

Fight against SARS-Cov-2 Overview of mRNA Vaccine Development and Resource Need

European Commission

Overview of Covid-19 measures



Lock down, with massive impact on European economies



- Monthly GDP impact in Europe of €75bn or a 3.70% projected GDP decline by THE WORLD BANK
- Masks
- Diagnostics:
 - PCR
 But with limitations
 tests
- Treatments:
 - Early treatments to reduce transmission and virus progression
 - Treatment of severe cases

Are Vaccines are the ultimate solutions? YES, the virus is in humans => need for 80% - 90% coverage

mRNA, the big promise in the vaccine space



Protein and adjuvant

- GSK and Sanofi
- Classic / historic technology

Limitations: production of antigens

Live vectors

J&J, promising technology but complex. \$1b from BARDA

DNA vaccines:

Promising technology, yet unknown

mRNA:

Moderna: \$483m from BARDA

BioNTech: Financed by Pfizer

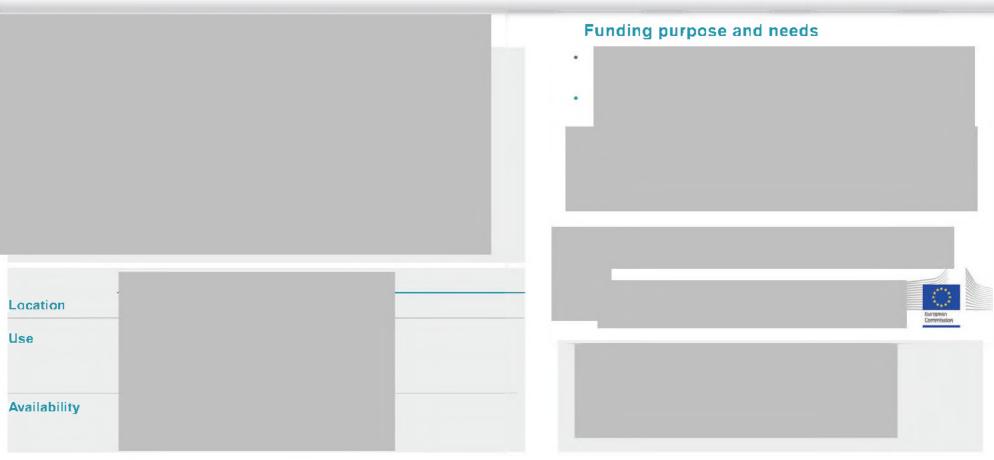
TranslateBio: Financed by Sanofi

CureVac: many years of Vaccine experience and great 2x1 microgram immunity in Rabies

Initial investment in technology and clinical development

Cost of building capacity in billions of doses



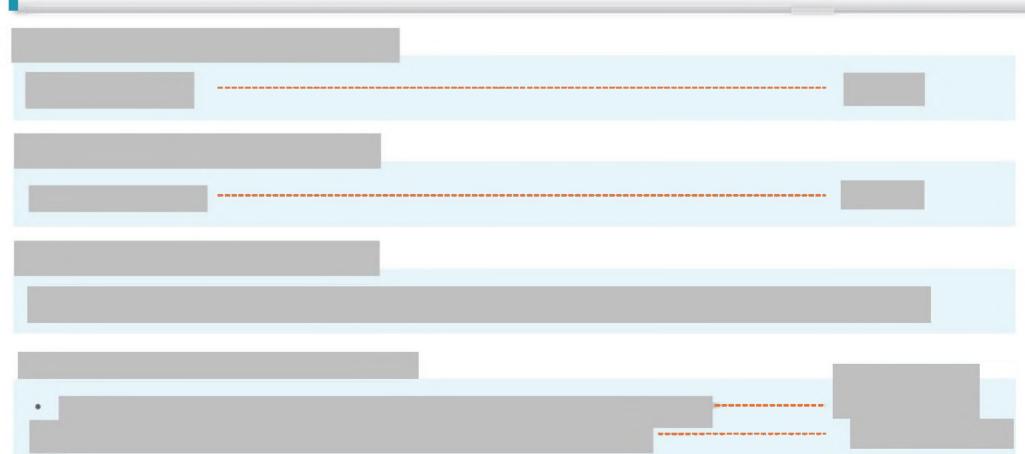


Timing of major inflection points



Manufacturing at risk in





Overview of _____ - indicative



Funding instruments



Conclusion



mRNA is a promising technology

Bill Gates said "investment at risk by government is critical"

Large scale manufacturing is feasible

For the flu pandemic in 2010, Governments had invested at risk over €10bn

Loss GDP amounts to €100s of billions

SARS-Cov-2 is a worldwide challenge