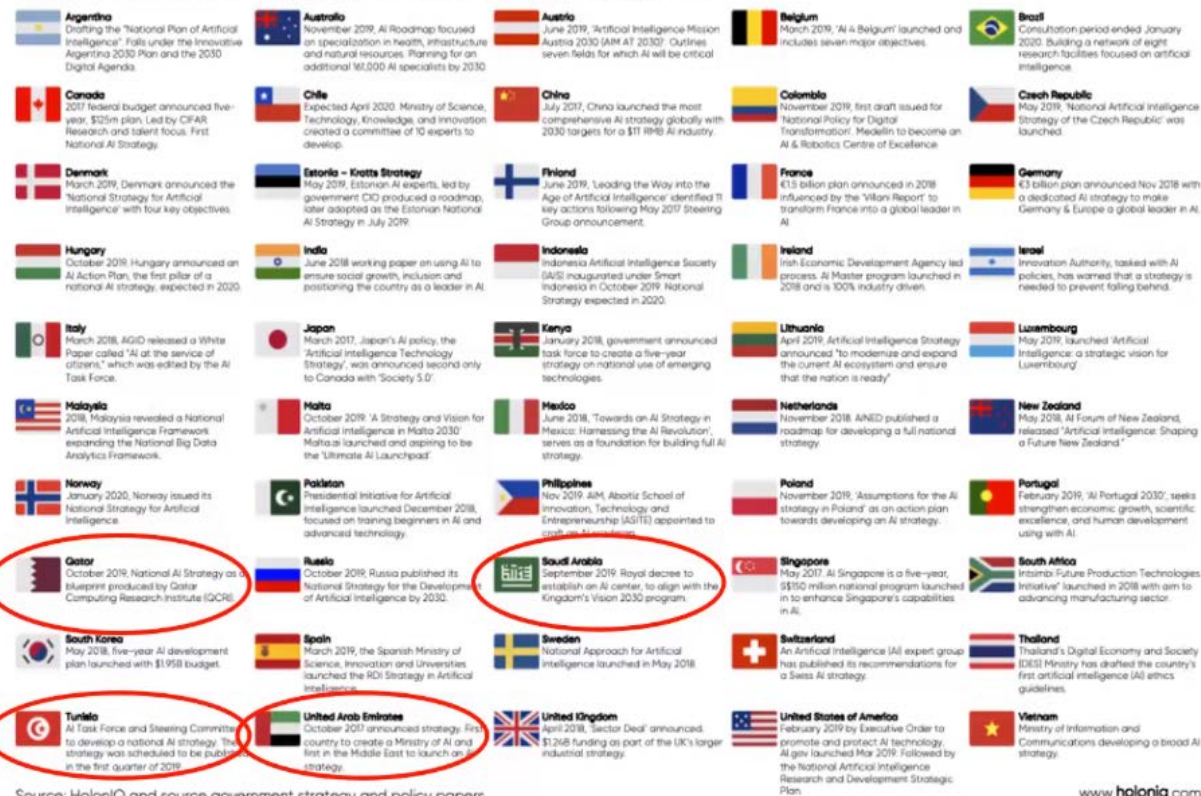




# Global AI strategy and position of MENA

## Global AI Strategy Landscape

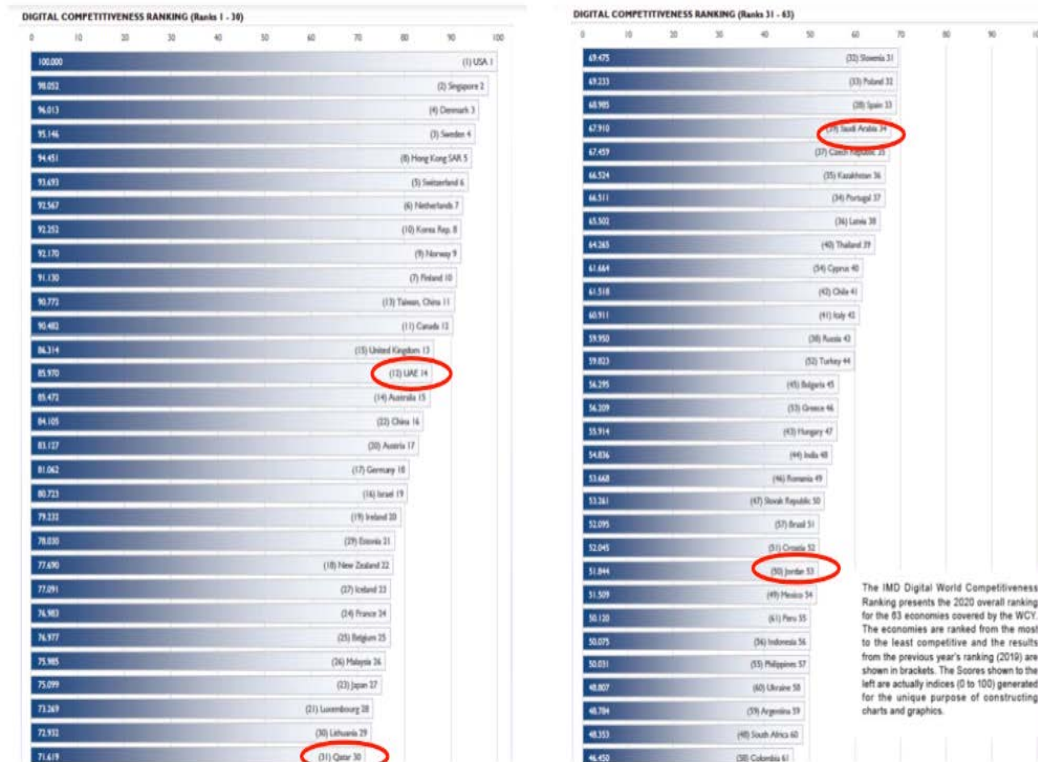
50 National Artificial Intelligence Policies as at February 2020.



Source: HoloniQ and source government strategy and policy papers.

www.holoniq.com

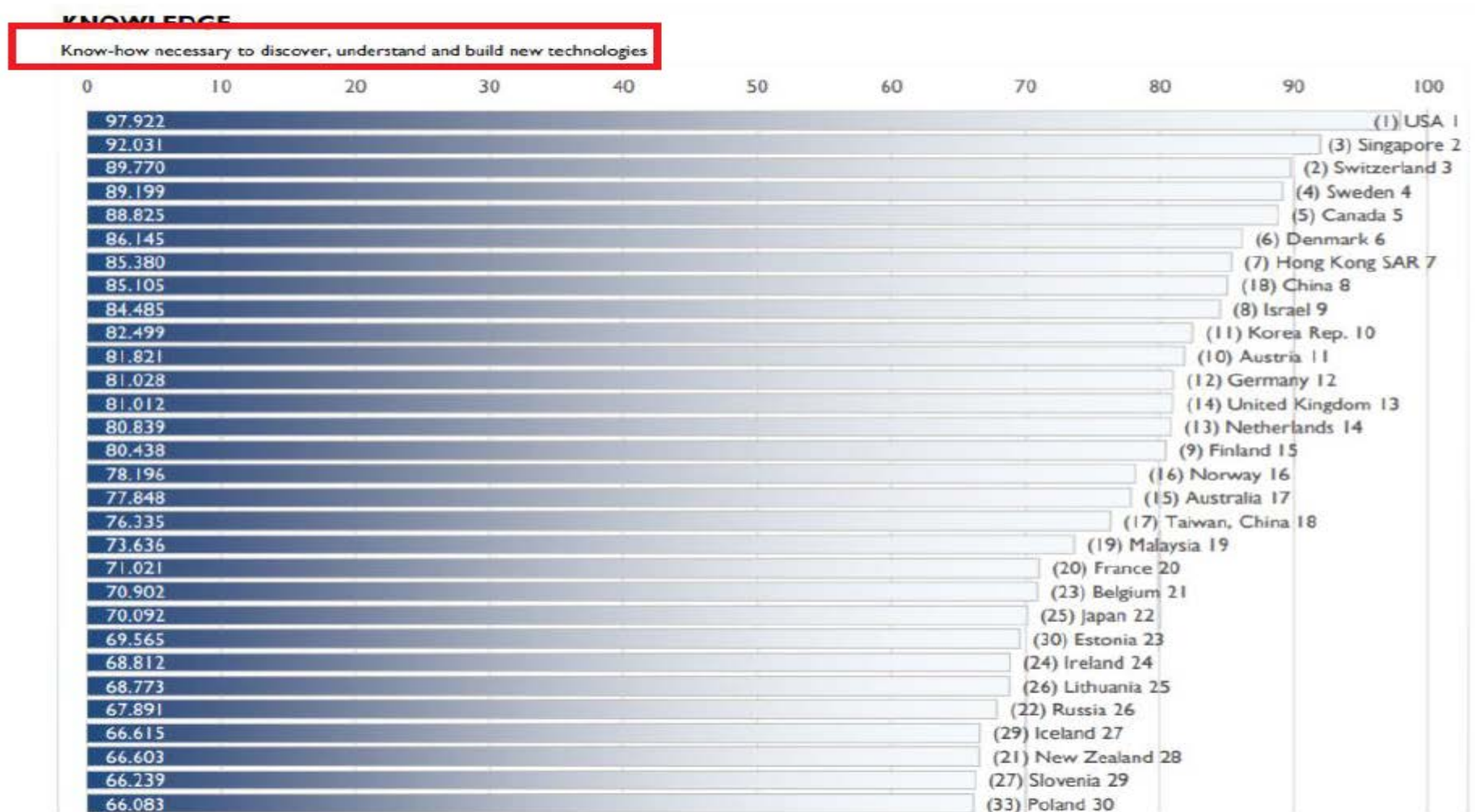
## Digital Competitiveness Index



The IMD Digital World Competitiveness Ranking presents the 2020 overall ranking for the 63 economies covered by the WCI. The economies are ranked from the most to the least competitive and the results from the previous year's ranking (2019) are shown in brackets. The scores shown to the left are actual indices (0 to 100) generated for the unique purpose of constructing charts and graphics.

According to the IMD WORLD digital competitiveness ranking 2020, MENA countries are ranking among the top countries globally in the Technology utilization and in the Future Readiness

# MENA position in Technology Knowledge creation



According to the IMD WORLD digital competitiveness ranking 2020, MENA is among the pioneer countries utilizing technology, unfortunately no MENA country is among the top 30 countries in Technology creation

# Motivations





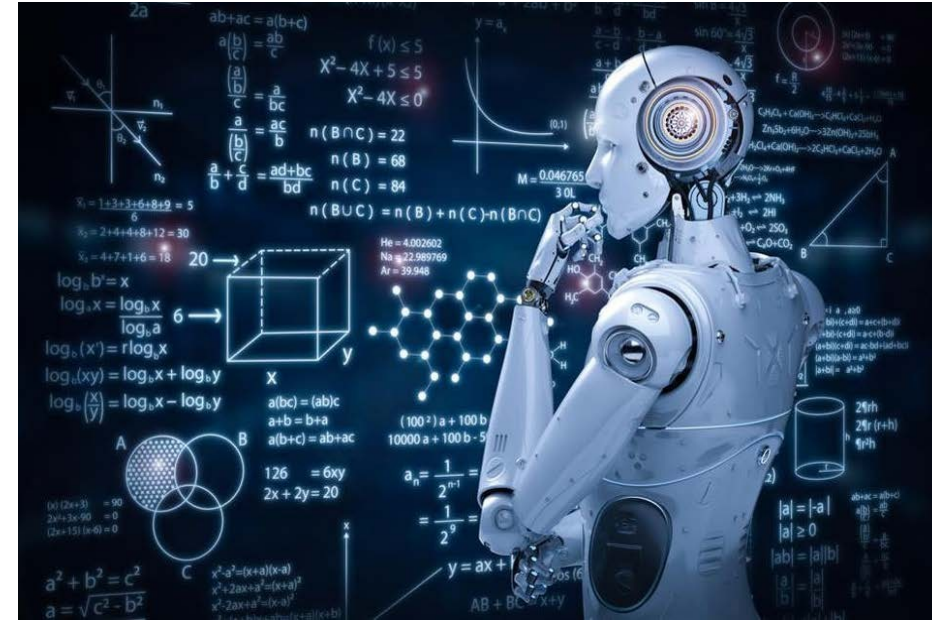
# AI ML adoption Motivation

As the IoT demand continues to increase, the need to support millions of connected endpoints at the same time will become increasingly critical.

Denser networks which will enable an exponentially denser number of simultaneous connections is a fact

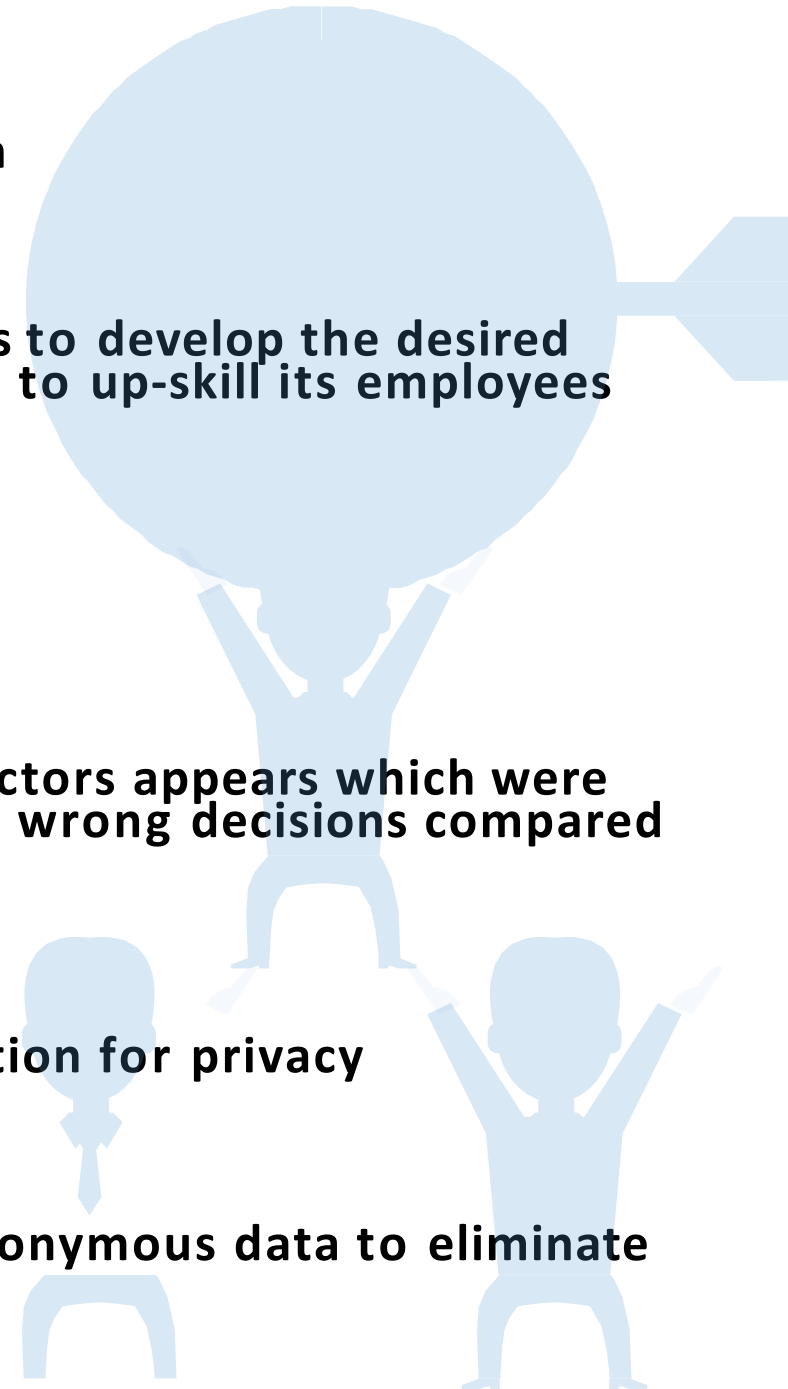
Data intensive use cases, such as AR/VR, autonomous driving, entertainment and education use cases are a daily demand.

Telco network require service provisioning and MEC to help solving the key challenges of bandwidth and latency



# AI adoption challenges

- **Availability of high quality, open data for training and evaluation**
- **High need for skilled data scientist and machine learning engineers to develop the desired solutions. Operators are currently customizing learning materials to up-skill its employees for the new change**
- **Lack of plug-in solutions and fear of vendor-lockin.**
- **Algorithms need a lot of testing before deployment as a lot of factors appears which were not taking into account before, some algorithms proven to take wrong decisions compared to human.**
- **Unified policies for AI usage to ensure ethical usage and no violation for privacy**
- **Worldwide defined framework and co-operation in exchanging anonymous data to eliminate bias in the datasets**



Du proposal  
and  
way forward



# Proposal



## AI- ML Framework

Creation of AI-ML framework to govern the wide spread need of AL ML.

## AI ML Use case Standardization

Standardization of AI ML program based on inputs and common goals from all stake holders based on well defined industry standards and manage the overall program on behalf of partner organizations

## AI ML Use case Certification

Leverage and creating certification criteria for AI-ML use case approval. Define certification criteria for any certification scheme

## Transformation

Implement the E2E Transformation concept to be a future ready

Unified MENA AI-ML Platform (MENA Sandbox)

AI-ML engine based on ITU, GSMA and Standards Bodies

Academia

Operators

Government entities

Start-Ups

Technology Enablers

Regulatory

# Proposal for AI/ML Lab setup in Du

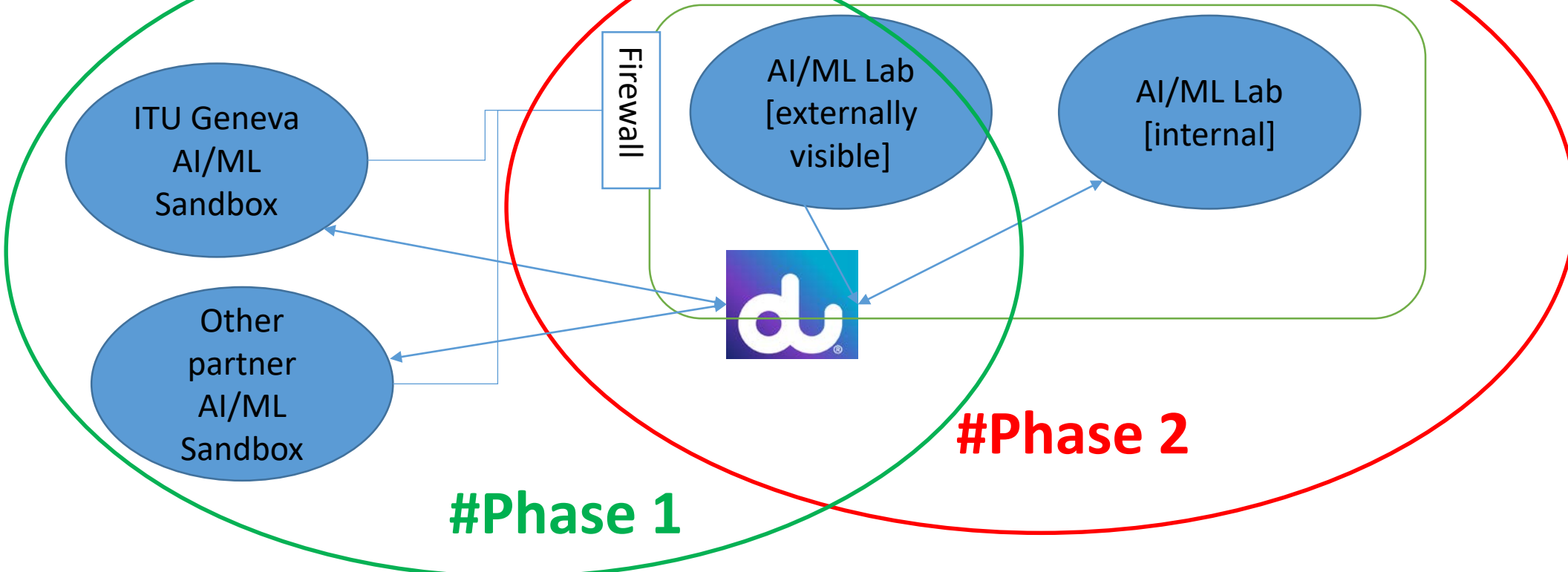


Du proposes to use ITU Geneva AI/ML Sandbox initially with the option later to build the MENA AI/ML Sandbox. Du will build the ecosystem in MENA involving all stakeholders to support the leadership vision and our own strategy

## AIM:

Take leadership position in monetizing interoperable AI/ML deployment in the network supporting:

1. To create productive, collaborative partnerships with industry, universities, researchers and Standards
2. For internal training of employees du AI/ML Lab
3. Participation in ITU AI/ML Challenge and ITU Journal

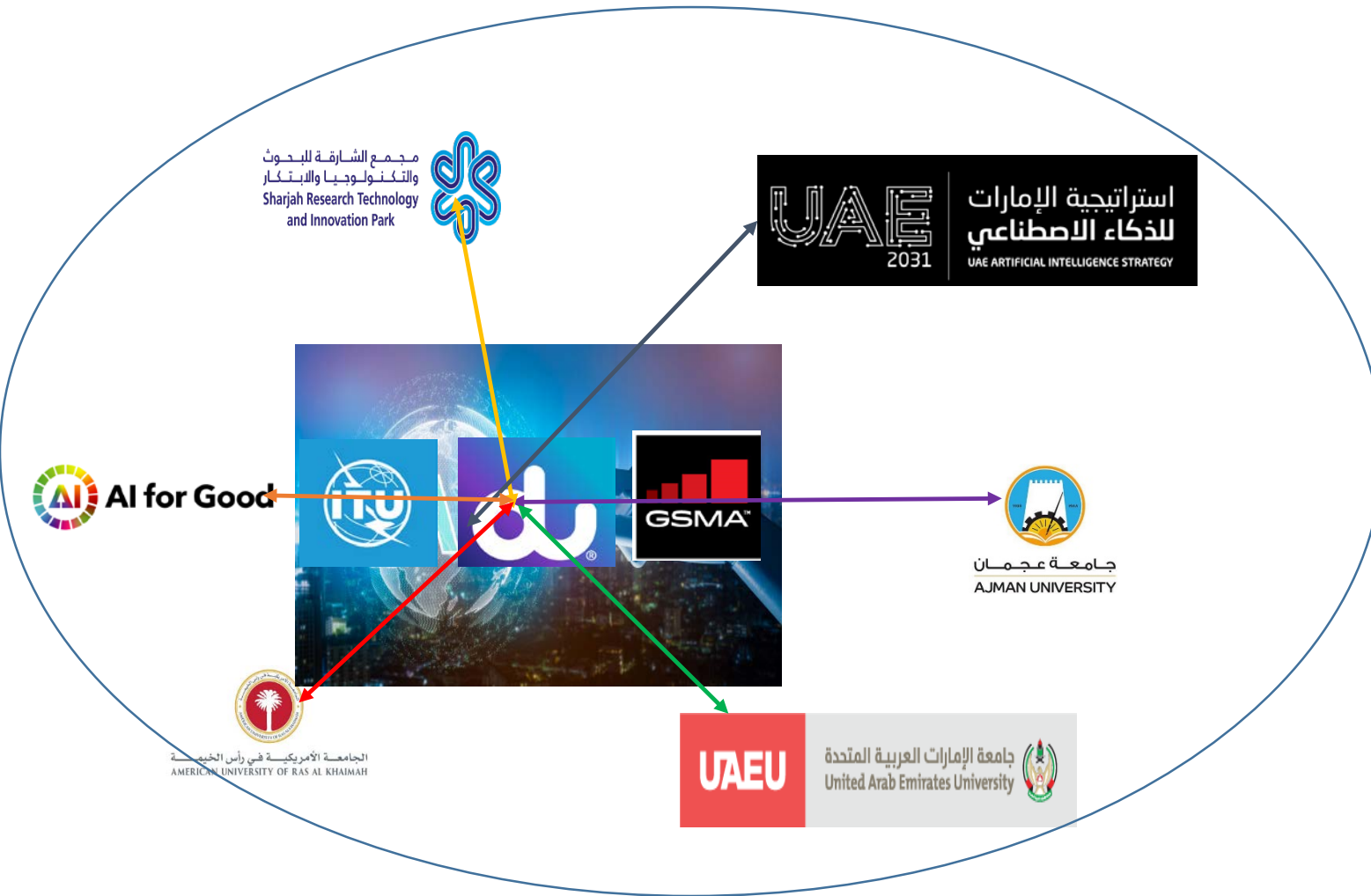




# 4B Module-Binding the Academia into the ecosystem



Link the ACADEMIA to the ecosystem and integrate their researchers, PhD candidates, and higher scholarship participants to the eco system, and support finding synergies between all ecosystem stakeholders.



## 4B Module

Building strategic partner

Building a consortium membership

Building POCs and products development

Building Knowledge sharing concept

Thank You!



Backup slides



# Ecosystem and the new industry vision

\$13.2 Trillion in global economic value by 2035\*



Precision agriculture  
\$389B



Construction and mining  
\$1,061B



Digitized education  
\$258B



Connected healthcare  
\$1,056B



Richer mobile experiences  
\$2,291B



Smart manufacturing  
\$4,687B



Intelligent retail  
\$1,198B



Smart city  
\$2,242B

\* Qualcomm Study May 11, 2020



# Healthcare



# Sales and Marketing



- Use computer vision to better detect and identify medical conditions.
- Quick and accurate diagnoses/prognoses.
- Recommend optimal treatments.
- Monitor patient vitals and alert personnel.
- Automate scheduling of medical personnel.
- Repetitive/overwhelming tasks.
- Enhance research for new treatments.
- Surgical procedures.

- Accurate/reliable sales forecasts.
- Generate more productive leads.
- Improve lead scoring by compiling data insights from multiple sources.
- Select the most valuable sales prospects.
- Determine how best to close sales.
- Optimize pricing information.
- Targeted advertising.
- More useful recommendations to customers.
- Advanced search engine capabilities.
- Computer vision enabling visual search and selection.
- NLP identifying customer attitudes.
- Improve marketing attribution.

## Case study:

<https://www.cognizant.com/case-studies/ai-based-preventive-care>

## Case study:

<https://www.ebayinc.com/stories/news/say-hello-to-ebay-shopbot-beta/>





## Finance and Economics &

- Manage digital money on a large scale.
- Use ANNs to identify fraudulent actions.
- Regulatory compliance activities.
- Normalize and enrich unstructured financial data.
- Financial advice and planning for customers.
- Enhance credit score accuracy.
- Predict stock market changes.
- Financial trading.
- Chatbots/NLP providing instant customer service.

### **Case study:**

<https://www.dataiku.com/solutions/use-cases/fraud-detection/>

## IT and Cybersecurity



- Store and retrieve data in optimal ways.
- NLP/computer vision enhancing software development.
- Efficient resource deployment/provisioning.
- Network and systems architecture optimizing performance/availability.
- Develop/train AI systems enhancing business processes.
- Risk management.
- Deep learning empowering threat monitoring and detection systems.
- Cybersecurity systems analyzing threats.
- Incident response/disaster recovery/business continuity.

### **Case study:**

[https://www.splunk.com/en\\_us/it-operations/artificial-intelligence-aiops.html](https://www.splunk.com/en_us/it-operations/artificial-intelligence-aiops.html)



# Manufacturing



# Transportation



- Robots performing dull/dangerous/difficult tasks.
- Efficient quality assurance/defect identification.
- Fault prediction in the supply chain.
- Integration of different parts of the supply chain.
- Inventory management.
- Energy waste reduction.
- Product design.
- Identify/address predictable flaws in machinery.
- Reveal insights into how to improve manufacturing processes.

## Case study:

<https://www.technologyreview.com/s/601045/thi-s-factory-robot-learns-a-new-job-overnight/>

- Self-driving cars.
- Distribution of product through self-driving trucks.
- Efficient ride sharing services.
- Scheduling/routing of public transportation.
- Computer vision used in dynamic mapping.
- Make critical safety decisions for passengers and pedestrians.
- Improve passenger comfort.
- NLP processing verbal instructions.
- Improve automatic pilot systems on planes.
- Predict flight delays.

## Case study:

<https://localmotors.com/meet-olli/>



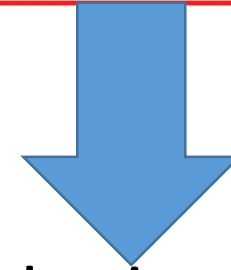
# Critical Infrastructure

- Monitor health of critical systems.
- Predict faults and other issues.
- Redundancy/resiliency measures.
- Integration of ICSs with specialized/legacy systems.
- Cybersecurity monitoring/analysis techniques.

## Case study:

<https://www.darktrace.com/en/products/#darktrace-industrial>

## Additional Use Cases



- **Chatbots enhancing customer service productivity.**
- **Data visualization/analytics enabling greater insights.**
- **NLP/computer vision enhancing experiences for those with disabilities.**
- **Select qualified candidates during hiring process.**
- **Collect and analyze environmental data from IoT devices.**