

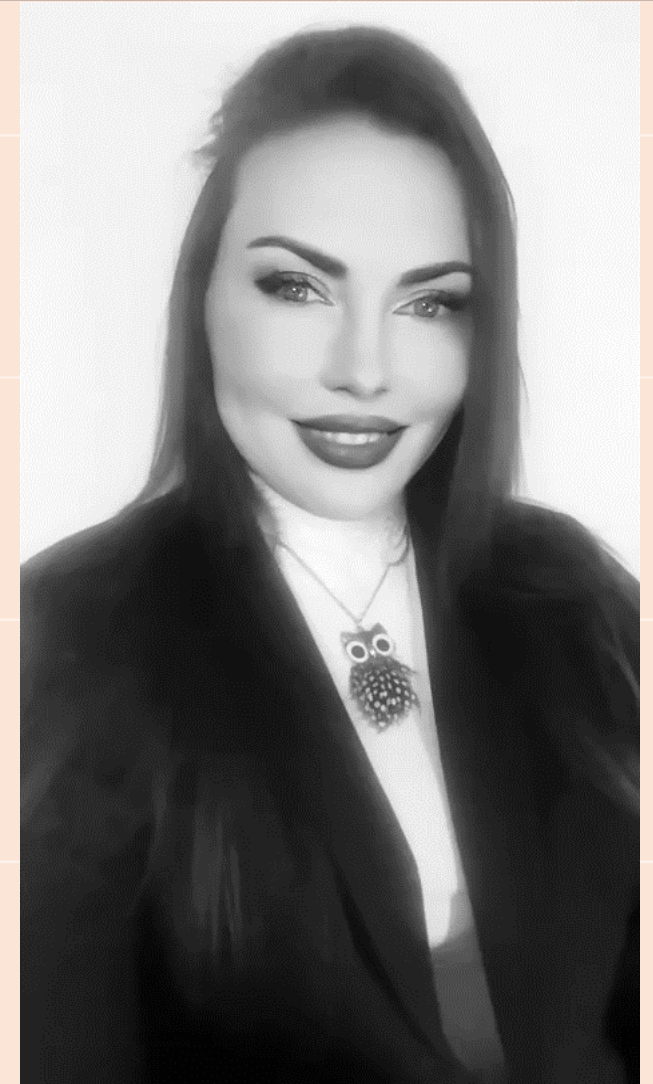
**THE ROLE OF AI IN
CIRCULAR ECONOMY
EDUCATION:
ENHANCING LEARNING AND
ENGAGEMENT**

DISCLAIMER

- This document has been prepared solely for information purposes and does not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy. In any event no interests shall be issued until all necessary regulatory approvals as may be necessary have been obtained. This document has not been approved by any regulatory authority in any jurisdiction. The information contained in this document is subject to updating, completion, modification and amendment in final form.
- The material contained herein has not been based on a consideration of any individual client circumstances and is not investment advice, nor should it be construed in any way as tax, accounting, legal or regulatory advice.
- Except as otherwise indicated herein, the views and opinions expressed herein are those of Kateryna Naumik-Gladka, are based on matters as they exist as of the date of preparation and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available or circumstances existing, or changes occurring, after the date hereof.
- This informational document is intended solely for the use of the person to whom it has been delivered (including such person's employees, representatives, agents, or advisors, as applicable), and is not an offer to buy or sell, or a solicitation of an offer to buy or sell, any security or instrument or to participate in any trading strategy. By accepting this information, you agree you have a duty to keep permanently confidential the information contained herein and that such information may not be disclosed, reproduced, or distributed (orally or in writing) to others (except as otherwise set forth herein) at any time without the prior written consent of Kateryna Naumik-Gladka.
- Kateryna Naumik-Gladka represents that with this document it neither provides investment services nor carries out investment activities and that the services are not intended for the purpose of buying, selling, subscribing for, exchanging, redeeming, holding or underwriting a particular marketing, management or financial instrument or exercising or not exercising any right conferred by a particular instrument to buy, sell, subscribe for, exchange, or redeem a financial, marketing or managerial instrument.
- All information contained herein is proprietary and is protected under copyright law. Performance information is not indicative of future performance or investment returns, and a prospective investor should not view the performance information in this document as an indicator of the future performance of a particular person. Additional information is available upon request.

Kateryna Naumik-Gladka

- **Economy, Psychology,**
- **Computer Sciences, Tourism**
- **LECTURER** – Open and private stages
- Professor – S.Kuznets KhNEU
- **Writer, Author of Study Books,
Monographs**
- Quality Assurance Analytics
- **Artificial Intelligence + Virtual Reality**



THE AI INDEX REPORT

Measuring trends in AI



Artificial Intelligence
Index Report 2024

1. AI beats humans on some tasks, but not on all.

8. Scientific progress accelerates even further, thanks to AI.

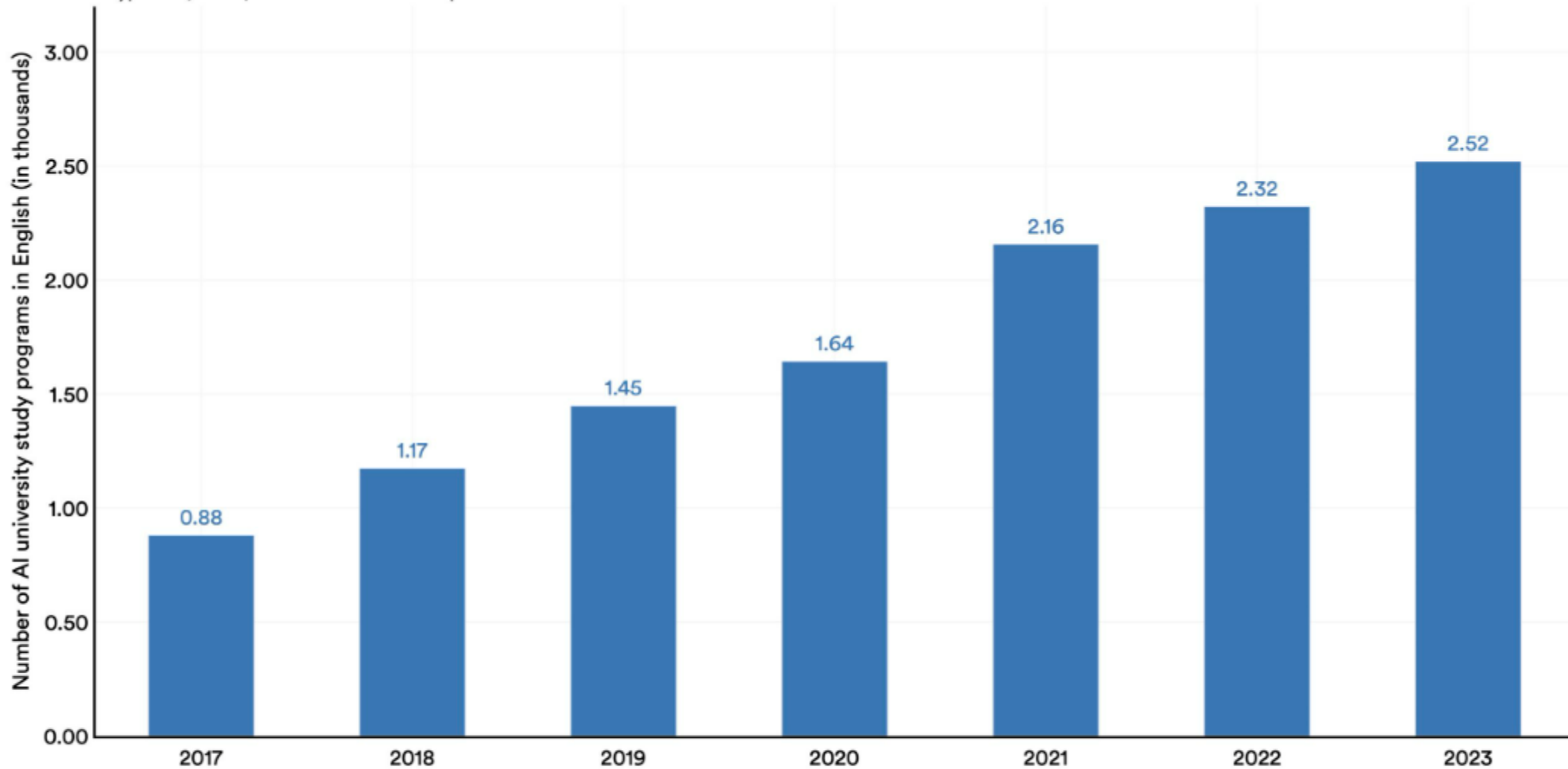
10. People across the globe are more cognizant of AI's potential impact—and more nervous.

2024 AI Index Report

<https://aiindex.stanford.edu/report/>

Number of AI university study programs in English in the world, 2017–23

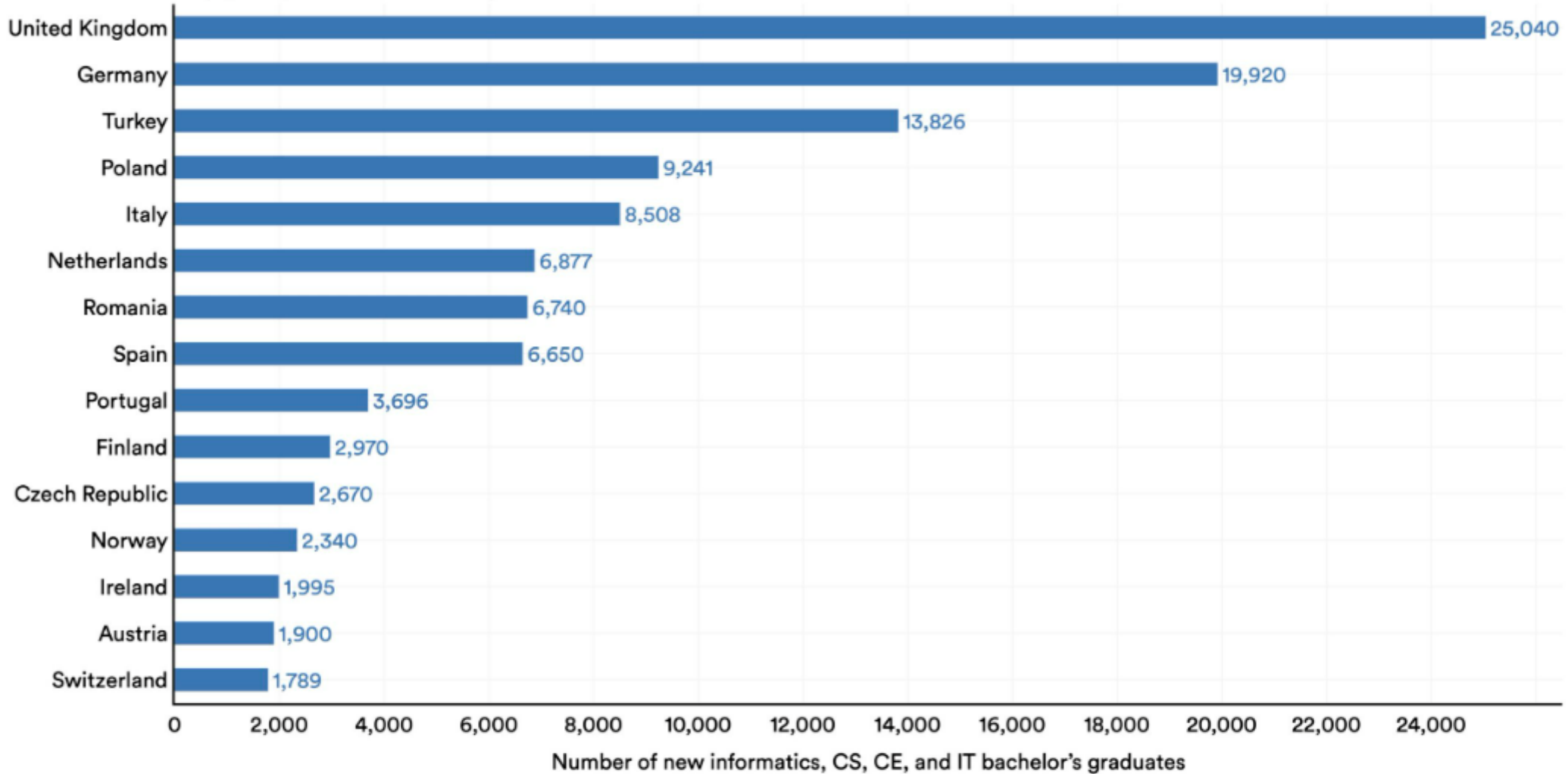
Source: Studyportals, 2023 | Chart: 2024 AI Index report



The number of English-language, AI-related postsecondary degree programs has tripled since 2017, showing a steady annual increase over the past five years. Universities worldwide are offering more AI-focused degree programs.

New informatics, CS, CE, and IT bachelor's graduates by country in Europe, 2022

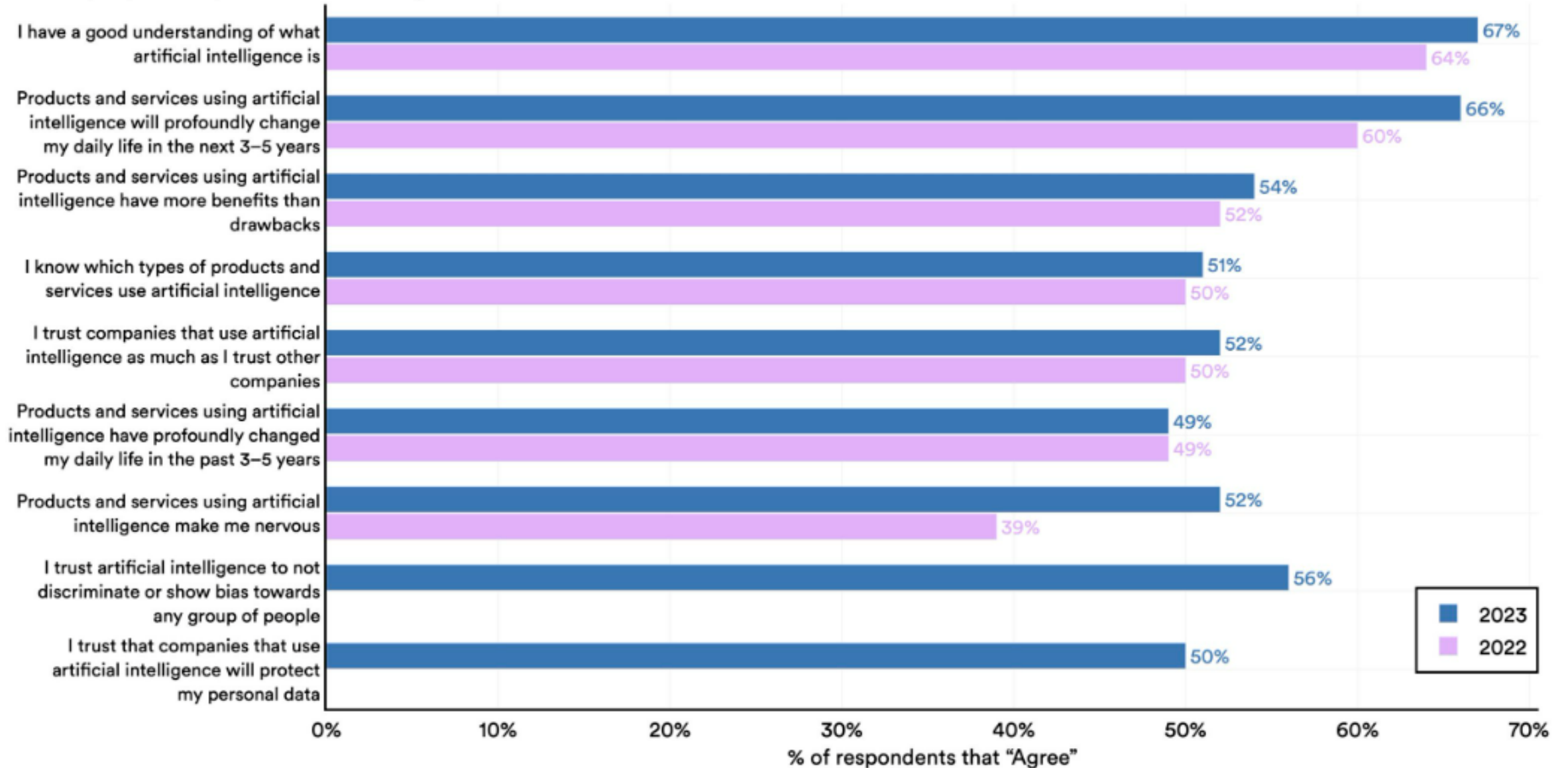
Source: Informatics Europe, 2023 | Chart: 2024 AI Index report



The United Kingdom and Germany lead Europe in producing the highest number of new informatics, CS, CE, and information bachelor's, master's, and PhD graduates. On a per capita basis, Finland leads in the production of both bachelor's and PhD graduates, while Ireland leads in the production of master's graduates.

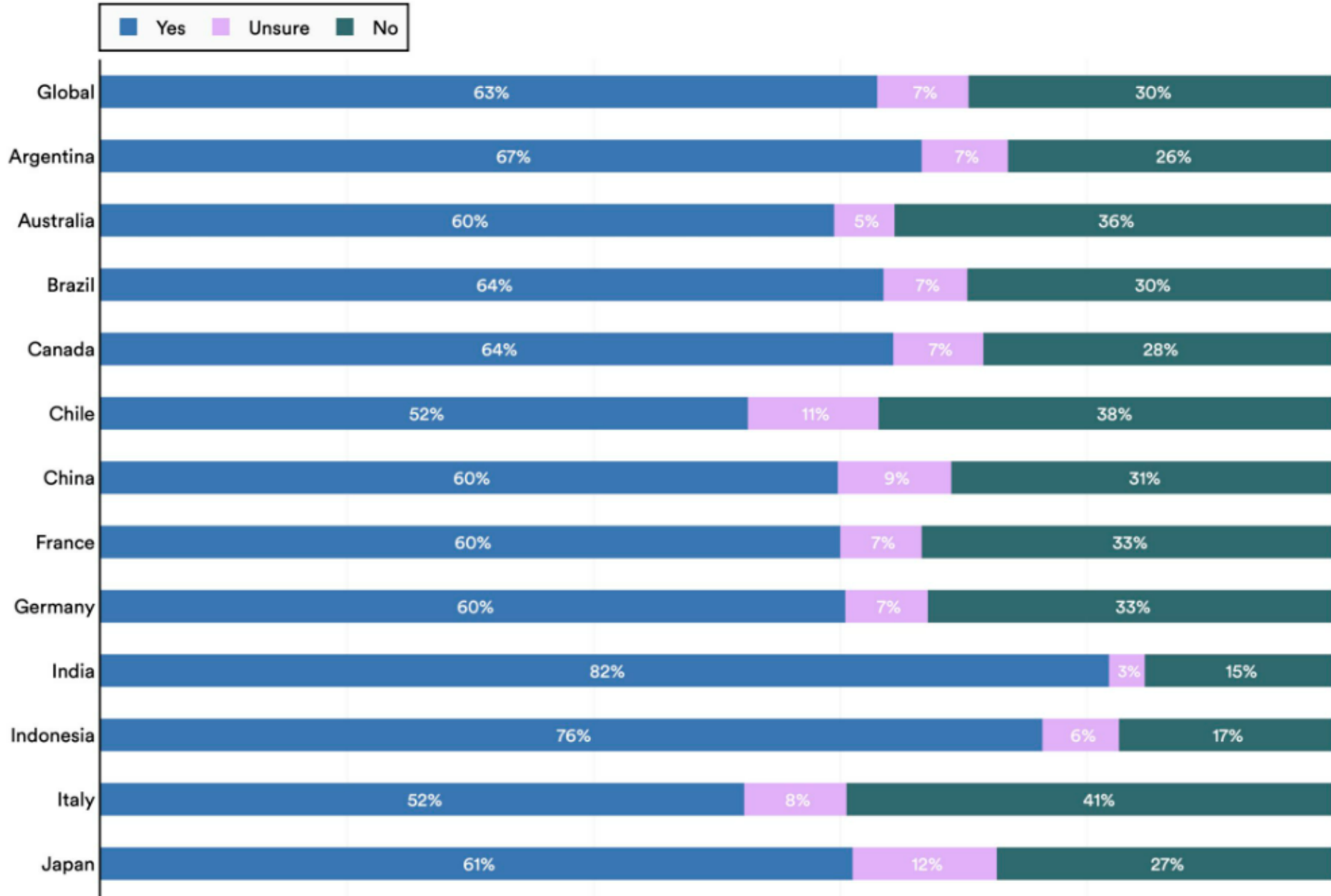
Global opinions on products and services using AI (% of total), 2022 vs. 2023

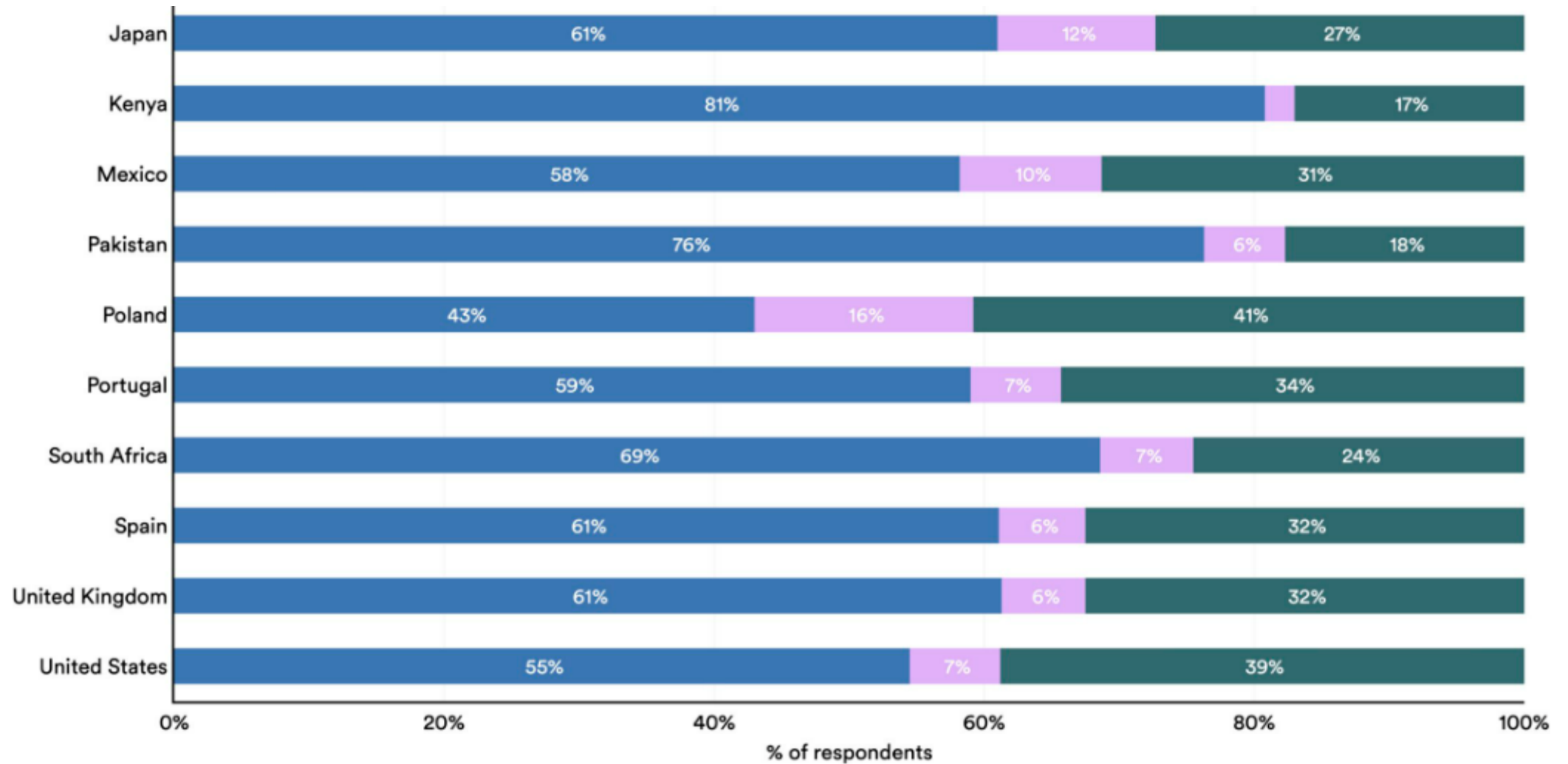
Source: Ipsos, 2022–23 | Chart: 2024 AI Index report



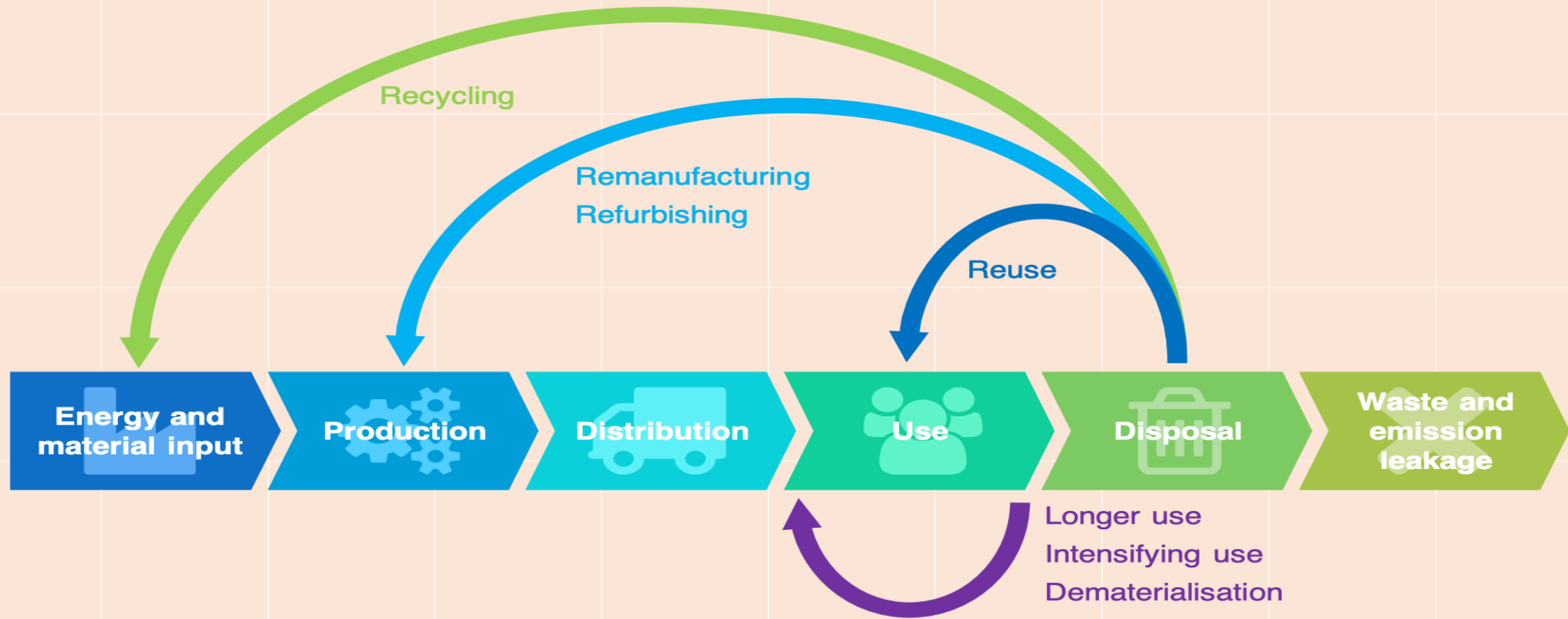
Global awareness of ChatGPT (% of total), 2023

Source: Global Public Opinion on Artificial Intelligence (GPO-AI), 2024 | Chart: 2024 AI Index report





An international survey from the University of Toronto suggests that 63% of respondents are aware of ChatGPT. Of those aware, around half report using ChatGPT at least once weekly.

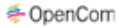


WHAT IS A **CIRCULAR ECONOMY**?

The basic principle of circularity is simple.

It's about moving away from the usual 'take-make-dispose' system, which is 'linear', to

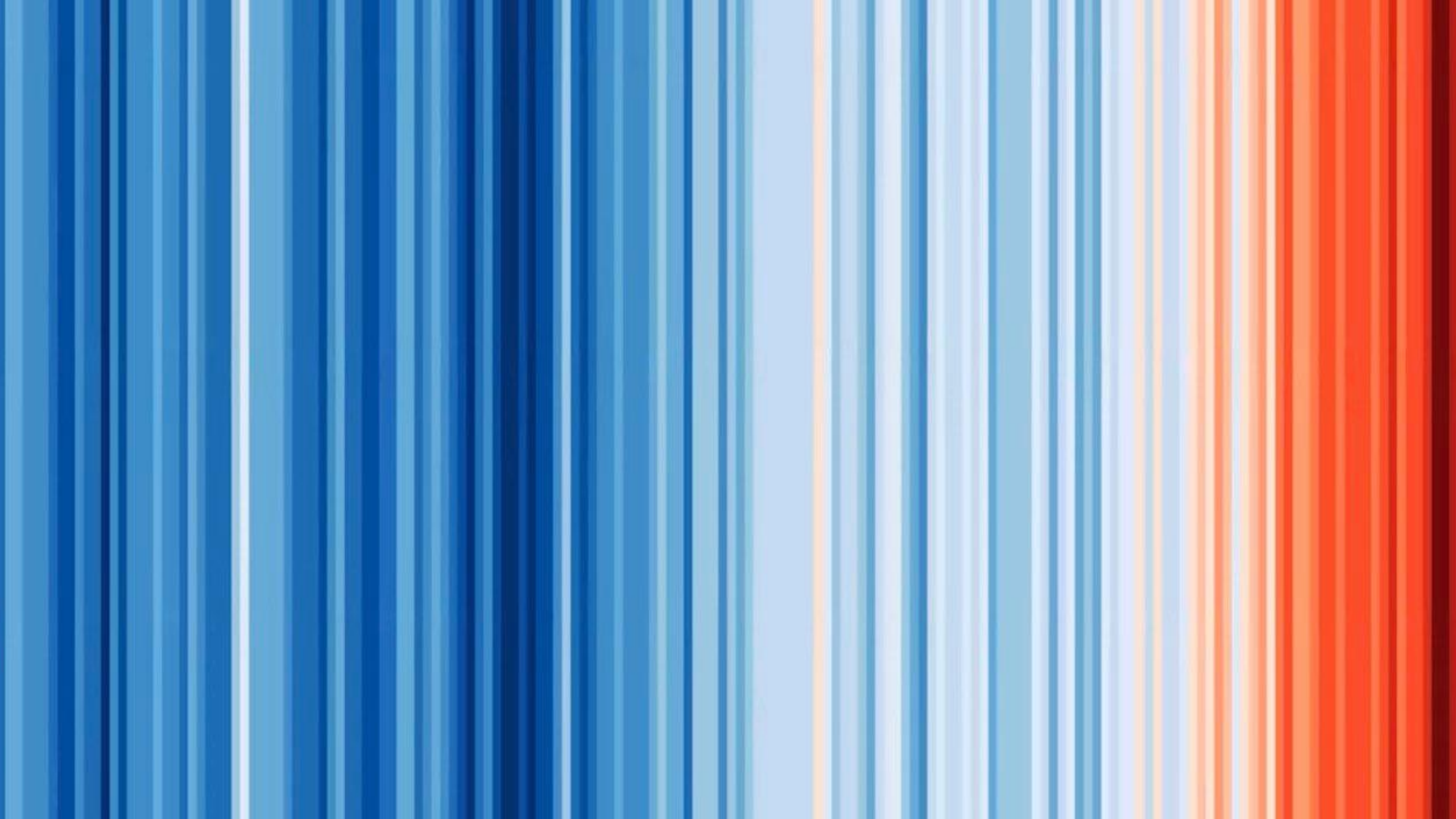
a more circular one, where products last longer, are cared for, repaired and reused, and when this is no longer possible, can be transformed into something new



Need analysis re educational needs in Circular economy in agricultural sector

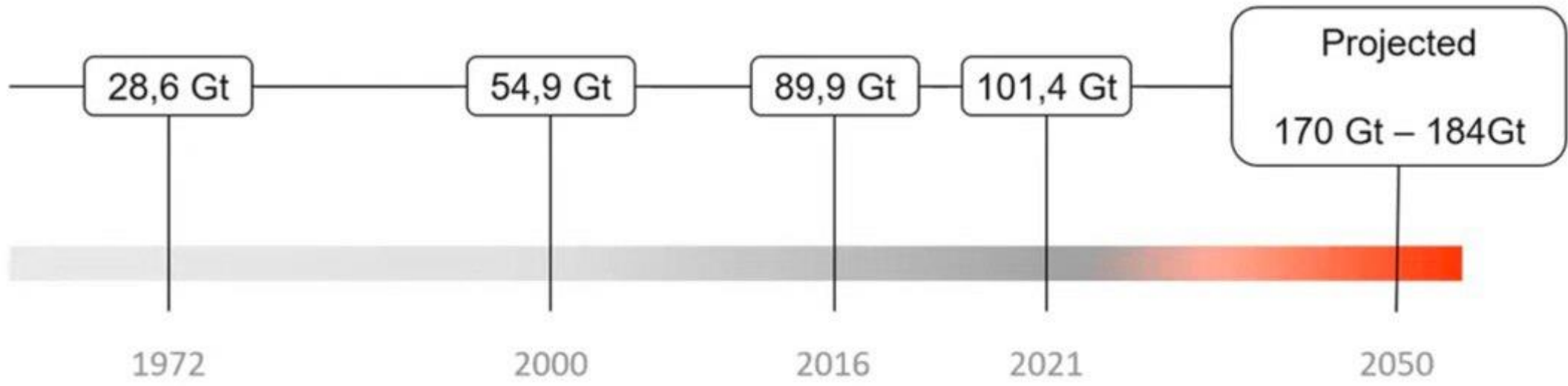
Qualification matrix for the “Expert at applying circular economy processes in agriculture”

Training course through E-Learning, Serious game, V/R on Circular economy Principles



Extracted materials in billion tonnes (Gt) /year

Виділені матеріали, млрд тон \ рік (Gt)



9.1%

Circular in 2018

8.6%

Circular in 2020

7.2%

Circular in 2023



\$235–577 billion

annual market value of crops dependent on animal pollination providing jobs and income millions of people

річна ринкова вартість сільськогосподарських культур залежить від запилення, що забезпечує робочі місця, та доходи мільйонів людей

\$10 trillion

could be lost due to the decline of ecosystem services by 2050 (UN)

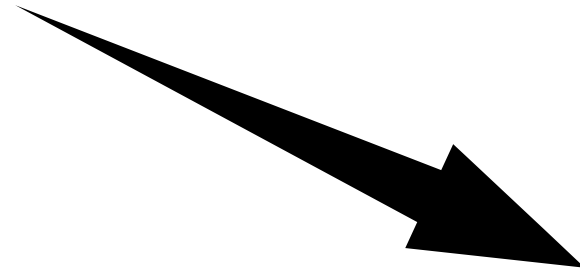
можуть бути втрачені через занепад екосистемних послуг до 2050

42% цінних паперів, що належать французьким фінансовим установам, сильно чи дуже сильно залежать від природи

42% of securities

held by French financial institutions are highly or very highly dependent on nature (Banque de France)

IF WE CONSUME LESS



----- **rebound effect**

Якщо ми споживаємо менш ---

виникає ефект відскоку

• 76% of supply chain leaders expect profits to increase between now and 2025 as a result of applying circular economy principles – Gartner

- *76% лідерів ланцюгів постачання очікують збільшення прибутків до 2025 року в результаті застосування принципів циклічної економіки – Gartner*
- <https://www.gartner.com/en/webinar/425826/994604>



TO SHIFT YOUR SUPPLY CHAIN FROM A LINEAR TO A CIRCULAR MODEL

ЩОБ ПЕРЕМІСТИТИ ЛАНЦЮГ
ПОСТАЧАННЯ З ЛІНІЙНОЇ МОДЕЛІ ДО
КРУГОВОЇ **треба**

ЗАСТОСУВАТИ
КОМПЕТЕНТНОСТІ:

внесення структурних змін,
побудова партнерських
відносин,
розробка нових показників,
сприяння створенню нових
бізнес-моделей, а також
запровадження нових
технічних компетенцій

APPLY KEY STRUCTURAL CHANGES INCLUDING:

- **making structural changes,**
- **building partner relationship,**
- **developing new metrics,**
- **facilitating new business models, and**
- **introducing new competencies**

Принципи **ре**Дизайну

- 1. **ДИЗАЙН** без ВІДХОДІВ
- 2. **ДИЗАЙН** для ДОВГОЛІТТЯ ПРОДУКТУ
- 3. **ДИЗАЙН** для Всього ЖИТТЯ

1. DESIGN **OUT WASTE**

• 2. DESIGN **FOR LONGEVITY**

• 3. DESIGN **FOR END OF LIFE**

RE  **design**

Self-presentation - a site on the Internet



Free UK Shipping on orders over £200



BEEN
LONDON

SHOP ▾

GIFTS ▾

LIMITED EDITION ▾

ABOUT ▾

IMPACT ▾

 EUR € ▾



our forest

OUR TREE PLANTING II VE

 Jul 20, 2020  By Shopify API

OUR ETHOS

CIRCULARITY

INNOVATION

OUR MATERIALS

OUR FOREST

CERTIFICATIONS

CHARITY BAG SWAP



Опитування – **Gartner** показало, що респонденти вносять зміни в ланцюжок постачання, включаючи інтеграцію продуктів циклічної економіки в процес планування (54%), додавання нових можливостей до існуючих виробничих майданчиків (42%) і додавання нових місць для ремонту/переробки та управління відходами, які належать компанії (36%). Упродовж наступних трьох років увага зросте до закупівель, а покупці будуть стимулювати купувати циркулюючі матеріали (41%).

- *The survey showed that respondents are making changes to the supply chain including integrating circular economy products into the planning process (54%),*
- *adding new capabilities to existing manufacturing sites (42%), and*
- *adding new locations for repair/ remanufacturing and waste management which are company owned (36%).*
- *Looking out over the next three years, the focus will increase on procurement, with buyers being incentivized to purchase circular materials (41%).*

Gartner

Agricultural Waste Management

Environmental Protection
Conservation of resources
Regulatory measures

Advantages

Improvement of water quality

Improvement and conservation of soils

Reducing climate change

Increasing agricultural productivity



The obtained economic effect from the use of the concentrate **Peat&Sapro**

	Corn	Barley	Wheat	Grape	Guava	Potato	Rapeseed	Onion red	Cucamber
Increase in yield according to the act in %	28,94	75,5	17	97,6	35,95	32,5	35,8	32,9	31,34
Increase in yield in ts/ha	6,32	35,5	3,5	31,96	36 *kg\bush	102	6,7	102	1055
Economic efficiency from 1 ha in US dollars	179*	575	28*	2521	28 \$\bush	3024**	267	12714*	9190

* - two-time foliar treatment
** - one-time foliar treatment

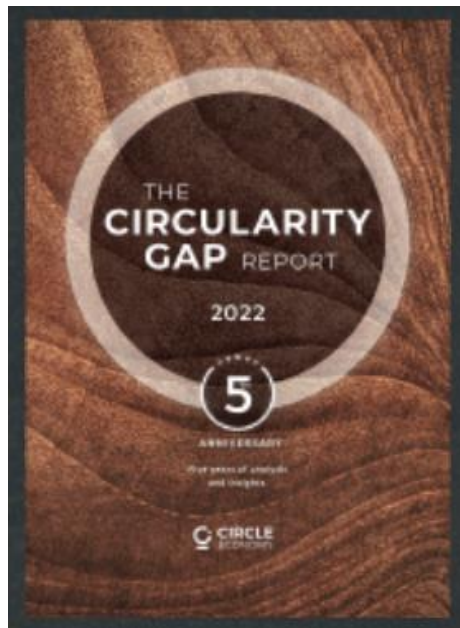
Thank You!



references

Gartner [Supply Chain](#) [Insights](#) [Expert Guidance](#) [Tools](#) [Connect with Peers](#)

Virtual Briefing: 3 Supply Chain Strategies to Scale Circular Economy



ELLEN MACARTHUR FOUNDATION



Municipality-led circular economy case studies

In partnership with the Climate-KIC Circular Cities Project



Climate-KIC is supported by the EIT, a body of the European Union



THE AI INDEX REPORT

Measuring trends in AI

Artificial Intelligence Index Report 2024



GROWING GREENER CITIES IN LATIN AMERICA AND THE CARIBBEAN

An FAO report on urban and peri-urban agriculture in the region



references

<https://www.gartner.com/en/newsroom/press-releases/2022-09-28-gartner-survey-shows-74-percent-of-supply-chain-leaders-expect-circular-economy-to-increase-profits-through-2025>

<https://www.ellenmacarthurfoundation.org/circular-economy-diagram>

<https://aiindex.stanford.edu/report/>

[https:// www.ace-ex.eu](https://www.ace-ex.eu)