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Amundi
ASSET MANAGEMENT

mRNA TECHNOLOGY

A therapeutic approach driven into the mainstream by the COVID-19 pandemic

The pandemic outbreak is being a real turning point for the mRNA field as the success of the mRNA-based COVID-19 vaccine is certainly contributing to unlock the power of this technology.



Despite decades of research, mRNA technologies have proven slow in making it into the market but recent developments have increased interest for the general public, patients, care providers and investors alike.



An average vaccine takes about **10-15 years** to be developed



USD 2.5 billion has been injected by the US government for Moderna's vaccine development

There are currently over **92 mRNA therapeutics candidates** in development

The rapid progress of mRNA vaccines proves that the RNA therapeutics market **was ready to take off well before the pandemic**. A combination of factors has now prepared the mRNA space to shape the face of medicine.

The mRNA field now better equipped for the race to the market

Among all the mRNA vaccines clinically tested for a wide variety of infectious diseases, the COVID-19 vaccine is by far the most advanced. This is mostly due to the huge volume of resources poured into their development.

The application of the vaccine in a wide-ranging population is being a strong evidence for safety and efficacy and providing general acceptancy of the mRNA technology.

Furthermore, the numerous trials carried out this year have helped get regulatory authorities on board and contribute to shorten the licencing agreement timeframe of future therapies.

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BionTech estimates to **at least 5-7 years** the gain to the usual development timeline of a regular Biotech



After COVID-19 success, Moderna expects to launch phase 1 clinical trials for **2 HIV mRNA Vaccines** in 2021

mRNA Vaccines and Therapeutics Market Growth estimations



*CAGR: Compound Annual Growth Rate

According to BioNTech, the first commercial provider of the COVID-19 mRNA-vaccine jointly with Pfizer, the product's success represents a unique opportunity that will help de-risk its entire vaccine approach, validate its mRNA platform and accelerate other clinical programs.

mRNA has the potential to transform how medicines are discovered, developed and manufactured

Until now, most of the RNA medicines have been focusing on rare diseases and cancer, but they are starting to expand into other treatment areas with among others:

- *cardiovascular damage to prevent heart failure*
- *metabolic diseases*
- *musculoskeletal degenerative diseases*

mRNA therapies represent a new frontier in medicine and a great potential for revolutionizing the way we treat diseases that have no reported treatment or considered to date undruggable.

External funders increasingly attracted by the promising outcomes of mRNA technology

In terms of drug discovery and development, mRNA therapeutics remains one of the least explored fields in medicine and yet the one set to transform it profoundly in the incoming years.

Several investors have already begun to seize the opportunity. Indeed, in the last five years USD 9 billion has been raised by industry players of which USD 5 billion was raised in 2020 alone.

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