

Beyond decoupling: Biological Tech, Innovation, and Global Rivalry

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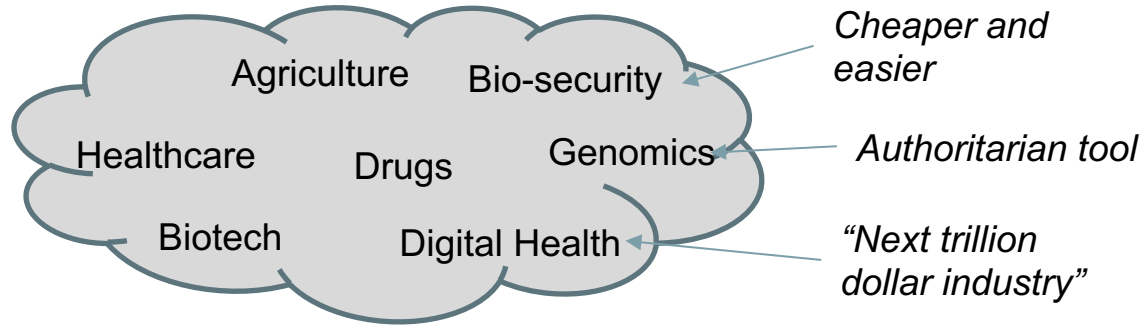
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Biological technologies: Big and innovative

U.S. GDP:
Defense budget 3.4% vs.
healthcare 17%

Global recessions:
Financial crisis (2008) half as deep as
Covid-19 pandemic

1998-2016 U.S. human R&D spend:
Pharmaceutical industry \$1.6 trillion; biotechnology
industry \$627 billion



Who will *invent* and *build* the biological technologies of the future?

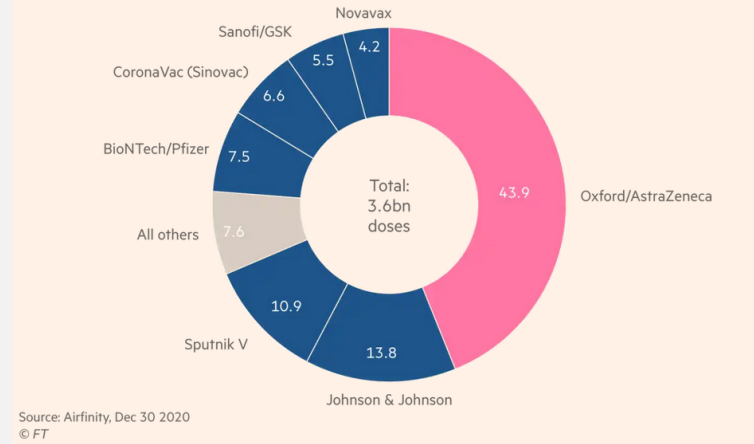
How can the US respond effectively?

(1) Invent and supply (not just promise) Covid-19 vaccines



Oxford/AstraZeneca vaccine is crucial to low- and middle-income countries

Share of vaccine supply in low- and middle-income countries (%)



Oxford/AstraZeneca + Serum Institute of India = global scale

Invent (UK) + Build (India) ... in the D-10 ("Democratic 10" of the G-7 plus India, ROK and Australia)

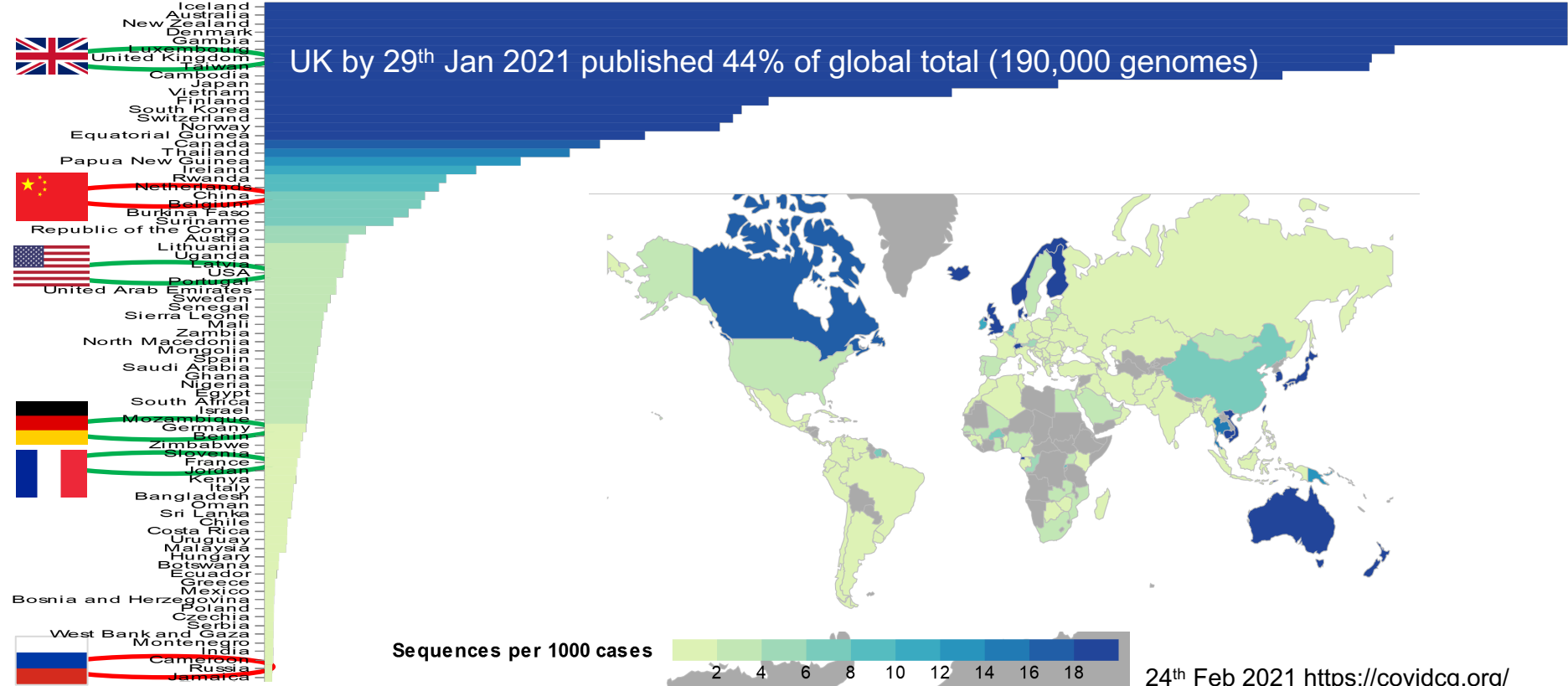
(2) Treatments for Covid-19: Dexamethasone (UK "Recovery" trial). Indian generics.

(3) Variants – situational awareness and rolling vaccine updates.

Updating vaccines: who is sequencing Covid-19 genomes?

Requires global coverage and allied expertise.

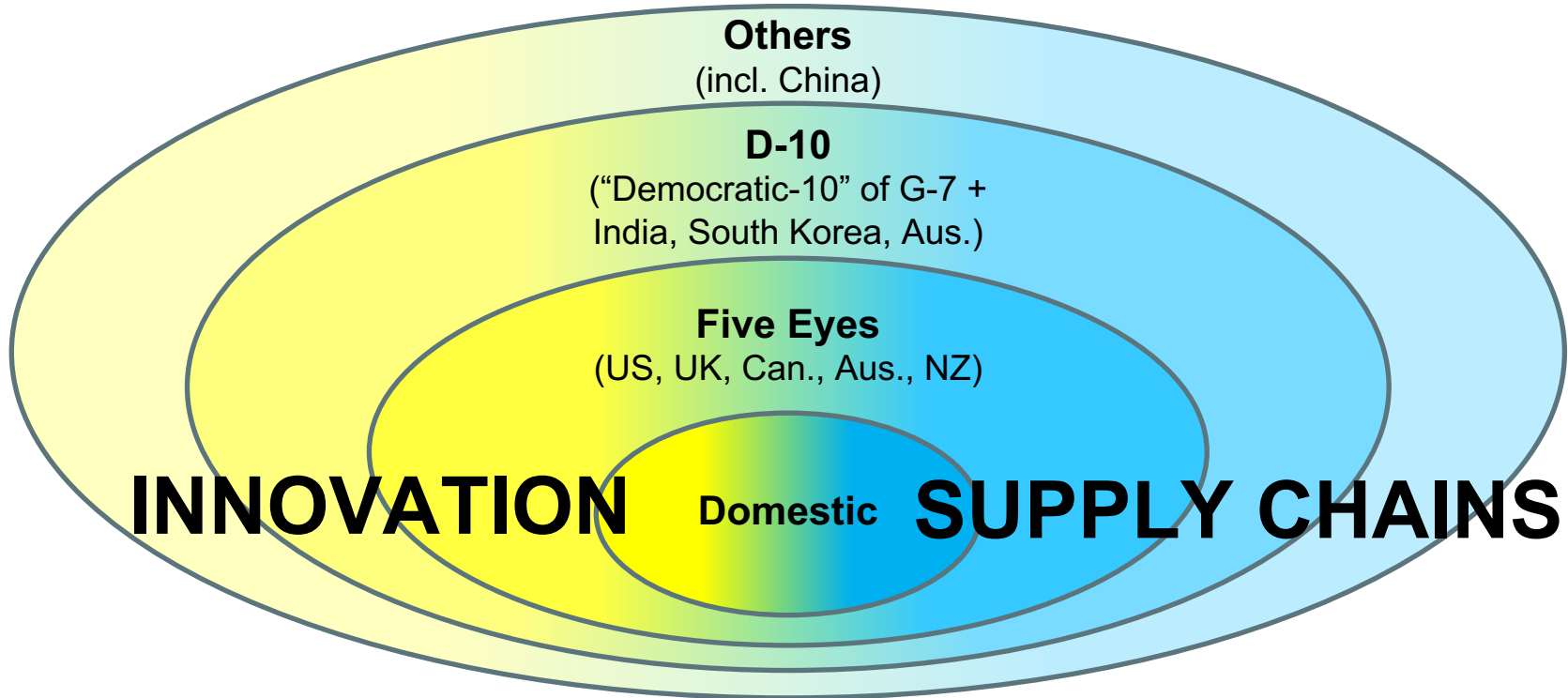
UK by 29th Jan 2021 published 44% of global total (190,000 genomes)



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Beyond decoupling and dogmatic globalization...

National-networked strategy



THE NATIONAL INTEREST

<https://nationalinterest.org/feature/3-tricks-strategically-competing-global-innovation-smackdown-178456>