The company using AI to reshape recycling

Recycleye – a participant on Microsoft's AI for Earth programme – uses AI to automate waste sorting and management. It's improving the recycling process and accelerating the drive towards a circular economy.

Temps de lecture : minute

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Microsoft has hefty ambitions to become carbon negative by 2030 – continuing, as <u>we mentioned</u> at the start of this week, 'to erase its entire carbon footprint as a company – by removing the same amount of CO2 from the atmosphere as it has ever emitted – by 2050.'

If the below table from sustainable investment tool Clim8 Invest is anything to go by, Microsoft is leaps and bounds ahead of Big Tech companions Facebook, Google and Apple with its climate targets and follow-through.

Tech giants' climate commitments: ranked

CLIM8 INVEST

Ranking	**4** FACEBOOK	**3** Google	**2** (Apple)	**1** Microsoft
Carbon neutrality	No	Since 2008 *(Scopes 1, 2)*	Since 2019 *(Scopes 1, 2 & parts of 3)*	Since 2012 *(Scopes 1, 2)*
Offseting historical emissions	No	Offsets purchased covering emissions since 1998	No	Committed to offsetting emissions since 1975 *(not yet completed)*
Climate action commitment	Net Zero by 2030 *(Scopes 1, 2 & 3)*	Carbon-free by 2030 *(Scopes 1, 2)*	Carbon Neutral by 2030 *(Scopes 1, 2 & 3)*	Carbon Negative by 2030 *(Scopes 1, 2 & 3)*
Announcement date	September 2020	September 2020	July 2020	January 2020
Science based target	Committed *(not yet approved)*	No	No	Targets Set *(approved)*
Climate funding	No	$10 million	Undefined part of a $100 million Racial Equity and Justice Initiative Fund	$1 billion
Transparency	Average	Good	Very good	Very good

Part of Microsoft's plan involves supporting green innovation with time, technical tools and money. The AI for Earth programme, for example, assists organisations applying AI to environmental challenges through

grants and cloud computing infrastructure.

One organisation to have emerged from this of late is Recycleye, which is training recycling robotics up to bring transparency and traceability to the waste management industry. 2T tonnes of waste are produced each year, with only 8% recycled.

The efficiency and take-up of recycling is hampered by the complexity of sorting materials correctly. This is a key step in ensuring the quality of the end result, but one that demands a lot of time and money.

Recycleye's solution – a computer vision system, which is as adept at sorting items into waste streams as the human eye – is cheap, decentralised and fit to be rolled out rapidly across the world. With strategic partners spanning Microsoft, Imperial College London, and the Alliance to End Plastic Waste, it has seven vision systems deployed globally and has also developed a database of 2.5M computer training images.

Recently, Recycleye partnered with Microsoft – which it says has "provided instrumental strategic and technological support" – to make this video about its first product, Recycleye Vision, and how Azure facilitates its data storage and analytics.

As computer vision engineer Benedetta Delfino says in the video,

"A new infrared sensor costs around £50K, but the cameras that Recycleye uses are the same ones that you can find in your mobile phone."

With its low-cost hardware solution now in use in several recycling plants, Recycleye is turning attention to its proprietary Robotic Picker. Developed in partnership with the world's largest robotic manufacturers, the automate picker is coming out of research and development into industrialisation.

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