European Patent Office announces the finalists for the European Inventor Award 2019 – UK inventors in the running

Submitted by: European Patent Office
Tuesday, 7 May 2019

• The European Patent Office (EPO) today announces the 15 inventors and inventor teams shortlisted for its prestigious annual innovation prize
• Their inventions span a range of fields from video coding, cancer diagnosis and electron microscopy, to advanced driver assistance systems and plastic recycling
• British engineers Richard Palmer and Philip Green nominated in “SMEs” category for inventing a novel composite material which can be incorporated into protective clothing and equipment
• Award winners will be revealed at a ceremony in Vienna on 20 June
• Award given in five categories: “Industry”, “Research”, “Non-EPO countries”, “SMEs” and “Lifetime achievement”. Public choose the winner of the “Popular Prize” from among the 15 finalists
• EPO President António Campinos: "The European Inventor Award recognises the technological pioneers of our time. It is a great distinction to honour these exceptional inventors and their contributions to the advancement of science, society and the economy.”

Munich, 7 May 2019 – The European Patent Office (EPO) today announces the finalists for the European Inventor Award 2019. British engineers Richard Palmer and Philip Green (https://www.epo.org/learning-events/european-inventor/finalists/2019/palmer.html) have been nominated in the category “SMEs” for developing an intelligent material that hardens upon impact. Incorporated into protective gear, today D3O materials provide greater comfort and a higher level of protection than conventional padding. The material is being sold in more than 50 countries and has been adopted by leading brands such as 3M, CCM, Scott Sports and Triumph. Now established beyond the sporting goods market, D3O is being used in motorcycle gear, protective cases for consumer electronics including phones, industrial workwear and military protection including helmet pads and limb protectors.

"Palmer and Green show how two committed individuals can apply engineering skills to develop an innovative material and create a commercial product,” said EPO President António Campinos about the UK inventors’ nomination. “For these inventors, obtaining patent protection was crucial in helping them secure investment and funding to set up their business.”

The winners of the 2019 edition of the EPO’s annual innovation prize will be announced at a ceremony in Vienna on 20 June. The Award will be given in the five categories of “Industry”, “Research”, “Non-EPO countries”, “SMEs” and “Lifetime achievement”. The finalists and winners are selected by an independent, international jury (https://www.epo.org/learning-events/european-inventor/jury.html). In addition, the public will choose the winner of the Popular Prize from among the 15 finalists by voting online on the EPO’s website in the run-up to the ceremony.

The 2019 finalists come from 12 countries: Austria, France, Germany, Israel, Italy, Japan, the Netherlands, Norway, Poland, Spain, the United Kingdom, and the United States. They were selected by the jury from a pool of hundreds of inventors and teams of inventors put forward by members of the public, national patent offices around Europe, and EPO staff.

The inventions cover a range of fields including eco-packaging, rechargeable batteries, genetics, agricultural technology, video coding, cancer diagnosis, electron microscopy, advanced driver assistance systems and plastic recycling.

The 2019 finalists in the five categories are:

Industry

Klaus Feichtinger and Manfred Hackl (Austria):
Higher-performance plastic recycling

By thinking in a new direction, these Austrian inventors reshaped plastic recycling. Waste plastics of many types can be turned into high quality pellets for new products. Today, more than 6 000 of their machines produce over 14.5 million tonnes of plastic pellets annually.
Further information
(https://www.epo.org/news-issues/press/european-inventor-award/2019/feichtinger.html)

Antonio Corredor Molguero and Carlos Fermin Menéndez Diaz Molguero (Spain):
Concrete mould for better breakwaters

The Spanish pair didn't break the mould – they totally reinvented it. Their innovative concrete mould for Cubipods has made it faster and easier to build more effective breakwaters in ports, reducing construction costs by up to 45%.
Further information (https://www.epo.org/news-issues/press/european-inventor-award/2019/corredor.html)

Alexander van der Lely and Karel van den Berg (Netherlands):
Milking robots for healthier cows

These Dutch inventors focus on "cow-friendly" automation. In keeping with cows' natural behaviour, their milking robot enables cows to decide when and how often they are milked. Their system brings animal welfare benefits, while increasing milk yields and reducing labour costs for farmers. The system's diagnostic tools help farmers monitor their herd more easily too.
Further information
(https://www.epo.org/news-issues/press/european-inventor-award/2019/van-der-lely.html)

Research

Jérôme Galon (France):
Immunoscore®, a clearer cancer test

The French immunologist's diagnostic tool assesses the risk of relapse in cancer patients. It uses digital images of tumour samples and advanced software to measure immune response, improving the accuracy of prognosis. Thanks to Galon's invention, which is already in use at clinics around the world for colorectal cancer, doctors can provide more effective treatment, and tailor it to individual patients.

Further information (https://www.epo.org/news-issues/press/european-inventor-award/2019/galon.html)

Matthias Mann (Germany):
Protein analysis to diagnose disease

German proteomics pioneer Matthias Mann developed techniques to map all proteins at work in human cells using mass spectrometry– revealing tell-tale signs of disease before a person falls ill. His inventions aim to help clinicians better predict, diagnose and treat a range of medical conditions, including cancer and liver disease.
Further information (https://www.epo.org/news-issues/press/european-inventor-award/2019/mann.html)

Patrizia Paterlini-Bréchot (Italy):
ISET® blood filtration to detect tumour cells

Based in Paris, this Italian oncologist and molecular biologist developed blood filtering technology that makes it possible for doctors to detect cancer cells long before a tumour can be found with standard imaging techniques. The quick, non-invasive test can identify a single circulating tumour cell in a 10-millilitre blood sample, or roughly one in 50 billion red blood cells.
Further information
(https://www.epo.org/news-issues/press/european-inventor-award/2019/paterlini-brechot.html)

Non-EPO countries

Eben Bayer and Gavin McIntyre (US):
Eco-friendly packaging from mushrooms

Having seen how mycelia binds organic waste in nature, US inventors and product designers Eben Bayer and Gavin McIntyre grow packaging from mushrooms. Moulded into almost any shape, their materials stiffen when baked and are biodegradable.
Further information (https://www.epo.org/learning-events/european-inventor/finalists/2019/bayer.html)

Gideon Stein (Israel):
Vision for vehicles to improve road safety

The Advanced Driver Assistance System developed by this Israeli engineer uses a single-lens camera and cutting-edge AI to spot and avoid traffic hazards in real time. Thanks to his invention, more than 30 million cars on the road worldwide are now safer to drive.
Further information (https://www.epo.org/learning-events/european-inventor/finalists/2019/stein.html)

Akira Yoshino (Japan):
Lithium-ion battery and its evolution

This Japanese scientist is the father of the lithium-ion battery (LIB). His rechargeable batteries power nearly five billion mobile phones, laptops and other portable devices, as well as electric vehicles. For over 30 years he has been dedicated to continually improving LIBs.

Further information (https://www.epo.org/learning-events/european-inventor/finalists/2019/yoshino.html)

Small and medium-sized enterprises (SMEs)

Esben Beck (Norway):
Lasers and AI for healthier salmon

Sea lice can severely impact salmon farm populations. Norwegian marine engineer Esben Beck has developed underwater robots that use image recognition, AI and lasers to identify, target and zap the parasites without using chemicals or antibiotics, nor stressing the fish.
Further information (https://www.epo.org/learning-events/european-inventor/finalists/2019/beck.html)

Rik Breur (Netherlands):
Marine antifouling fibre wrap

Inspired by a sea urchin’s prickly surface, this Dutch inventor's anti-fouling fibre wrap is an environmentally-friendly alternative to toxic paints on ships and marine structures. Algae, barnacles and mussels just slide off it, saving boats up to 40% on their fuel consumption.
Further information (https://www.epo.org/learning-events/european-inventor/finalists/2019/breur.html)

Richard Palmer, Philip Green (United Kingdom):
Flexible armour that hardens on impact

These British material scientists developed an impregnated foam which is flexible, yet stiffens on impact. The unusual properties of dilatant liquids to absorb and disperse energy make their D3O® material perfect for a wide range of protective clothing.
Further information (https://www.epo.org/learning-events/european-inventor/finalists/2019/palmer.html)

Lifetime achievement

Margarita Salas Falgueras (Spain):
DNA amplification for genomics

The Spanish molecular genetics pioneer invented a faster, simpler and more reliable way to replicate traces of DNA into quantities large enough for full genomic testing, using the enzyme phi29 DNA polymerase. Her invention is now used widely in oncology, forensics and archaeology.
Further information (https://www.epo.org/learning-events/european-inventor/finalists/2019/salas.html)

Maximilian Haider (Austria):
Sharper electron microscopes

This Austrian physicist’s vision solved a 60-year-old research problem, improving the image resolution in transmission electron microscopes (TEMs) five-fold, enabling atomic-level imaging. His electromagnetic corrective “lenses” are now used in 90% of all TEMs worldwide.
Further information (https://www.epo.org/learning-events/european-inventor/finalists/2019/haider.html)

Marta Karczewicz (Poland):
Advances in video compression

This Polish mathematics genius and software engineer has been named as the inventor on almost 130 granted European patents. Her many contributions to technical standards and video codecs enable fast, high-quality video streaming, even on mobile devices.
Further information
(https://www.epo.org/learning-events/european-inventor/finalists/2019/karczewicz.html)

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Notes to the Editor

About the European Inventor Award
The European Inventor Award (https://www.epo.org/learning-events/european-inventor/jury.html) is one of Europe's most prestigious innovation prizes. Launched by the EPO in 2006, it honours individual inventors and teams of inventors whose pioneering inventions provide answers to some of the biggest challenges of our times. The finalists and winners are selected by an independent jury consisting of international authorities from the fields of business, politics, science, academia and research who examine the proposals for their contribution towards technical progress, social development, economic prosperity and job creation in Europe. The Award is conferred in five categories at a ceremony that will this year take place in Vienna on 20 June. In addition, the public selects the winner of the Popular Prize (https://www.epo.org/learning-events/european-inventor/popular-prize.html) from among the 15 finalists by online voting on the EPO website (https://www.epo.org/learning-events/european-inventor/popular-prize.html) in the run-up to the ceremony. Voting is open until 16 June 2019.

About the EPO
With nearly 7 000 staff, the European Patent Office (EPO) (https://www.epo.org/index.html) 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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