Visit by the European Parliament to Mainz

21 SEPTEMBER 2022
Our Vision: Harnessing The Power Of The Immune System To Fight Human Diseases

- Multi-Platform, Technology Agnostic Strategy
- Diversified Product Pipeline
- Fully Integrated Biotechnology Company
- Global Social Responsibility
  - Focus on high medical needs
  - Democratize access to novel medicines
- Immunotherapy Powerhouse expanding the therapeutic universe
BioNTech today

Discovery powerhouse
>1,000 research and development professionals
IP portfolio with >200 patent families
>300 publications including >100 in leading peer reviewed journals

Diversified pipeline across 4 drug classes
21 clinical trials
17 product candidates in clinical development

Global organization on 3 continents
>3,300 employees
>60 nationalities
Presence in Europe, United States and Asia

Diversified GMP manufacturing infrastructure
2 state-of-the-art cGMP cell therapy sites
Global commercial scale mRNA production
Initial commercial team in Germany

World-class partners
Pfizer, Genentech, Genmab, Regeneron, Fosun, Sanofi, Crescendo, Medigene, InstaDeep, TRON, BMGF, UPenn and multiple not-for-profit organizations

European-Based
Diversity – Important Success Factor

Seven sites in Germany:
- Mainz (Hauptsitz)
- Marburg
- Halle
- Idar-Oberstein
- Martinsried
- Neuried
- Berlin

> 3,000 employees
> 60 nationalities
> 1,200 new colleagues

Female employees in the total workforce: 51%
Females in top management positions: 43%

Twelve subsidiaries worldwide:
- Cambridge, USA
- Gaithersburg, USA
- Istanbul, Turkey
- Singapore
- Shanghai, China
- Reading, UK
- Vienna, Austria

1 As of December 31, 2021, BioNTech Group
Global Social Responsibility at Our Core

Democratize Access to Novel Medicines

COVID-19 vaccine pledge to COVAX and the world
• 2+ bn doses to low- and middle-income countries by end of 2022

Development of new drugs for diseases with high unmet medical need in low-income countries
• Malaria
• Tuberculosis
• HIV

Start to establish mRNA production in Africa to ensure local vaccine supply

Modular "BioNTainer" mRNA production facilities as technological solution to democratize access to novel medicines

Environmental & Climate Protection
Climate targets under SBTi
• Scope 1 & 2: absolute emission reduction of 42% by 2030¹

Responsible Governance
Practice good corporate governance and social and societal responsibility
• Signed UN Global Compact²

Attractive Employer
Recruitment of qualified employees
• Specialists for scientific innovation and support of global growth

¹ base year: 2021; ² encompasses adhering to ten principles on human rights, the environment and anti-corruption
BioNTech: A Global Immunotherapy Powerhouse

**Fully Integrated**
- Deep Immunology Expertise
- Broad Suite of Novel Technologies
- Automation & Digitalization
- Specialized Manufacturing
- Commercial Capabilities
- Global Team of 3,000+

**A Diverse Pipeline of 17+ Clinical Candidates**

Next-Generation Immunotherapies & Vaccines
- Oncology, Infectious Diseases and Beyond

**Potential to Launch Multiple Products in the Next 5 Years**

By 2030, we aim to be a multi-product global biotechnology leader, aspiring to address the world’s most pressing health challenges with pioneering, disruptive technologies delivered at scale.
Multi-platform Strategy: Toolbox for Innovation

- **mRNA TECHNOLOGY**
  - OFF-THE-SHELF mRNA CANCER VACCINES (FixVac)
  - INDIVIDUALIZED mRNA CANCER VACCINES (iNeST)
  - INFECTIOUS DISEASES VACCINES
    - Prophylactic vaccines
    - Therapeutic vaccines
  - RIBOLYSINS
    - Precision antibacterials (Phagomed)
  - LIPID-NANOCRYSTAL-FORMULATIONS (Matinas)
  - ARTIFICIAL INTELLIGENCE
    - mRNA Drug Design
    - Early SARS-CoV-2 variant detection
- **CELL & GENE THERAPIES**
  - CARVac mRNA Vaccine boosted CAR-T cells
- **MULTI-TARGET TCR RESEARCH COLLABORATION (Medigene)**
  - mRNA ENCODED HUMABODIES (Crescendo)
  - Ribolysins
    - mRNA-encoded cytokines
    - mRNA-encoded multi-specific antibodies
  - RiboMabs
  - RiboCytokines
- **Antibodies**
  - Next gen immune checkpoint modulators
    - Bispecific antibodies
  - Targeted cancer therapies
  - Small molecules
- **Protein therapeutics**
- **Selective TLR-7 antagonism**

**Four drug classes**
- **Platforms**
- **Combination of platforms**

**Expanding the therapeutic universe through platform extension and novel combinations**
# Infectious Disease Pipeline: 4 mRNA Vaccine Trial Starts Expected in 2022

<table>
<thead>
<tr>
<th>Indication</th>
<th>Product candidate</th>
<th>Pre-clinical</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Commercial</th>
<th>Milestones 2022</th>
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<tbody>
<tr>
<td>COVID-19¹</td>
<td>BNT162b2</td>
<td></td>
<td></td>
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<td></td>
<td>Multiple updates</td>
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<tr>
<td>COVID-19¹</td>
<td>BNT162b5</td>
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<td>Phase 2 started in July 2022</td>
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<td>Influenza (mod mRNA)¹</td>
<td>BNT161</td>
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<td>Data updated in July 2022</td>
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<tr>
<td>Influenza (sa mRNA)¹</td>
<td>Un-named program</td>
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<tr>
<td>Shingles³</td>
<td>Un-named program</td>
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<td>Start Phase 1: 2H 2022</td>
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<td>HSV ²</td>
<td>BNT163</td>
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<td>Start Phase 1: 2H 2022</td>
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<tr>
<td>Tuberculosis³</td>
<td>BNT164</td>
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<td>Start Phase 1: 2H 2022 / early 2023</td>
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<tr>
<td>Malaria</td>
<td>BNT165</td>
<td></td>
<td></td>
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<td>Start Phase 1: 2H 2022 / early 2023</td>
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<td>HIV³</td>
<td>Un-named program</td>
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<tr>
<td>Additional mRNA vaccine programs²</td>
<td>Un-named programs</td>
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<tr>
<td>Precision antibacterials</td>
<td>Un-named programs</td>
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</tbody>
</table>

5 mRNA vaccines partnered w/Pfizer

10+ other infectious disease programs

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¹Collaboration with Pfizer; ²University of Pennsylvania collaboration; ³Collaboration with Bill & Melinda Gates Foundation. BioNTech holds worldwide distribution rights except developing countries where BMG holds distribution rights.
# Oncology pipeline: 15 products in 18 clinical trials

<table>
<thead>
<tr>
<th>Drug class</th>
<th>Platform</th>
<th>Product candidate</th>
<th>Indication (targets)</th>
<th>Pre-clinical</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Milestones</th>
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</thead>
<tbody>
<tr>
<td>FixVac</td>
<td>BNT111</td>
<td>Advanced and R/R melanoma</td>
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<tr>
<td></td>
<td>BNT112</td>
<td>Prostate cancer</td>
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<td></td>
<td>BNT113</td>
<td>HPV16+ head and neck cancer</td>
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<tr>
<td></td>
<td>BNT115́</td>
<td>Ovarian cancer</td>
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<td>BNT118</td>
<td>NSCLC</td>
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<td>mRNA</td>
<td>Autogene cevumeran (BNT122)</td>
<td>1L melanoma</td>
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<tr>
<td></td>
<td>Autogene cevumeran (BNT122)</td>
<td>Adjuvant colorectal cancer</td>
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<tr>
<td></td>
<td>Autogene cevumeran (BNT122)</td>
<td>Solid tumors</td>
<td></td>
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<tr>
<td></td>
<td>Autogene cevumeran (BNT122)</td>
<td>Adjuvant pancreatic ductal adenocarcinoma ́</td>
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<tr>
<td>Intratumoral Immunotherapy</td>
<td>SAR441000 (BNT131)</td>
<td>Solid tumors (IL-12sc, IL15-sushi, GM-CSF, IFNα)</td>
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<td>RiboMabs</td>
<td>BNT141</td>
<td>Multiple solid tumors (CLDN18.2)</td>
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<td>BNT142</td>
<td>Multiple solid tumors (CD3*CLDN6)</td>
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<td>RiboCytokines</td>
<td>BNT151</td>
<td>Multiple solid tumors (optimized IL-2)</td>
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<tr>
<td></td>
<td>BNT152, BNT153</td>
<td>Multiple solid tumors (IL-7, IL-2)</td>
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<td>Cell therapies</td>
<td>BNT211</td>
<td>Multiple solid tumors (CLDN6)</td>
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<td>Data update: 2H 2022</td>
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<td>BNT212</td>
<td>Pancreatic, other cancers (CLDN18.2)</td>
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<tr>
<td>Neoaentigen-based T cells</td>
<td>BNT221 (NEO-PTC-01)</td>
<td>Multiple solid tumors</td>
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<tr>
<td>TCR engineered T cells</td>
<td>To be selected</td>
<td>All tumors</td>
<td></td>
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<tr>
<td>Antibodies</td>
<td>GEN1046 (BNT311)</td>
<td>Metastatic NSCLC (PD-L1×4-1BB)</td>
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<td>Start Phase 1: 2H 2022</td>
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<tr>
<td></td>
<td>GEN1042 (BNT312)</td>
<td>Multiple solid tumors (PD-L1×4-1BB)</td>
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<tr>
<td></td>
<td>GEN1063 (BNT313)</td>
<td>Malignant solid tumors (CD27)</td>
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<tr>
<td>Targeted cancer antibodies</td>
<td>BNT321 (MVT-5873)</td>
<td>Pancreatic cancer (sLea)</td>
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<tr>
<td>SMIM</td>
<td>BNT411</td>
<td>Solid tumors (TLR7)</td>
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</tr>
</tbody>
</table>

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1 Investigator-initiated Phase 1 trial; 2 Collaboration with Genentech; 3 Collaboration with Sanofi; 4 Collaboration with Genmab.
The BioNTainer Solution

21 September 2022
BioNTainer: A platform for localized and sustainable mRNA production

The challenge
Establishing GMP production of mRNA is complex and requires overcoming challenges at many levels

The solution
Turnkey package that includes modular production units, GMP-compliant setup and personnel training
Two BioNTainers as core of mRNA vaccine production

1 mRNA production
2 mRNA purification & concentration
3 Drug product formulation
4 Filling & packaging

Module 1
6 containers make up one BioNTainer for drug substance

Module 2
6 containers make up one BioNTainer for drug product

Local partners
## Key facts on BioNTainer set-up in Africa

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope</strong></td>
<td>12 containers</td>
</tr>
<tr>
<td><strong>Structure</strong></td>
<td>6 containers = 1 module</td>
</tr>
<tr>
<td></td>
<td>&gt; 1 drug substance (DS) module</td>
</tr>
<tr>
<td></td>
<td>&gt; 1 drug product (DP) module</td>
</tr>
<tr>
<td><strong>Container size</strong></td>
<td>ISO sized (2.6m x 2.4m x 12m)</td>
</tr>
<tr>
<td><strong>Shipment</strong></td>
<td>Shipped via freighter, truck and train</td>
</tr>
<tr>
<td><strong>Production volume (initial)</strong></td>
<td>E.g. approx. 50 million doses of the Pfizer-BioNTech COVID-19 vaccine</td>
</tr>
<tr>
<td><strong>Production</strong></td>
<td>BioNTech jointly with local support</td>
</tr>
<tr>
<td><strong>Quality control</strong></td>
<td>BioNTech jointly with local support</td>
</tr>
<tr>
<td><strong>Local infrastructure</strong></td>
<td>E.g. logistics, quality control labs, quality control set-up, warehousing, cold and frozen storage</td>
</tr>
<tr>
<td><strong>Technical autonomy</strong></td>
<td>Fully self-sufficient</td>
</tr>
<tr>
<td><strong>Scope of application</strong></td>
<td>Single to multi-drug production &amp; clinical trials</td>
</tr>
</tbody>
</table>
BioNTainer: Building an mRNA manufacturing network to address infectious diseases in Africa and beyond

The BioNTainer solution aims to ensure:

- Acceleration of knowledge and technology transfer
- Rapid set-up of new mRNA manufacturing nodes for licensed mRNA vaccines
- Pandemic preparedness & other use cases
- Sustainability through maintenance and updating

Potential partners for fill & finish

Utilities
Access to talent
Regulatory framework
Operation permit
Fill & finish capacity
Logistics & supply