UK and US launch innovation prize challenges in privacy-enhancing technologies to tackle financial crime and public health emergencies

Today, the UK and US governments launched a set of prize challenges to unleash the potential of privacy-enhancing technologies (PETs) to combat global societal challenges. Announced at the Summit for Democracy last year, innovators from academia, industry, and the broader public will have the opportunity to participate in up to two separate tracks (improving detection of financial crime and forecasting an individual's risk of infection during a pandemic) as well as the option to design one generalised solution that works for both scenarios for broader applicability.

Competing for cash prizes from a combined UK-US prize pool of $1.6 million (£1.3 million), innovators will develop privacy-preserving federated learning solutions that enable artificial intelligence models to be trained on sensitive data without organisations having to reveal, share, or combine their raw data. Winning challenge solutions will be showcased at the second Summit for Democracy, which President Biden plans to convene in the first half of 2023.

The first track – aimed at transforming financial crime prevention – will spur technological innovation to tackle the challenge of international money laundering. According to United Nations' (UN) [estimates](), money laundering costs up to $2 trillion each year, undermining economic prosperity and financing organised crime. PETs can be harnessed to facilitate privacy-preserving financial information sharing and collaborative analytics, allowing anomalous payments to be identified without compromising the privacy of individuals.

Innovators will work with synthetic global transaction data created by SWIFT, the global provider of secure financial messaging services. Registered challenge participants will receive access to data that is realistic, but artificial, and therefore does not run the risk of revealing private information.

To provide regulatory context important for understanding the potential of these maturing technologies to counter illicit financial activity, the prize challenges will provide opportunities for innovators to engage with regulators on both sides of the Atlantic, including the UK's Financial Conduct Authority (FCA) and Information Commissioner's Office (ICO), and the U.S. Financial Crimes Enforcement Network (FinCEN). Innovators will also engage with the UK National Economic Crime Centre.

The second track of the challenges – aimed at bolstering pandemic response capabilities – will strengthen global readiness for ongoing and future public

health emergencies by developing privacy-preserving solutions that can forecast an individual's risk of infection. Innovators will have access to a synthetic dataset created by the University of Virginia's Biocomplexity Institute, which represents a digital twin of a regional population. As with the financial dataset, the pandemic response dataset is synthetic and will not reveal private information. Challenge participants will be able to engage with staff from the U.S. Centers for Disease Control and Prevention (CDC), NHS England, and the UK Research and Innovation DARE UK (Data and Analytics Research Environments UK) programme.

Nadine Dorries, Secretary of State for the U.K. Department for Digital, Culture, Media and Sport, said:

> I'm delighted that we are today launching joint UK-US prize challenges to accelerate the adoption of privacy-enhancing technologies (PETs). These cutting-edge technologies can help us to harness the power of data to tackle global challenges like international money laundering and to plan for subsequent public health emergencies, while respecting citizens' rights. This partnership demonstrates the UK and US' commitment to working together to address transnational challenges, as well as to ensuring that our vision of the tech revolution — one that is open and democratic — prevails.

Dr. Alondra Nelson, head of the White House Office of Science and Technology Policy, said:

> These prize challenges will catalyze talent and ingenuity on both sides of the Atlantic to advance privacy-enhancing technology solutions and enable their potential to tackle global challenges like those of cross-border financial crime and pandemic response.

> This important initiative reflects our common purpose of developing technologies and driving innovation in a manner that reinforces our commitment to and expression of democratic values and the fundamental right to privacy.

Dr. Sethuraman Panchanathan, Director of the National Science Foundation (NSF), said:

> Building on decades of NSF research investment in the field, these prize challenges will accelerate the translation of game-changing privacy-enhancing technologies. In this way, these prize challenges — supported by NSF's Directorate for Computer and Information Science and Engineering and the new Directorate for Technology, Innovation and Partnerships — illustrate the synergy of foundational research and translational activities in moving research to practice. By harnessing innovation across national

lines and strengthening a transatlantic community of innovation, the US-UK prize challenges will demonstrate the value of international collaboration to develop technologies in ways that uphold our shared values.

U.S. Secretary of Commerce Gina Raimondo siad:

We are on the cusp of solving some of the world's most intractable problems and improving our quality of life with the power of artificial intelligence, but we must do it responsibly by upholding our shared values around privacy,

I'm thrilled that we're launching these joint UK-US privacy-enhancing technology prize challenges and motivating our best researchers in industry and academia to innovate on protecting privacy so that we can all reap the benefits.

John Edwards, UK Information Commissioner, said:

Bringing the Information Commissioner's Office (ICO) into the start of these prize challenges ensures peoples' privacy and trust are at the heart of the design process. People can have confidence in the power of personal data to save lives and stop financial crime.

Privacy-enhancing technologies allow for great innovation when used in the right way. We're looking forward to supporting these solutions and the final outcomes that will ultimately help the public.

Planning for the challenges is being led by the U.K. Centre for Data Ethics and Innovation (CDEI) and Innovate UK, and the U.S. White House Office of Science and Technology Policy (OSTP), the U.S. National Institute of Standards and Technology (NIST), and the U.S. National Science Foundation (NSF). The U.S. challenge is funded and administered by the U.S. National Institute of Standards and Technology and the U.S. National Science Foundation.

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Notes to editors:

- The multi-stage competition involves a white paper submission, prototype

development, and a red-teaming phase. Innovators have until Monday 19 September to enter the competition. More information about the prize challenges can be found at petsprizechallenges.com.

- The UK-US collaboration on the prize challenges was first [announced](#) at the first Summit for Democracy in December 2021.

- PETs allow sensitive personal or commercial data to be shared and/or analysed, while protecting individuals' privacy and proprietary information. PETs include maturing technologies, such as privacy-preserving federated learning, which allows machine learning models to be trained on high quality distributed datasets, without having to share the raw data.