

Business Updates
Second Quarter 2021 Financial Results
August 5, 2021

Forward-looking statements and Disclaimer

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including statements regarding: the Company's development of the Moderna COVID-19 Vaccine (mRNA-1273); its efforts to continue developing vaccines against COVID-19, including efforts to develop vaccines against variant strains of SARS-CoV-2 and for booster doses; the ability of the Moderna COVID-19 Vaccine to provide protection against COVID-19 over time and to trigger an antibody response against variants of concern; the potential for booster doses of the Moderna COVID-19 Vaccine and variant-specific vaccine candidates to trigger neutralizing antibodies; the need for boosters against COVID-19 and the timing of that need; the safety profile associated with COVID-19 booster candidates; the Company's plans to submit for a Biologics License Application for mRNA-1273; the conduct and timing of clinical trials for programs in the Company's pipeline, including its vaccine candidates against seasonal flu, CMV, RSV, HIV, Nipah virus and EBV; the potential to combine different vaccines into a single dose; the potential market associated with commercial vaccines; the potential for establishing proof of concept in exploratory modalities; the number of doses of the Moderna COVID-19 Vaccine that the Company anticipates being able to manufacture in 2021 and 2022, and investments to facilitate that manufacturing; anticipated doses to be delivered under advance purchase agreement in 2021 and 2022 and the associated dollar amounts to be received, which should not be construed as expected 2021 or 2022 revenue; the anticipated cost of sales associated with the Moderna COVID-19 Vaccine; the Company's commercial rights to its development candidates; future research and development expenses; future sales, general and administrative expenses, and capital expenditures, as well as other expenses; orders for the Company's Moderna COVID-19 Vaccine; the Company's future tax rate; plans to conduct a share repurchase program and the Company's capital allocation priorities; and plans to establish a charitable foundation. In some cases, forward-looking statements can be identified by terminology such as "will," "may," "should," "could," "expects," "intends," "plans," "aims," "anticipates," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. The forward-looking statements in this presentation are neither promises nor guarantees, and you should not place undue reliance on these forward-looking statements because they involve known and unknown risks, uncertainties, and other factors, many of which are beyond Moderna's control and which could cause actual results to differ materially from those expressed or implied by these forward-looking statements. These risks, uncertainties, and other factors include, among others, those risks and uncertainties described under the heading "Risk Factors" in Moderna's most recent Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission (SEC) and in subsequent filings made by Moderna with the SEC, which are available on the SEC's website at www.sec.gov. Except as required by law, Moderna disclaims any intention or responsibility for updating or revising any forward-looking statements contained in this presentation in the event of new information, future developments or otherwise. These forward-looking statements are based on Moderna's current expectations and speak only as of the date hereof.

Moderna COVID-19 Vaccine: Authorized Use & Important Safety Information

Authorized Use in the United States:

Moderna COVID-19 Vaccine is authorized for use under an Emergency Use Authorization (EUA) for active immunization to prevent coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in individuals 18 years of age and older.

Important Safety Information:

- Do not administer the Moderna COVID-19 Vaccine to individuals with a known history of severe allergic reaction (e.g., anaphylaxis) to any component of the Moderna COVID-19 Vaccine.
- Appropriate medical treatment to manage immediate allergic reactions must be immediately available in the event an acute anaphylactic reaction occurs following administration of the Moderna COVID-19 Vaccine. Monitor Moderna COVID-19 Vaccine recipients for the occurrence of immediate adverse reactions according to the Centers for Disease Control and Prevention guidelines (<https://www.cdc.gov/vaccines/covid-19/clinical-considerations/managing-anaphylaxis.html>).
- Reports of adverse events following use of the Moderna COVID-19 Vaccine under EUA suggest increased risks of myocarditis and pericarditis, particularly following the second dose. The decision to administer the Moderna COVID-19 Vaccine to an individual with a history of myocarditis or pericarditis should take into account the individual's clinical circumstances.
- Immunocompromised persons, including individuals receiving immunosuppressive therapy, may have a diminished response to the Moderna COVID-19 Vaccine.
- The Moderna COVID-19 Vaccine may not protect all vaccine recipients.
- Adverse reactions reported in a clinical trial following administration of the Moderna COVID-19 Vaccine include pain at the injection site, fatigue, headache, myalgia, arthralgia, chills, nausea/vomiting, axillary swelling/tenderness, fever, swelling at the injection site, and erythema at the injection site.
- The following adverse reactions have been reported following administration of the Moderna COVID-19 Vaccine during mass vaccination outside of clinical trials:
 - Severe allergic reactions, including anaphylaxis
 - Myocarditis and pericarditis
- Available data on Moderna COVID-19 Vaccine administered to pregnant women are insufficient to inform vaccine-associated risks in pregnancy. Data are not available to assess the effects of Moderna COVID-19 Vaccine on the breastfed infant or on milk production/excretion.
- There are no data available on the interchangeability of the Moderna COVID-19 Vaccine with other COVID-19 vaccines to complete the vaccination series. Individuals who have received one dose of Moderna COVID-19 Vaccine should receive a second dose of Moderna COVID-19 Vaccine to complete the vaccination series.
- Additional adverse reactions, some of which may be serious, may become apparent with more widespread use of the Moderna COVID-19 Vaccine.
- Vaccination providers must complete and submit reports to VAERS online at <https://vaers.hhs.gov/reportevent.html>. For further assistance with reporting to VAERS, call 1-800-822-7967. The reports should include the words "Moderna COVID- 19 Vaccine EUA" in the description section of the report.

Click for [Fact Sheet for Healthcare Providers Administering Vaccine \(Vaccination Providers\) and Full EUA Prescribing Information](#) for more information.

Today's Agenda

2Q21 Earnings Call

1

Business Review – Stéphane Bancel, CEO

2

Commercial Review – Corinne Le Goff, Pharm.D., CCO

3

Financials – David Meline, CFO

4

Clinical Program Review – Jacqueline Miller, M.D., SVP
Stephen Hoge, M.D., President

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Looking Forward – Stéphane Bancel, CEO

Second quarter 2021 highlights – Strong pipeline momentum

- **Moderna COVID-19 Vaccine/Spikevax™:** Final blinded analysis of Phase 3 COVE study shows 93% efficacy; Efficacy remains durable through six months after second dose
 - Initiated the rolling submission process for a BLA in the U.S. and expect to complete submission in August
 - EMA's CHMP adopted a positive opinion, resulting in marketing authorization for Spikevax™ to include adolescents 12 years of age and older in the European Union
 - Received adolescent extension (12-17 years old) in Japan
- **Quadrivalent seasonal flu vaccine (mRNA-1010):** Started Phase 1/2 study
- **RSV vaccine (mRNA-1345):** Received Fast Track designation from the FDA in adults older than 60 years of age
- **Zika vaccine (mRNA-1893):** Started Phase 2 study
- **PA rare disease program (mRNA-3927):** Started Phase 1/2 study in patients
- **IL-2 auto-immune disease program (mRNA-6231):** Started Phase 1 study in healthy volunteers

Second quarter 2021 highlights – Strong commercial momentum

- **Advance Purchase Agreements (APAs) for Moderna COVID-19 Vaccine/Spikevax™:**
 - **FY 2021:** APAs signed for product sales of ~\$20 billion versus \$19.2 billion announced on Q1 earning call
 - **FY 2022:** APAs already signed for \$12 billion and an additional \$8 billion in options; numerous negotiations ongoing around the world for additional APAs for 2022
 - **FY 2023:** Started to sign APAs as forward-looking countries prepare for the endemic phase of COVID-19
- **Q2 financials summary**
 - Revenue: \$4.4B (\$4.2B of COVID-19 vaccine sales)
 - Net income: \$2.8B
 - Cash and investments: \$12.2B (\$4B of cash generated in Q2)
- **Launch of 1st share buy-back program of \$1 billion**

Moderna COVID-19 Vaccine supply update

2021 Supply

Global manufacturing supply forecast to be between **800 million to 1 billion doses**

2022 Supply

Global manufacturing supply forecast to be **between 2 billion doses** (if primarily 100 µg doses) **and 3 billion doses** (if primarily 50 µg doses)

Increased Investments



Manufacturing facilities



Additional lines and partnerships in Europe and Switzerland

New additions to the Executive Committee



Shannon Thyme Klinger

**Chief Legal Officer and
Corporate Secretary**

*Previously Chief Legal Officer
of Novartis*



**Paul Burton, M.D., Ph.D.,
F.A.C.C, M.R.C.S**

Chief Medical Officer

*Previously Chief Global
Medical Affairs Officer of
Janssen Pharmaceuticals*




Kate Cronin

Chief Brand Officer

*Previously Global CEO of Ogilvy
Health, part of WPP plc.*

Moderna as of August 2021

Pipeline	Commercial COVID-19 vaccine	Phase 2/3 preparation CMV, RSV and Flu vaccine	Phase 2 COVID-19 boosters, Zika, PCV, VEGF	13 positive Phase 1 readouts 9 ID vaccine programs PCV, OX40L, VEGF, anti-Chikungunya antibody (repeat dose)	
Programs in development	Infectious Disease Vaccines 9 Vaccines for major unmet needs <ul style="list-style-type: none"> • COVID-19 launched • Flu, RSV in Phase 1 • CMV positive Phase 2, Phase 3 preparation • Zika in Phase 2 • hMPV/PIV3 in Phase 1b age de-escalation study • EBV, HIV and Nipah in preclinical 			mRNA Therapeutics 12 Medicines across 4 therapeutic areas <ul style="list-style-type: none"> • 4 Immuno-Oncology: PCV in Ph 2; Triplet, IL-12, KRAS in Ph 1 • 4 Rare Diseases: PA in Ph 1; MMA, PKU, GSD1a in preclinical • 2 Cardiovascular Diseases: VEGF in Phase 2; Relaxin in preclinical • 2 Autoimmune Diseases: IL-2 in Ph 1; PD-L1 in preclinical 	
Foundations	>1,800 Employees ¹	6th Consecutive year top employer by <i>Science</i> 	800 million to 1 billion doses to be produced in 2021	12 commercial subsidiaries across North America, Europe and Asia Pacific	\$12.2B of cash and investments (unaudited) ¹

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Looking Forward – Stéphane Bancel, CEO

Moderna COVID-19 vaccine APAs signed for 2021 delivery

Contracted product sales of ~\$20 billion in 2021

North and South America

- **United States** (~400M doses)
- **Canada**¹ (34M doses)
- **Colombia** (10M doses)

EMEA and Africa

- **European Union**¹ (260M doses)
- **United Kingdom** (17M doses)
- **Switzerland** (11M doses)
- **Israel** (4M doses)
- **Qatar**
- **Botswana**
- **Saudi Arabia**
- **United Arab Emirates (Magenta)**

Int'l Organizations


- **COVAX/UNICEF** (34M doses)
- **Working with U.S government to facilitate worldwide donations**


APAC

- **Japan** (50M doses)
- **South Korea** (40M doses)
- **Australia** (10M doses)
- **Philippines** (20M doses)
- **Taiwan** (6M doses)
- **Singapore**
- **Brunei**
- **Zuellig Pharma**

 Signed APAs for 2021



 COVAX: 92 Gavi COVAX Advance Market Commitment (AMC) low- and middle-income countries

 Zuellig Pharma: Southeast Asia distribution

Source: [US](#), [Canada](#), [Colombia & Taiwan](#), [European Union](#), [UK](#), [Switzerland](#), [Israel](#), [Qatar](#), [Botswana](#), [Saudi Arabia](#), [UAE](#), [Japan](#), [South Korea](#), [Philippines](#), [Singapore](#), [Australia](#), [COVAX](#), [Zuellig Pharma](#), [Brunei](#), [Argentina](#), [Magenta Investments](#)

1) Amounts reflect anticipated shift of some deliveries from 2021 to 2022, subject to finalization of agreements

Moderna COVID-19 vaccine APAs signed for 2022 and 2023 delivery

Contracted product sales of ~\$12 billion and options of ~\$8 billion in 2022

North and South America

- **United States** (90M doses)
- **Argentina** (20M doses)
- **Canada**¹ (10M doses)
- **Paraguay** (2M doses)

EMEA and Africa

- **European Union**¹ (200M doses)
- **Switzerland** (7M doses, option for 7M doses in '22/23)
- **Israel** (5.2M doses, option for 17M in '22/23)
- **Saudi Arabia** (10M doses, option for 15M in '22)
- **Botswana**

Int'l Organizations

- **COVAX/UNICEF** (117M doses, option for 350M doses in '22)

APAC

- **Japan** (50M doses, option for 100M in '22)
- **Taiwan** (20M doses, 15M doses in '23)
- **Australia** (option for 15M doses in '22)

 Signed APAs for 2022 and 2023 (incl. options)

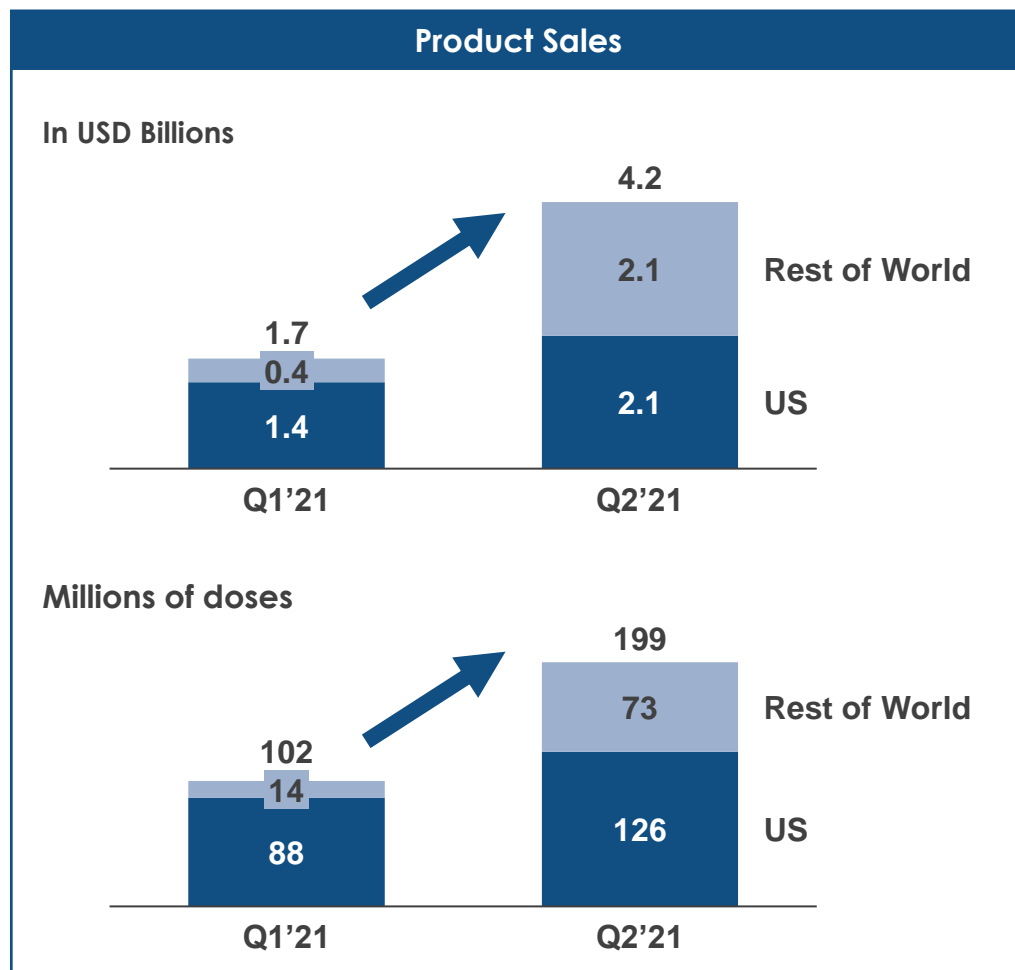


 COVAX: 92 Gavi COVAX Advance Market Commitment (AMC) low- and middle-income countries

In negotiation with governments around the world for APAs in 2022 and beyond

Q2'21 Commercial Update

\$4.2B in Product Sales, 199M doses delivered



- **Q2'21 Product Sales of \$4.2B**
 - **\$2.1B US**
 - **\$2.1B Rest of World**, including EU, Canada, Japan, Switzerland, United Kingdom, Singapore, Qatar, Philippines, Taiwan, South Korea and Brunei
- **199M doses delivered in Q2'21**
 - 126M doses delivered to US Government
 - 73M doses delivered to Rest of World

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Second quarter 2021 financial results

<i>In \$ millions, except per share amounts (unaudited)</i>	Q2 2021	Q1 2021	Q2 2020	QoQ Change (Q2'21 vs. Q1'21)	QoQ Change (Q2'21 vs. Q1'21)
Product sales¹	\$ 4,197	\$ 1,733	\$ —	\$ 2,464	142 %
Grant revenue ²	139	194	38	(55)	(28)%
Collaboration revenue	18	10	29	8	80 %
Total revenue	4,354	1,937	67	2,417	125 %
Cost of sales	750	193	—	557	289 %
Research and development	421	401	152	20	5 %
Selling, general and administrative	121	77	37	44	57 %
Total operating expenses	1,292	671	189	621	93 %
Income (loss) from operations	3,062	1,266	(122)	1,796	142 %
Other (expense) income	1	(6)	5	7	117 %
Provision for income taxes	283	39	—	244	626 %
Net income (loss)	\$ 2,780	\$ 1,221	\$ (117)	\$ 1,559	128 %
Earnings (loss) per share – Diluted	\$ 6.46	\$ 2.84	\$ (0.31)	\$ 3.62	127 %
Weighted average shares – Diluted ³	431	430	381	1	— %
Weighted average shares – Basic ³	402	400	381	2	— %
Effective tax rate	9.2 %	3.1 %	— %		

1. In December 2020, we began to recognize product sales of our COVID-19 vaccine to the U.S Government and international governments
2. Grant revenue increased in 2021, primarily related to the BARDA Agreement to accelerate development of our COVID-19 vaccine (mRNA-1273)
3. We generated a net loss in Q2 2020, therefore the basic and diluted weighted average shares calculation was the same

Year-to-date 2021 financial results

In \$ millions, except per share amounts (unaudited)

	2021 YTD ended 6/30/21	2020 YTD ended 6/30/20	YoY Change	YoY Change
Product sales¹	\$ 5,930	\$ —	\$ 5,930	100 %
Grant revenue ²	333	42	291	693 %
Collaboration revenue	28	33	(5)	(15)%
Total revenue	6,291	75	6,216	8,288 %
Cost of sales	943	—	943	100 %
Research and development	822	267	555	208 %
Selling, general and administrative	198	61	137	225 %
Total operating expenses	1,963	328	1,635	498 %
Income (loss) from operations	4,328	(253)	4,581	1,811 %
Other (expense) income	(5)	12	(17)	(142)%
Provision for income taxes	322	—	322	100 %
Net income (loss)	\$ 4,001	\$ (241)	\$ 4,242	1,760 %
Earnings (loss) per share – Diluted	\$ 9.30	\$ (0.66)	\$ 9.96	1,509 %
Weighted average shares – Diluted ³	430	367	63	17 %
Weighted average shares – Basic ³	401	367	34	9 %
Effective tax rate	7.4 %	— %		

1. In December 2020, we began to recognize product sales of our COVID-19 vaccine to the U.S Government and international governments
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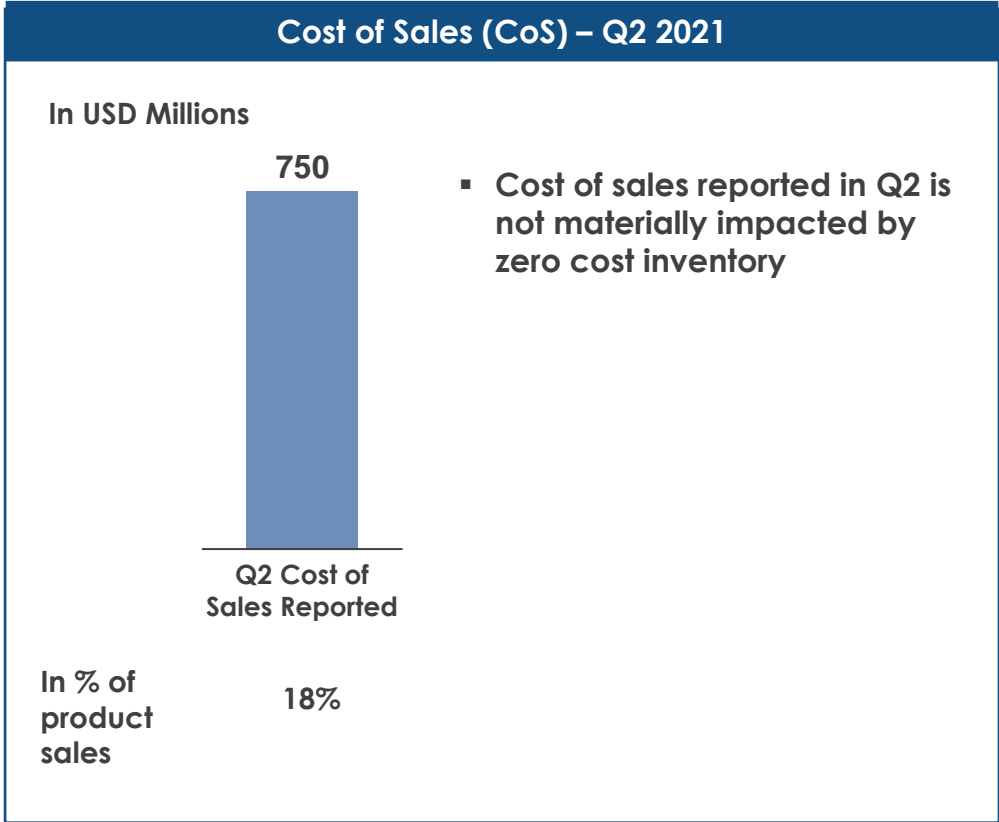
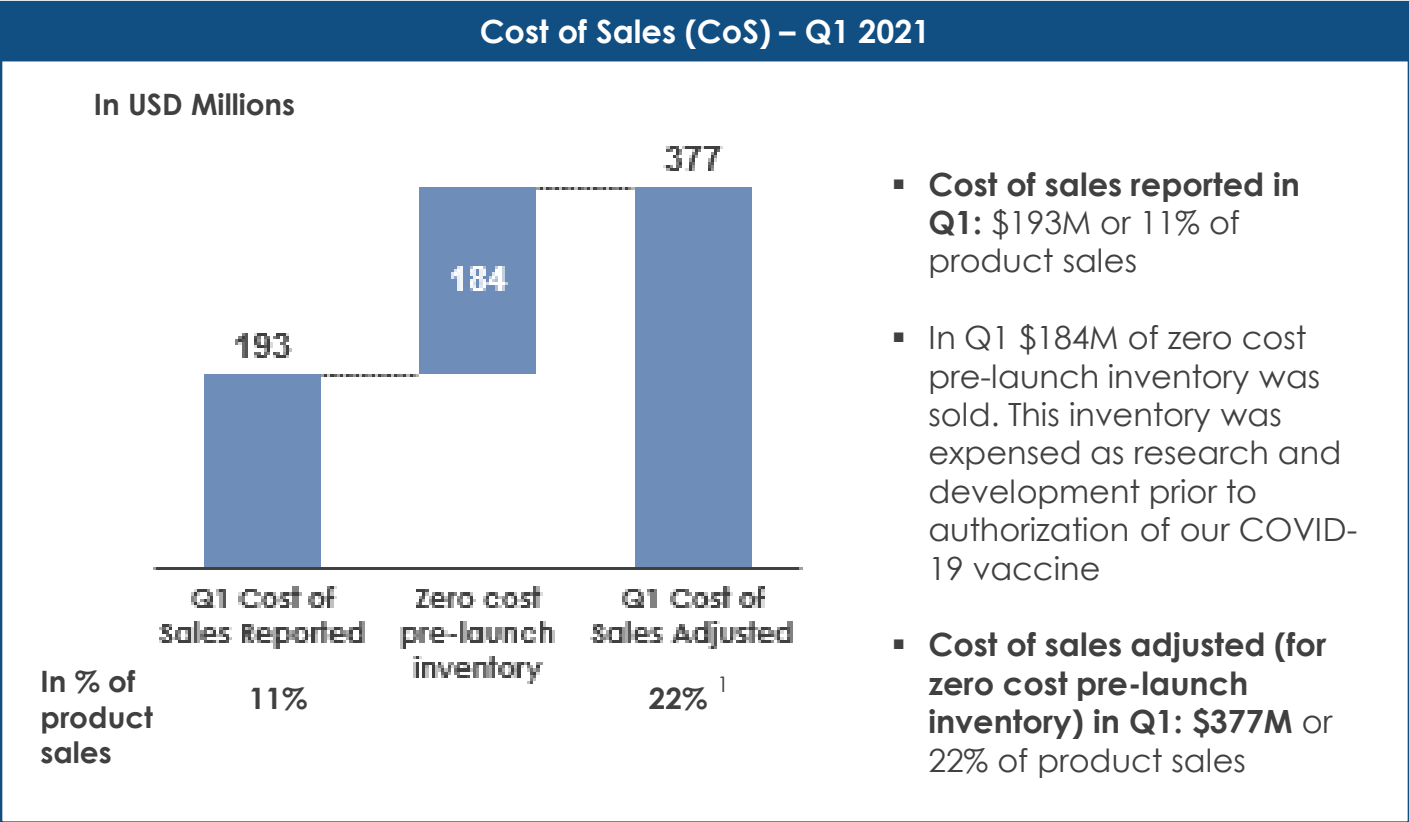
Cash and selected cash flow information

Balance Sheet Data	June 30, 2021 <i>(unaudited)</i>	March 31, 2021 <i>(unaudited)</i>	December 31, 2020
Cash, cash equivalents and investments ¹	\$12.2 billion	\$8.2 billion	\$5.2 billion

Statements of Cash Flows Data	2021 YTD ended 6/30/21 <i>(unaudited)</i>	Q2 2021 <i>(unaudited)</i>	Q1 2021 <i>(unaudited)</i>	2020 YTD ended 6/30/20 <i>(unaudited)</i>
Net cash provided by (used in) operating activities	\$7,034 M	\$4,063 M	\$2,971 M	\$(130) M
Cash used for purchases of property and equipment	\$(65) M	\$(30) M	\$(35) M	\$(25) M
Total	\$6,969 M	\$4,033 M	\$2,936 M	\$(155) M

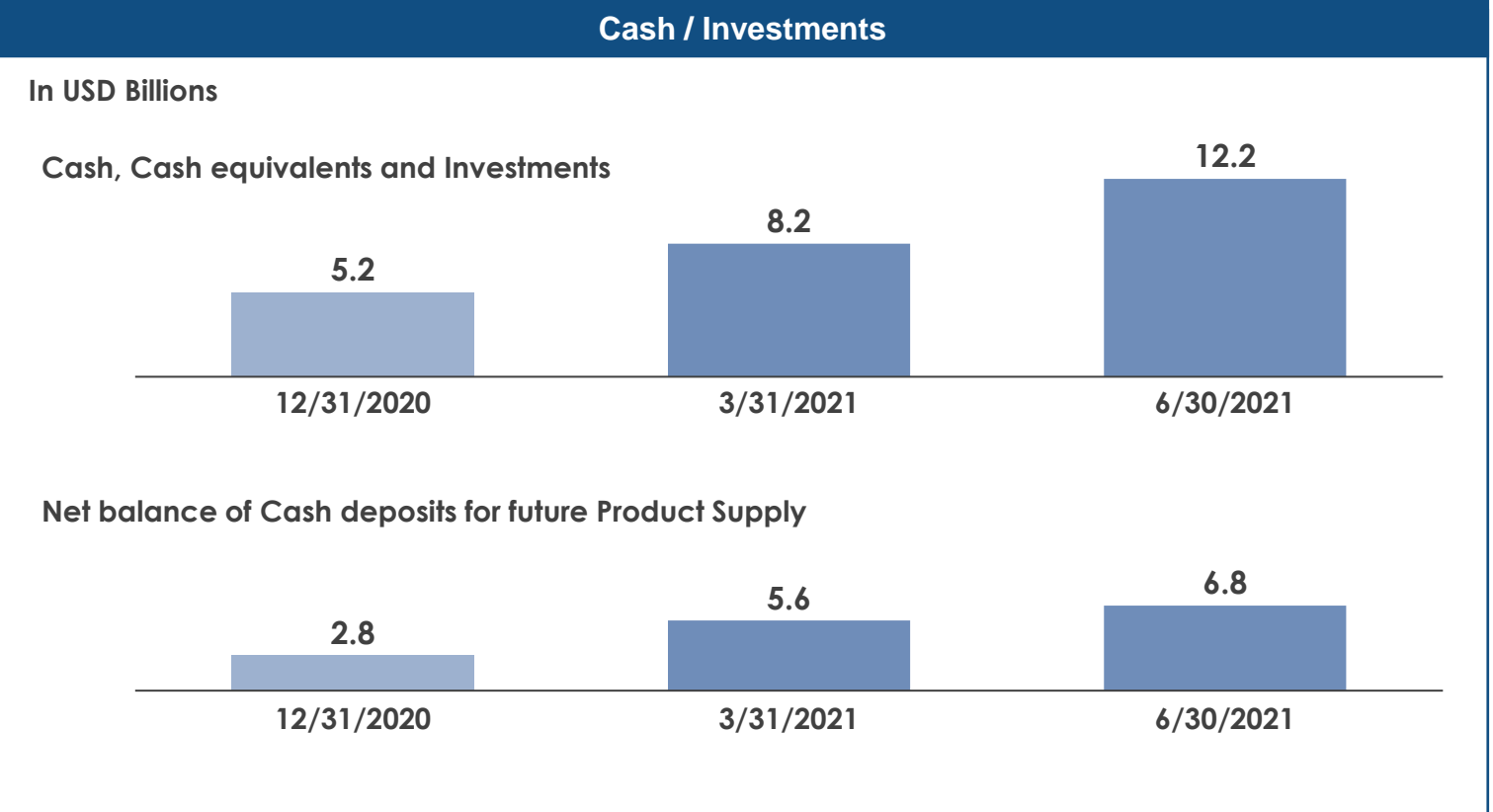
1. Excludes restricted cash of \$11 M for each of the periods ended June 30, 2021, March 31, 2021, and December 31, 2020.

Q2 Financial considerations – Cost of Sales



¹ Non-GAAP Financial Measure. We believe presenting our Q1 Cost of Sales Adjusted to back out zero-cost prelaunch inventory will allow investors to better understand and compare our Cost of Sales to quarters subsequent to Q1 2021.

Q2 Financial considerations – Cash/ Investments



- Cash, Cash equivalents and Investments as of June 30, 2021 at \$12.2B, up from \$8.2B as of March 31, 2021
- Net balance of Cash deposits for future Product Supply as of June 30, 2021 at \$6.8B

Cash and investments increased further driven by commercial activities

Moderna's capital allocation priorities

1

Reinvest in the base business & accelerate investment in R&D, manufacturing infrastructure and company buildout

2

Seek attractive external investment opportunities (licenses and/or M&A) to further expand the reach of Moderna's technology

3

Return capital to shareholders

- **Advance and accelerate our existing pipeline** of 23 development programs
- **Expand** our pipeline, particularly within **core modalities**
- Invest in our technology platform and in **potential new modalities** - such as the lung with Vertex and Hematopoietic Stem & Progenitor Cells (HSPCs)
- Increase **manufacturing capacity** and our **commercial and international scale** for our COVID-19 vaccine
- **Investments in digital** to enable the scale up of the enterprise

- Consider **attractive strategic opportunities** that enhance our platform, focus on nucleic acid technologies: mRNA, gene editing, gene therapy...
- **Disciplined approach** to evaluating investment opportunities to advance medicines for patients

- **Announcing a share repurchase program of up to \$1 billion** with an expiry date **in 2 years**

2021 and 2022 updated financial framework

APAs and Dose Volume	2021
	2022

- **For expected delivery in FY 2021:** Advance Purchase Agreements (APAs) already signed for product sales of **~\$20 billion**
- **FY dose capacity for 2021:** minimum of **800M up to 1 billion doses (at 100µg / dose)**
- **For expected delivery in FY 2022: Advance Purchase Agreements (APAs) already signed for product sales of ~\$12 billion and options of ~\$8 billion.** Numerous additional negotiations still ongoing for 2022 APAs. The company has also started to sign APAs for 2023
- **FY dose capacity for 2022: between 2 billion to 3 billion doses, subject to dose level**

Cost of sales

- Full year 2021 reported cost of sales expected **between 18%-20% of product sales**

R&D and SG&A Expenses

- **We continue to expect quarter over quarter cost increases in 2021** as commercial activities, research and development activities and expenses ramp up

Tax rate

- **For 2021 we now expect the effective tax rate to be approximately 10%**, as a result of the expected global sales mix, the utilization of the accumulated net operating loss carry-forwards (\$2.3B as of Dec 31, 2020) and discrete benefits recorded year to date

Capital Expenditures

- **We continue to expect a range of \$450-550 million of capital investments in 2021**, including planned capacity expansion as announced in April 2021

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**Clinical Program Review – Jacqueline Miller, M.D., SVP
Stephen Hoge, M.D., President**

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Looking Forward – Stéphane Bancel, CEO

Clinical program review topics for today

**Jacqueline Miller,
M.D., SVP**

1

- Update on primary vaccination data for mRNA-1273
- Phase 3 final analysis
 - Emerging real-world evidence of effectiveness

**Stephen Hoge, M.D.,
President**

2

COVID-19 booster strategy

3

Summary of emerging data from booster (Dose 3) studies

4

Review of pipeline updates

Final analysis of Phase 3 COVE Study demonstrates vaccine efficacy of 93%

- **COVE Study vaccine efficacy** (95% CI) by primary and secondary endpoints at final analysis¹:
 - Against **COVID-19: 93.2%** (91.0-94.8)*
 - Against **severe COVID-19: 98.2%** (92.8-99.6)*
 - Against **death caused by COVID-19: 100%** (NE-100.0)
- Sub-group analyses are consistent across different populations
- Safety profile based on extended safety follow up is consistent with Phase 3 COVE study primary results and consistent across population sub-groups

Phase 3 COVE Study: Vaccine efficacy is durable through six months¹

First COVID-19 Occurrence ²	VE (%) (95% CI) ³
≥14 days after dose 2*	93.1% (90.9, 94.9)
≥14 days after dose 2 to <2 months after dose 2*	91.8% (86.9, 95.1)
≥ 2 months after dose 2 to <4 months after dose 2*	94.0% (91.2, 96.1)
≥4 months after dose 2**	92.4% (84.3, 96.8)

(1) Analysis per protocol set, median follow-up of 5.3 months
 (2) COVID-19 cases based on adjudication committee assessments; 1 month = 28 days
 (3) VE and 95% confidence interval (CI) are based on the exact method conditional on the total number of cases adjusting for person-years using the Poisson distribution for the time period.
 * Subjects who were not at risk (cases or censored at prior time period(s)) are excluded from the analysis of this time period
 ** To earliest of study discontinuation, PDV/unblinding, or data cutoff date of 3/26/2021, longest follow up to 241 days

Emerging real-world evidence confirms efficacy against variants of concern

- Emerging real-world evidence is consistent with the **effectiveness seen with mRNA-1273 vaccination** (e.g., Canada¹, England², and Qatar³)
- Emerging data also **confirms effectiveness against variants of concern (VOCs)**, including Alpha, Beta/Gamma and Delta, even after partial vaccination¹

1. Effectiveness of COVID-19 vaccines against variants of concern in Ontario, Canada, [medRxiv](#)
2. COVID-19 vaccine surveillance report, [Public Health England](#)
3. Protection afforded by the BNT162b2 and mRNA-1273 COVID-19 vaccines in fully vaccinated cohorts with and without prior infection, [medRxiv](#)

Clinical program review topics for today

**Jacqueline Miller,
M.D., SVP**

1

Update on primary vaccination data for mRNA-1273

- Phase 3 final analysis
- Emerging real-world evidence of effectiveness

**Stephen Hoge, M.D.,
President**

2

COVID-19 booster strategy

3

Summary of emerging data from booster (Dose 3) studies

4

Review of pipeline updates

Updated COVID-19 perspective and strategy for boosters

Our emerging perspective

- We believe that **increased force of infection resulting from Delta**, non-pharmaceutical intervention (NPI) fatigue, and seasonal effects (moving indoors) will lead to an increase of breakthrough infections in vaccinated individuals
- While we see durable Phase 3 efficacy through 6 months, we expect **neutralizing titers will continue to wane** and eventually impact vaccine efficacy
- Given this intersection, we believe **dose 3 booster** will likely be necessary prior to the winter season

Our booster strategy

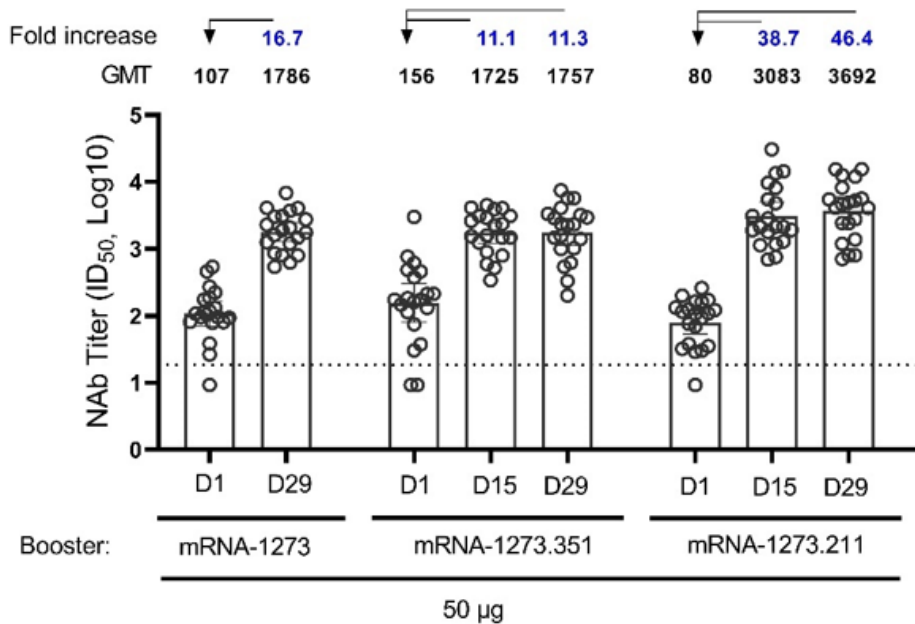
Advance **a portfolio of booster candidates** in ongoing booster studies at 50 and 100 µg dose levels

- I. **Prototype vaccine:** mRNA-1273
- II. **Variant-specific booster candidates:** mRNA-1273.351 & mRNA-1273.617 (*new*)
- III. **Multi-valent platform:** mRNA-1273.211 & mRNA-1273.213 (*new*)

Clinical update: Comparison of booster candidates in P201

Validated clinical assays (NIH VRC)

Wild-type (D614G) Neutralization

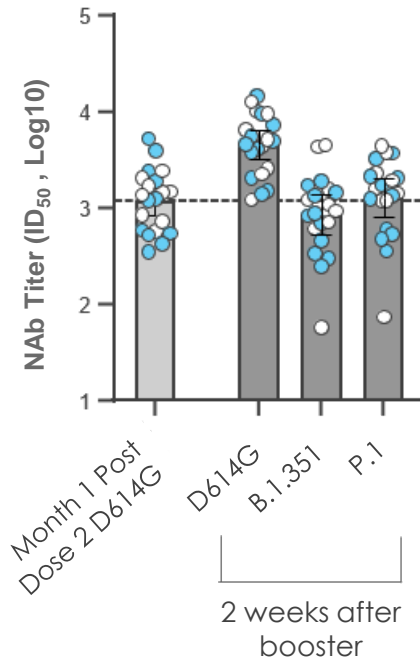


The geometric mean neutralizing antibody titers with 95% confidence intervals are denoted. The titers for individual participants are shown by the circles. The fold increase versus titers measured at Days 15 and 29 versus titers measured before the boost are shown. The horizontal dotted lines indicate the lower limit of quantification. N=20 participants per booster cohort. D, day; GMT, geometric mean titer; ID₅₀, 50% inhibitory dilution; NAb, neutralizing antibody.

Exploratory analysis using research assays

mRNA-1273 booster 50µg, N=20

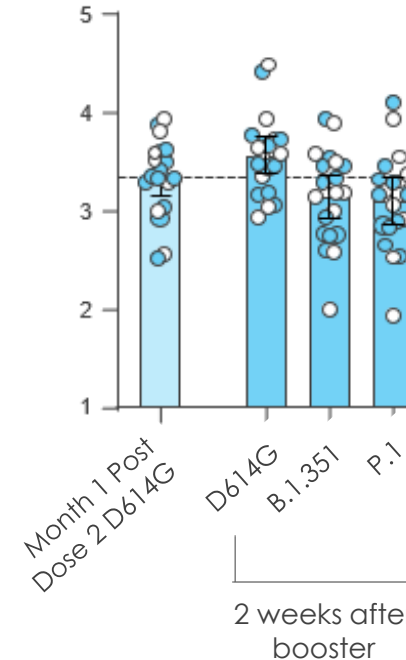
GMT 1210 4588 864 1308
3.8 1.4 1.1



The geometric mean neutralizing antibody titers with 95% confidence intervals are denoted. The titers for individual participants are shown by the circles. The horizontal dotted line indicates the lower limit of quantification. The wild-type D614G GMT 1 month after the primary vaccination series is indicated by the gray line. The fold increase versus the GMT titers against the wild-type D614G and variants measured in participants before the booster or 2 weeks after the booster were evaluated versus peak titers measured against the wild-type D614G 1 month after the primary vaccination series; the fold changes for each virus are shown.

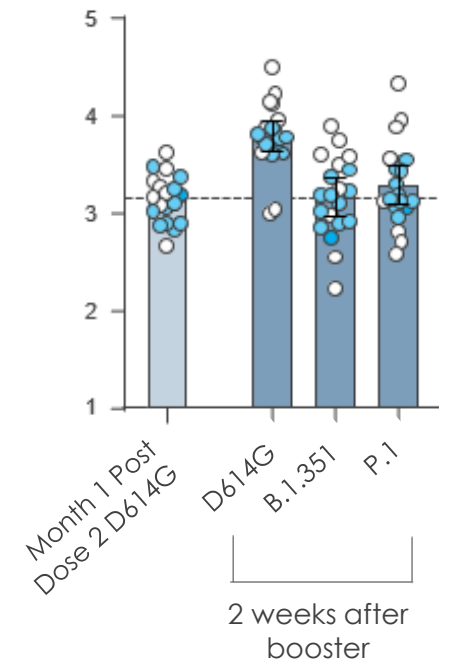
mRNA-1273.351 booster 50µg, N=20

2213 3703 1400 1272
1.7 1.6 1.7



mRNA-1273.211 booster 50µg, N=20

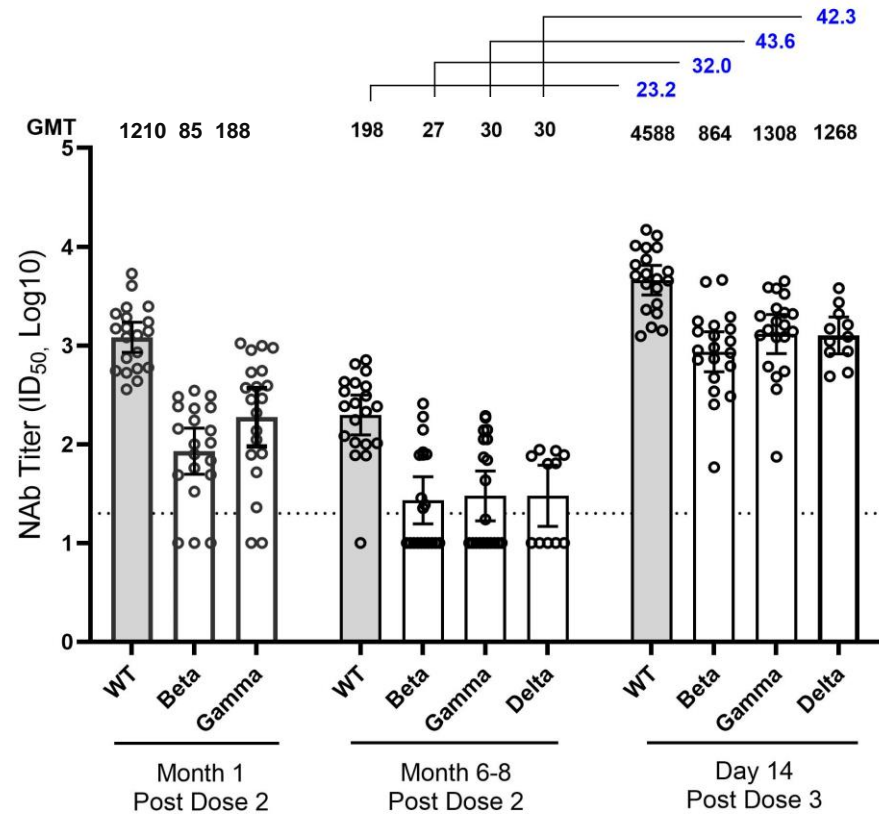
1397 6169 1468 1972
4.4 1.1 1.4



Performance of mRNA-1273 booster (>6 months) against VOC

Dose 3 booster of 50 µg of mRNA-1273

Pseudovirus neutralization titers



The geometric mean neutralizing antibody titers with 95% confidence intervals are denoted. The titers for individual participants are shown by the circles. The geometric mean fold increase versus titers measured 6-8 months post dose 2 are shown for each variant. The horizontal dotted lines indicate the lower limit of quantification. N=20 participants per booster cohort; GMT, geometric mean titer; ID50, 50% inhibitory dilution; NAb, neutralizing antibody

Six months post second dose, neutralizing antibodies against wild-type (D614G) strain remained detectable

Neutralizing antibodies against **VOC started lower, and waned substantially** by six months after the second dose

Dose 3 (50 µg) booster of **mRNA-1273 significantly increased GMT for all VOC** Beta (B.1.351) by 32-fold, Gamma (P.1) by 43.6-fold and Delta (B.1.617.2) by 42.3-fold

Clinical update: Phase 2 results from prototype booster

Earlier this year, our Phase 2 study of mRNA-1273 was amended to offer a 3rd dose of mRNA-1273 (50 µg) to all interested participants >6 months after dose 2 (n=344)

Top-line results: *(manuscript in preparation)*

- Neutralizing antibody **titers had waned significantly** prior to boosting at ~6 months
- A third dose (50 µg) of mRNA-1273 boosted neutralizing titers **above the Phase 3 benchmark**
- After third dose, **similar level of neutralizing titers were achieved across age groups**, notably in older adults (age ≥65)
- Safety profile following dose 3 was **similar to that observed** previously for dose 2 of mRNA-1273

Key takeaways on COVID booster (dose 3)

- ✓ We believe a booster (dose 3) is likely to be necessary this fall, particularly in the face of Delta
- ✓ Clinical data appears to support 50 µg of mRNA-1273 for booster; no obvious advantage for Beta containing candidates
- ✓ We will wait for 100 µg data (coming weeks) to confirm selection of 50 µg as booster dose before filing

Other vaccine programs in ongoing clinical trials

Quadrivalent seasonal flu vaccine in ongoing Phase 1/2

Prophylactic Vaccines

Flu
vaccine

- mRNA-1010 is Moderna's first seasonal influenza vaccine candidate to enter the clinic
- mRNA-1010 is a quadrivalent seasonal influenza vaccine candidate targeting WHO recommendations including A H1N1, H3N2 and influenza B Yamagata and Victoria lineages
- Vision is to develop a respiratory vaccine for the adult and elderly populations combining seasonal flu, COVID-19 booster and RSV

Other vaccine programs in ongoing clinical trials

Quadrivalent seasonal flu vaccine in ongoing Phase 1/2

Prophylactic Vaccines

Flu vaccine

RSV vaccine

hMPV/PIV3 vaccine

CMV vaccine

Zika vaccine

- mRNA-1010 is Moderna's first seasonal influenza vaccine candidate to enter the clinic

- Positive interim Phase 1 data announced at Vaccines Day on April 14th
- Phase 1 pediatric and adult vaccine trials are ongoing
- Received FDA Fast Track designation in adults older than 60 years of age

- Phase 1b trial is currently enrolling in toddlers; first cohort has been fully enrolled

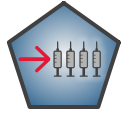
- CMV vaccine is on track to start the pivotal Phase 3 trial in 2021 (roughly ~8,000 participants)

- Phase 2 trial initiated dosing; currently enrolling participants in the United States and Puerto Rico

Advancing mRNA therapeutics

Seven programs with ongoing clinical trials

Modalities



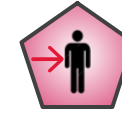
Cancer vaccines



Intratumoral immuno-oncology



Localized regenerative therapeutics



Systemic secreted & cell surface therapeutics



Systemic intracellular therapeutics

Therapeutic Area

Oncology

Cardiovascular

Autoimmune

Rare Diseases

Programs

- **PCV** ongoing in Phase 1 and Phase 2 (Merck)
- **KRAS** ongoing in Phase 1 (Merck)
- **Triplet** ongoing in Phase 1
- **IL-12** ongoing in Phase 1 (AstraZeneca)
- **VEGF** ongoing in Phase 2 (AstraZeneca)
- **Relaxin** in preclinical
- **IL-2** ongoing in Phase 1
- **PD-L1** in preclinical
- **PA** in Phase 1
- **MMA** in preclinical
- **GSD1a** in preclinical
- **PKU** in preclinical

Moderna's Development pipeline

August 2021



Today's Agenda

2Q21 Earnings Call

1

Business Review – Stéphane Bancel, CEO

2

Commercial Review – Corinne Le Goff, Pharm.D., CCO

3

Financials – David Meline, CFO

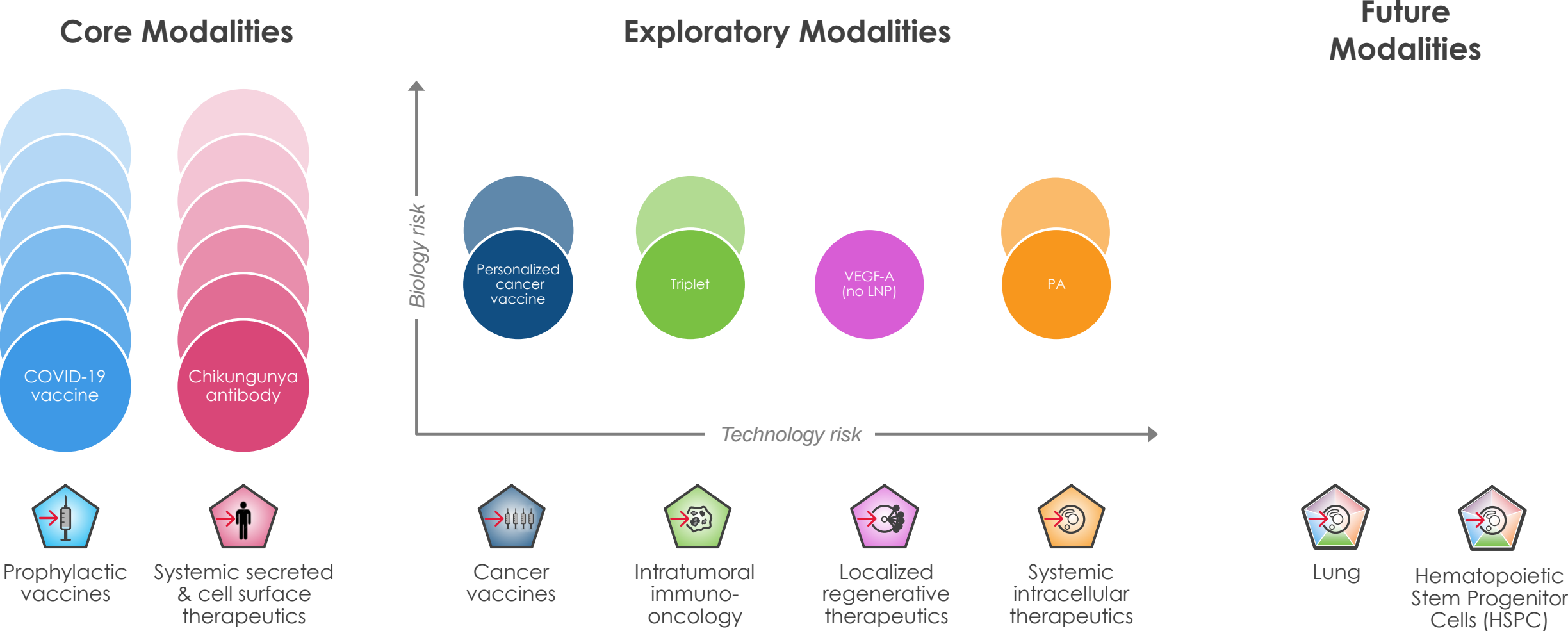
4

Clinical Program Review – Stephen Hoge, M.D., President

5

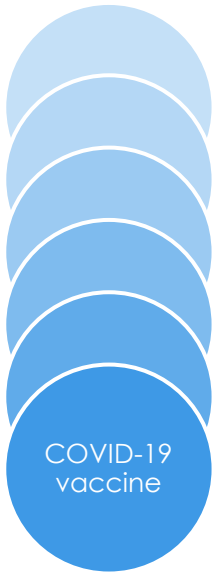
Looking Forward – Stéphane Bancel, CEO

Maximizing our impact on patients with our mRNA platform

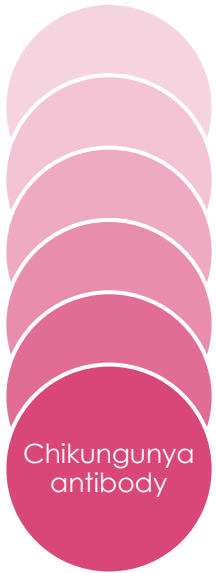


Expanding development programs within core modalities

Core Modalities



Prophylactic vaccines



Systemic secreted & cell surface therapeutics

Prophylactic Vaccines

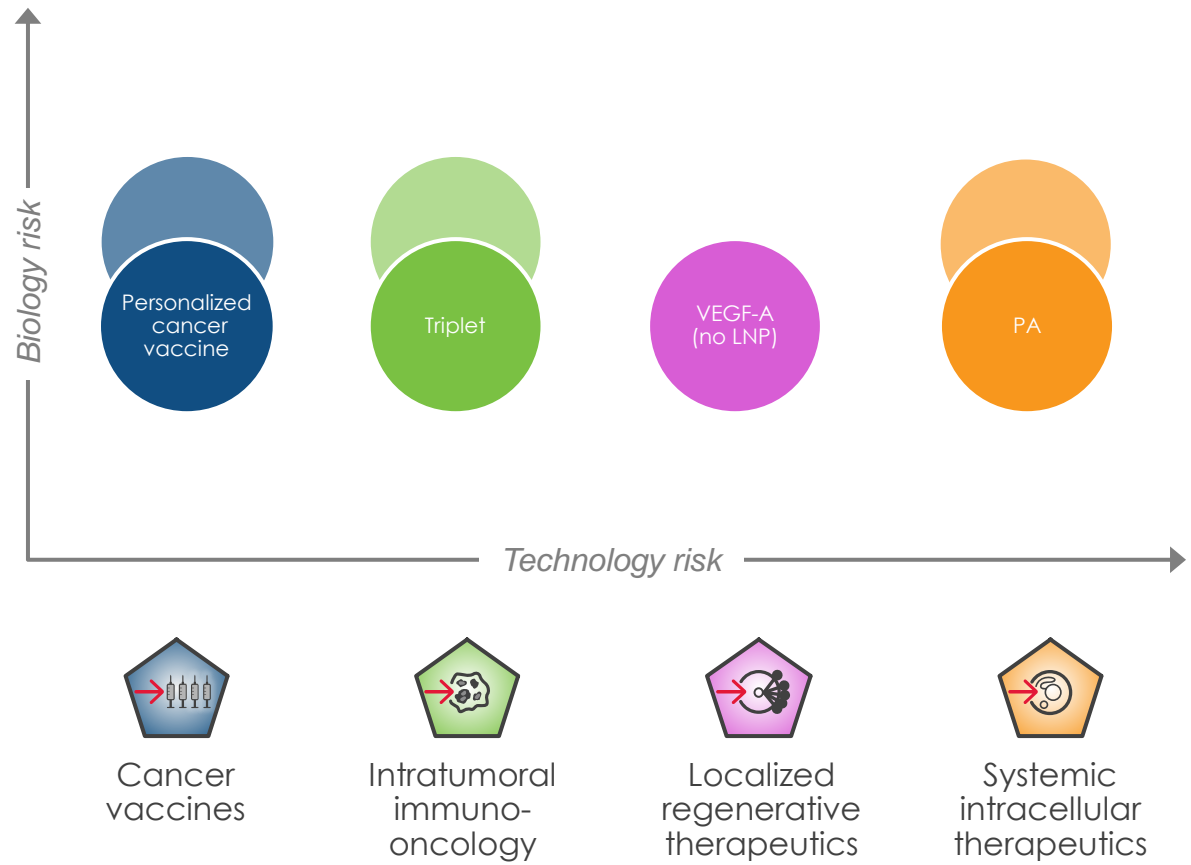
- Working on vision to develop a respiratory vaccine combining COVID-19 variant booster + seasonal flu booster + RSV booster: 1 single dose
- First patient dosed in quadrivalent flu vaccine Phase 1/2 dose finding trial
 - Flu is a ~\$5-6 billion market and can move quickly given HAI titer endpoint
 - 2023+ launch
- RSV positive Phase 1 data, Fast Track designation by FDA for 60+ years old
- CMV entering Phase 3 soon, large potential market opportunity (\$2-5 billion)
- EBV entering the clinic soon
- Additional development candidates in research

Systemic secreted & cell surface therapeutics

- First patient dosed in Phase 1 IL-2 (mRNA-6231) trial, uses same LNP as our Chikungunya Antibody (mRNA-1944) program

mRNA therapeutics in the clinic across four exploratory modalities

Exploratory Modalities



- **Seven clinical programs** within exploratory modalities are ongoing
- Each with the ability to establish **proof of concept**

Investing in science for new modalities, such as the Lung and HSPCs

Future Modalities



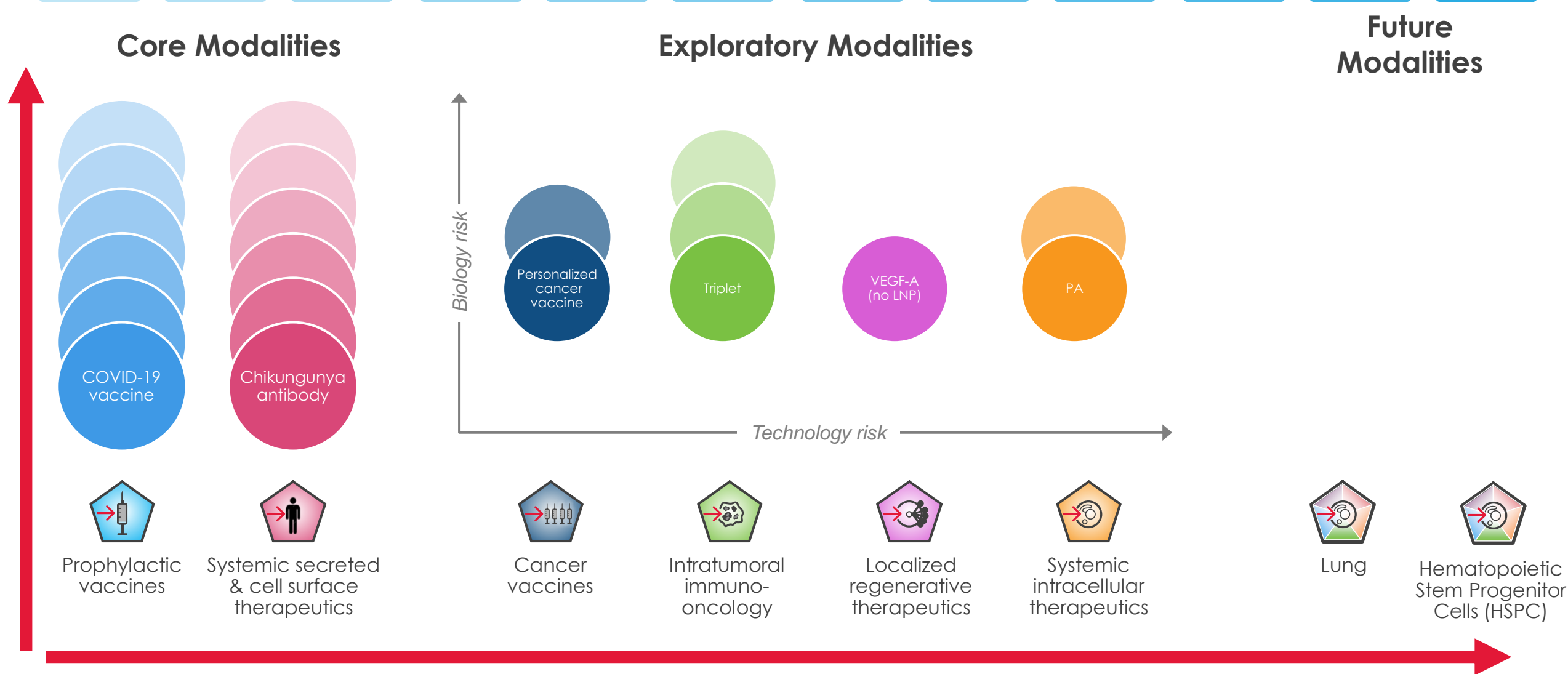
Lung



Hematopoietic
Stem Progenitor
Cells (HSPC)

- **Two ongoing collaborations with Vertex** to address Cystic Fibrosis (~10% of CF patients are not addressable with a CFTR Modulator)
 - I. Using mRNA for produce in patient's body the correct CFTR protein
 - II. Using mRNA for gene editing
- At Science Day in May, presented **data on the advancements in mRNA delivery** to Hematopoietic Stem and Progenitor Cells (HSPC)

Moderna strategy is to maximize the number of medicines by leveraging our mRNA platform in 2 dimensions, at the same time



Moderna's capital allocation priorities

1

Reinvest in the base business & accelerate investment in R&D, manufacturing infrastructure and company buildout

2

Seek attractive external investment opportunities (licenses and/or M&A) to further expand the reach of Moderna's technology

3

Return capital to shareholders

- **Advance and accelerate our existing pipeline** of 23 development programs
- **Expand** our pipeline, particularly within **core modalities**
- Invest in our technology platform and in **potential new modalities** - such as the lung with Vertex and Hematopoietic Stem & Progenitor Cells (HSPCs)
- Increase **manufacturing capacity** and our **commercial and international scale** for our COVID-19 vaccine
- **Investments in digital** to enable the scale up of the enterprise

- Consider **attractive strategic opportunities** that enhance our platform, focus on nucleic acid technologies: mRNA, gene editing, gene therapy...
- **Disciplined approach** to evaluating investment opportunities to advance medicines for patients

- **Announcing a share repurchase program of up to \$1 billion** with an expiry date **in 2 years**

Our Commitment to Corporate Social Responsibility

✓ Announced Establishment of New Charitable Foundation

- Initial up-front endowment of \$50 million
- Foundation to support charitable organizations and causes that promote public health, healthcare and educational opportunities, particularly in underserved populations

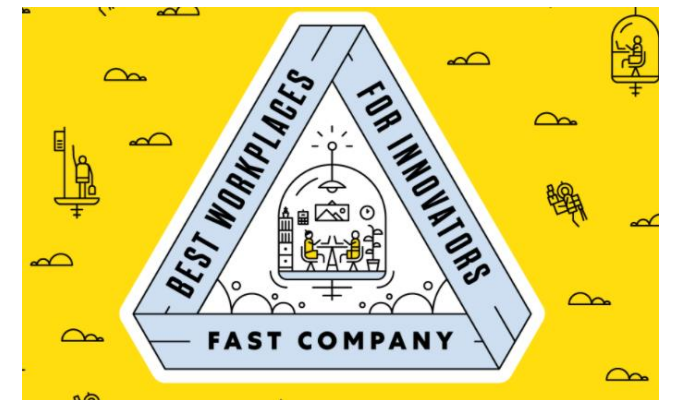
✓ No. 1 spot on Fast Company's 2021 Best Workplaces for Innovators¹

✓ Moderna ranked #3 on Axios Harris Poll top 100 corporate reputations²

✓ Working with U.S. Government to facilitate donations of Moderna's COVID-19 vaccine worldwide

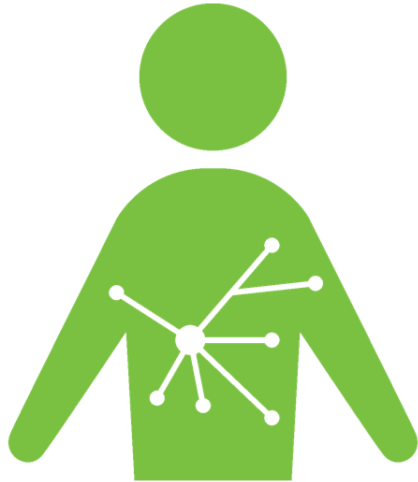
✓ Commitment to renewable energy

- Aim to source our U.S. facilities with renewable energy and offset 100% of carbon emissions through credit programs in 2021



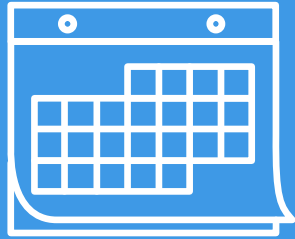
(1) Introducing the 2021 edition of the 100 Best Workplaces for Innovators, [Fast Company](#)

(2) About The Axios Harris Poll 100, [Axios](#)



Our mission

To deliver on the promise of mRNA science to create a new generation of transformative medicines for patients.



Save the Date
Events in 2021

> **R&D Day**
September 9th