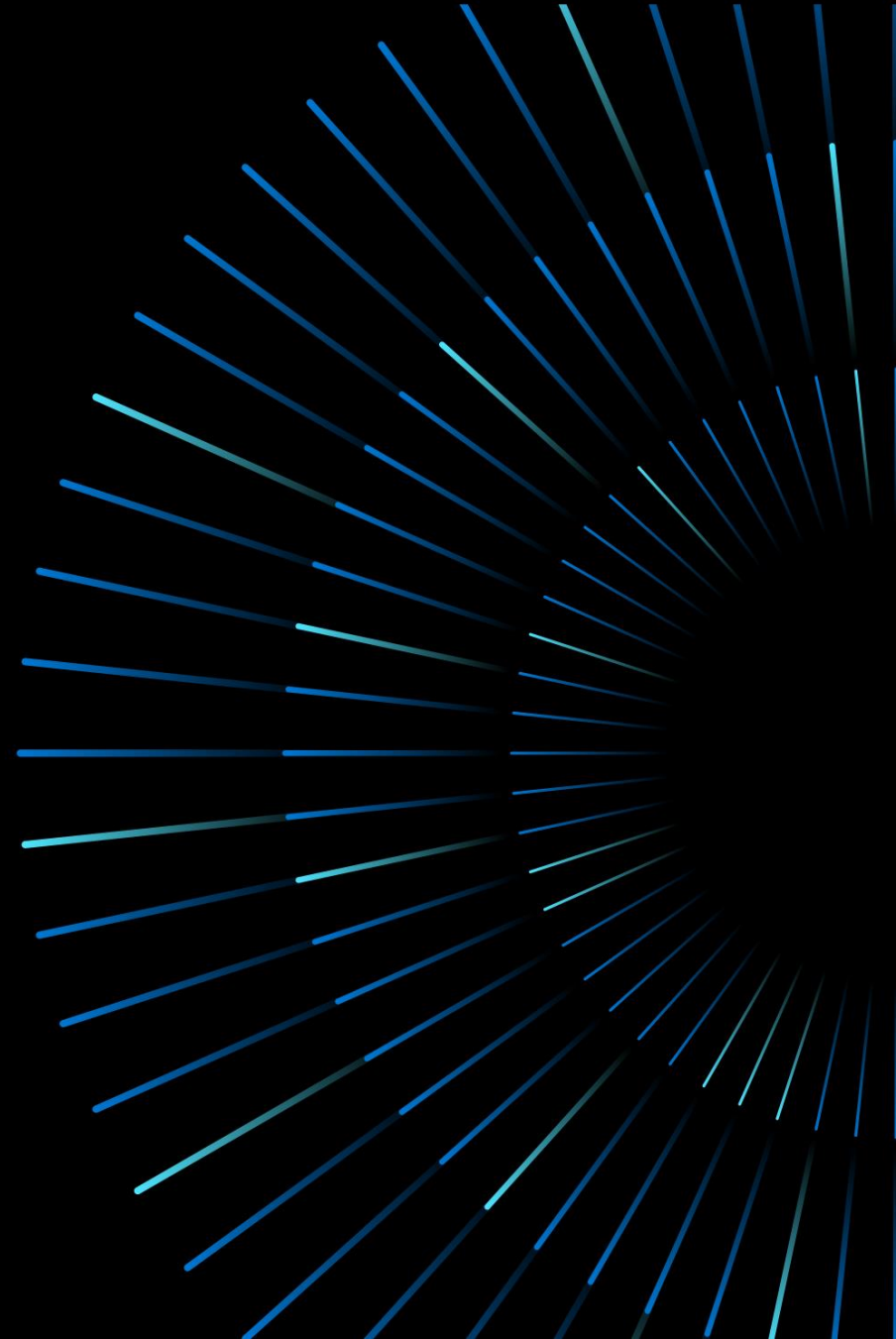


데이터 혁신으로 ESG 경영을 가속화하는 마이크로소프트

- Environmental, Social, and Governance

한국마이크로소프트 신용녀 NTO



The global impact of carbon in the atmosphere



World's temperature rising by 1.5 degrees



Extreme weather, wildfires, reduced agricultural yields and rise in infectious diseases



Rising seas could displace 200 million people



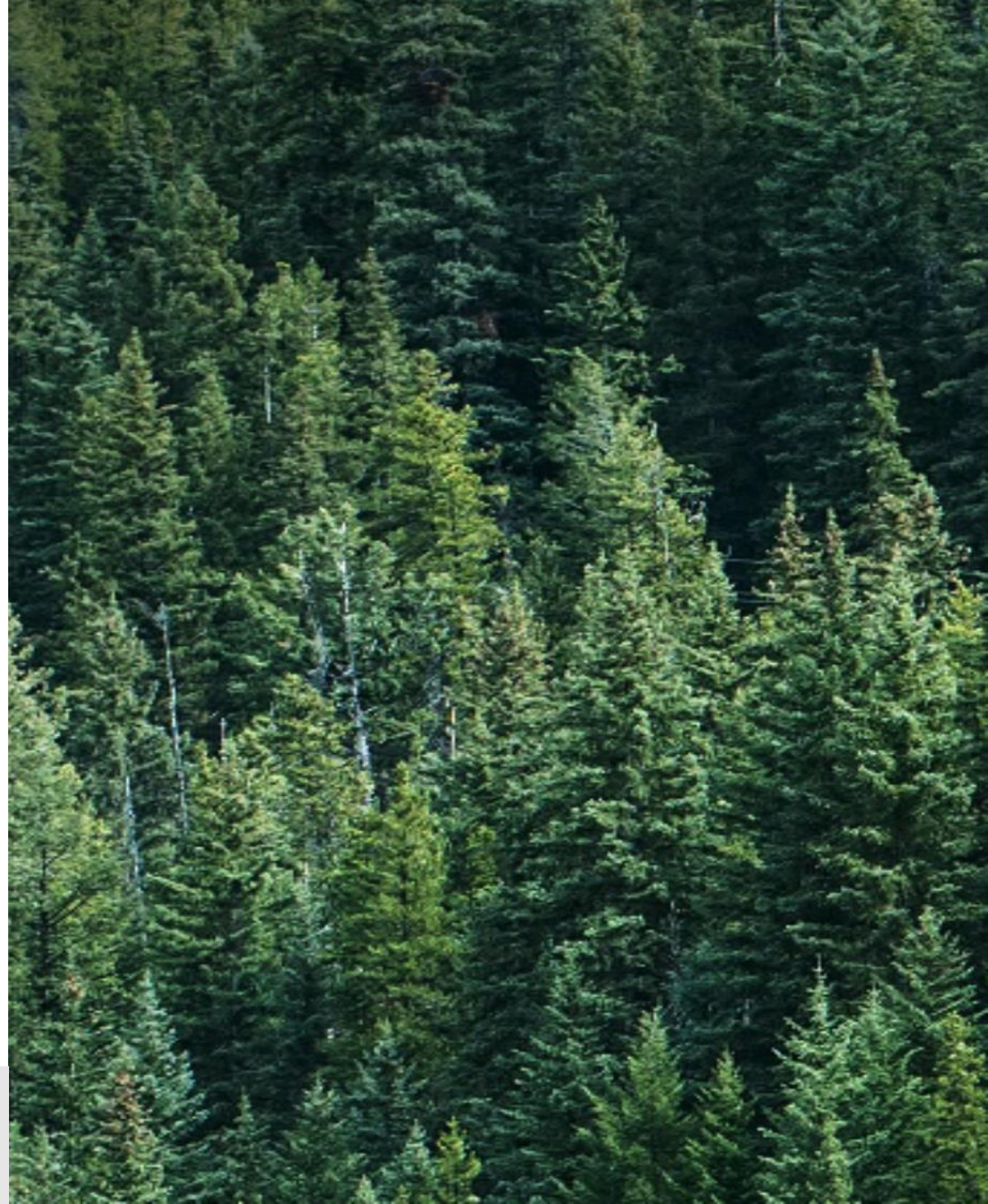
Drought and food shortages can impact more than 1 billion people

AI for Earth



Empowers people and organizations to use **planetary scale geospatial analytic tools** to develop conservation applications that improve the way we monitor, model, and ultimately manage Earth's natural systems

Aims to position **Microsoft Azure as the AI Platform for the Planet**



Focus areas

AI for Earth is focused on four areas that are vital in building a sustainable future:



Feed the growing world population



Conserve and protect water sources



Monitor and protect species from extinction



Reduce climate change impact on communities

AI for Earth

705

projects

107

countries



Increase access to cloud and AI technologies through grants



Provide education on cloud and AI and increase collaboration through our community



Fuel innovation through research and strategic partnerships

AI for Earth Grants, to date

705+ AI for Earth grantees in 107+ countries

To date, 28 Grants in APAC to 23 Organizations



AI for Earth

AI for Earth builds on Microsoft's commitment to sustainability by leveraging cloud and AI tools to help solve global environmental challenges by transforming how we monitor, model, and ultimately manage Earth natural systems. [Learn more.](#)

Display map by:



Area of impact

Filter by primary focus area

All

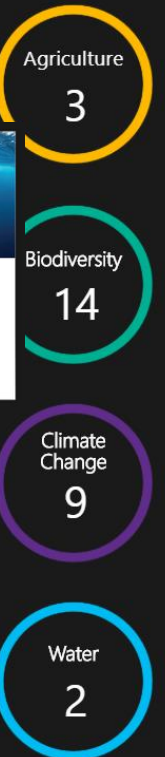
Filter by project country

Multiple selections

Search

<p>Towards lifelong biodiversity monitoring Malaysia • Biodiversity</p> <p>Accurate and efficient wildlife monitoring is crucial for</p>	<p>Studying winter fog in the Hindu-Kush-Himalayan region Nepal • Climate Change</p> <p>Heavy and persistent winter</p>	<p>Collaborative development of AI-enabled projects for urban flood risk reduction Indonesia • Climate Change</p>	<p>Connecting smallholder farmers to expertise, markets, and resources Indonesia • Agriculture</p> <p>Aggie Global works to break</p>	<p>Increasing the accessibility of remote sensing applications for managing disasters Singapore • Climate Change</p>	<p>Developing an early warning system for climate-change driven cholera Bangladesh • Climate Change</p>	<p>Modeling air pollution in Thailand for improved quality of life and environment Thailand • Climate Change</p>	<p>Using AI to classify and identify insect biodiversity in the Mekong Delta Vietnam • Biodiversity</p> <p>For decades, researchers have</p>
<p>Monitoring the conservation program in the Citarum Watershed Indonesia • Climate Change</p> <p>This project will apply AI to</p>	<p>Monitoring coral reef health through IoT smart buoys and AI (Project: CORail) Singapore • Biodiversity</p>	<p>Automating photo-identification of marine mammals using deep learning New Zealand • Biodiversity</p>	<p>Modeling and weather forecasting with deep learning Singapore • Climate Change</p> <p>The Singapore Institute of</p>	<p>Increasing the genetic diversity and competitiveness of New Zealand apiaries New Zealand • Agriculture</p>	<p>Applying machine learning to map groundwater levels in Bangladesh Bangladesh • Water</p>	<p>Saving the world's rarest dolphin New Zealand • Biodiversity</p> <p>The world's smallest and rarest marine dolphin is</p>	<p>Monitoring biodiversity with acoustic data analysis Nepal • Biodiversity</p> <p>Songs of Adaptation combines high-quality</p>
<p>Maukahuka Auckland Island cat camera footage New Zealand • Biodiversity</p> <p>Maukahuka Pest Free Auckland Island is an</p>	<p>Climate modeling for global-local rainfall predictions using deep meta-Learning with parallelized region-based segmentation in concept</p>	<p>Monitoring glaciers for adaptation to climate change Nepal • Climate Change</p> <p>A team from the University of</p>	<p>Enhancing the quality of citizen science data and predicting patterns of marine litter distribution New Zealand • Biodiversity</p>	<p>Pangolin Project Indonesia • Biodiversity</p> <p>2nd place winner of the 2019 Global Zoohackathon</p>	<p>Using AI to advance flood preparedness in developing countries Nepal • Water</p> <p>While still a PhD candidate</p>	<p>Optimizing coffee harvesting with AI Vietnam • Agriculture</p> <p>Coffee farming is a financially risky effort because the</p>	

Grants by primary focus area:



Wild Me

8

thousand
citizen scientists

200

researchers &
volunteers

10x

species
identified



Wild Me

Wild Me combines citizen science and AI to combat extinction, using Microsoft Azure to enable rapid individual animal identification and population analysis while decreasing the cost of data collection.

4. Wildbook on Microsoft Azure

Crowdsourced images travel to the cloud, where computer vision models use pattern recognition to identify the species and individual animal.



5a. Tracking animals

People can follow the movements of their favorite animals on Wildbook.



3. Image upload

Images travel to the cloud, either by direct user upload or by automated crawlers that scrape social media for wildlife pictures and videos.



1. Animal

An individual animal with unique patterns is in the environment.



2. Image Capture

A person (scientist or citizen) photographs the animal.



5b. Data insights

Aggregated data helps scientists monitor population sizes, animal interactions, and individual movements.



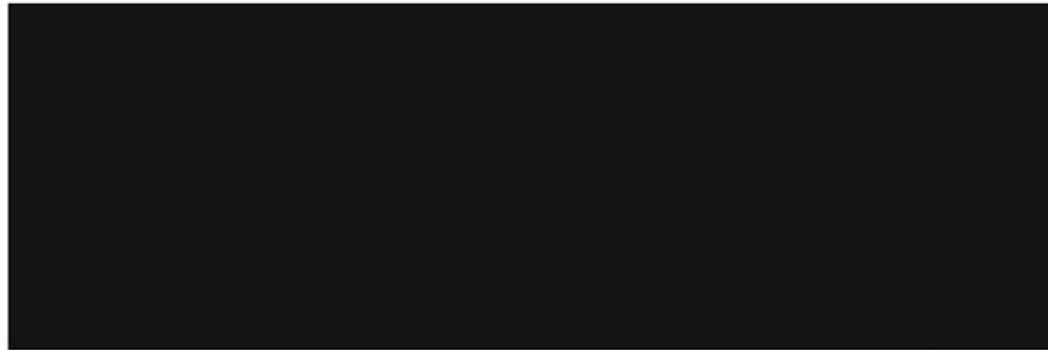
YouTube Video Source

Process

Intelligent Agent Process

Modules	Input	Output	Status
Detect language and translate	-	-	-
Text analysis and prediction	-	-	-
Extract video keyframes	-	-	-
Object detection and prediction	-	-	-
Extract text from video	-	-	-
Determine where and when	-	-	-

Output Logs



Next



Buceo con Dominós

24 views

2 likes 0 comments SHARE



Nuria Gonzalez

Published on Sep 26, 2017

SUBSCRIBE 12

Qué experiencia tan increíble nadar con los peces más grandes del mundo. El mes pasado fui honrado por este gigante suave con lunares. ¡La mejor inmersión! ¡Los tiburones ballena son mi nuevo favorito!

SHOW MORE

2 Comments

SORT BY



Add a public comment...



Arturo Lopez 1 year ago

OceanMind

60%

fully fished

30%

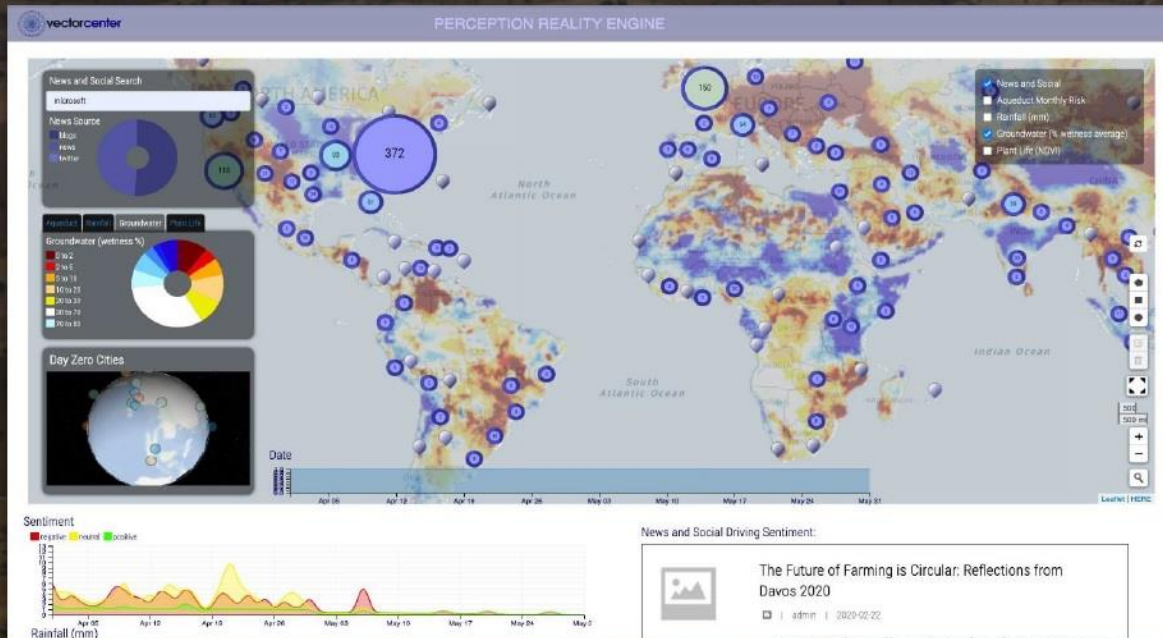
overfished

10%

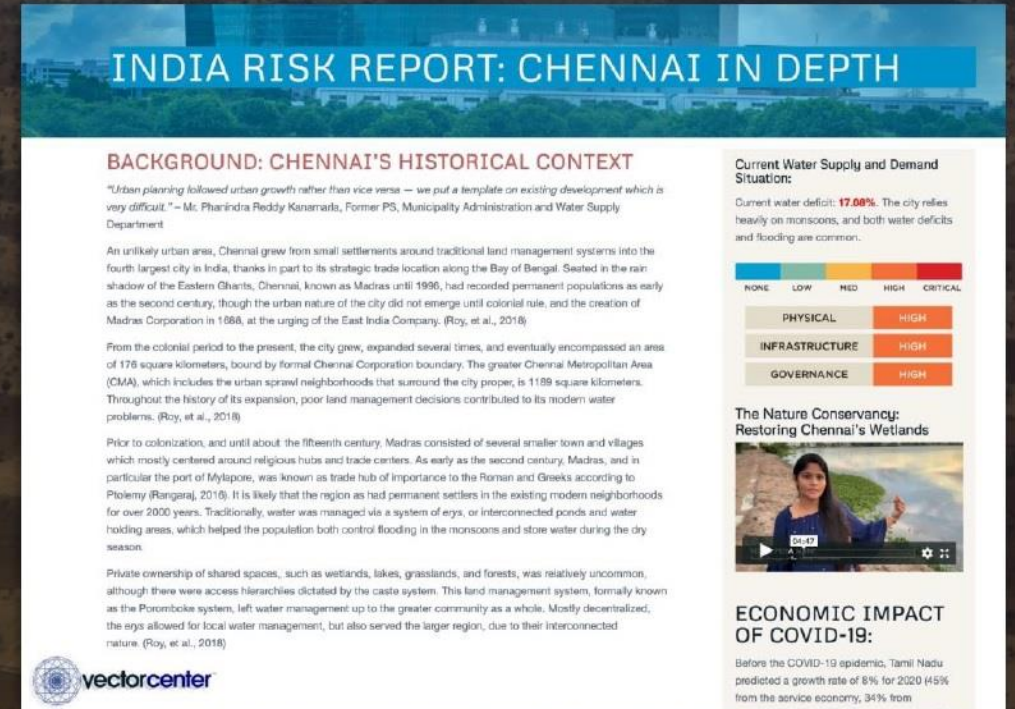
fishable

Vector Center

Helping the world avert water crises through AI



Predictive modeling for both perception and reality data to help predict future water crises



In depth reports help companies, NGOs and governments mitigate water risk

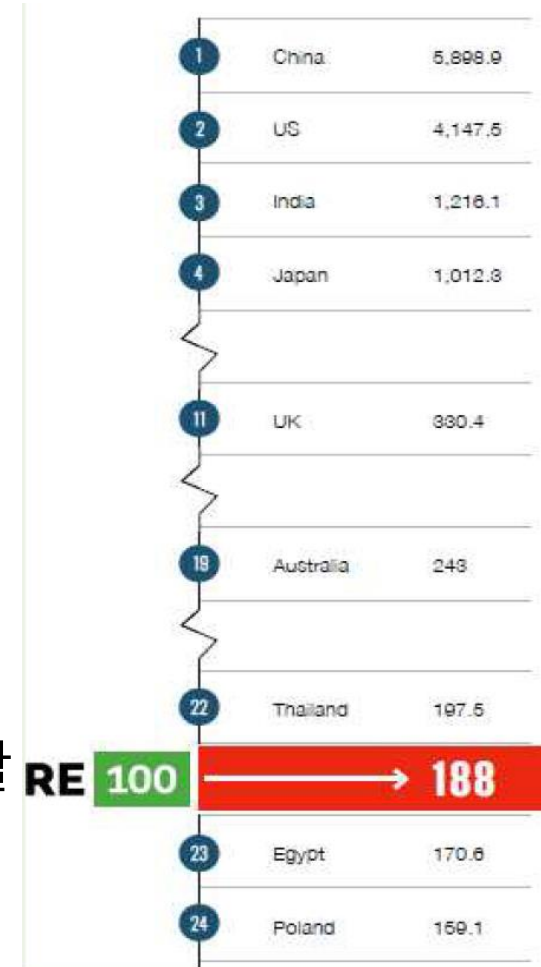


탄소배출량을 낮춰
비즈니스의 지속가능성을
실현



기후변화 대응, 저탄소 경제 전환에 대한 민간의 자발적 대응 RE(Renewable Energy) 100

- 저탄소 경제 전환은 일반적으로 국제협약(2015년 파리협약)을 계기로 국가 주도의 정책으로 시작
- 탄소배출량이 많아지면 국가의 불이익이 되고 기업의 불이익으로 이어져 기업의 리스크가 될 수 있음
- 탄소 발생이 많은 나라는 불이익을 받음
- **기업 활동에 필요한 에너지 전부를 재생에너지로 충당하겠다는 산업계의 자발적인 이니셔티브**
- 연간 사용하는 전력 규모를 국가와 비교하면 세계 23번째 국가 규모에 해당할 정도로 소비량이 많음



RE100 참여기업의 연간 전력 사용량 규모 (2018)



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+1 503 279 9383
GreenElectronicsCouncil.org

Purchasers Guide for Sustainability and Cloud-Service Procurements

March 2019

GREEN ELECTRONICS COUNCIL

Advocating for sustainable IT by supporting both manufacturers and large
scale purchasers.

[SEARCH THE REGISTRY](#)

en Public Procurement Training.

Computers & Display

Datacenter efficiency

93%

more energy
efficient cloud

98%

more carbon
efficient cloud



driving
industry R&D

State of IOWA,

Direct Evaporate Cooling System (직접적인 증발 냉각) : 냉각기에 물을 뿌림



60.7%

The new Surface Pro X consumes 60.7% less energy than the original Surface Pro launched in 2013.



Packaging



Our device packaging is now made from >70% recycled materials.



Sustainability Calculator

Customer: Contoso

Months

Multiple selectio...

Region

All

Azure service type

All

Calculations in this tool are estimates. For more information on methodology, see the FAQs. [i](#)

Select the efficiency of your on-premises infrastructure:

Low

Azure emissions and savings (MTCO2e)

478

MTCO2e from on-premises alternative

- 380

MTCO2e saved from Microsoft efficiencies

- 72

MTCO2e saved from Microsoft renewable energy purchases

26

MTCO2e emissions from Azure



↓ 95%

Reduction in MTCO2e



↓ 452

MTCO2e saved



↓ 1M

Equivalent reduction in vehicle miles travelled

MTCO2e: metric tons carbon dioxide-equivalent; values may not sum due to rounding

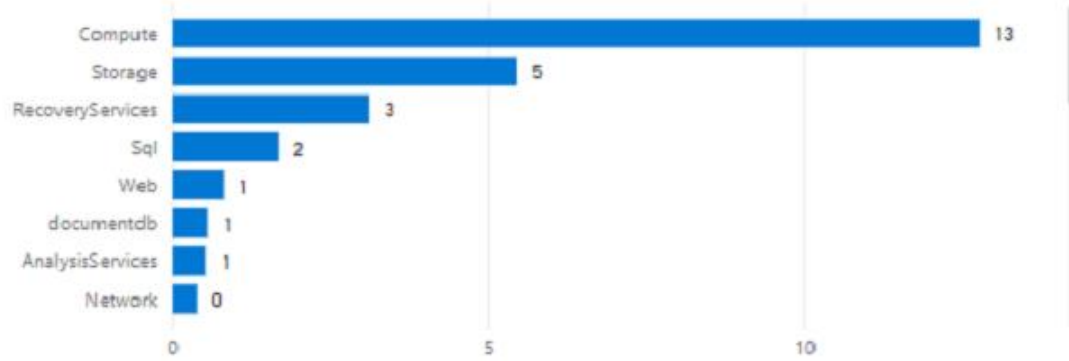
Azure emissions by region



Azure emissions over time (MTCO2e)



Emissions by Azure service (MTCO2e)



The Challenge

Microsoft Strategy

Making it Real



기술의 지속가능성 모색



To make sure Microsoft data stays secure and compliant, we may need you to provide some missing information. [Click to resolve](#)



EXECUTIVE CHALLENGE

Hack for Sustainability

THE CHALLENGE

Use leading data to build innovative technological solutions for environmental challenges across our company and around the globe.

DESCRIPTION

"We will create more opportunities for our employees to become actively involved, both in

SPONSORS



Brad Smith
President & Chief Legal Officer

HACKATHON 2020

MOVING IDEAS FORWARD,
TOGETHER

July 27-29



Worldwide Virtual





SCIENCE FAIR

is now **Open!**

EXPLORE HACKING



TOP ACTIVITIES

-  Find Hackers
-  Find Projects
-  Find Experts
-  Hack Ideas

MY HACKATHON

- My Projects (0)
- Team Requests (0)
- My Profile
- My Venue

Hack for Sustainability Challenge 2020

121

Total Hack Projects

22

Total Hack Ideas

874

Total Hackers

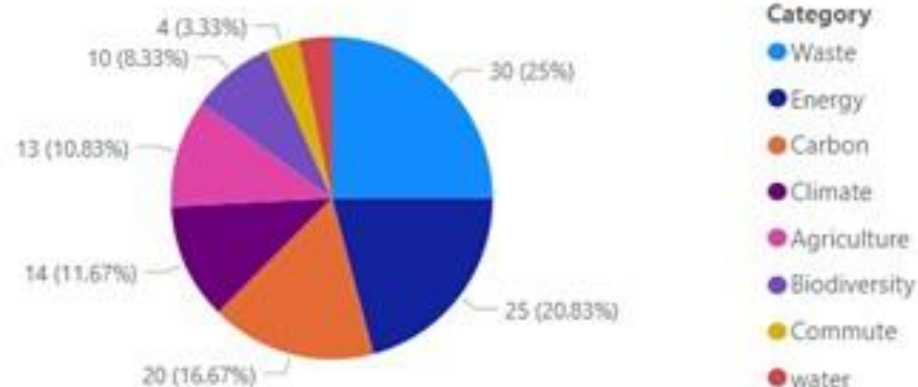
Hack Projects

Check out the awesome projects that are looking for more help!

Project title	Tagline
Smart Document Reader	You give the document and app will try to read it for you in the style and voice you wanted.
Keeping Pangolins Offline and In the Wild	WWF/Microsoft Hackathon
Microsoft Search Widget	Why a widget? It lets us present/access 'search' in its most elementary form – the search box.
Onboarding Buddy	Virtual buddy for internal onboarding process.
Carbon Intensity-based Kubernetes Scheduler	Utilize the scheduler in Kubernetes to bring up in and dynamically scale pods to data centers with the lowest carbon intensity
Segway PSI-ROBOT-V2	Using PSI framewor on Segway loomo1.5 as a Sensor Platform for Monitoring and cognitive scenarios.- Medical and Sustainable Farming Sc
Irish crop yield estimator	Use ML to provide farmers with a support system to decide what crop to grow depending on weather
Data & Energy Center	Use Data Centers as a Center of Data and Energy for our communities
Zero Waste in the workplace	Understand measure and reduce our environmental waste impact in the workplace
Research ways to reduce MS Cafe and Dining Environmental Footprint	Understand how making MS Cafe options more plant based can help Microsoft in it's goal to be carbon neutral by 2030
Empowering citizens to reduce their own carbon footprint	Track your Carbon footprint - Helps you track your activities & measure your carbon impact for your day-to-day life

Hack Projects by Category

Find a category that interest you!



Hack Ideas


Not sure what to Hack on? Check out these Hack Ideas that are waiting to be turned into a project!

Project Title	Tags
Bot for Laws & Regulations	Policy, Bot, Machine Learning
Cloud Urban Infra Management	Analytics, Cloud, Data, IOT, Smart
Design a customer Sustainability engagement	Sustainability Calculator
Eco health Buddy	Ecological Conservation, Future, I
Ecosystems and Biodiversity data labeling	Machine Learning, AI, AI4Earth, S
Empower People	Change Behavior, Co2, Household
Enhancing sustainability and scale for education through right partnerships	education, solar power
Make The Biodiversity Database Public	Data Online




Microsoft's New Carbon Commitments (의지와 노력)





Carbon negative
by 2030

The Challenge



Remove our
historical carbon
emissions by 2050

Microsoft Strategy



\$1 billion climate
innovation fund

Making it Real

Microsoft's principled approach



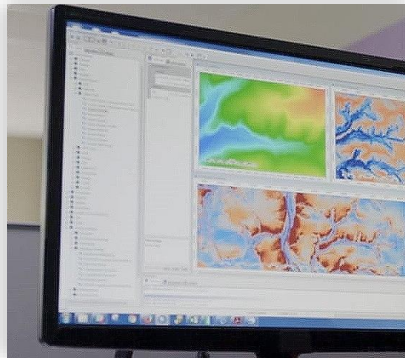
Take Responsibility for Microsoft's own carbon footprint including in our supply chain



Fund investment for better carbon reduction and removal



Support and empower suppliers and customers around the world



Work to **advance transparency** for reporting on emissions and removals



Use our voice on carbon-related public policy issues



Enlisting our employees to enable them to contribute to our efforts

We're taking action ourselves



We're empowering our customers



We're investing in broader innovation



We're supporting government action

Microsoft AI for Good



AI for
Earth



AI for
Accessibility



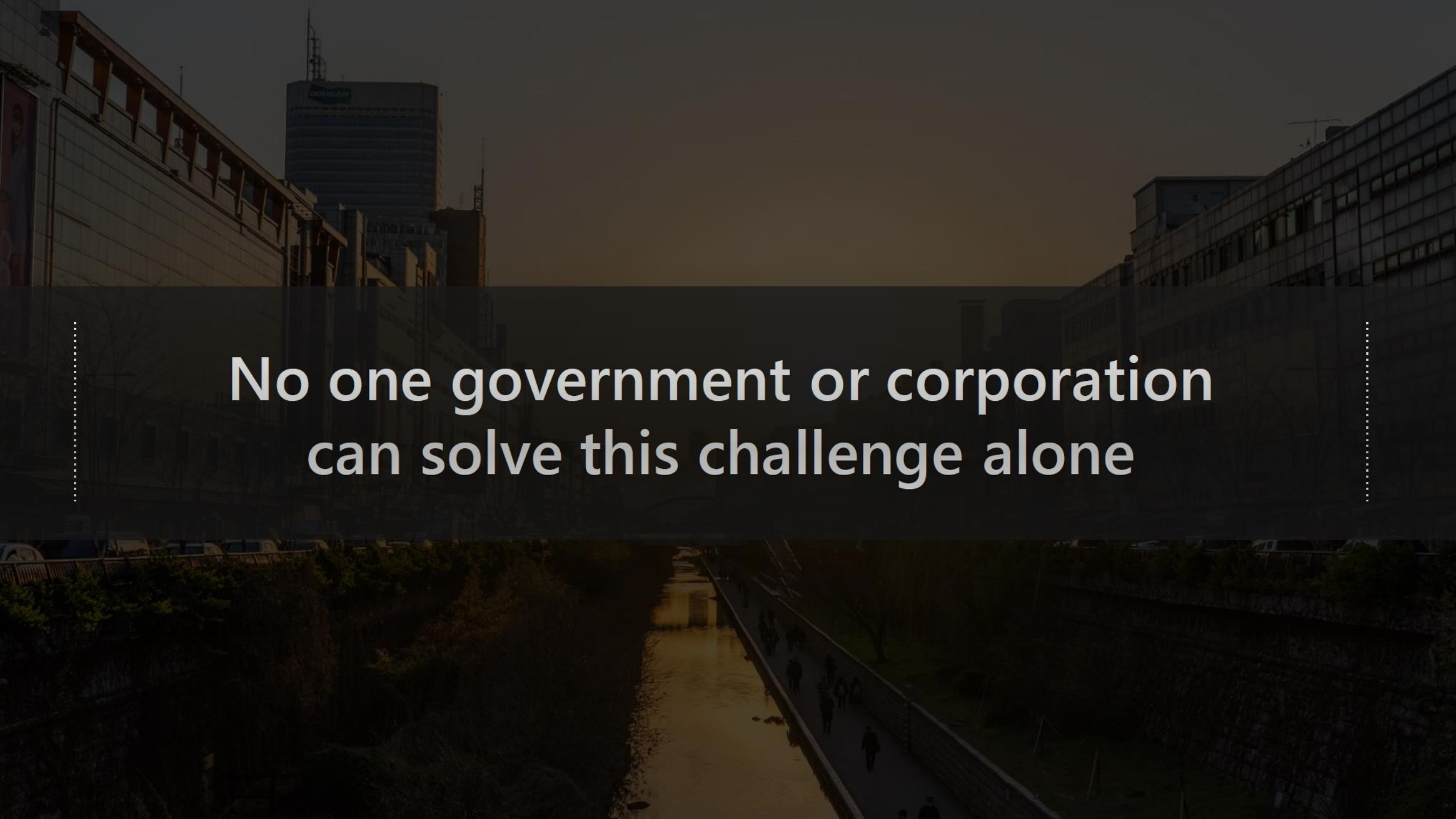
AI for
Humanitarian
Action



AI for
Cultural Heritage



AI for
Health



**No one government or corporation
can solve this challenge alone**

Microsoft's commitment to sustainability



Carbon

- Carbon negative by 2030
- Remove historical emissions by 2050
- \$1 billion climate innovation fund



Waste

- Water positive by 2030
- Digitize water data
- Partner with Water.org and WRC members
- Invest \$10 million in water strategy fund



Water

- Zero waste by 2030
- Increase our reuse of servers and components up to 90% by 2025
- Invest \$30 million in circular economy



Ecosystems

- Build and deploy a planetary computer
- Protect more land than we use by 2025
- Speak out on policy issues

CARBON PROGRESS

Sectoral: Transform to Net Zero Coalition

- Nike, Unilever, Danone, Wipro, Maersk, Starbucks, Nature & Co., Mercedes-Benz (EDF, BSR)

Customers: Sustainability Calculator


Reduction: Scope 1 and 3

- Diesel free datacenters
- Supplier Code of Conduct

Removal: 1m metric tons CO²

Investment: Energy Impact Investors \$50m

Environmental Justice: Sol Systems 500MW



For Microsoft to do well,
we need the world to
do well

Pursuing profit through
solving problems of
people and the planet

Thank you

