

الذكاء الاصطناعي و أهداف التنمية المستدامة

كيف يمكن أن يساعد الذكاء الاصطناعي في تحقيق أهداف التنمية المستدامة

AI and SDGs

How Artificial Intelligence can help achieve the Sustainable Development Goals

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مدير قطاع المواطنة ب IBM لشمال إفريقيا IBM Corporate Citizenship Manager for North Africa

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IBM's principles for AI

Purpose

AI is for “augmenting intelligence” and supporting what humans do, not replacing them.

Transparency

Your data is your data; Committed to transparency about how our systems were trained and the data used to train them.

Skills

AI systems must be trained by and support human professionals in the industry.



Understand



Reason

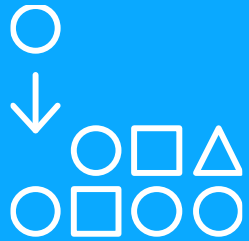


Learn3

82% of digital information is unstructured, AI helps to make the invisible data visible

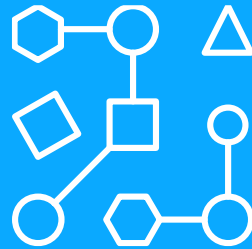
What do we mean by artificial intelligence?

ماذا نعني بالذكاء الاصطناعي؟



Understand

Uses all forms of data, structured and unstructured, text and rich media



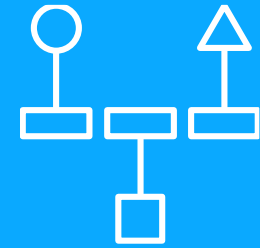
Reason

Facilitates evidence-based, confidence-weighted decisions & discovers patterns in data



Adapt

Learns and adapts with use, actions, outcomes and new data to stay current

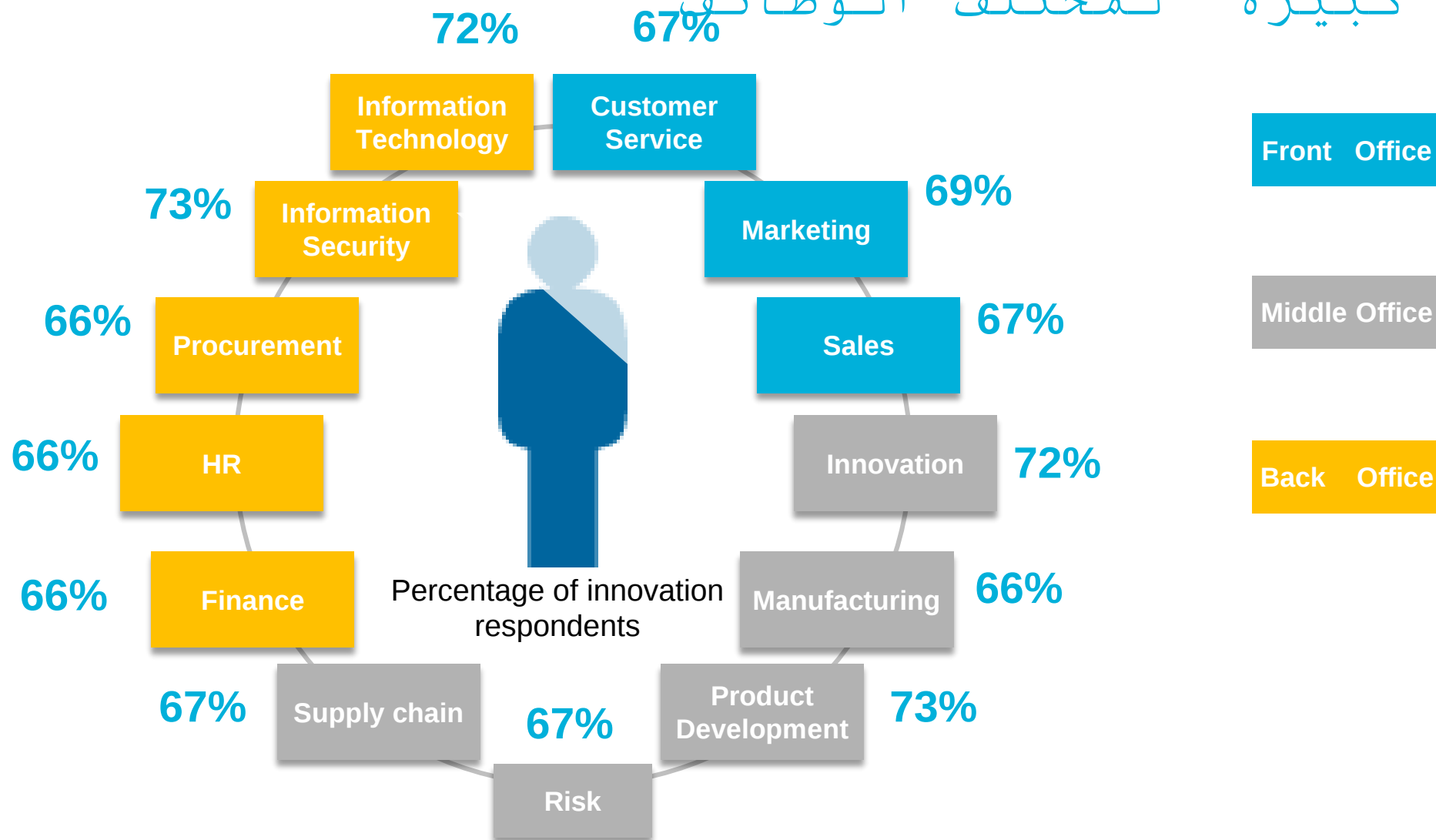


Interact

Natural language allows conversational style interaction

Two-thirds of innovation heads see AI adding significant value across functions

يُجد ثلثا رؤساء الابتكار أن الذكاء الاصطناعي يضيف قيمة كبيرة لمختلف الوظائف



Humans and AI systems have complementary capabilities

للإنسان وأنظمة الذكاء الاصطناعي قدرات متكاملة

Humans excel at

- Common Sense (with bias)
- Morals
- Imagination
- Compassion
- Dilemmas
- Abstraction
- Dreaming

AI Systems excel at

- Locating Knowledge
- Natural language pattern
- Identification
- Machine Learning
- Eliminating Bias
- Providing Endless Capacity



Some types of AI technology

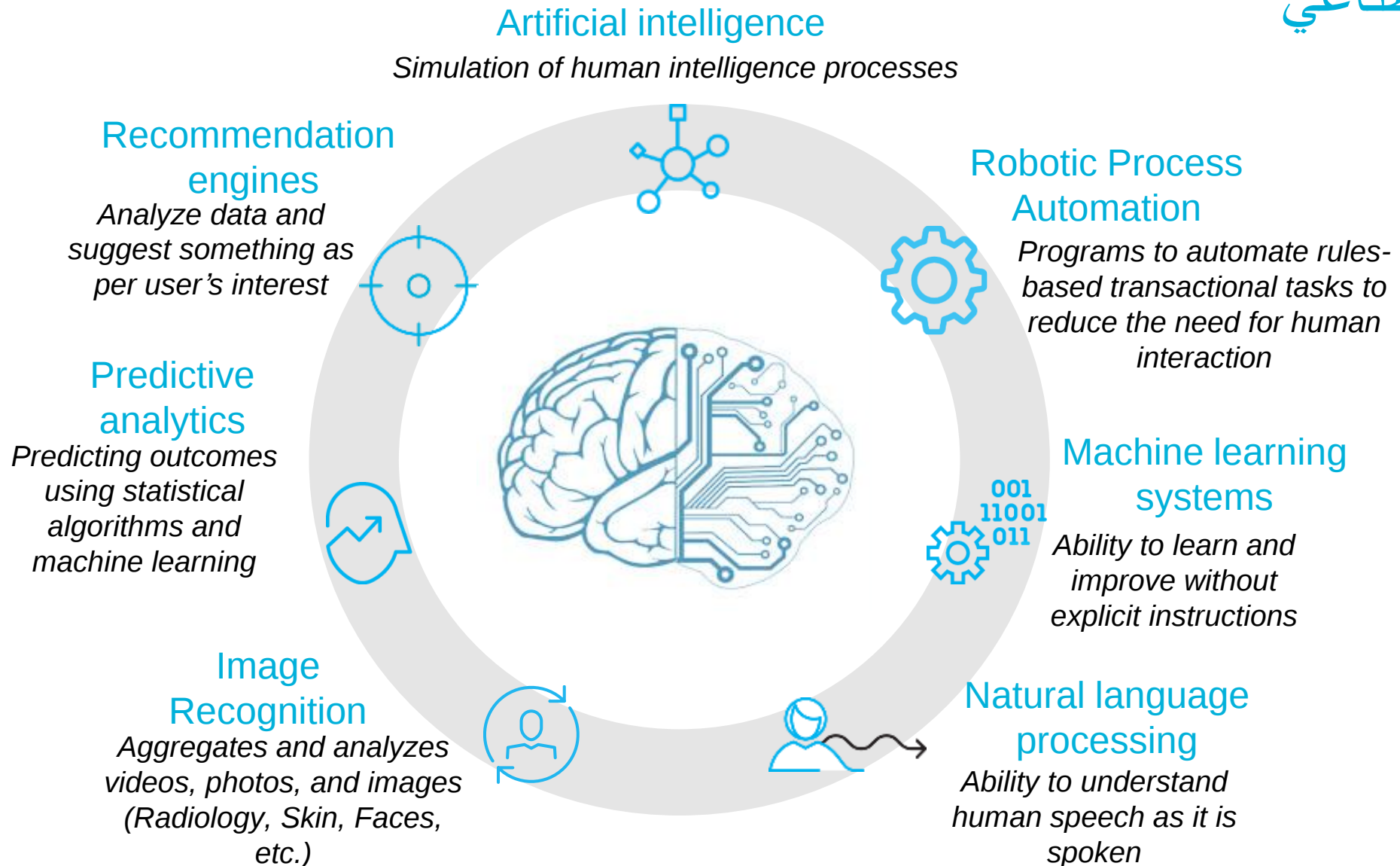
بعض أنواع تكنولوجيا الذكاء

الإصطناعي

Key Capabilities	Common applications
Text Analysis	Sentiment Analysis, Natural Language Processing, Natural Language Understanding
Text to Speech	Processes text and natural language to generate audio output
Information Search and Discovery	Aggregate and visualize large volumes of structured and unstructured data
Image Recognition	Aggregates and analyzes videos, photos, and images (Radiology, Skin, Faces, etc.)
Natural language	Virtual agents and chat bots that can integrate and communicate with any channel or device
Personality Insights	Derives insights from text to identify psychological traits
Robotic Process Automation	programmes to automate rules-based, transactional tasks to reduce the need for repetitive human interactions

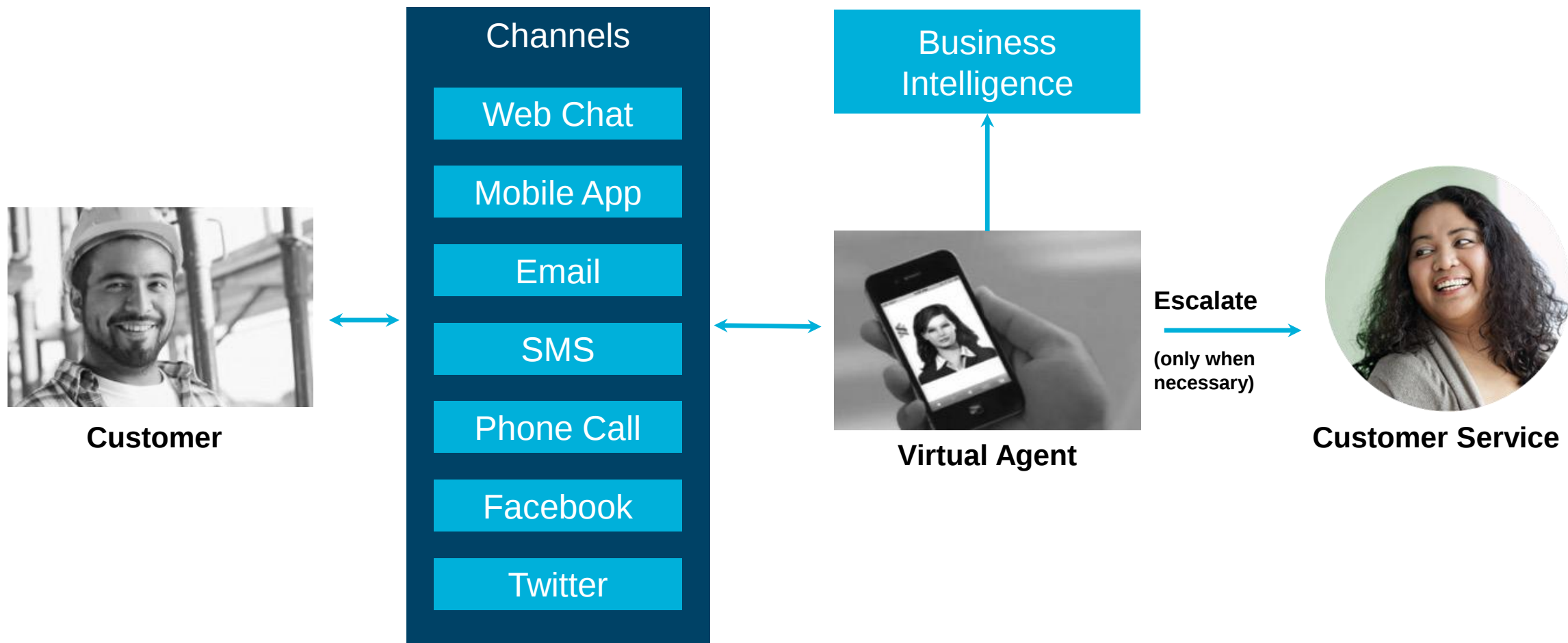
Some types of AI technology

بعض أنواع تكنولوجيا الذكاء الاصطناعي



Most industries are rapidly adding chat boxes and virtual agents...

معظم الصناعات تقوم بإضافة صناديق دردشة ووكلاء افتراضيين ...



...to streamline service and answer routine questions

...من أجل تبسيط الخدمة والإجابة على الأسئلة الروتينية



Citizen Jack

"I **hate going to the office**, and I **hate calling**, caseworkers are so busy it's impossible to reach them"

"What can I apply for? Am I eligible to apply for these programmes?"

"What proof do I need to provide?"

"What's the status of my application?"

"I need to change an address"

Case
Manager
Maia



"This tasks and business processes are **taking too long**, is this the **best way** to do this?"

"The system should **guide me** though the process and what to do next."

"I want to feel **self-confident** in knowing where to get **answers to my questions** on my own."



شكر

Acknowledgement

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الهدف 1:
القضاء على الفقر

#1: End
poverty in all
its forms
everywhere



الهدف 2:
القضاء التام على الجوع

#2: End hunger, achieve food security and improved nutrition and promote sustainable

الهدف 3:
الصحة الجيدة والرفاه



#3: Ensure healthy lives and promote well-being for all at all ages



#4: Ensure inclusive and quality
education for all and promote lifelong

الهدف 5:
المساواة بين الجنسين

#5: Achieve gender
equality and
empower women
and girls



الهدف 6:
المياه النظيفة والنظافة الصحية



#6: Ensure access to
water and sanitation

الهدف 7:
طاقة نظيفة وبأسعار معقولة

#7: Ensure access to affordable,
reliable, sustainable and modern

الهدف 8:
العمل اللائق ونمو
الاقتصاد

#8: Promote inclusive and sustainable economic growth, employment and decent work for all



الهدف 9:
الصناعة والابتكار والهياكل الأساسية

#9: Build resilient infrastructure, promote sustainable industrialization and foster innovation

الهدف 10:
الحد من أوجه عدم المساواة



**#10: Reduce inequality
within and among countries**

الهدف 11:
مدن ومجتمعات محلية مستدامة

#11: Make cities inclusive,
safe, resilient and sustainable



الهدف 12:
الاستهلاك والإنتاج المسؤولين

#12: Ensure sustainable consumption and production patterns



#13: Take urgent action to combat
climate change and its impacts

#14: Conserve and sustainably use the
oceans, seas and marine resources





#15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss



الهدف 16:
السلام والعدل والمؤسسات القوية

#16: Promote just, peaceful and inclusive societies

الهدف 17:
عقد الشراكات لتحقيق الأهداف



#17: Revitalize the global partnership for sustainable development

كل هدف
مهم في حد ذاته ...



Each goal is
important
in itself ...



وكلهم
متصلون

كل هدف
مهم في حد ذاته ...



Each goal is
important
in itself ...

And they
are all
connected

In her opening speech, UN Deputy Secretary-General Amina Mohammed warned that despite profound potential for accelerating progress on the SDGs, if technological progress is not managed well, it risks exacerbating existing inequalities.

“The influence of technology on our societies should be determined by the actions of us, humans, not by machines,” she said. “Technology is here for us to explore and use for the benefit of all.”





REPUBL

THE FUTURE OF EVERYTHING

#SDGs #2030Agenda



Sustainable Development
in the Age of Rapid
Technological Change



AI and the SDGs

- AI has the potential to accelerate progress towards all SDGs.
- AI can certainly help solve some development problems but it is not a miraculous solution to all of them.
- AI can and does help
 - predict the effects of climate change, natural disasters and food shortages with greater speed and accuracy?
 - understand the really deep problems of human decision-making, use insights from data and come out with specific solutions for healthcare, energy and environment.
 - pinpoint the regions most in need, and better inform decisions in emergencies.
 - analyze satellite and other images to improve responses to humanitarian emergencies.
- AI also helps preserve some vulnerable communities by predicting the path of storms and tracking the spread of diseases.
- An innovative chatbot uses AI to advance progress on gender equality, health and education in rural areas of Pakistan by dispensing online advice on women's reproductive health, hygiene and safety to women and girls.

AI and the SDGs

- Improving the collection, processing and dissemination of health data and information can enhance patient diagnosis and treatment, especially for people living in rural and remote areas. Better data on climate and environmental conditions can also help governments better predict the occurrence of malaria, control the spread of the disease, and deploy medical resources more efficiently.
- AI can assess the learning capability of students and help them master subjects.
- AI is helping people with disabilities especially in communications.
- AI is also helping create smart sustainable cities.
- Climate change data analysis and climate modelling infused with AI predicts climate-related challenges and disasters.
- AI uses pattern recognition to track marine life migration, concentrations of life undersea and fishing activities to enhance sustainable marine ecosystems and combat illegal fishing.
- AI contributes to real-time energy optimization by predicting consumption peak times.
- The International Telecommunication Union maintains a global repository of AI-related projects, research initiatives, think tanks and organizations that aim to accelerate progress on the SDGs.

AI and the SDGs

- There are large disparities among countries in their readiness for AI. Developing countries can benefit from AI if used efficiently and timely.
- AI will disrupt Employment, but will create new opportunities and new job families.
- AI is not just about technology, about also about the ethics of using it. AI needs to be inclusive, transparent, and not biased.
- Digital ethics develop guidelines to make sure that autonomous agents comply with our moral and ethical standards.
- Data privacy should be more enforced to protect individuals' data.
- Several thousands of AI researchers around the world have signed the petition for a ban of autonomous weapons systems.
- AI needs to be democratized and not concentrated in a few countries and organizations.

IBM, AI and the SDGs

- IBM Watson teamed up with the XPRIZE Foundation in 2016 to lay up the IBM Watson AI XPRIZE.
- The AI XPRIZE offers \$5 million in prize money for teams to demonstrate visionary examples of how to use AI to tackle the worlds grand challenges.
- The prize is now in its 2nd round with 59 teams competing from 14 countries.
- A wildcard opportunity in December this year will allow aspiring teams to enter into the competition for the last time.
- Together with the already existing teams, they will compete for the grand prize to be presented at the TEDGlobal stage in 2020.



"لا يمكننا أن نرى سوى مسافة قصيرة ، ولكن
يمكننا أن نرى أن هناك الكثير يجب القيام به."

"We can only see a short distance
ahead, but we can see plenty there
that needs to be done."

Alan Turing, Computer Scientist (1912-1954)

Thank You

شكرا



