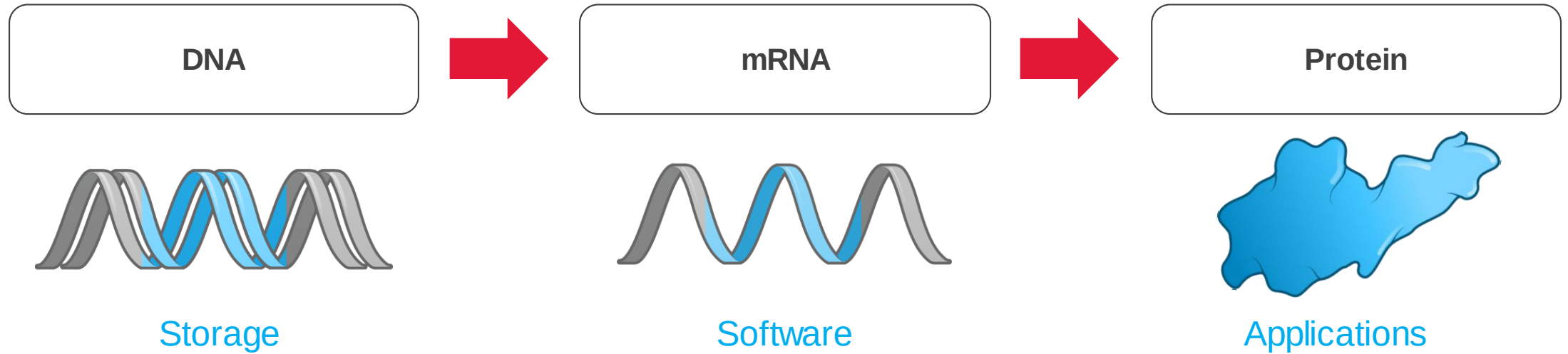




39th Annual J.P. Morgan Healthcare Conference

Stéphane Bancel

January 11th, 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 approach to research and development and timelines for individual products and the platform as a whole; the anticipated impact of the COVID-19 pandemic on the market for vaccines; the time, cost and resources required, and probability for success, in developing mRNA-based vaccines; anticipated revenue from the sale of the Moderna COVID-19 Vaccine; anticipate scale and timing of manufacturing of the Moderna COVID-19 Vaccine; potential regulatory authorization for the distribution of the Moderna COVID-19 Vaccine in additional jurisdictions; plans for further clinical trials for the Moderna COVID-19 Vaccine; potential sales of the Moderna COVID-19 Vaccine; the development of combination vaccines against multiple diseases; development programs for vaccines against influenza, HIV and the Nipah virus and the specifics of those programs, including the timing for potential clinical trials; the timing for receipt of proof of concept clinical data from programs in exploratory modalities; the potential advantages of infectious disease vaccines; the conduct of studies for the Company's vaccines against CMV, Zika virus, anti-cancer vaccines (i.e., OX40L, OX40L/IL-23/IL-36γ and IL-12), VEGF-A and PA; the potential for the Moderna COVID-19 Vaccine to prevent COVID-19 disease and slow the spread of SARS-CoV-2; the potential for repeat dosing of certain therapeutics; and cash, cash equivalents and investment balances. 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 press release 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: the fact that there has never been a commercial product utilizing mRNA technology approved for use; the fact that the rapid response technology in use by Moderna is still being developed and implemented; the safety, tolerability and efficacy profile of the Moderna COVID-19 Vaccine observed to date may change adversely in ongoing analyses of trial data or subsequent to commercialization; despite having ongoing interactions with the FDA or other regulatory agencies, the FDA or such other regulatory agencies may not agree with the Company's regulatory approval strategies, components of our filings, such as clinical trial designs, conduct and methodologies, or the sufficiency of data submitted; Moderna may encounter delays in meeting manufacturing or supply timelines or disruptions in its distribution plans for the Moderna COVID-19 Vaccine; whether and when any biologics license applications and/or emergency use authorization applications may be filed and ultimately approved by regulatory authorities; potential adverse impacts due to the global COVID-19 pandemic such as delays in regulatory review, manufacturing and clinical trials, supply chain interruptions, adverse effects on healthcare systems and disruption of the global economy; and those other risks and uncertainties described under the heading "Risk Factors" in Moderna's most recent Quarterly Report on Form 10-Q 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 press release 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: Indication & Safety Information

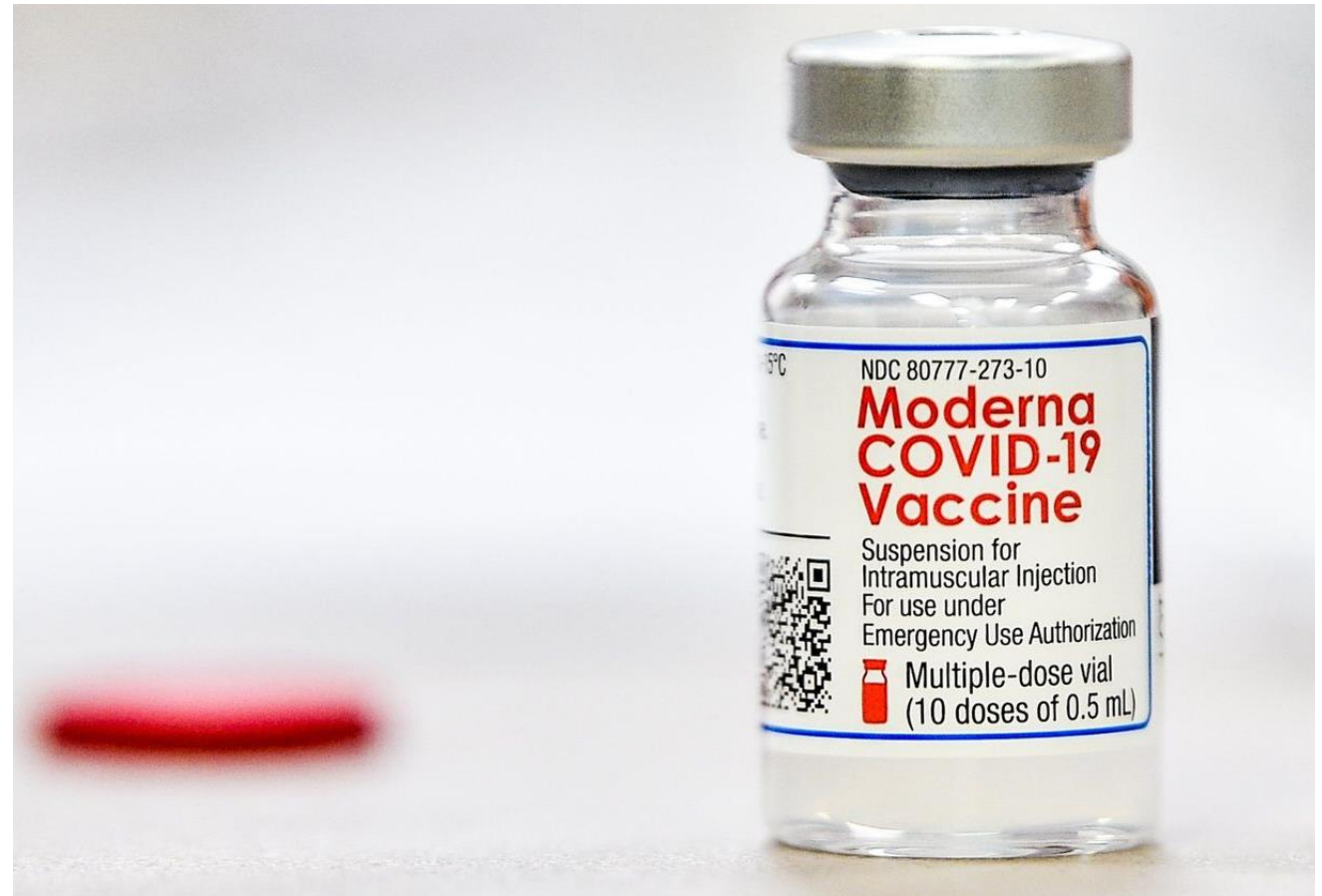
Authorized Use in the United States:

The Moderna COVID-19 Vaccine is authorized for use under an Emergency Use Authorization (EUA) from the U.S. Food and Drug Administration (FDA) 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/>).
- 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.
- 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.

How could a team of 1,000 people go from a novel virus sequence to a COVID-19 vaccine with 94% efficacy and an EUA in 11 months?



Software uses a binary system

Binary System

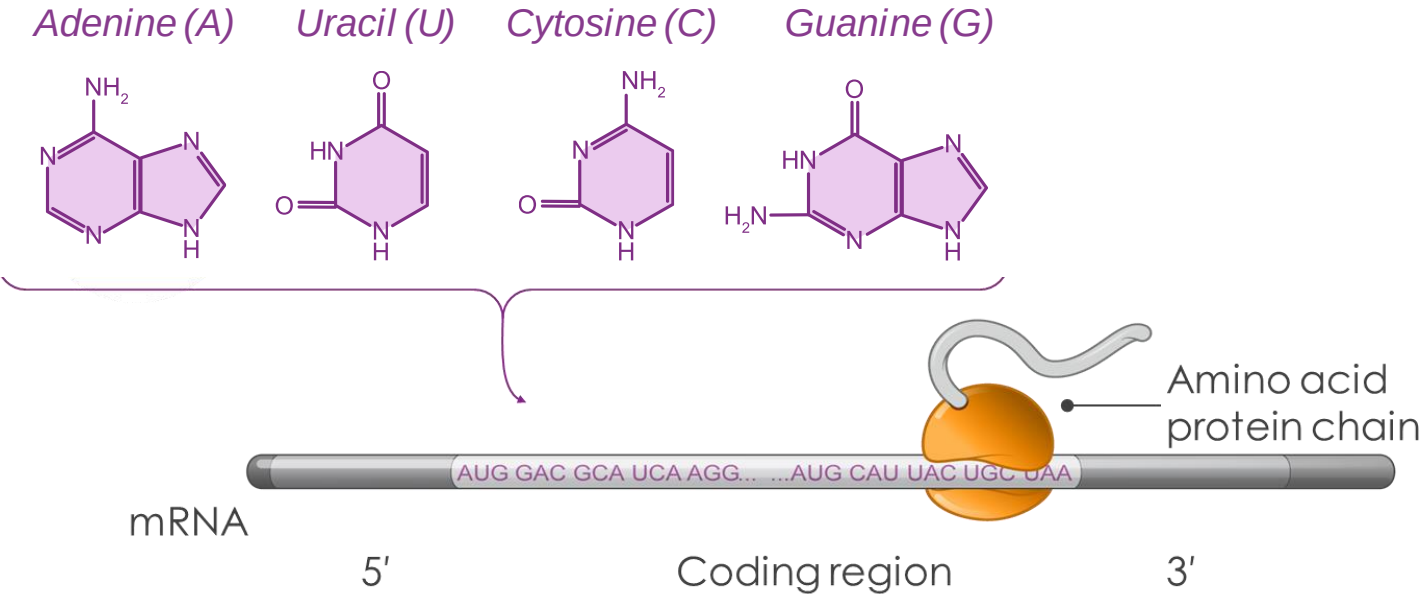


Life uses a quaternary system

Binary System



Quaternary System

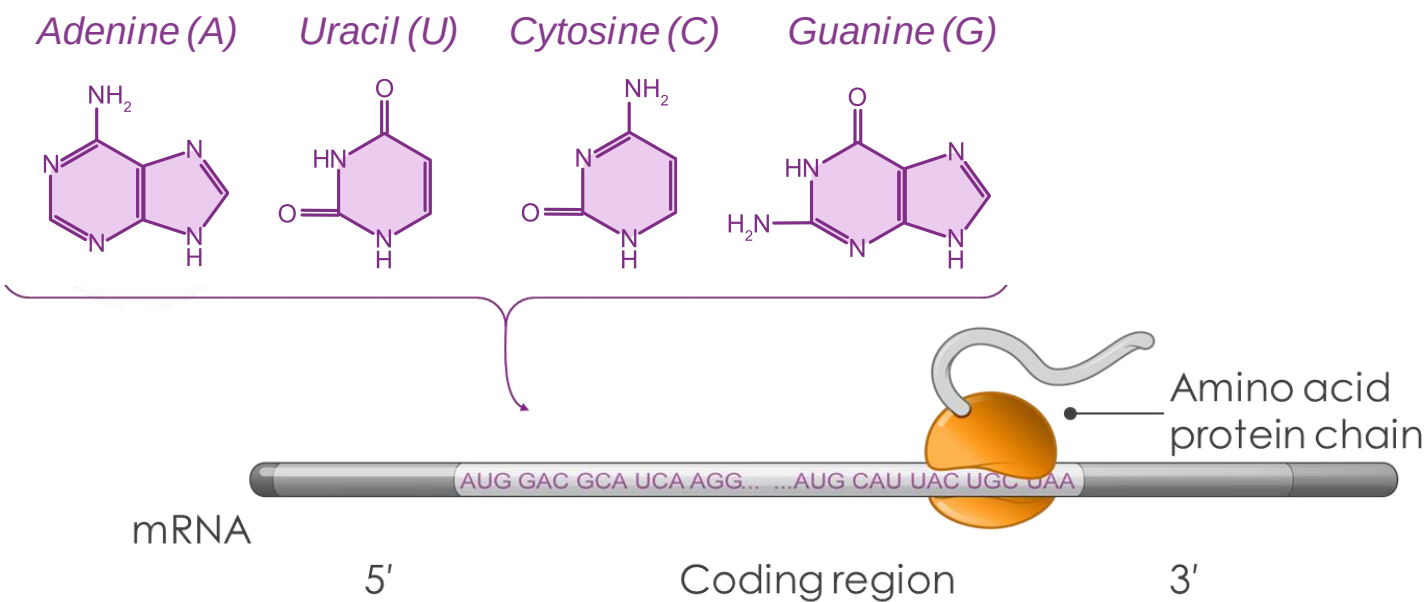


Life uses a quaternary system

Binary System

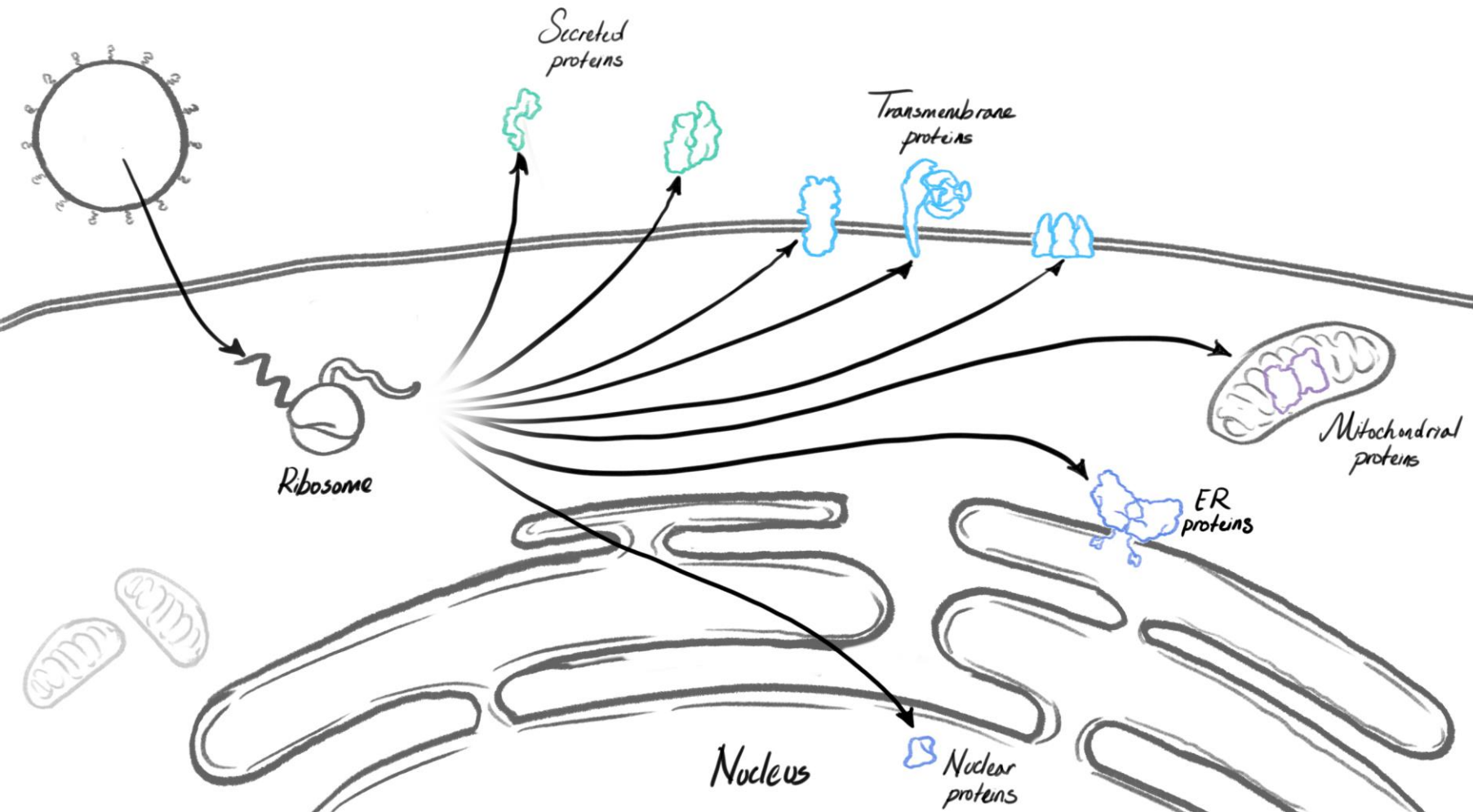


Quaternary System



mRNA is an information molecule

mRNA is now a new class of medicines



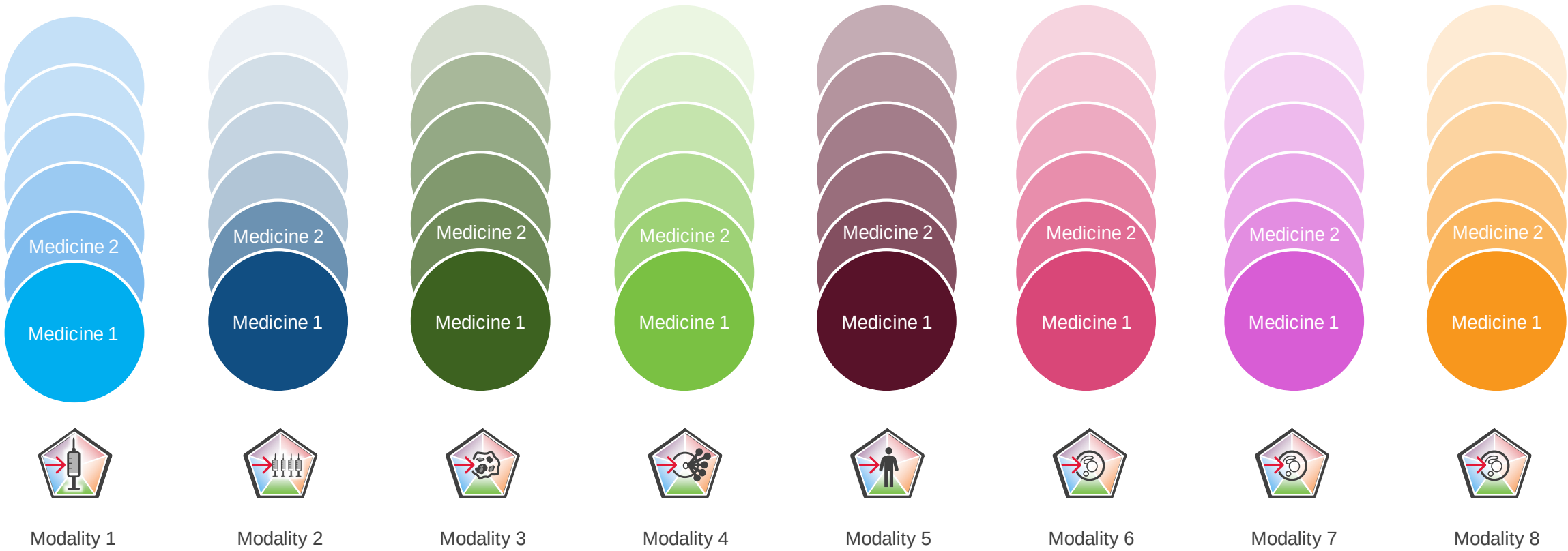
1. Large product opportunity
2. Higher probability of technical success
3. Accelerated research and development timelines
4. Greater capital efficiency over time vs. recombinant technology

Moderna's vision for mRNA science

- 1

mRNA is an information molecule
- 2

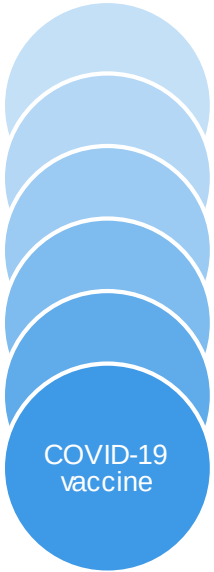
Invest in science to invent novel ways to deliver mRNA into various cell types – each will be a new application, which we call a modality



Moderna in January 2021

10 years and more than \$3 billion in investments later¹

— COMMERCIAL —



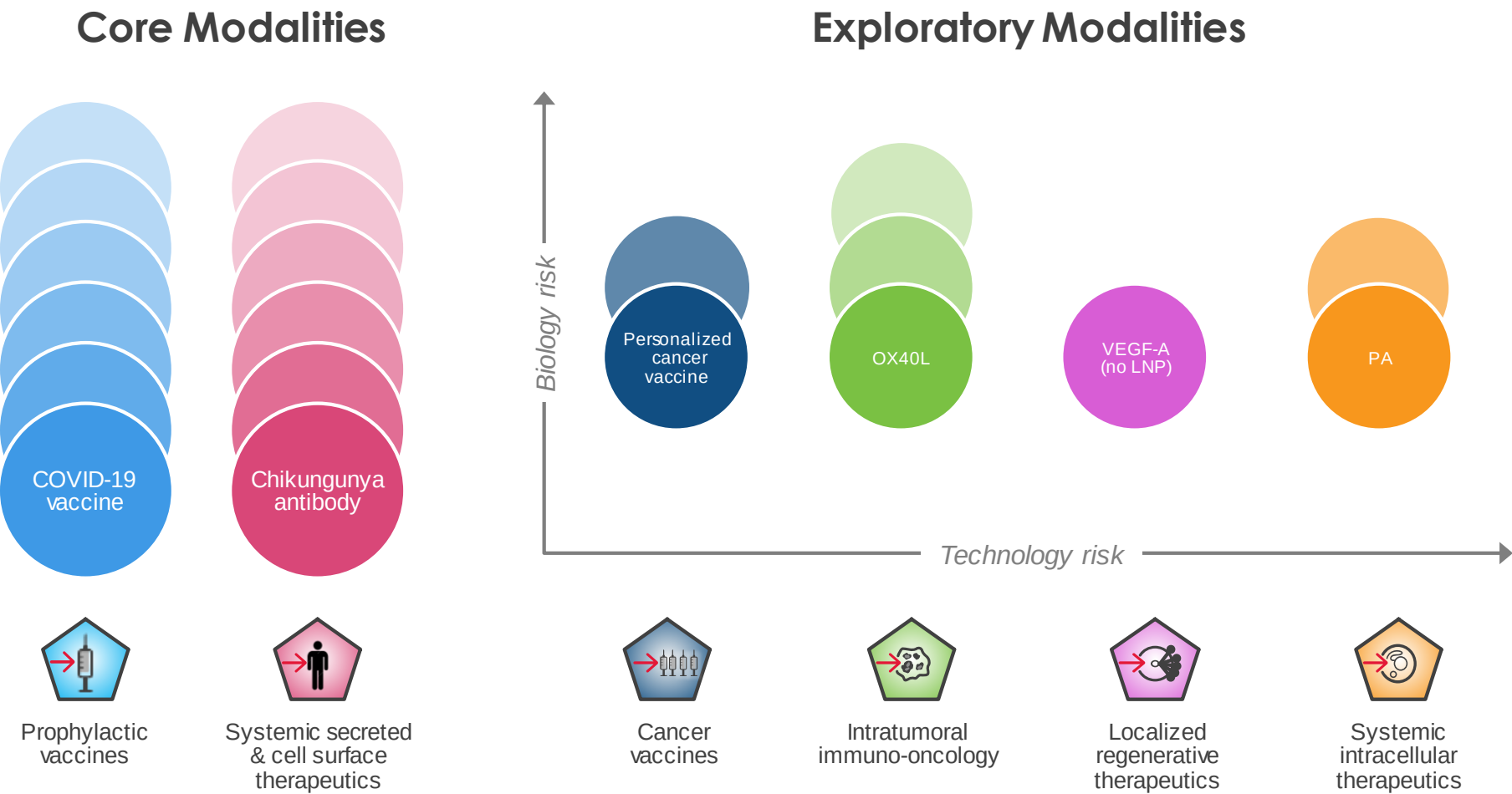
Prophylactic vaccines

1. Total operating expenses as of 09/30/20

Moderna in January 2021

10 years and more than \$3 billion in investments later¹

— COMMERCIAL — DEVELOPMENT —



1. Total operating expenses as of 09/30/20

10 years and more than \$3 billion in investments later¹

— COMMERCIAL —

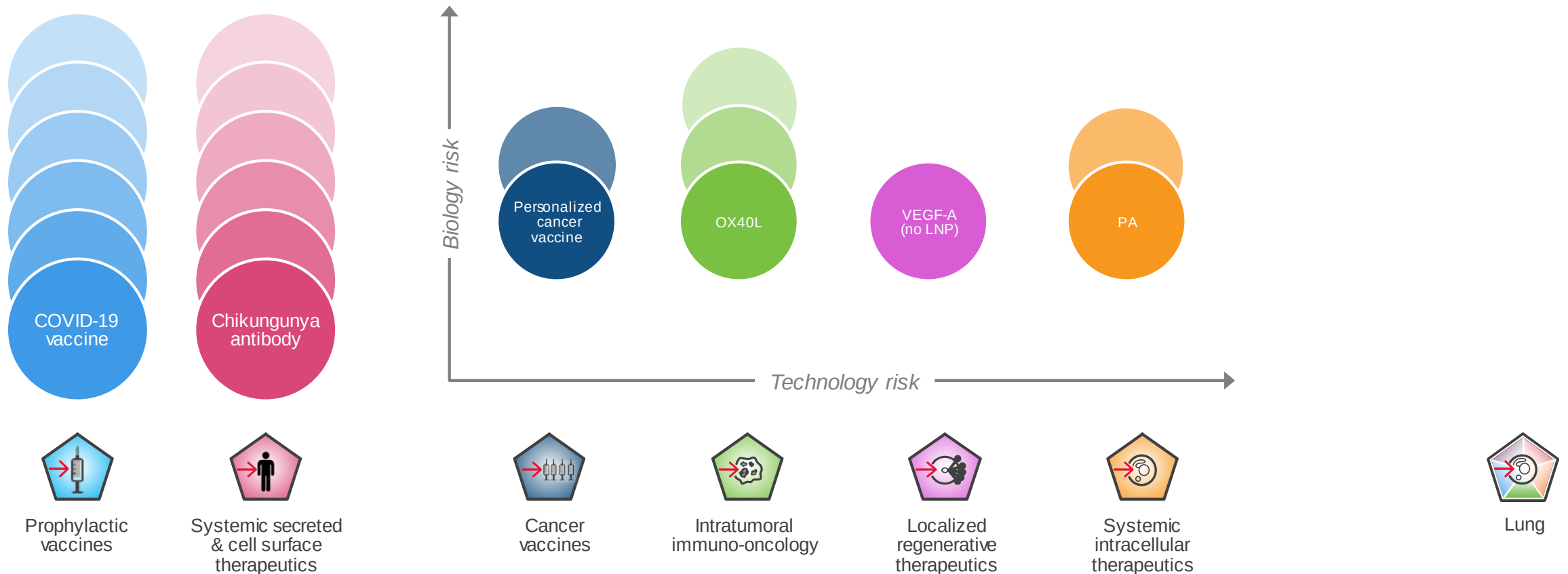
- DEVELOPMENT -

— RESEARCH —

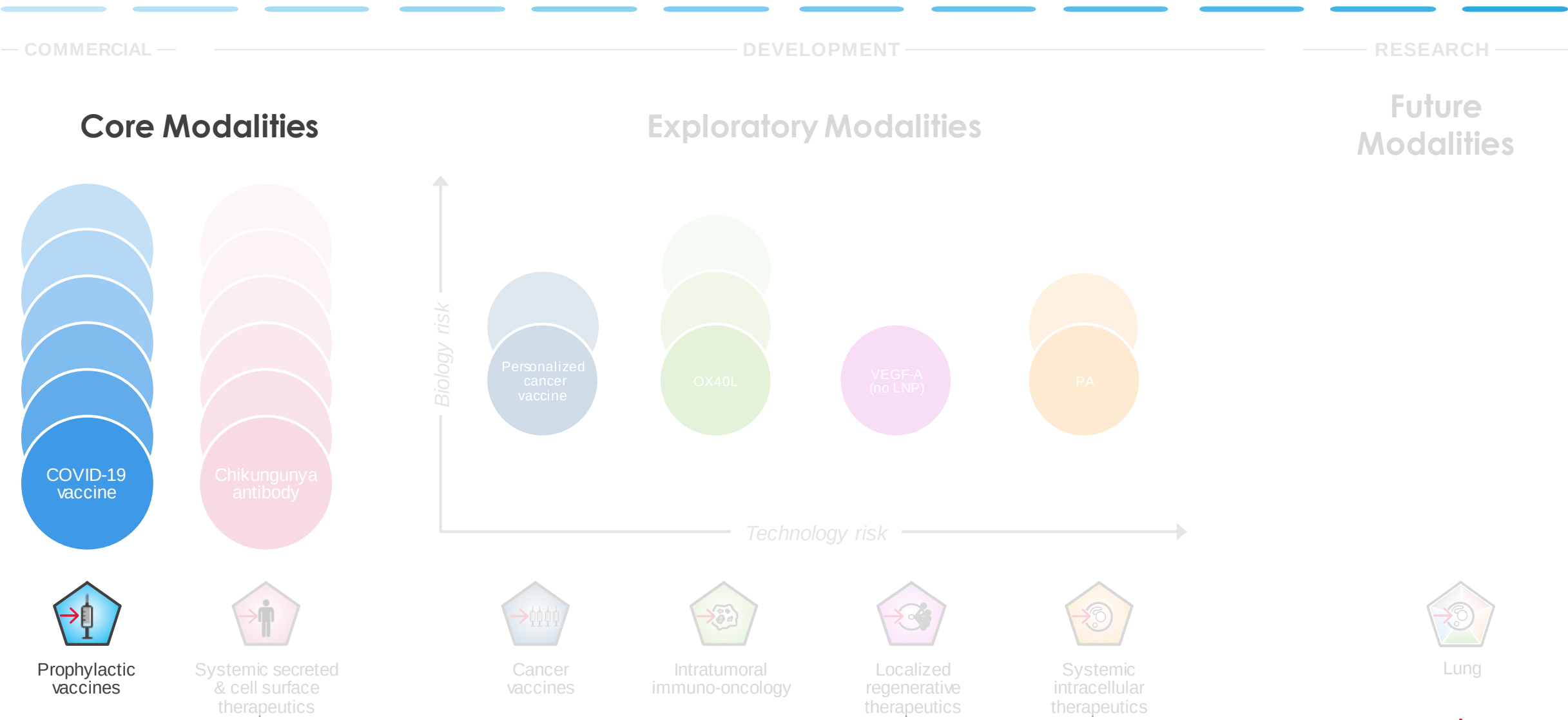
Core Modalities

Exploratory Modalities

Future Modalities

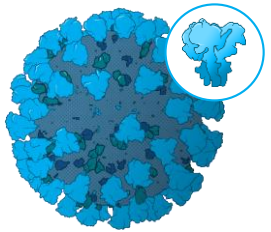


Core modality – prophylactic vaccines



Infectious disease vaccines

2020 Pandemic



- It will change how the world thinks about infectious disease vaccines

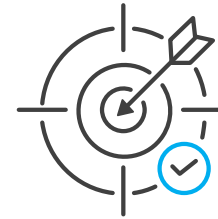
mRNA is the best platform to make vaccines



SCIENCE | SPEED | RESOURCES

- Ability to make complex antigens with high biological fidelity
- Ability to combine multiple antigens in one dose
- Same manufacturing infrastructure for every product
- Rapid development

High probability of success



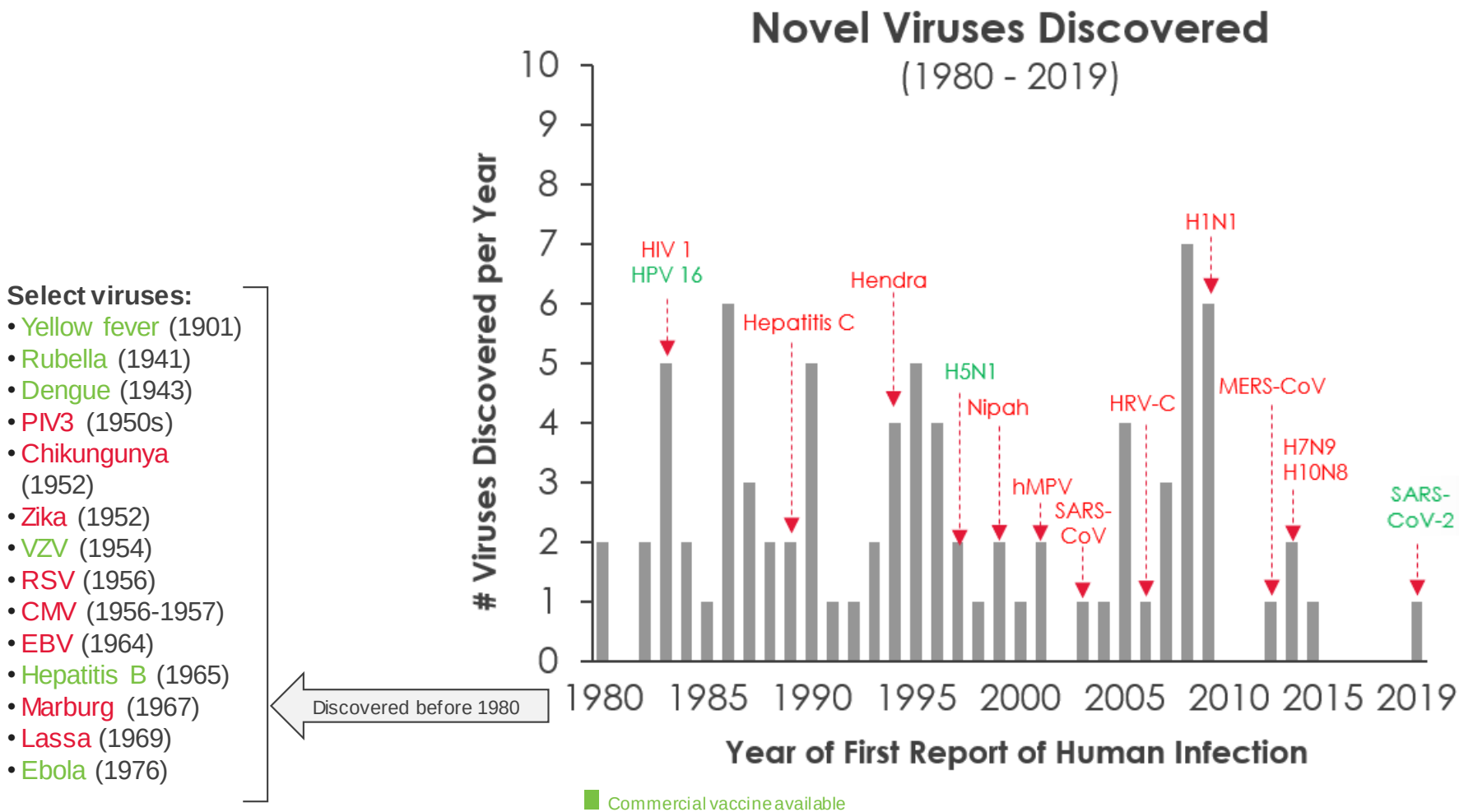
- In clinical trials, we have elicited neutralizing antibodies against all 9 viruses evaluated to date

Many viruses with no vaccine yet



- High unmet medical need
- Vaccines are the best return on each healthcare dollar invested

Infectious diseases remain a high unmet need



80+ new viruses discovered in the last **40 years**

Only **4%** have a vaccine commercially available in the US

Worldwide vaccine revenue was **\$35 billion** in 2019

Sources: Institute of Medicine (US) Forum on Microbial Threats (2009); Medscape Medical News (2008); Lederburg, J. *Emerging Infectious Diseases from the Global to the Local Perspective: A Summary of a Workshop of the Forum on Emerging Infections* (2001); National Institutes of Health (US) Biological Sciences Curriculum Study (2007); Hsueh, M. et al. *NEJM* (2020); Bush, L. *Emerging and Re-emerging Infectious Diseases* (2015); Gibbs, A. *Virology* (2009); CDC Zika Overview; CDC Ebola About; Plotkin, S.A. *Clinical Infectious Diseases* (2006); Woolhouse, M. et al. *Phil Trans R Soc* (2012); WHO H7N9 China Update (2018); Tapparel, C. et al. *Virology* (2013); Hepatitis B Foundation History Page; Ho, M. *Med Microbiol Immunol* (2008); Nature, Dengue Viruses Page; Brauburger, K. et al. *Viruses* (2012); FDA approved vaccine list; CDC RSV Overview; Hendrickson, K.J. *Clinical Microbiology Reviews* (2003); Andersson, J. *Herpes* (2000); WHO Chikungunya Overview; CDC Varicella Overview; CDC Lassa Fever Overview; Xu, Y. et al. *Infect Genet Evol* (2015); Alliance Bernstein research report: Vaccines: The Robin Hood of Therapeutics – THE PRIMER on the oldest biotech drugs in the world (Feb 2020).

Moderna's COVID-19 vaccine (mRNA-1273) is authorized in over 30 countries

Vaccines against respiratory viruses

COVID-19
vaccine

2021 Revenue

- Advance Purchase Agreements (APAs) for FY 2021 already signed for \$11.7 billion with customer deposits of \$2.81 billion for future supply of product
- More APAs under discussion for 2021 and 2022 deliveries, including COVAX

Supply

- FY 2021: From 600 million to up to 1 billion doses
- FY 2022: Up to 1.2 billion doses

Regulatory Developments

- Authorized/conditional approvals in USA (FDA EUA), EU (EMA), UK (MHRA), Canada (Health Canada) and Israel (MOH)
- Advanced regulatory discussions in Switzerland, Singapore and the WHO

Indication expansion

- Adolescent (12-17 yoa) study ongoing
- Young children (1-11 yoa) study to start soon
- Adult 1-year booster study to start in July 2021

hMPV/PIV3 vaccine (mRNA-1653) is the first mRNA vaccine in children

Vaccines against respiratory viruses

COVID-19 vaccine

hMPV/PIV3 vaccine

- Revenue: Advance Purchase Agreements (APAs) for FY 2021 already signed for \$11.7 billion, including customer deposits of \$2.81 billion for future supply of product
- Supply in FY 2021: From 600 million to up to 1 billion doses
- Authorized/Conditional approvals in USA, EU, UK, Canada and Israel
- Potential first-in-class vaccine (no vaccine on the market)
- Phase 1 in healthy adults
- Phase 1 in healthy children

RSV vaccine (mRNA-1345) is expanding to elderly population

Vaccines against respiratory viruses

COVID-19 vaccine

hMPV/PIV3 vaccine

RSV vaccine

- Revenue: Advance Purchase Agreements (APAs) for FY 2021 already signed for \$11.7 billion, including customer deposits of \$2.81 billion for future supply of product
- Supply in FY 2021: From 600 million to up to 1 billion doses
- Authorized/Conditional approvals in USA, EU, UK, Canada and Israel
- Potential first-in-class vaccine (no vaccine on the market)
- Phase 1 in healthy adults
- Phase 1 in healthy children
- Potential first-in-class vaccine (no vaccine on the market)
- Phase 1 in healthy adults
- Phase 1 in healthy children
- Phase 1 in elderly to start soon

Moderna announces three new development candidates against influenza (mRNA-1010, mRNA-1020 & mRNA-1030)

Vaccines against respiratory viruses

COVID-19 vaccine

hMPV/PIV3 vaccine

RSV vaccine

Flu vaccine

- Revenue: Advance Purchase Agreements (APAs) for FY 2021 already signed for \$11.7 billion, including customer deposits of \$2.81 billion for future supply of product
- Supply in FY 2021: From 600 million to up to 1 billion doses
- Authorized/Conditional approvals in USA, EU, UK, Canada and Israel
- Potential first-in-class vaccine (no vaccine on the market)
- Phase 1 in healthy adults
- Phase 1 in healthy children
- Potential first-in-class vaccine (no vaccine on the market)
- Phase 1 in healthy adults
- Phase 1 in healthy children
- Phase 1 in elderly to start soon
- Potential for best-in-class vaccine
- First generation flu vaccine will cover the 4 seasonal viruses recommended by WHO
- Plan to start Phase 1 in 2021

CMV vaccine (mRNA-1647) Phase 3 to start in 2021

Vaccines requiring
complex antigens and
against highly prevalent
infections

CMV
vaccine

- Potential first-in-class vaccine (no vaccine on the market)
- Phase 3 planned to start in 2021
- Projected \$2-5 billion annual peak sales

EBV vaccine (mRNA-1189) is a multi-antigen vaccine to prevent IM and EBV infection

Vaccines requiring complex antigens and against highly prevalent infections

CMV vaccine

EBV vaccine

- Potential first-in-class vaccine (no vaccine on the market)
 - Phase 3 planned to start in 2021
 - Projected \$2-5 billion annual peak sales
-
- Potential first-in-class vaccine (no vaccine on the market)
 - Phase 1 to start in 2021

Zika vaccine (mRNA-1893) Phase 2 to start in 2021

Public health vaccines

Zika
vaccine

- Potential first-in-class vaccine (no vaccine on the market)
- Partnered with BARDA
- Successful Phase 1
- Phase 2 to start in 2021

BARDA: Biomedical Advanced Research and Development Authority

Moderna announces two new HIV vaccine development candidates (mRNA-1644 & mRNA-1547)

Public health vaccines

Zika
vaccine

HIV
vaccine

- Potential first-in-class vaccine (no vaccine on the market)
 - Partnered with BARDA
 - Successful Phase 1
 - Phase 2 to start in 2021
-
- Potential first-in-class vaccine
 - Partnered with IAVI, BMGF and NIH (VRC)
 - Plan to start Phase 1 in 2021

BARDA: Biomedical Advanced Research and Development Authority
IAVI: International AIDS Vaccine Initiative
BMGF: Bill & Melinda Gates Foundation
NIH (VRC): National Institutes of Health (Vaccine Research Center)

Moderna announces a new development candidate against Nipah virus (mRNA-1215)

Public health vaccines

Zika
vaccine

HIV
vaccine

Nipah
vaccine

- Potential first-in-class vaccine (no vaccine on the market)
 - Partnered with BARDA
 - Successful Phase 1
 - Phase 2 to start in 2021
-
- Potential first-in-class vaccine
 - Partnered with IAVI, BMGF and NIH (VRC)
 - Plan to start Phase 1 in 2021
-
- Potential emerging pathogen/outbreak/pandemic vaccine
 - Partnered with NIH (VRC)

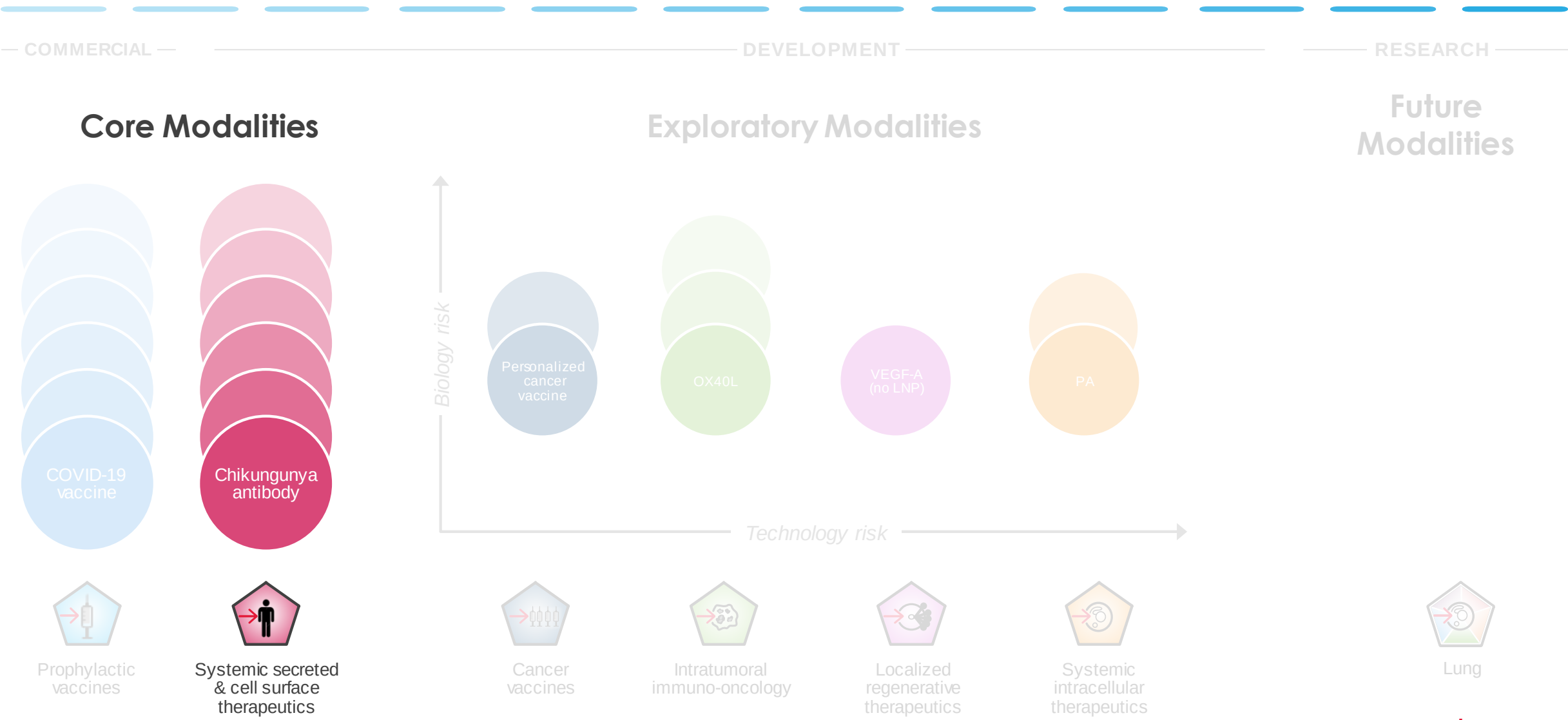
BARDA: Biomedical Advanced Research and Development Authority
IAVI: International AIDS Vaccine Initiative
BMGF: Bill & Melinda Gates Foundation
NIH (VRC): National Institutes of Health (Vaccine Research Center)

Infectious disease vaccine modality

- ✓ Four first-in-class vaccines against respiratory viruses
 - One commercial vaccine: FY 2021 existing APAs of \$11.7 billion and more being negotiated for 2021 and 2022 deliveries
 - One potential best-in-class vaccine candidate in development for influenza
- ✓ Two first-in-class vaccines requiring complex antigens: CMV and EBV
- ✓ Three public health vaccines
- ✓ More candidates being worked on in research to move to development ASAP

**We believe Moderna has the most innovative
vaccine pipeline in the industry**

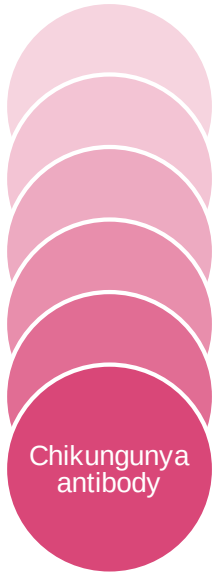
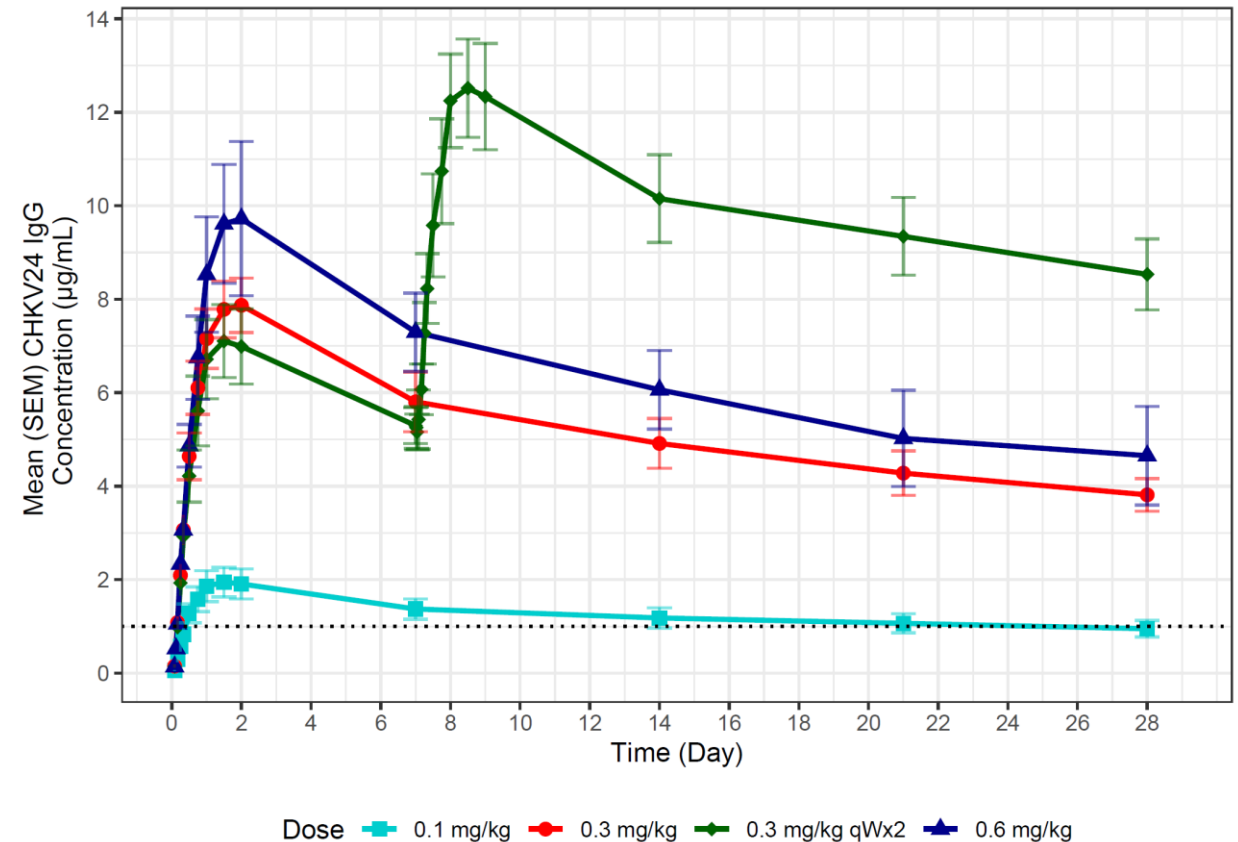
Core modality – systemic secreted & cell surface therapeutics



Moderna can repeat dose safely with systemic secreted & cell surface therapeutics

Pharmacology

- Consistent CHKV-IgG exposure (E_{max}) was seen after the first dose between Cohort 3 (0.3 mg/kg single dose) and Cohort 7 (0.3 mg/kg qWx2)
- Administration of the second 0.3 mg/kg dose in the 0.3 mg/kg qWx2 cohort led to an approximately 1.8-fold accumulation of CHKV-IgG exposure (E_{max})



Systemic secreted
& cell surface
therapeutics

Systemic secreted & cell surface therapeutics

Development Candidates

PD-L1

- First indication intended to be autoimmune hepatitis, a compelling unmet need

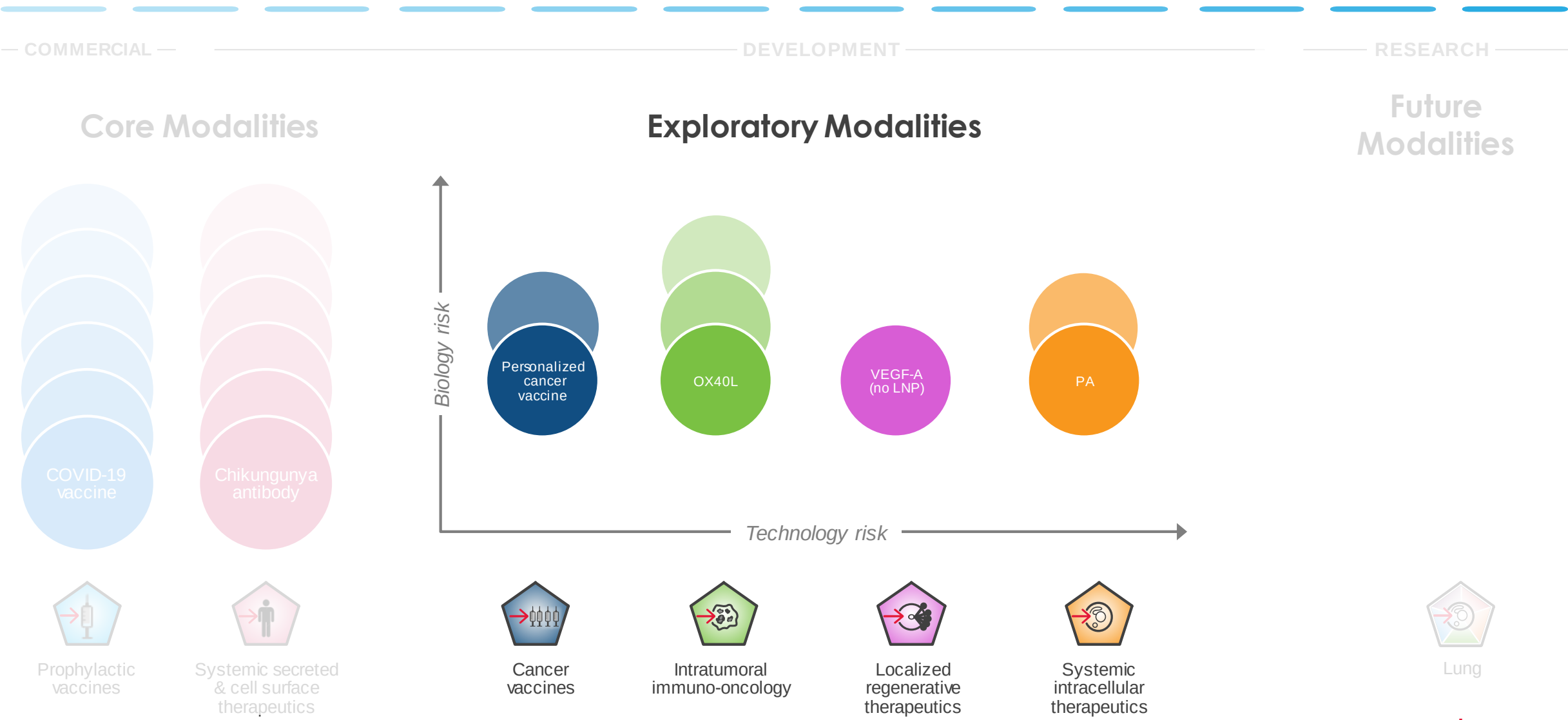
IL-2

- IL-2 based therapeutics are being clinically evaluated for a wide range of autoimmune conditions
- First intended subcutaneous administration

Relaxin

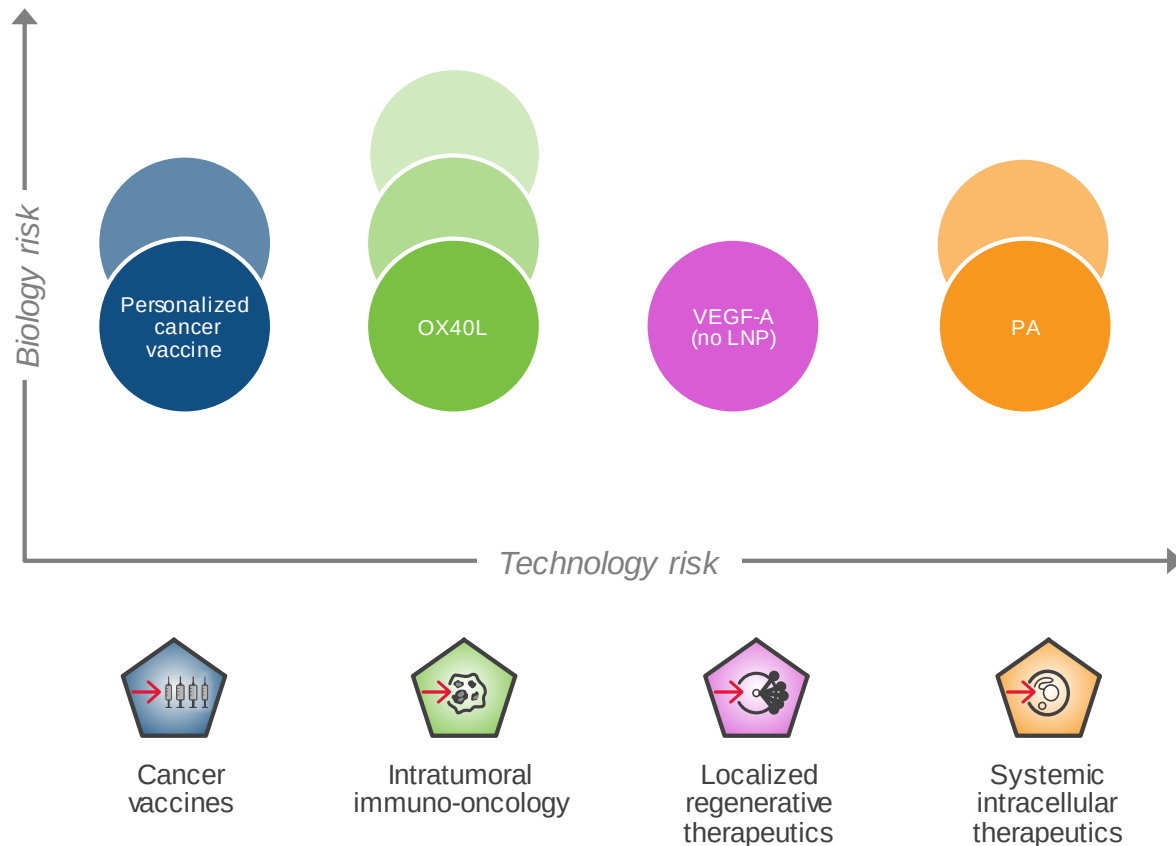
- Relaxin is an endogenous protein associated with cardiovascular remodeling

Four exploratory modalities



Looking to generate clinical proof-of-concept data from sentinel programs in the exploratory modalities

Exploratory Modalities

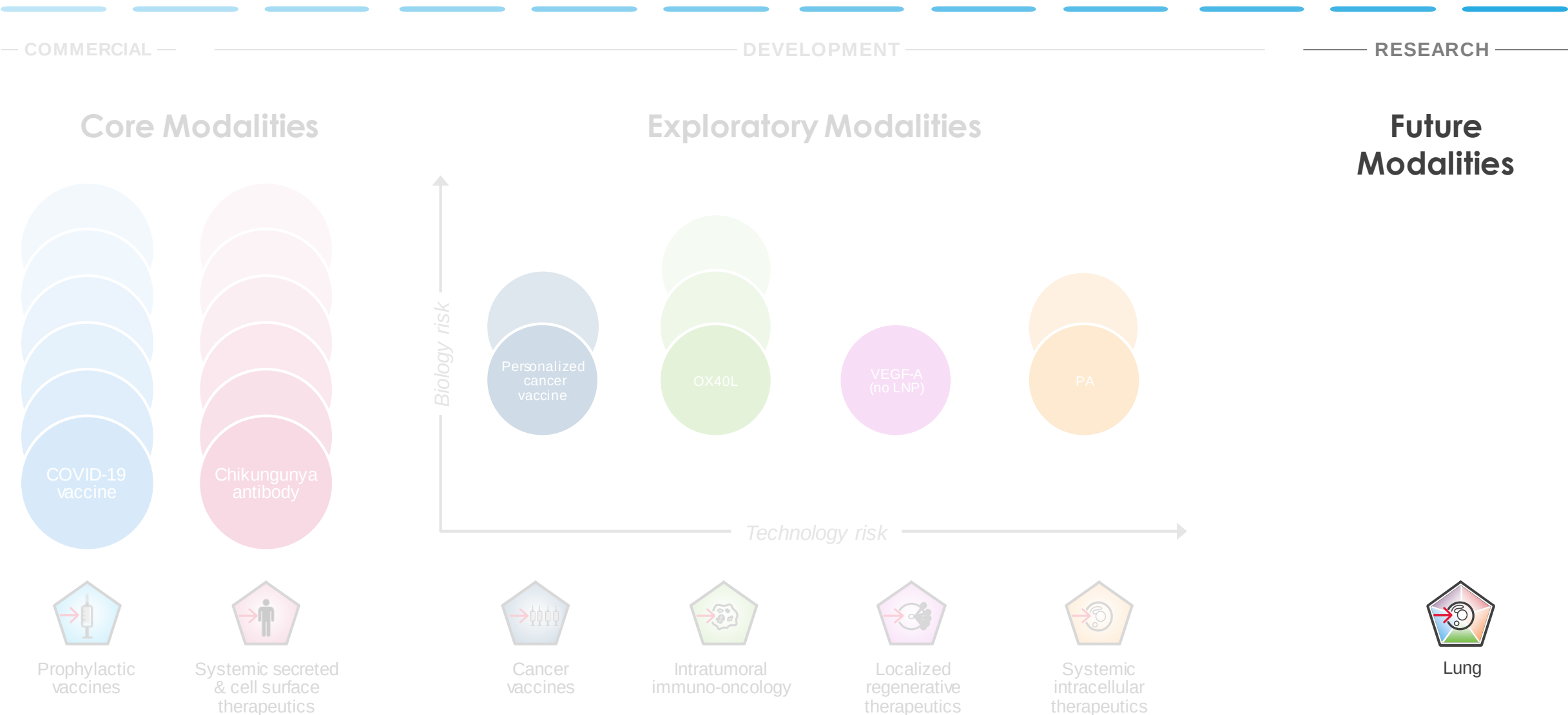


Across these modalities we have **six programs with ongoing clinical trials and 4 programs in preclinical development**

Examples:

- **PCV**
 - Randomized Phase 2 in combination with KEYTRUDA vs. KEYTRUDA alone, partnered with Merck, is ongoing
 - Phase 1 preliminary data presented at SITC support expansion of HNSCC cancer patient cohort; Phase 1 expansion is ongoing
- **OX40L** – Phase 2 ovarian cancer expansion enrolling
- **VEGF** – Phase 2 ongoing
- **PA** – Phase 1/2 sites are being initiated to enter the clinic in 2021; we will be looking for biomarkers as early indicators for therapeutic impact

Inventing new modalities



Anticipated clinical next steps, catalysts and proof-of-concept data

Core modalities

Prophylactic vaccines 	• COVID-19 – Additional data from Phase 3 study, Phase 2/3 adolescent data readout • CMV – Phase 3 start • hMPV/PIV3 – Phase 1b seropositive age de-escalation study data • Zika – Phase 2 start • RSV – Phase 1 safety and immunogenicity data readout • EBV – IND filing • Flu – IND filing • HIV – IND filing • Nipah – IND filing
Systemic secreted & cell surface therapeutics 	• Relaxin – IND filing • IL-2 – IND filing • PD-L1 – IND filing

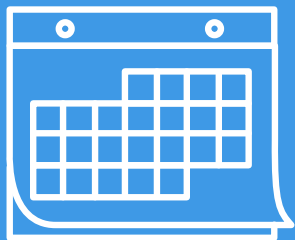
Exploratory modalities

Cancer vaccines 	• PCV – Phase 2 clinical data readout, Phase 1 clinical data in HPV-neg HNSCC • KRAS – Phase 1 clinical data readout
Intratumoral immuno-oncology 	• OX40L – Phase 1/2 data readout in ovarian cancer • OX40L/IL-23/IL-36γ (Triplet) – Completion of dose escalation monotherapy and combination cohorts • IL-12 – Phase 1 data readout
Localized regenerative therapeutics 	• VEGF – Phase 2a data readout
Systemic intracellular therapeutics 	• PA – Phase 1/2 study start • MMA – CTA/IND filings • PKU – IND filing • GSD1a – IND filing

Moderna in January 2021

Pipeline	Commercial COVID-19 vaccine	Phase 3 preparation CMV vaccine	Phase 2 PCV, OX40L, VEGF	12 positive Phase 1 readouts 8 ID vaccines PCV, OX40L, VEGF, anti-Chikungunya antibody (repeat dose)	
Programs in development	Infectious Disease Vaccines 9 Vaccines for major unmet needs • COVID-19 launched • CMV in Phase 2, Phase 3 preparation • hMPV/PIV3 Phase 1b age de-escalation study ongoing • RSV, Zika in Phase 1 • Flu, EBV, HIV and Nipah in preclinical			mRNA Therapeutics 4 Therapeutic areas • 5 Immuno-Oncology: PCV, OX40L in Ph 2; Triplet, IL-12, KRAS in Ph 1 • 4 Rare Diseases: PA open IND; MMA, PKU, GSD1a in preclinical • 2 Cardiovascular Diseases: VEGF in Phase 2; Relaxin in preclinical • 2 Autoimmune Diseases: IL-2 and PD-L1 in preclinical	
Foundations	>1,300 Employees	6th Consecutive year top employer by <i>Science</i> 	600 million to 1 billion doses to be produced in 2021	8 commercial subsidiaries across North America & Europe	\$5.25B of cash and investments (unaudited) ¹

1. As of December 31, 2020; Cash and investments denotes cash, cash equivalents and investments



Save the Date Events in 2021

> **Vaccines Day**

April 14th

> **Science Day**

May 27th

> **R&D Day**

September 9th

2021 will be the most important inflection year in Moderna's history

- ✓ mRNA is an information molecule
- ✓ Moderna is a platform company making mRNA medicines and vaccines
- ✓ Moderna is a commercial company, already generating positive cash flows
- ✓ Each day we ask ourselves: how do we increase our impact by 10X?
- ✓ What will Moderna look like in 10 years in 2030?

This is just the beginning



We've been
at this for
ten years.

Our mRNA platform
is a modern approach
to medicine.

But it's just the
beginning.

moderna

Thank You!

Development pipeline

January 2021

