

# STOCK STORY: MODERNA

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Moderna's pioneering use of mRNA is a true disruptor in the vaccine space. Investment Manager Julia Angeles explains how Moderna is making drug development a scalable business which resembles a technology company.

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This film was produced and approved in March 2023 and has not been updated subsequently. It represents views held at the time of filming and may not reflect current thinking.

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**Julia Angeles:** The drug development process remains hugely inefficient. It is long, costly and with a high failure rate leaving millions of patients without effective treatments. On average, it takes more than 10 years and costs more than a billion dollars to bring a new medicine to patients.

Moderna is a Boston-based life science company which is pioneering the use of messenger RNA across all imaginable diseases. They are doing this at a speed and scale never seen before in the healthcare sector. This is possible because messenger RNA is a piece of genetic code that allows us to program for any protein. Proteins are the essential biological building blocks that all living organisms depend on to function. For example, in many human rare diseases, the body fails to produce certain proteins. Moderna's technology allows us to produce these missing proteins in exactly the same way as if we produced [them] naturally. In the case of Covid-19, Moderna's technology coded for the spike protein, that will be recognised by the immune system, which allowed us to build the immune defence against the actual virus.

Moderna is a true disrupter of the drug development industry as it is moving the industry from an analogue to a digital age. This is much more profound, and radical, compared to what Amazon has done to the retail sector, because it concerns human health and it is one of the most risk-averse industries. We have already seen the power of messenger RNA during the Covid-19 pandemic. Never before [have we] been able to develop an effective vaccine within such a short period of time. The speed of development and efficacy profile of the vaccine have been truly remarkable compared to other technologies. With Moderna's advancements working with flu and RSV, and an ability to combine the immunisations of these infectious diseases in one shot, the company has an incredible opportunity to radically disrupt this market.

Moderna is a unique company, because it is the first time we see a real opportunity to make drug development a scalable business which resembles a technology company. This is because of the underlying nature of messenger RNA, being a programmable medicine, combined with Moderna's approach to digitalisation of its operations and organisation. Currently, the company has 48 programs in clinical development and many more are cooking in its labs. This scale could allow Moderna to address some of the largest death causes around the world, like cancer and infectious diseases. Moderna's medicine has a potential to impact every life on this planet.



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