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Sustainability continues to gain significant attention in 2025

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Scientific innovations and technology applications to transform medical devices or pharmaceutical products in the future



From the emergence of recombinant DNA technology in the 1970s to advancements in monoclonal antibodies and large-scale screening methods in the 1990s, the biotech and life sciences industries have continually evolved. Since the 2000s, the focus has shifted toward genetic testing techniques, alongside advancements in automation and miniaturisation, such as microarrays and sensors.

Today's prominent trends include the rise of gene and cell therapies, which enable individualised (personalised) medicine and Companion Diagnostics, as well as RNA therapeutics. The intelligent use of digital data and information in a globalised world is also key, leveraging AI-powered data analysis, cloud-based storage, and the Internet of Things (IoT). Sustainability has also gained significant attention, with "green" packaging and manufacturing attempting to lower energy and resource consumption for a lower carbon footprint.

It will be interesting to see how the scientific innovations and technology applications today will transform medical devices or pharmaceutical products in the future. However, with each innovation comes the need for regulatory oversight. For instance, the EU Artificial Intelligence (AI) Act, approved by the EU Parliament in March 2024, seeks to safeguard fundamental rights, democracy, the rule of law, and environmental sustainability against high-risk AI applications.

Now, more than ever, qualified regulatory experts are essential to guide manufacturers through the complex landscape of emerging regulations. Smart solutions are also crucial for streamlining processes in manufacturing, enhancing efficiency in operations and documentation, and ensuring compliance with regulatory standards. We have taken steps on this journey by incorporating tools like the Pure Global Resource Center into our daily regulatory processes, improving efficiency, and ensuring alignment with evolving standards.

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