

Confidence  
must be earned

**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.

# mRNA TECHNOLOGY

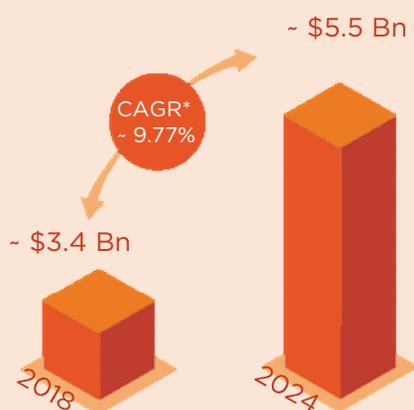
A therapeutic approach driven into the mainstream by the COVID-19 pandemic

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.

### Disclaimer

The issuer of this document is Amundi Hong Kong Limited. This document is not intended as an offer or solicitation with respect to the purchase or sale of securities, including shares or units of funds. All views expressed and/or reference to companies cannot be construed as a recommendation by Amundi. Opinions and estimates may be changed without notice. To the extent permitted by applicable law, rules, codes and guidelines, Amundi and its related entities accept no liability whatsoever whether direct or indirect that may arise from the use of information contained in this document. This document is for distribution solely to persons permitted to receive it and to persons in jurisdictions who may receive it without breaching applicable legal or regulatory requirements. This document has not been reviewed by the Securities and Futures Commission in Hong Kong. This document is prepared for information only and does not have any regard to the specific investment objectives, financial situation and the particular needs of any specific person who may receive this document. Any person considering an investment should seek independent advice on the suitability or otherwise of the particular investment. Investors should not only base on this document alone to make investment decisions. Investment involves risk. The past performance information of the market, manager and investments and any forecasts on the economy, stock market, bond market or the economic trends of the markets are not indicative of future performance. Investment returns not denominated in HKD or USD is exposed to exchange rate fluctuations. The value of an investment may go down or up. This document is not intended for citizens or residents of the United States of America or to any «U.S. Person», as this term is defined in SEC Regulation S under the U.S. Securities Act of 1933.

All trademarks and logos used for illustrative purposes in this document are the property of their respective owners.