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DNA mapping, RNA engineering among top ten innovations by 2025

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The Intellectual Property and Science business of Thomson Reuters, the world leader in providing intelligent information to businesses and professionals, has released 'The World in 2025: 10 Predictions of Innovation', a new report that predicts the landscape of science and technology in 2025 by mining global patent data and scientific literature.

To conduct the study, researchers identified the top 10 emerging scientific research fronts, based on an analysis of citation rankings using Thomson Reuters Web of Science. They next looked at global patent data in the Derwent World Patents Index to identify the top 10 patent fields with the highest number of inventions containing a priority date of 2012 and beyond. The resulting technology areas with the highest level of commercial and scientific research interests were then reviewed to identify hot spots of innovation that will lead to tomorrow's biggest breakthroughs.

Among the top 10 innovations featured in the list, the lifesciences technologies that are predicted to make significant impact include:

Ã¢â?¬Â¢ **Type 1 Diabetes is preventable:** Advancements in ribonucleic acid-guided (RNA-guided) engineering will advance to a point where it will be possible to create a human genome engineering platform for identifying and treating disease-causing agents in humans. This field currently leads all areas of genetic-engineering patenting and has been identified as an emerging research front in scientific literature.

Ã¢â?¬Â¢ DNA mapping at birth is the norm: Analysis of the human genome continues to be one of the hottest areas of scientific research, with one recent paper collecting over 1,000 citations. Advancements in nanotechnology coupled with more widespread Big Data technologies make invivo measurements, for diagnoses to conduct precise, cell-level screenings, possible.

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Additional predictions from the lifesciences segment included Cancer Treatments with very few toxic side effects; Petroleum-based packaging is replaced by cellulose-derived packaging.

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