

# COVID-19 Intel Report

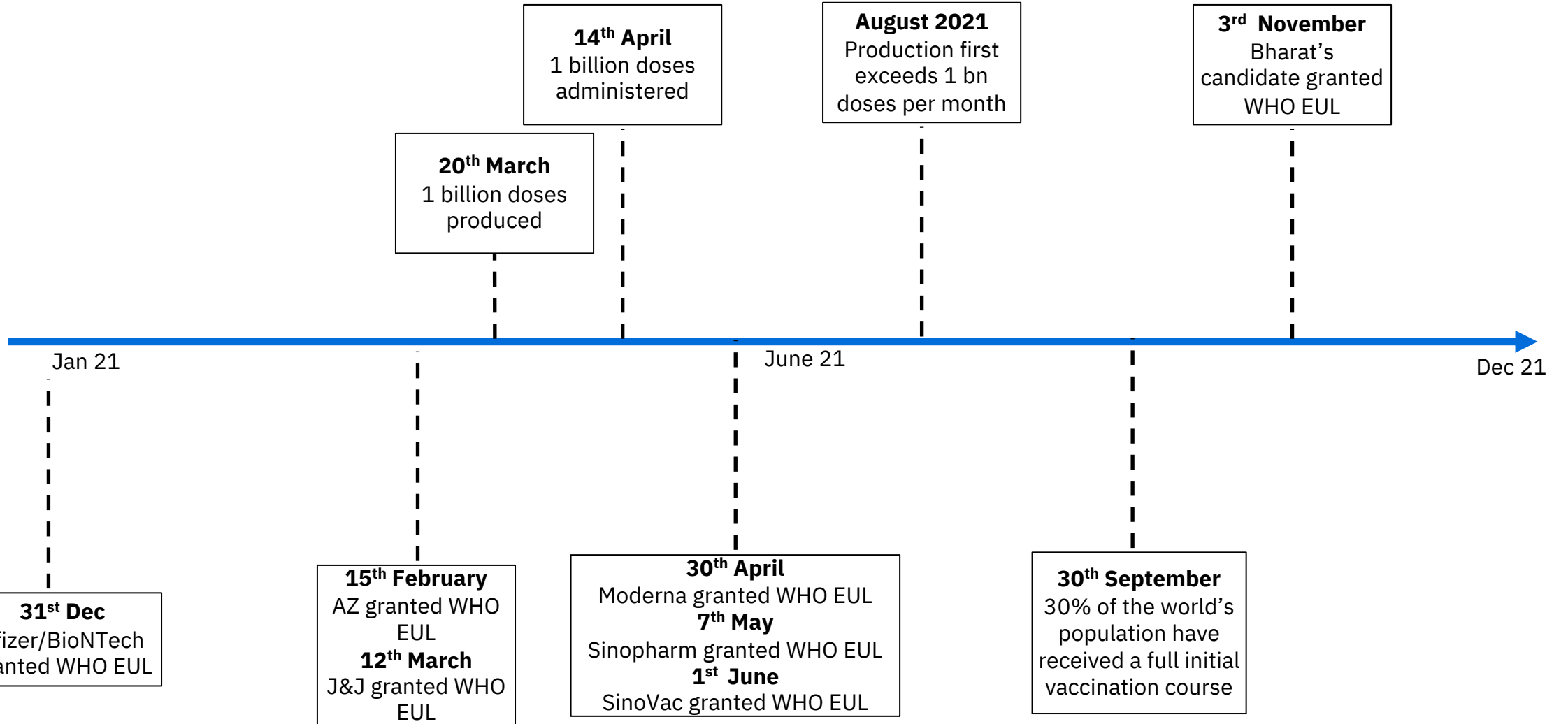
Prepared for the IFPMA, BIO and DCVMN Press Briefing  
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# 16<sup>th</sup> December 2021

# Significant progress made in 2021 on COVID-19 vaccines

An overview of major milestones achieved to date



# Despite a big increase in vaccination rates there are concerns on variants and rising cases

An analysis of the current dominant variant, infections, deaths and vaccinations globally over time

50%    100%



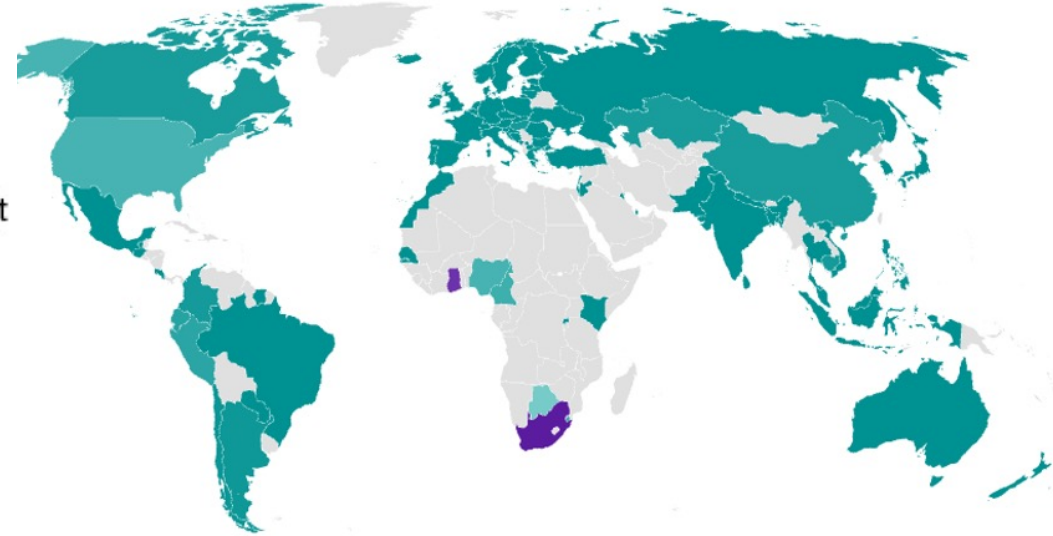
Omicron dominant



Delta dominant



No data/non-VoC/VoI dominant

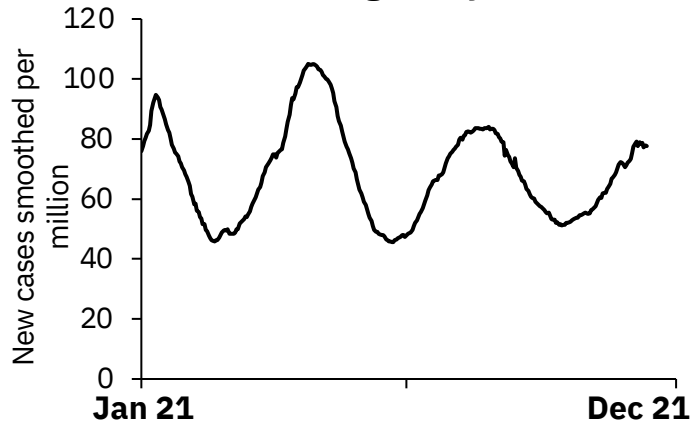


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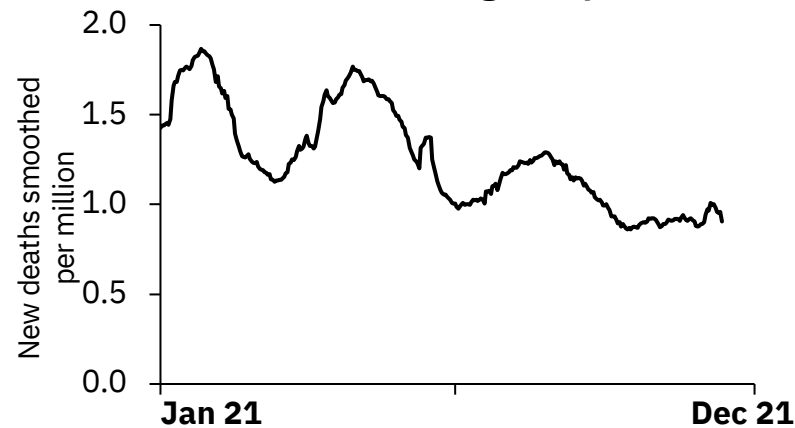


Countries with at least one confirmed omicron case

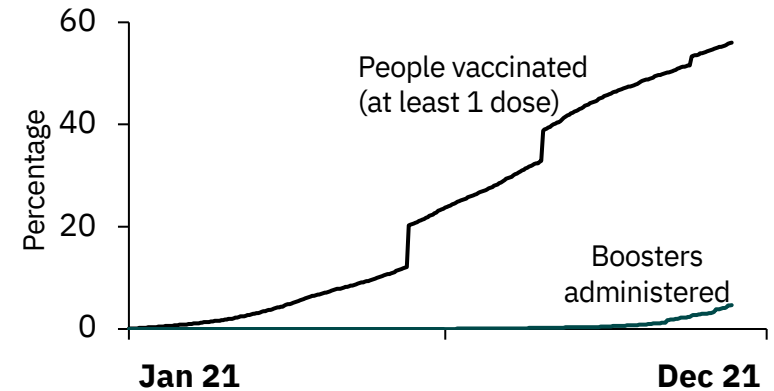
Cases globally



Deaths globally

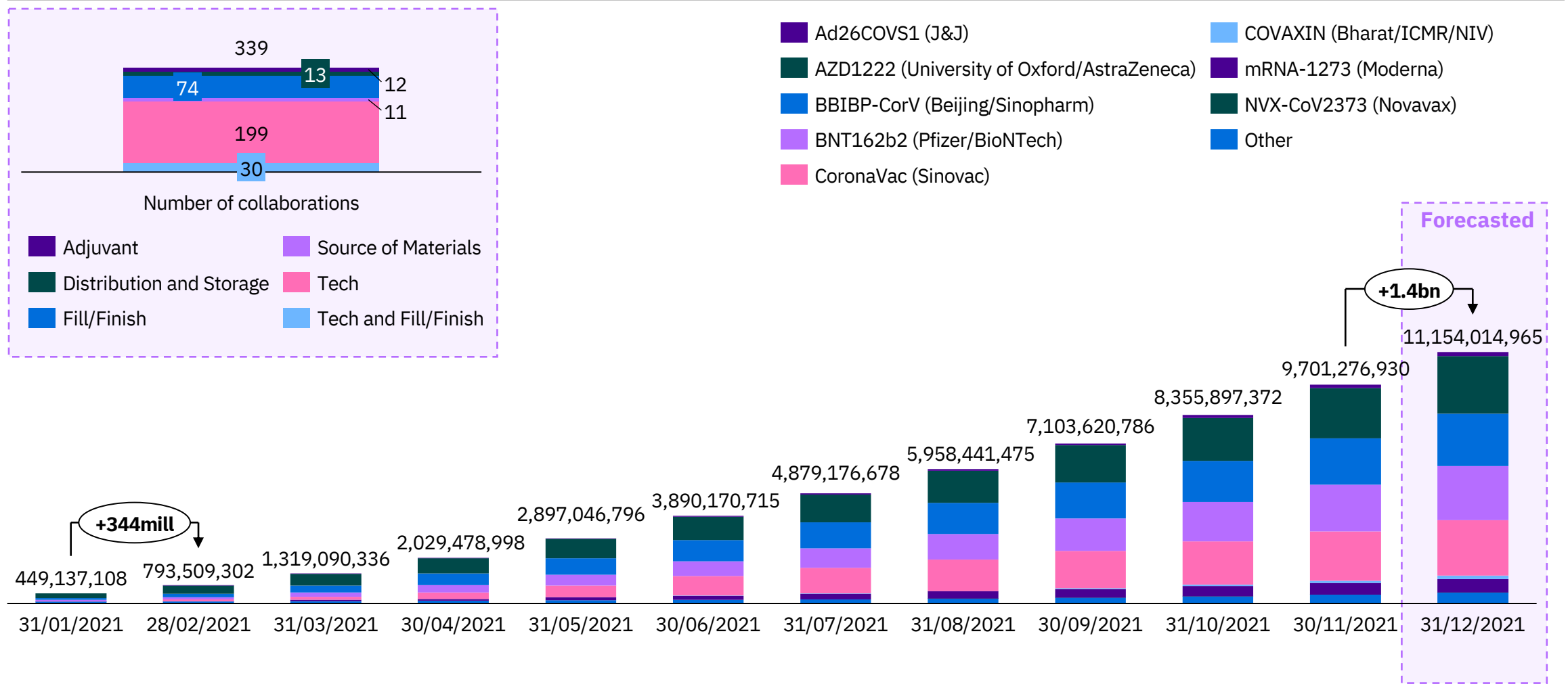


People vaccinated (per 100)



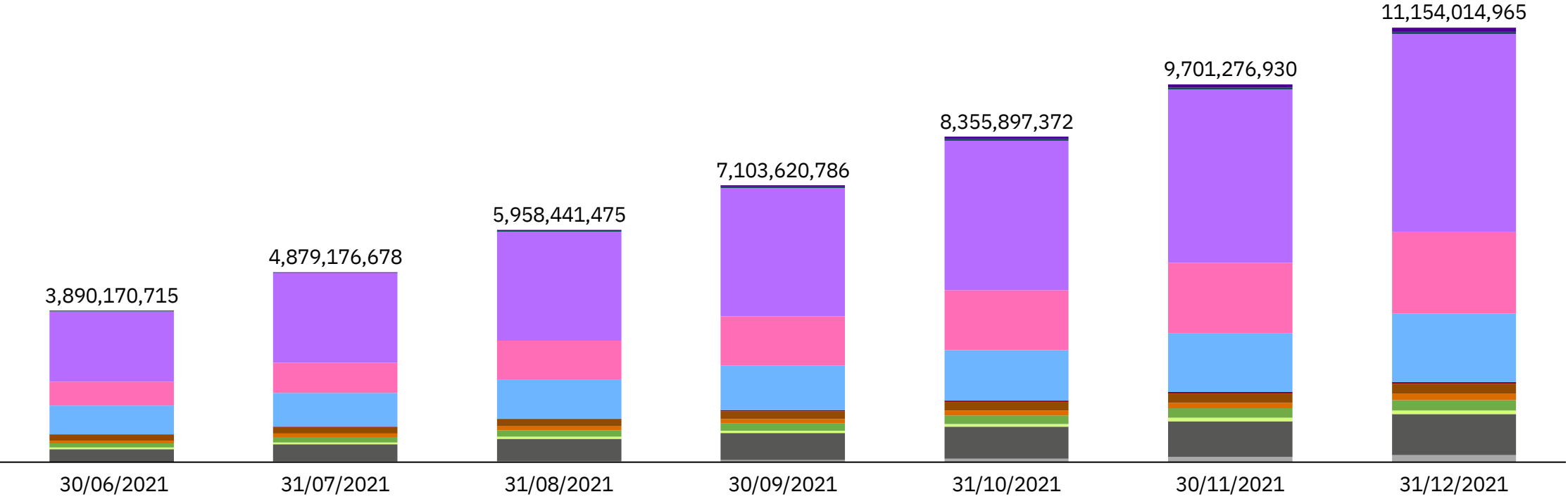
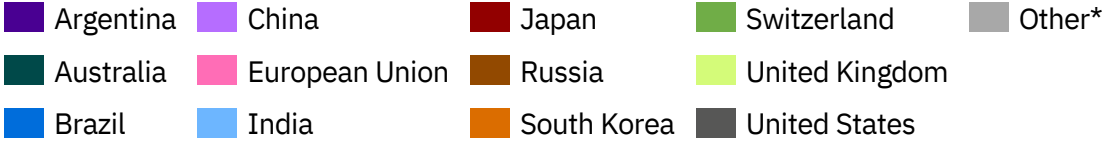
# Vaccine production forecast to hit 11.2bn doses in 2021, with a capacity of 1.4bn in December alone

## Vaccine production split by candidate



# China, EU, India and the US set to be the biggest vaccine producers in 2021

Vaccine production split by country

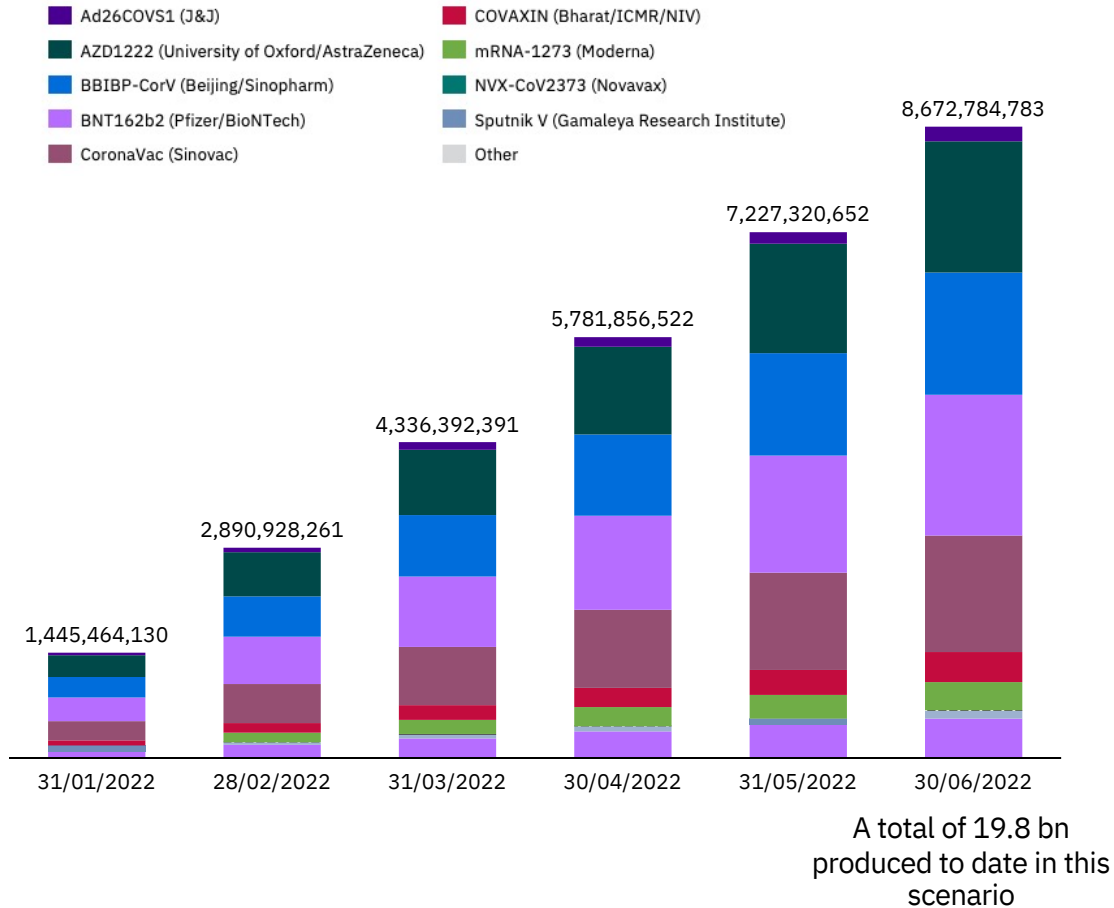


© 2021 Airfinity / Private & Confidential. \*Other includes Belarus, Cuba, Egypt, Iran, Kazakhstan, Taiwan and Thailand. This analysis is based on where the vaccine drug substance is produced it does not take into account fill/finish occurring in other locations

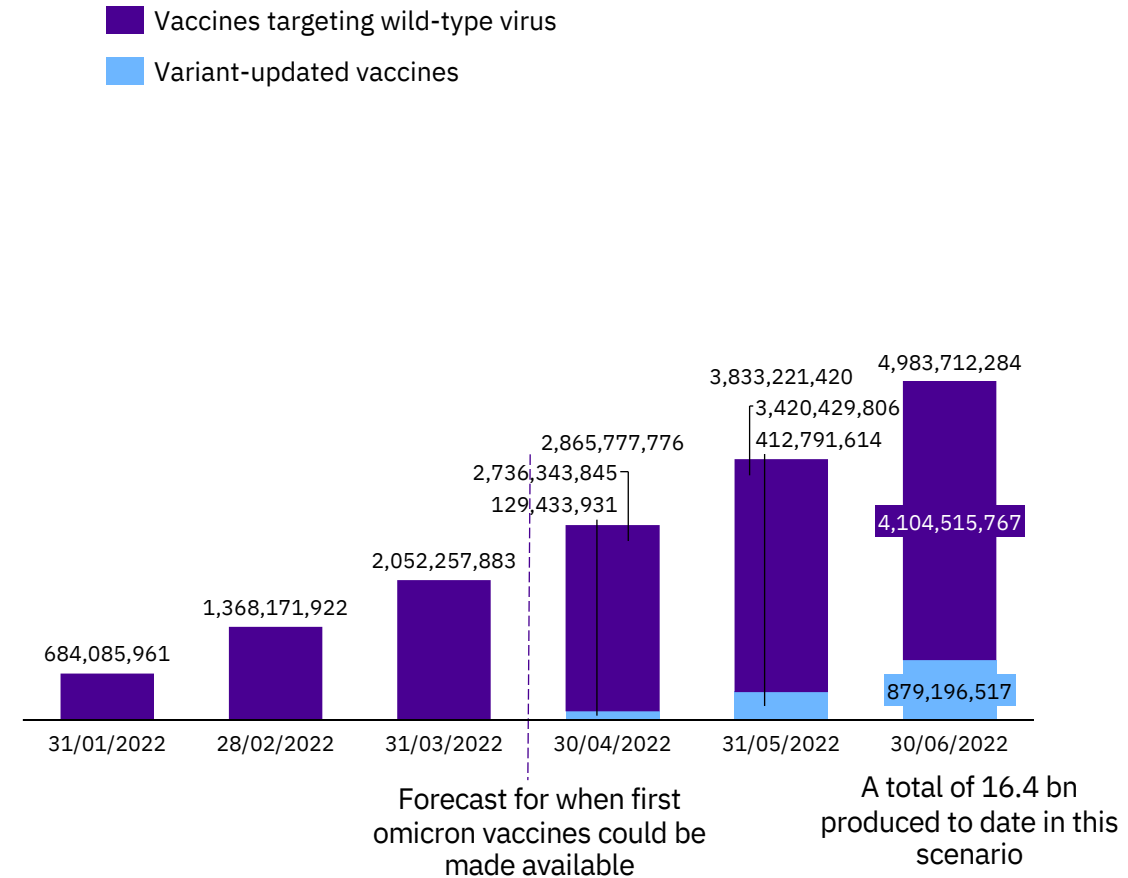
# If a variant-updated vaccine is needed, production rate in 2022 would slow initially

An analysis of production forecasts if rate continues or if 50% of production is diverted to producing a variant vaccine

### Production scale up if production continues at the current rate



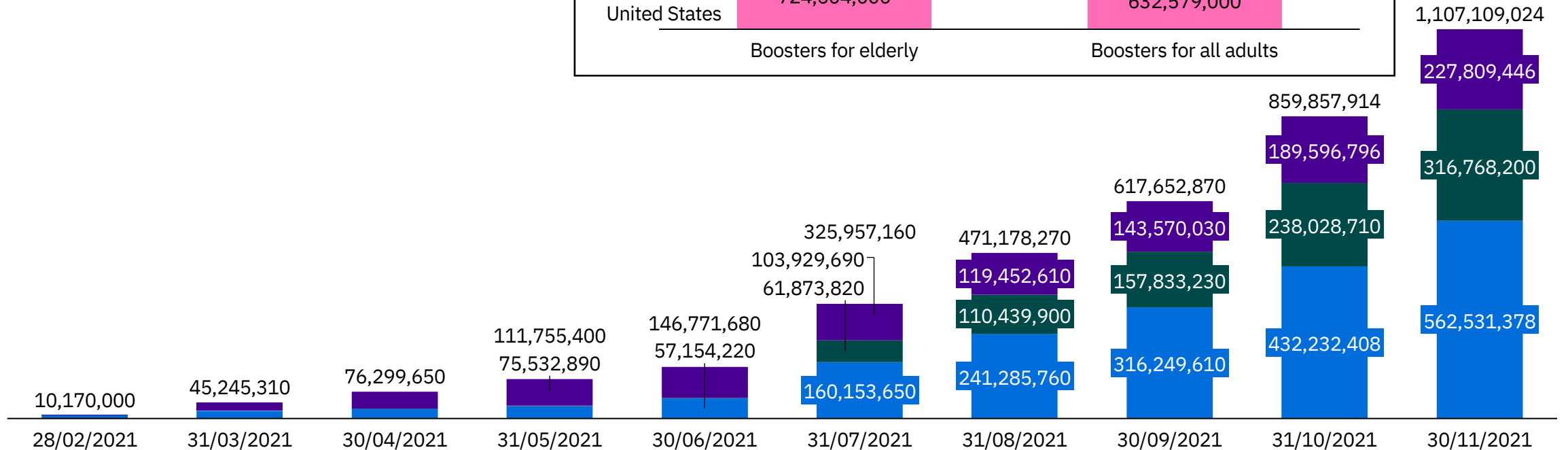
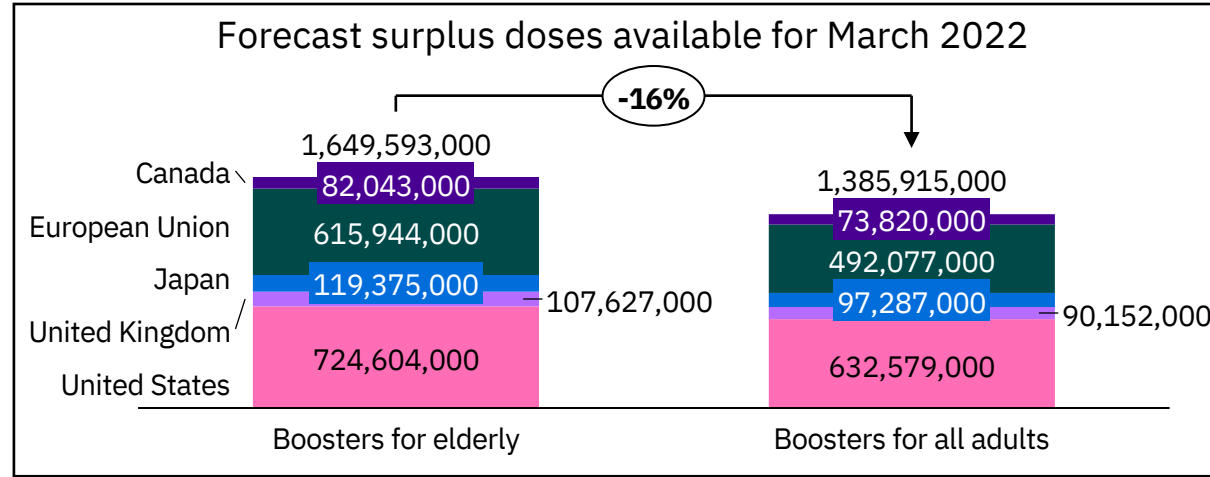
### Production scale up if 50% of production in 2022 is diverted to producing a variant updated vaccine\*



# Significant increase seen in donations, either direct or through COVAX

Deliveries of vaccines through COVAX or through direct donations over time

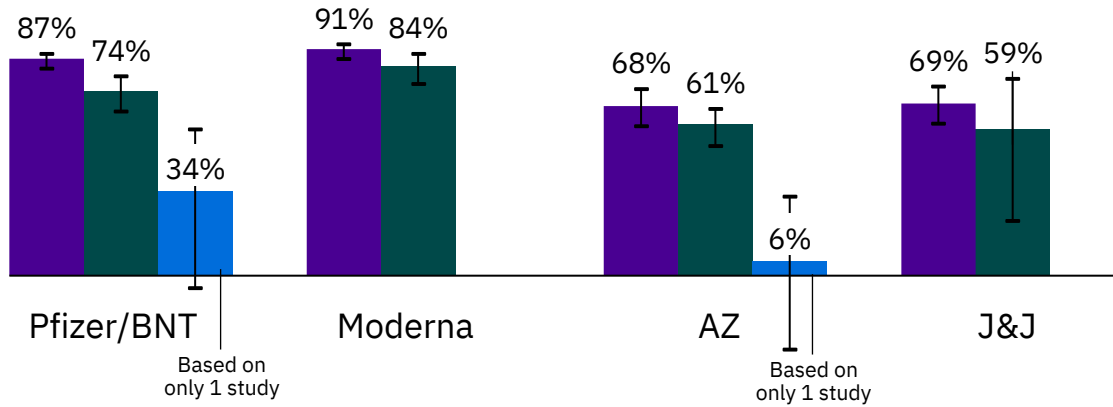
- COVAX supply secured directly
- Country contributions to COVAX
- Bilateral donations (from one country to another)



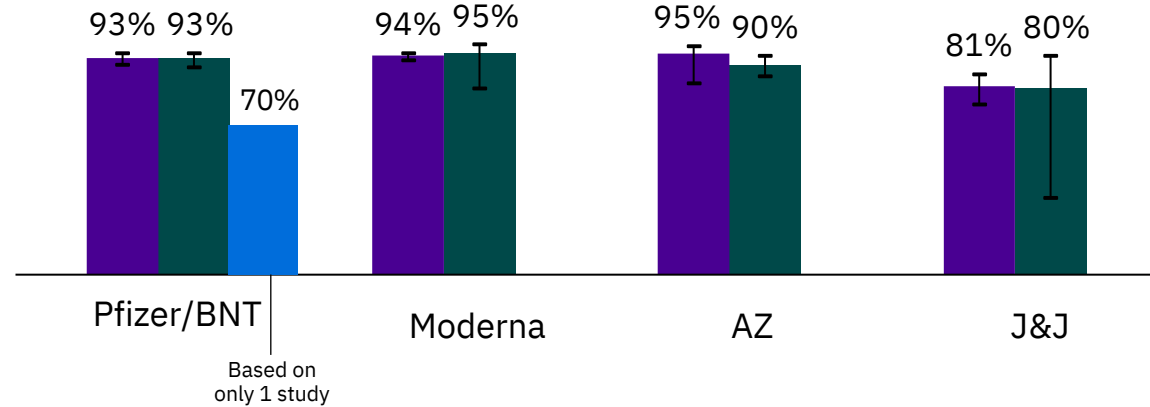
# Significant impact on protection against infection from omicron, awaiting more data on hospitalisations and boosters

Comparison of vaccine effectiveness against different variants

Protection against symptomatic infection\*

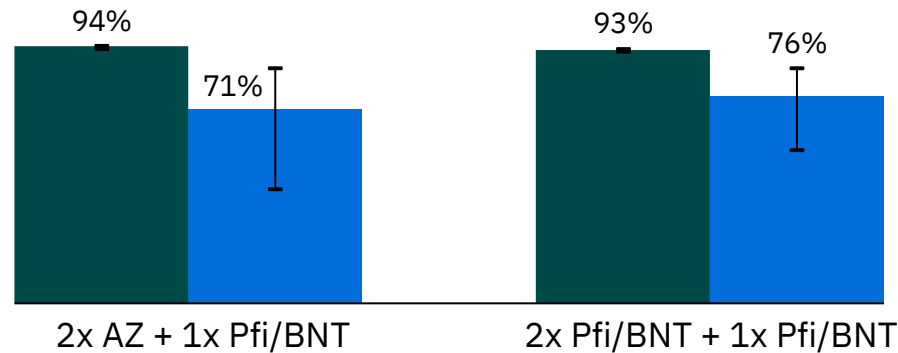


Protection against hospitalisation\*



Estimated protection against symptomatic infection restored from boosters

- Overall
- Delta
- Omicron



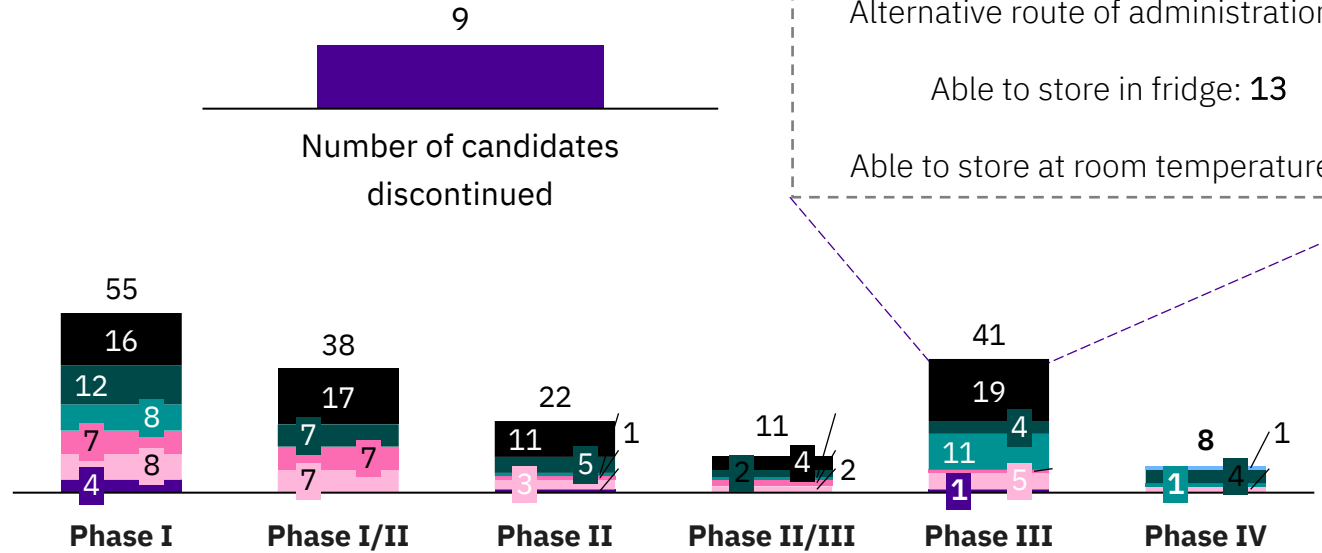
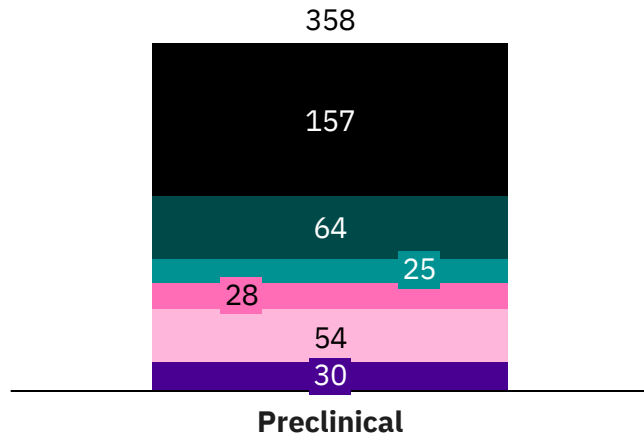
Booster data: [UKHSA study](#)  
 Pfizer/BNT Omicron hospitalisation data: [Discovery Health study](#)  
 All other data: Airfinity vaccine performance tool  
 Visualisation: Airfinity

Data on vaccine effectiveness against Omicron is extremely limited and based on a very small number of studies so should be interpreted with caution. This slide summarises what is currently published.

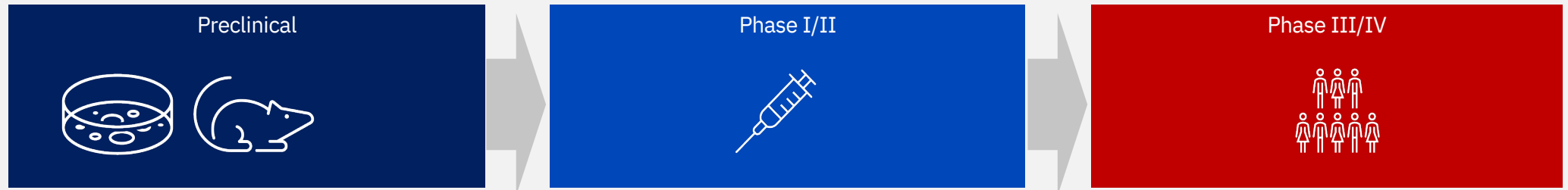


# Promising COVID-19 vaccine candidates in the pipeline

## Overview of candidates and clinical trial phase

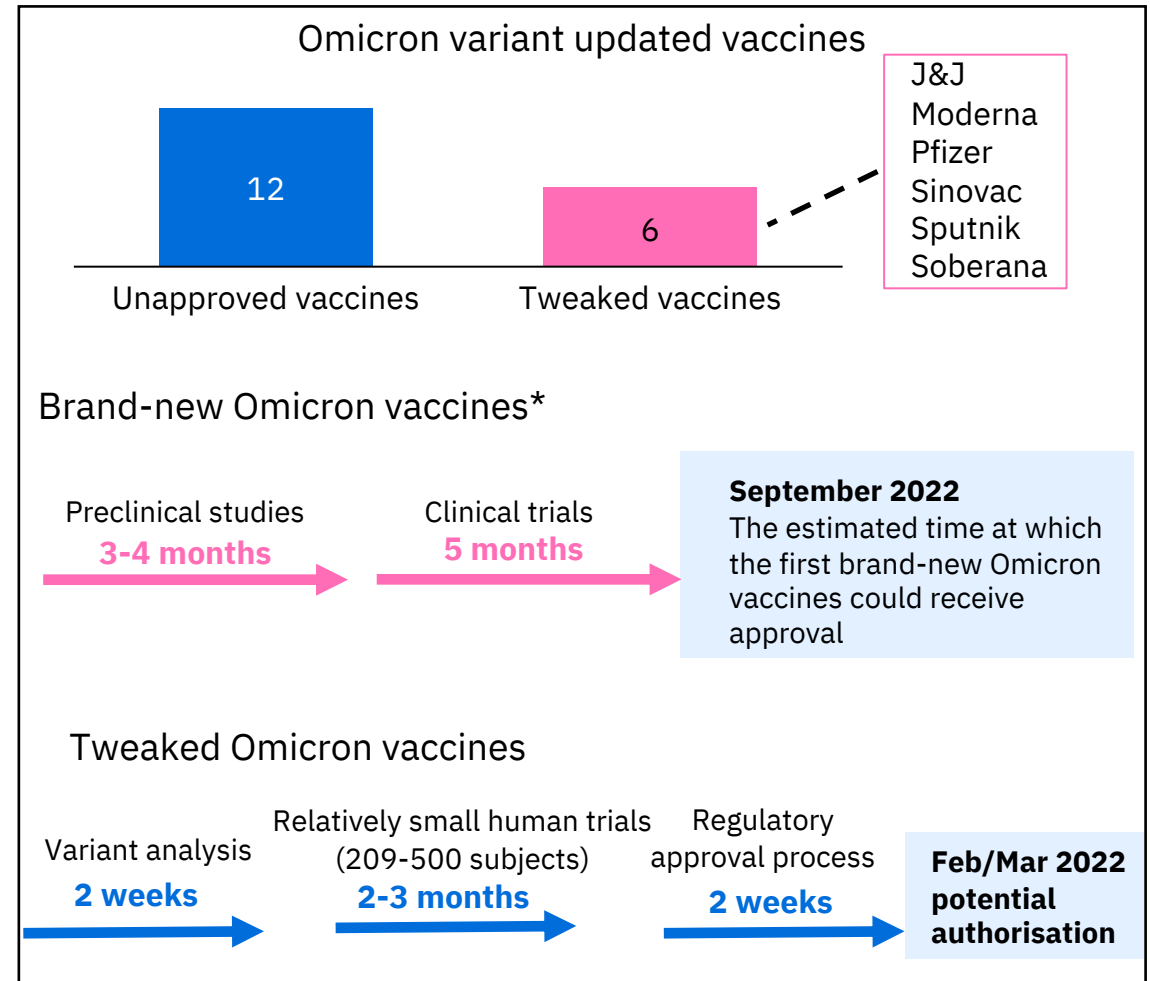
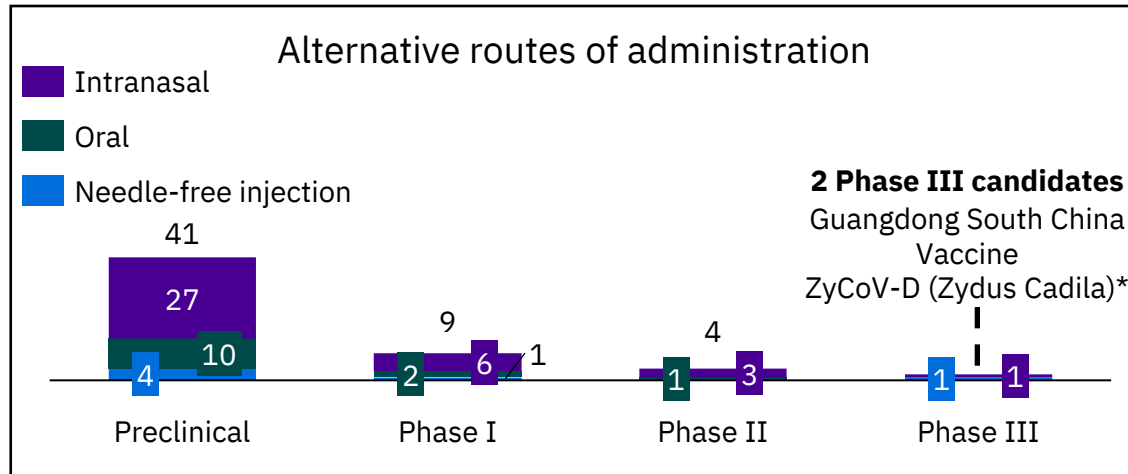
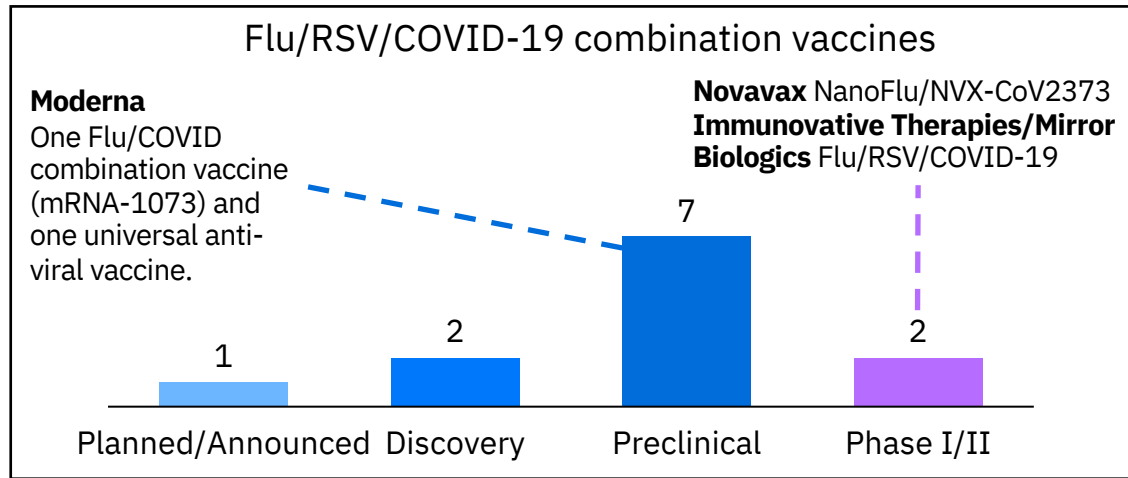


Variant updated vaccines : 4  
 Alternative route of administration: 2  
 Able to store in fridge: 13  
 Able to store at room temperature: 1



# Lots of innovation expected in 2022 for COVID-19 vaccines

A summary of vaccines in the pipeline



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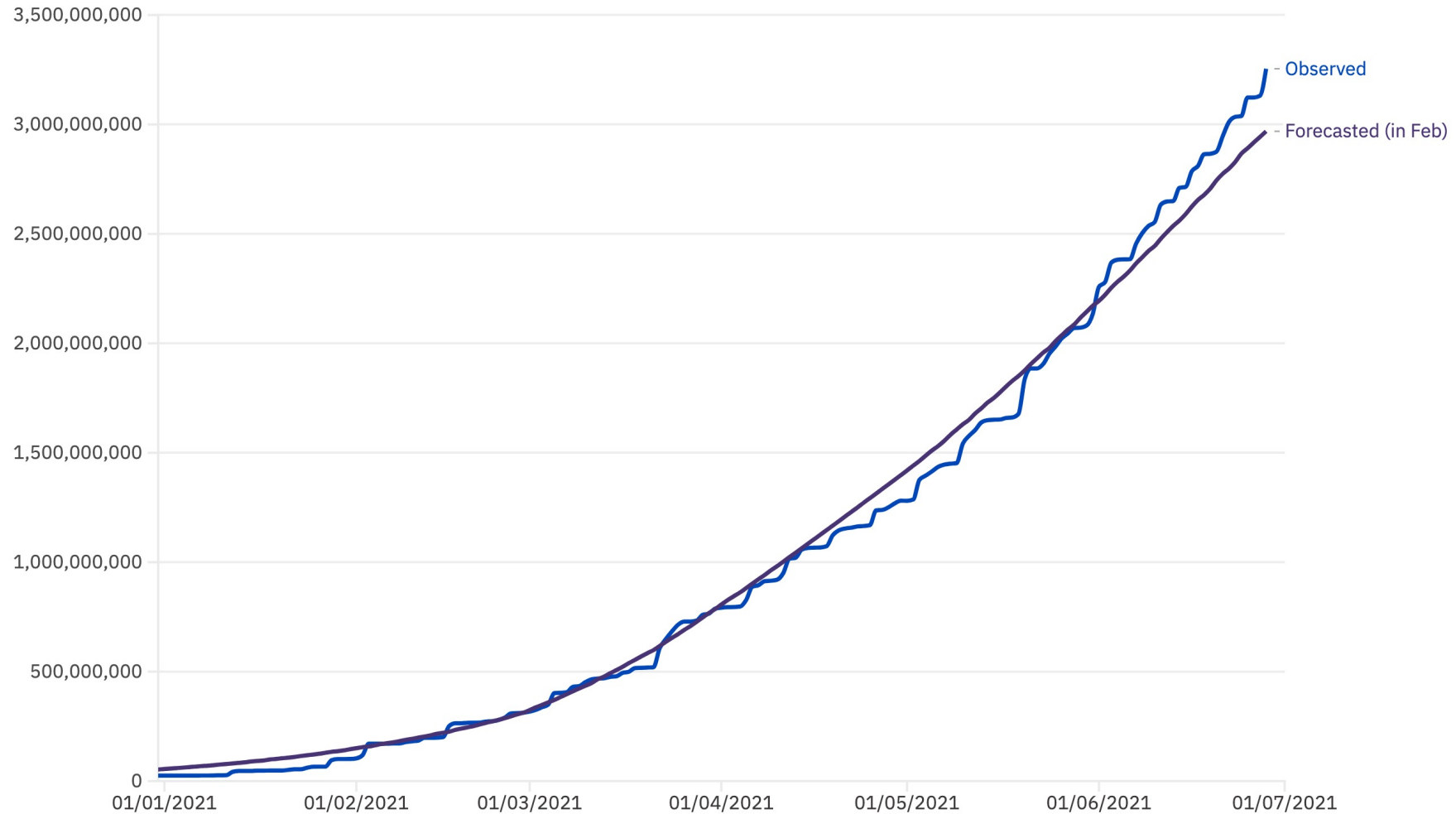
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## Airfinity forecasts have been realistic to observed production

Comparison of Airfinity forecasts (made in early February) vs observed production up until July



## Appendix

### Other vaccines mentioned in the production forecast

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#### Other vaccines include

COVIran Barekat (Shifa Pharmed)  
CoviVac (Chumakov Federal Scientific Center)  
CoVLP (Medicago/GSK)  
EpiVacCorona (VECTOR)  
FINLAY-FR-2 (Finlay Vaccine Institute)  
GRAd-COV2 (Reithera/LeukoCare/Univercells )  
INO-4800 (Inovio Pharma)  
LUNAR-COV19 (Arcturus)  
MVC-COV1901 (Medigen/Dynavax)  
NVX-CoV2373 (Novavax)  
QazCovid-in (RI for Biological Safety Problems)  
Razi Cov Pars (Razi Vaccine and Serum Research Institute)  
S-268019 (Shionogi)  
SCB-2019 (Clover/Dynavax)  
UB-612 (Covaxx/Vaxxinity)  
Vaccine (Sanofi/GSK)  
VLA2001 (Valneva/Dynavax)  
ZF2001 (Anhui Zhifei)  
ZyCoV-D (Zydus Cadila)  
Ad5-nCoV (CanSino)  
CIGB-66 (Center for Genetic Engineering and Biotechnology (CIGB))

## Appendix

### Definitions for types of production

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**Definitions:****Source of materials:**

Public announcements to supply raw materials for vaccine candidates

**Distribution and storage:**

Public announcements to distribute and/or store vaccines after production (separate from procurement deal)

**Adjuvant:**

Public announcements to produce and supply adjuvant for vaccine formulations

**Fill and finish:**

Public announcements to fill and finish vaccines into vials and syringes

**Tech:**

Public announcements to produce active vaccines or vaccine components.

## Studies included in the Airfinity vaccine meta effectiveness tool

Omicron study:

<https://khub.net/documents/135939561/430986542/Effectiveness+of+COVID-19+vaccines+against+Omicron+variant+of+concern.pdf/f423c9f4-91cb-0274-c8c5-70e8fad50074>

**Number of studies used in Airfinity Meta analysis**

	Pfizer-BNT	AstraZeneca	Moderna	J&J
Overall effectiveness	47	17	20	15
Effectiveness against Delta	16	8	9	2
Effectiveness against hospitalisations	16	5	10	11
Effectiveness against Delta hospitalisations	11	5	4	2

In this scenario it is assumed that vaccine production is reduced by 50% for 3 months to implement production of a new variant-specific vaccine, then there is an exponential increase in Omicron-specific vaccine production over the following 3 months, bringing production back to a rate of 1.4 billion doses produced per month. Following this period, vaccine production continues at a constant rate equal to the rate at the end of 2021 (current rate). Here the total production of vaccines is separated by the cumulative production of vaccines targeting wild-type Covid-19 and Omicron-specific vaccines.



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# More info.

→ Press

Sarah Harper

Media and Communications Manager

+44 777 365 9099

[sarah@airfinity.com](mailto:sarah@airfinity.com)