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

- Masks

- Diagnostics:
  - PCR
  - tests
  \[ But \ with \ limitations \]

- 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
\[ \Rightarrow \] need for 80% - 90% coverage
mRNA, the big promise in the vaccine space

- **Protein and adjuvant**
  - GSK and Sanofi
  - Classic / historic technology

- **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

<table>
<thead>
<tr>
<th>Location</th>
<th>Use</th>
<th>Availability</th>
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### Funding purpose and needs

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Timing of major inflection points
Manufacturing at risk in...
Overview of [ ] - indicative
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