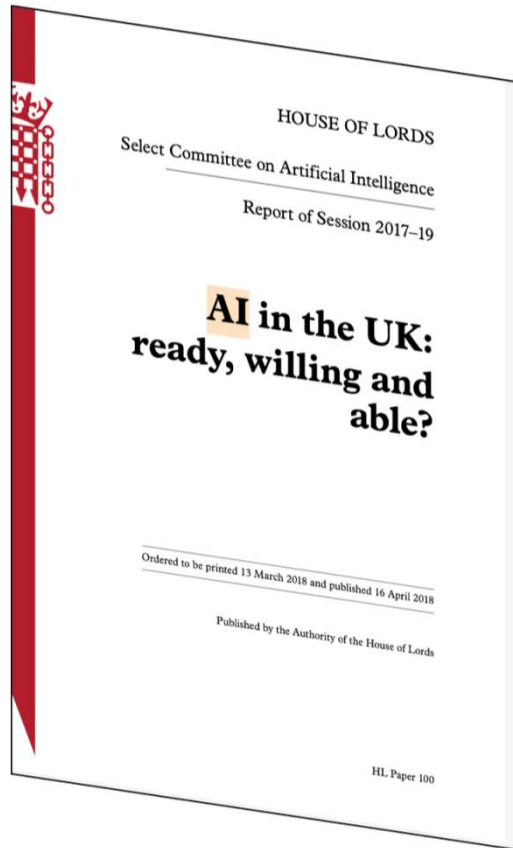# Foundation for Science and Technology

Delivering the AI Strategy – the use of new AI technologies in industry and the public sector

Tim, Lord Clement-Jones, former Chair, House of Lords Select Committee on Artificial Intelligence & Co-Chair, All-Party Parliamentary Group on Artificial Intelligence

23rd February 2022

House of Lords Reports on AI

HOUSE OF LORDS

Select Committee on Artificial Intelligence

Report of Session 2017–19

AI in the UK: ready, willing and able?

Ordered to be printed 13 March 2018 and published 16 April 2018

Published by the Authority of the House of Lords

HL Paper 100

HOUSE OF LORDS

Liaison Committee

7th Report of Session 2019–21

AI in the UK: No Room for Complacency

Ordered to be printed 15 December 2020 and published 18 December 2020

Published by the Authority of the House of Lords

HL Paper 196

Government respo...

Department for Digital, Cult...

Independent report

Growing the artificial intelligence industry in the UK

From:	Department for Digital, Culture, Media & Sport and Department for Business, Energy & Industrial Strategy
Part of:	Industrial strategy and UK and the Commonwealth
Published:	15 October 2017

This independent review, carried out by Professor Dame Wendy Hall and Jérôme Pesenti reports on how the Artificial Intelligence industry can be grown in the UK.

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The fundamental technology...

Robot Neuron Layer

Classifier

Supervised learning

Cognitive Computing

Artificial Intelligence

Data analytics

Machine Learning Neural Network

Deep Learning Probability engine Augmented intelligence

Convolutional systems Automation Smart Cobot

Unsupervised learning

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Thanks to machine-learning algorithms,
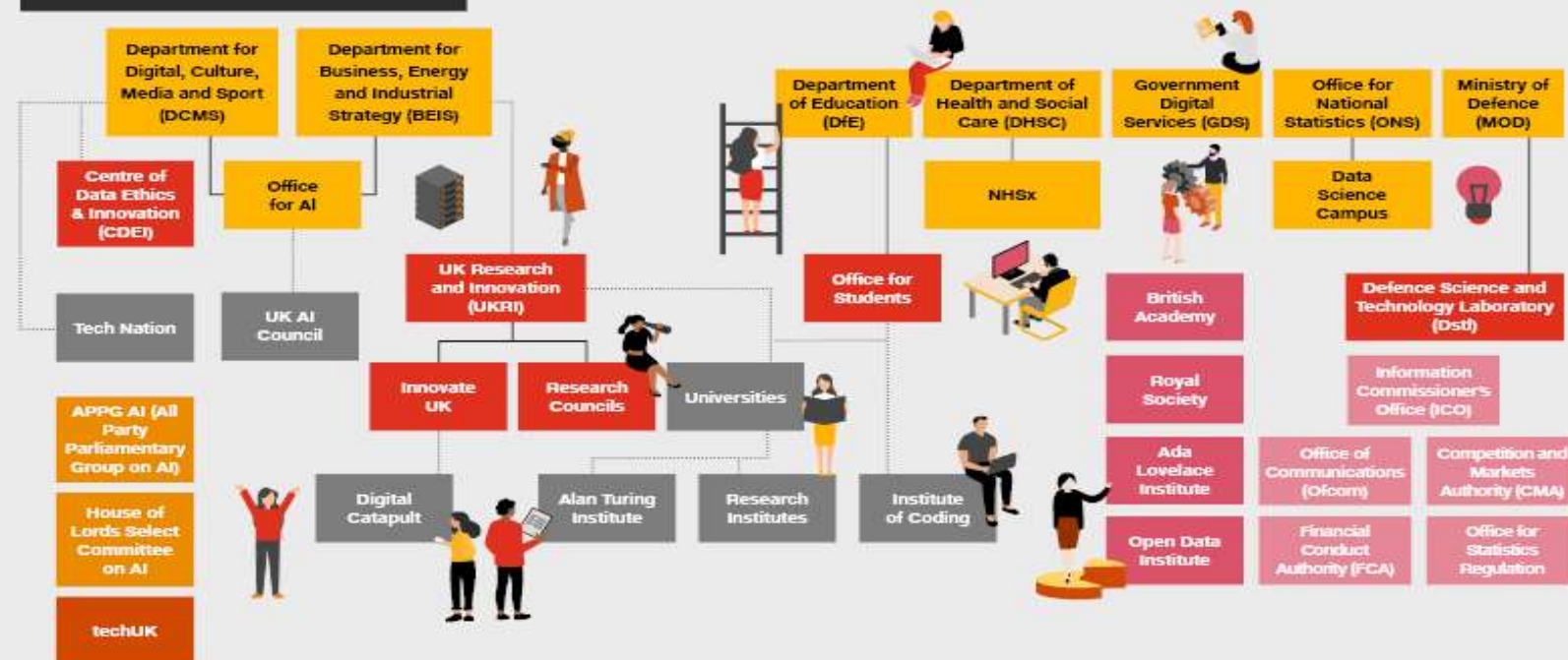the robot apocalypse was short-lived.

AI public policy and regulation in the UK

Illustrative and non-exhaustive

Department for Digital, Culture, Media and Sport (DCMS)

Department for Business, Energy and Industrial Strategy (BEIS)

Department of Education (DfE)

Department of Health and Social Care (DHSC)

Government Digital Services (GDS)

Office for National Statistics (ONS)

Ministry of Defence (MOD)

Centre of Data Ethics & Innovation (CDEI)

Office for AI

NHSx

Data Science Campus

Tech Nation

UK AI Council

UK Research and Innovation (UKRI)

Office for Students

British Academy

Defence Science and Technology Laboratory (Dstl)

APPG AI (All Party Parliamentary Group on AI)

Innovate UK

Research Councils

Universities

Royal Society

Information Commissioner's Office (ICO)

House of Lords Select Committee on AI

Digital Catapult

Alan Turing Institute

Research Institutes

Institute of Coding

Ada Lovelace Institute

Office of Communications (Ofcom)

Competition and Markets Authority (CMA)

techUK

Open Data Institute

Financial Conduct Authority (FCA)

Office for Statistics Regulation

Legend: Central Government | Government body | Government funded | Government links | Parliament | Industry association | Regulators

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The AI Council AI Roadmap/ National AI Strategy

UK AI COUNCIL
AI ROADMAP

"The UK will only feel the full benefits of AI if all parts of society have full confidence in the science and the technologies, and in the governance and regulation that enable them

"A National AI Strategy is needed to prioritise and set a time frame that will position the UK for success

HM Government

National AI Strategy

"Establish the most trusted and pro innovation system for AI governance in the world."

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AI and Public Trust

An Algorithm Determined UK Students' Grades. Chaos Ensued

This year's A-Levels, the high-stakes exams taken in high school, were canceled due to the pandemic. The alternative only exacerbated existing inequities.

Welcome to the UK Border

Welcome to the UK

SUSTAINABLE DEVELOPMENT GOALS

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AI and Ethics

"your scientists were so preoccupied with whether or not they *could* [create dinosaurs from prehistoric DNA] that they didn't stop to think if they *should*."

Delivery of the National AI Strategy

National AI Strategy

The National AI Strategy has delivered so far...

Oct 2021
AI and IP: copyright and patents
Launched a Consultation on copyright and patents legislation for AI through the IPO.

Nov 2021
Standard for algorithmic transparency
The CDDO published a pioneering standard for algorithmic transparency, making the UK one of the first countries in the world to do so, and strengthening our position as a world leader in AI governance.

Nov 2021
Funding GPAI research on data governance
Chris Philp MP, Minister for Tech and the Digital Economy, announced at the GPAI Ministerial Council meeting in Paris a £1m fund for Data Governance research; involving 12 pilot partners in low and medium income countries.
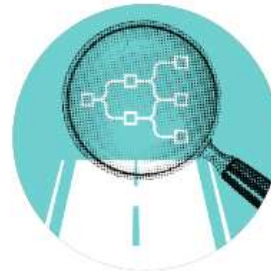
Dec 2021
The roadmap to an effective AI assurance ecosystem
Published by the CDEI, the roadmap to an effective AI assurance ecosystem, sets out the steps required to build a world-leading AI assurance ecosystem here in the UK.

Jan 2022
AI STANDARDS HUB
AI Standards Hub Pilot
Announced The Alan Turing Institute, supported by the BSI and NPL, will pilot the AI Standards Hub, aiming to increase UK contribution to development of global AI technical standards.

Visit **GOV.UK** to learn more about our AI announcements

@officeforai

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The National Data Strategy

Department for
Digital, Culture
Media & Sport

Data: A new direction

10 September 2021

National
Data
Strategy

Rights Relating to Automated Decision-Making (Article 22)

➢ A data subject has the right to demand human intervention rather than having important decisions made solely by algorithm

➢ A data controller must implement a process and the technical capabilities to
  - track all data relating to a data requestor in their systems
  - vet an Article 22 request
  - reverse the algorithm decision and
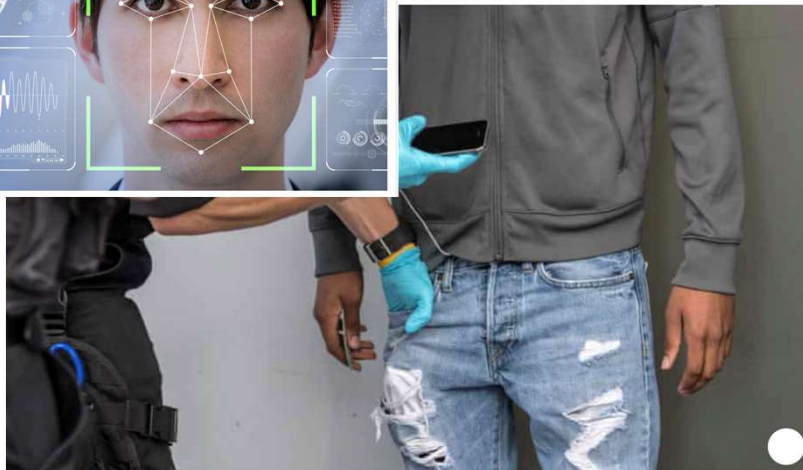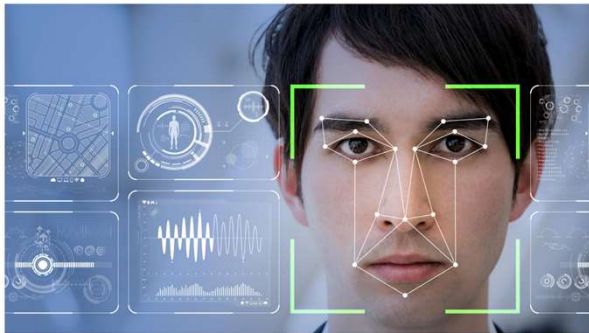 - provide all information to a human decision-maker

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A Candidate for Regulation

THE SUNDAY TIMES
SUNDAY AUGUST 25 2019

VIDEO

EU to regulate face recognition as privacy threat

Simon Taylor, Brussels

August 23 2019, 5:00pm, The Times

Predictive policing poses discrimination risk, thinktank warns

Machine-learning algorithms could replicate or amplify bias on race, sexuality and age

Jamie Grierson *Home affairs correspondent*

Mon 16 Sep 2019 00.01 BST

The Human Rights, Big Data and Technology Project

Independent Report on the London Metropolitan Police Service's Trial of Live Facial Recognition Technology

Authors: Professor Pete Fussey & Dr. Daragh Murray
July 2019

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

Human Rights Centre

University of Essex

House of Commons
Science and Technology Committee

The work of the Biometrics Commissioner and the Forensic Science Regulator
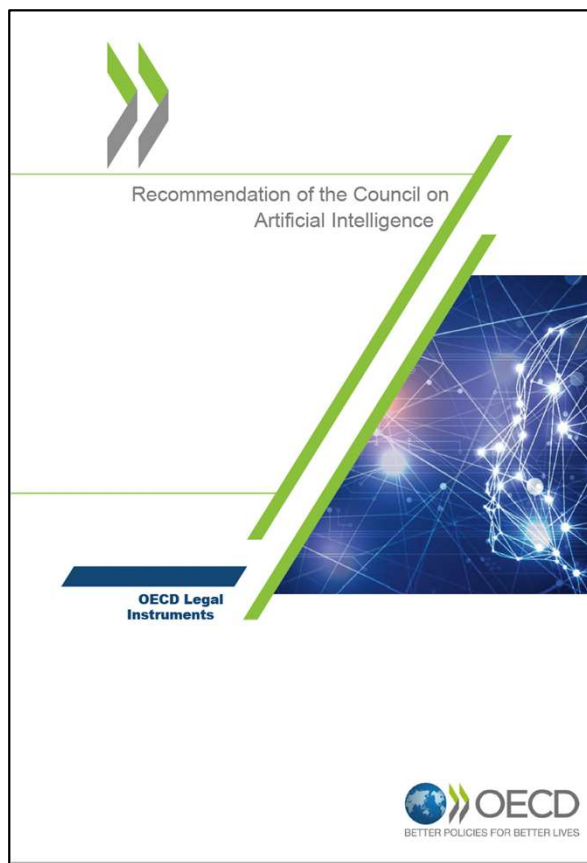
Nineteenth Report of Session 2017–19

Report, together with formal minutes relating to the report

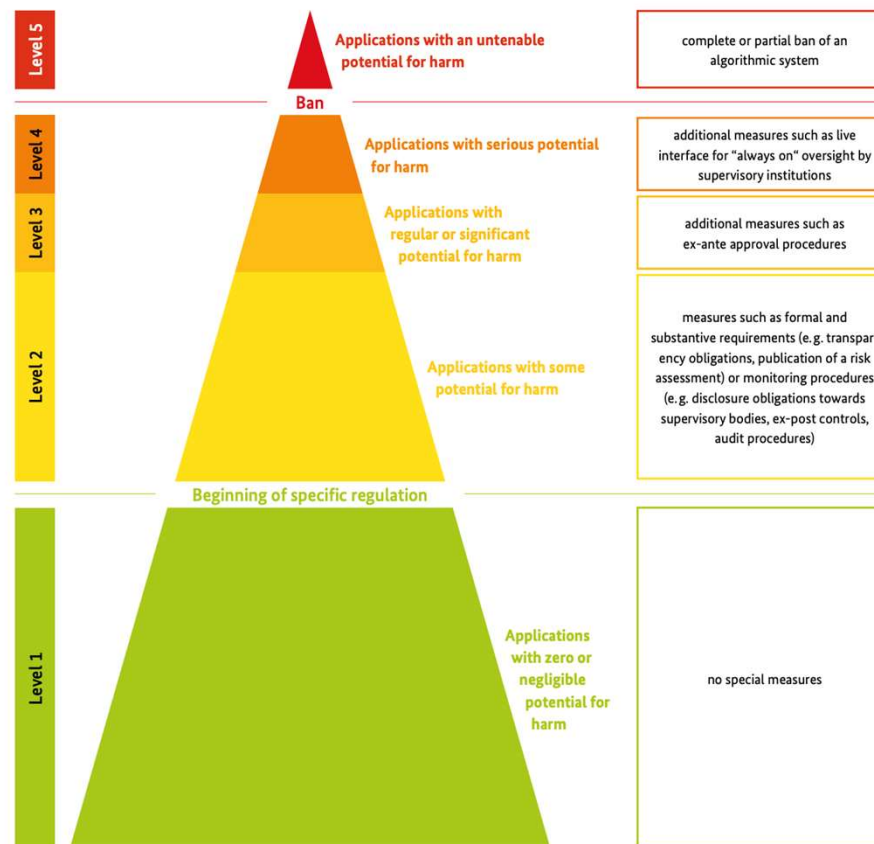*Ordered by the House of Commons to be printed 17 July 2019*

HC 1970
Published on 18 July 2019
by authority of the House of Commons

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OECD AI Principles

- AI should benefit people and the planet by driving inclusive growth, sustainable development and well-being.

- AI systems should be designed in a way that respects the rule of law, human rights, democratic values and diversity, and they should include appropriate safeguards – for example, enabling human intervention where necessary - to ensure a fair and just society.

- There should be transparency and responsible disclosure around AI systems to ensure that people understand AI-based outcomes and can challenge them.

- AI systems must function in a robust, secure and safe way throughout their life cycles and potential risks should be continually assessed and managed.

- Organisations and individuals developing, deploying or operating AI systems should be held accountable for their proper functioning in line with the above principles.
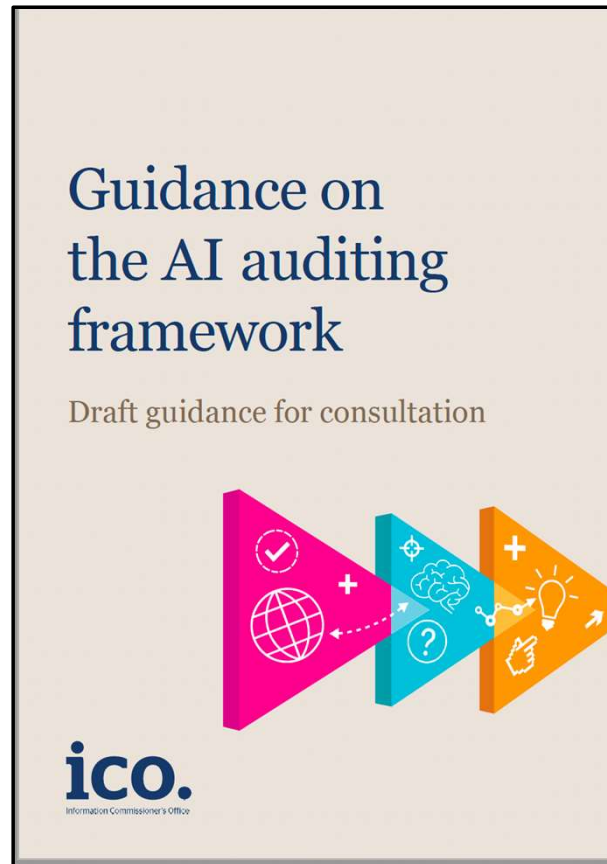
The AI Risk Hierarchy

Voluntary Regulation → Codes of Conduct → Business Standards → Regulation → Legislation

Level 5
Applications with an untenable potential for harm
— complete or partial ban of an algorithmic system

Ban

Level 4
Applications with serious potential for harm
— additional measures such as live interface for "always on" oversight by supervisory institutions

Level 3
Applications with regular or significant potential for harm
— additional measures such as ex-ante approval procedures

Level 2
Applications with some potential for harm
— measures such as formal and substantive requirements (e.g. transparency obligations, publication of a risk assessment) or monitoring procedures (e.g. disclosure obligations towards supervisory bodies, ex-post controls, audit procedures)

Beginning of specific regulation

Level 1
Applications with zero or negligible potential for harm
— no special measures

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AI Risk Toolbox

Guidance on the AI auditing framework

Draft guidance for consultation

ico.
Information Commissioner's Office

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Illustration of tools for accountability, by risk level

Illustrative tools

Level of risk

Unacceptable risk

High risk

Limited risk

Minimal risk

Regulation, risk and impact assessments, conformity assessments, standards, audits, certifications, assurances, codes of conduct

Risk assessments, standards, certifications, assurances

Codes of conduct
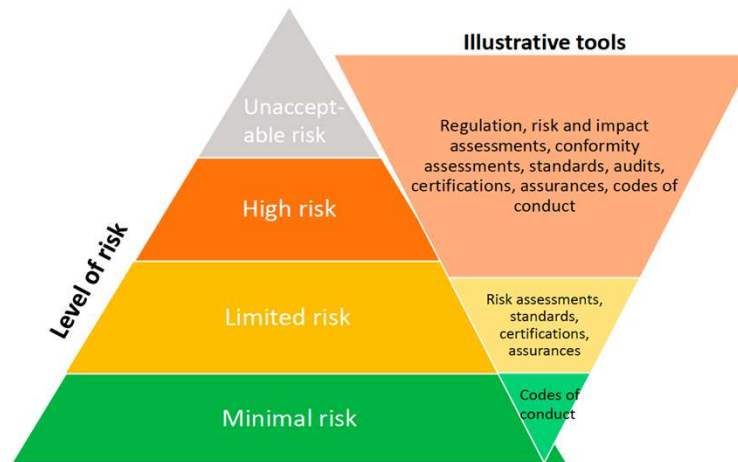
OECDpublishing

Human Rights, Democracy, and the Rule of Law Assurance Framework for AI Systems:

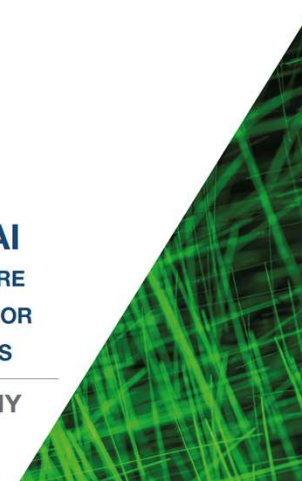A proposal prepared for the Council of Europe's Ad hoc Committee on Artificial Intelligence

TOOLS FOR TRUSTWORTHY AI

A FRAMEWORK TO COMPARE IMPLEMENTATION TOOLS FOR TRUSTWORTHY AI SYSTEMS

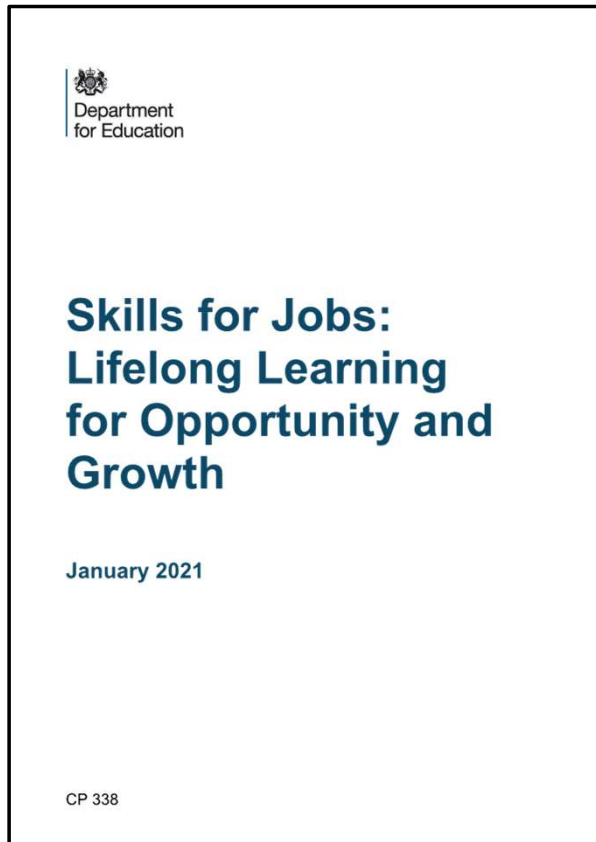OECD DIGITAL ECONOMY PAPERS

June 2021 No. 312

Future Skills

Department for Education

Skills for Jobs: Lifelong Learning for Opportunity and Growth

January 2021

CP 338

future .now

Collective action for a digital world

Annual Review 2020-21

www.futuredotnow.uk

Kingston University London

Future Skills

League Table 2021

YouGov

Thank you!

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