# MIT Technology Review unveils 10 breakthrough technologies for 2025



In the realm of technology, the MIT Technology Review has delivered its highly anticipated annual list of the 10 Breakthrough Technologies for 2025, highlighting innovations poised to significantly influence various fields. This year's selection showcases a range of topics, reflecting a diverse array of advancements from consumer technologies to biomedical innovations and AI developments.

The list includes a number of noteworthy breakthroughs. One such innovation is the utilisation of digital twins of human organs, which promises to revolutionise medical treatments and the drug trial process. This approach leverages the virtual replication of human organs to better understand diseases and evaluate treatments, potentially leading to more effective therapies being developed.

Another key topic discussed is the evolving relationship between humans and robots. A particular focus is placed on what will be required to build trust in robotic systems, a complex challenge that requires addressing both technical capabilities and societal perceptions.

Environmental sustainability is also a prominent theme within the list. The Review points out that wind energy remains significantly underutilised, particularly in the context of the shipping industry, which is traditionally associated with high pollution levels. By harnessing wind power, it is believed the industry could shift towards a greener future, thereby reducing its environmental impact.

Additionally, advancements in machine-learning tools are being leveraged by ecologists to analyse acoustic bird data. This breakthrough is helping to unlock insights into bird migration habits, contributing to the understanding of ecology and biodiversity.

Another innovative area presented is the exploration of utilising waste, specifically human excrement, as a means to feed the planet. This unconventional approach raises intriguing possibilities for sustainable agriculture and resource management.

The announcement of these technologies was made during a recent Roundtable discussion involving Amy Nordrum, the executive editor of the MIT Technology Review, and news editor Charlotte Jee. Subscribers of the publication have the opportunity to revisit this discussion, which delves deeper into the technologies and their potential impact. Additionally, past events addressing various technological advancements such as mixed reality and gene editing have been made available for viewers.

The annual list serves as a trend indicator, reflecting not only current advancements but also future potentials within technology, making it a significant resource for businesses and stakeholders looking to navigate the rapidly changing landscape of innovation. The continuing evolution of these technologies is anticipated to profoundly shape business practices and operations in the years to come.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.technologyreview.com/2024/12/19/1108447/digital-twins-human-organs-medical-treatment-drug-trials/> - Corroborates the use of digital twins of human organs to revolutionize medical treatments and the drug trial process.
2. <https://medicalxpress.com/news/2025-01-digital-twins-hearts-technology-health.html> - Supports the concept of digital twins, especially for hearts, to predict health outcomes and inform treatment decisions.
3. <https://www.technologyreview.com/2025/01/03/1109178/10-breakthrough-technologies-2025/> - Lists the 10 Breakthrough Technologies for 2025, including various innovations such as digital twins, AI developments, and environmental sustainability.
4. <https://www.technologyreview.com/2025/01/03/1109178/10-breakthrough-technologies-2025/> - Discusses the evolving relationship between humans and robots, and the need to build trust in robotic systems.
5. <https://www.technologyreview.com/2025/01/03/1109178/10-breakthrough-technologies-2025/> - Highlights environmental sustainability, including the potential for wind energy in the shipping industry to reduce pollution.
6. <https://www.technologyreview.com/2025/01/03/1109178/10-breakthrough-technologies-2025/> - Mentions advancements in machine-learning tools for analyzing acoustic bird data to understand bird migration habits and ecology.
7. <https://www.technologyreview.com/2025/01/03/1109178/10-breakthrough-technologies-2025/> - Explores the use of waste, such as human excrement, for sustainable agriculture and resource management.
8. <https://www.technologyreview.com/2025/01/03/1109178/10-breakthrough-technologies-2025/> - Describes the annual list as a trend indicator reflecting current and future technological advancements.
9. <https://www.technologyreview.com/2024/12/19/1108447/digital-twins-human-organs-medical-treatment-drug-trials/> - Details the challenges and future potential of digital twins, including the integration of various organ models into a whole-body digital twin.
10. <https://medicalxpress.com/news/2025-01-digital-twins-hearts-technology-health.html> - Explains how digital twins can predict long-term disease risks, assess treatment responses, and simulate surgeries.
11. <https://www.technologyreview.com/2025/01/03/1109178/10-breakthrough-technologies-2025/> - Mentions past events and discussions on technological advancements like mixed reality and gene editing.
12. <https://www.technologyreview.com/2025/01/06/1109772/the-download-our-10-breakthrough-technologies-for-2025/> - Please view link - unable to able to access data