

# Intelligent-recycling entrepreneurs and Imperial College London graduates Victor Dewulf (25) & Peter Hedley (27) win Young Inventors prize 2022

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- European Patent Office honours Belgian-British duo for their efficient AI-based waste-sorting system
- With a computer vision system trained to recognise waste items on a conveyor belt and a robotic arm to pick out valuable material, the invention increases the speed, accuracy and purity of waste-sorting
- The system has been rolled out to recycling facilities in the UK and Europe through the inventor duo's London-based start-up Recycleye and can increase the volume of recycled waste and make recycling more financially attractive

Munich, 21 June 2022 – The European Patent Office (EPO) today honoured Belgian environmental engineer Victor Dewulf and British computer scientist Peter Hedley with first place in the inaugural Young Inventors prize. The pair have developed an intelligent recognition and sorting system that enables waste management facilities to quickly and accurately separate rubbish, ensuring that more is recycled.

“Victor Dewulf and Peter Hedley are using cutting-edge AI technology to tackle a substantial problem – how to drastically reduce our waste,” says António Campinos, President of the European Patent Office. “By increasing the likelihood that waste will be recycled, their innovation contributes to a cleaner world for us all and this is exactly the type of sustainable venture that the Young Inventors prize was set up to recognise.”

The Belgian-British team was honoured at a hybrid event watched online by a worldwide audience to announce the winners of the 2022 edition of the European Inventor Award, one of Europe's most prestigious innovation prizes. The EPO created the new Young Inventors prize under the auspices of the European Inventor Award especially for innovators aged 30 and under. It offers a monetary reward to young innovators who have developed solutions that contribute to the United Nations' Sustainable Development Goals and positively impact our lives. Dewulf and Hedley were named one of two first-prize winners alongside Erin Smith, a US-based Parkinson's researcher. The duo and Smith will receive a cash prize of EUR 20 000 each.

### AI for quick picks

Dewulf and Hedley's system consists of two parts, which can be used separately or together. The waste recognition system uses a cellphone-quality camera mounted above conveyor belts to take photos of the passing waste and send them to an algorithm, which ranks them for picking priority. Instructions on where to pick up and place the waste are then sent to a 6-axis robotic arm for sorting. The entire solution can make 55 successful picks from a conveyor belt every minute.

The idea for the invention began when Dewulf visited a recycling facility as part of his degree at Imperial College London. He was surprised at the level of manual labour involved, making sorting waste prohibitively expensive and limiting the volume of recycled material. Dewulf suspected that a type of

artificial intelligence called computer vision could improve the process and turned to his friend Peter Hedley to partner on the project.

The pair began developing their system in the garage of Hedley's parents in Poole using a camera, a treadmill and a pile of dumpster-dived trash. After successfully training their initial computer vision system, Dewulf and Hedley founded their company, Recycleye, in 2019. They have since raised millions of pounds in funding and have so far deployed 17 vision systems and five robot arms, with more in the pipeline.

Dewulf and Hedley see their work as a key step in creating a sustainable economy. "Applying computer vision and new technologies like robotics means that we can start accelerating the automation of (the waste) industry," says Dewulf. "Ultimately that means accelerating our economy's transition to a circular economy to the point where our removal chains can be merged back into our supply chains."

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View media materials for Victor Dewulf and Peter Hedley

([https://www.epo.org/news-events/press/european-inventor-award/young-inventors-prize/2022/dewulf.html?mtm\\_campaign=E](https://www.epo.org/news-events/press/european-inventor-award/young-inventors-prize/2022/dewulf.html?mtm_campaign=E))

Notes to the editor

About the inventors

Victor Dewulf, 25, was born in Belgium and moved to the UK to do a Bachelor's degree in Civil Engineering at University of Bath, which he completed in 2017, followed by a Master's degree in Environmental Engineering with Business Management at Imperial College London, where he also started a PhD applying computer vision to waste. He joined Goldman Sachs from 2018-2019. He founded Recycleye with Hedley in 2019 and is currently CEO. Dewulf has won awards including the BP Centurion Award, the Letitia Chitty Centenary Memorial Prize and was selected for the 2021 Forbes 30 under 30 list for Social Impact.

Peter Hedley, 27, from the UK, completed a Bachelor's degree in Civil Engineering at University of Bath in 2017, before going on to a Master's degree in Computer Science at Imperial College London. During his civil engineering studies, he worked as a design engineer for Apex Circuit Design Ltd, leading and training a team to modify car racing track simulation software. After his Master's, Hedley worked on applying computer vision to art galleries. He founded Recycleye in 2019 with Victor Dewulf, where he is currently Chief Technology Officer. Hedley was selected for the 2021 Forbes 30 under 30 list for Social Impact.

About the Young Inventors prize

The European Patent Office established the Young Inventors prize in 2021 to inspire the next generation of inventors. Aimed at innovators aged 30 or below from all around the world, it recognises initiatives that use technology to contribute toward the UN's Sustainable Development Goals. This year, the tied first place winners will each receive EUR 20 000, with the runner up receiving EUR 10 000. An independent

jury comprising former finalists of the European Inventor Award selects the finalists and winner. The EPO conferred the inaugural prize at the European Inventor Award virtual ceremony on 21 June. Unlike the traditional Award categories, the Young Inventors prize finalists do not need a granted European patent to be considered for the prize. Read more on the Young Inventors prize eligibility and selection criteria ([https://www.epo.org/news-events/events/european-inventor/young-inventors.html?mtm\\_campaign=EIA2022&mtm\\_keyword=](https://www.epo.org/news-events/events/european-inventor/young-inventors.html?mtm_campaign=EIA2022&mtm_keyword=)

## About the EPO

With 6 400 staff, the European Patent Office (EPO) is one of the largest public service institutions in Europe. Headquartered in Munich with offices in Berlin, Brussels, The Hague and Vienna, the EPO was founded with the aim of strengthening co-operation on patents in Europe. Through the EPO's centralised patent granting procedure, inventors are able to obtain high-quality patent protection in up to 44 countries, covering a market of some 700 million people. The EPO is also the world's leading authority in patent information and patent searching.

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