

FORWARD-LOOKING STATEMENTS

This presentation includes forward-looking statements that involve risks, uncertainties and other factors, many of which are outside of our control that could cause actual results to differ materially from the results discussed in the forward-looking statements. Forward-looking statements include statements regarding our short-term objectives and opportunities, financial expectations for the full year and financial preparedness as of year end, as well as statements concerning our plans, objectives, goals, future events, performance and/or other information that is not historical information. All such forward-looking statements are expressly qualified by these cautionary statements and any other cautionary statements which may accompany the forward-looking statements. We undertake no obligation to publicly update or revise forward-looking statements to reflect subsequent events or circumstances after the date made, except as required by law.

FIRST HALF 2019:

STRONG MOMENTUM AND A RICH NEWS FLOW AHEAD

- BLA process for MVA-BN smallpox on track, FDA decision in Sep-2019
- Phase 3 trial of freeze-dried MVA-BN initiated
- RSV Phase 3 discussions with FDA ongoing
- New, large Ebola vaccine trial in Uganda
- HPV vaccine entered the clinic; first commercial program with Janssen
- BN-Brachyury trial in chordoma advancing after positive results
- Next-generation cancer immunotherapies entering clinical trials later in 2019
- Fill and finish facility construction progressing according to timeline and budget
- Financials in line with expectations; full year guidance maintained



OUR VISION & STRATEGY

INVESTING FOR THE FUTURE

By 2023 we aspire to be a leading and <u>profitable biotech company</u> that through harnessing the power of the immune system will <u>develop</u>, <u>manufacture</u> and <u>commercialize</u> products for infectious disease and cancer

MAINTAIN global leadership of our smallpox vaccine business

- Finalize development of smallpox vaccine
- Secure broader sales

EXPAND and rapidly **ADVANCE** the pipeline of infectious disease programs

- Launch RSV vaccine
- Advance partnered programs
- · Advance infectious disease pipeline

ESTABLISH a broad and deep cancer immunotherapy portfolio

- Explore combination therapies with vaccines and standard of care
- · Explore more advanced combinations

EXPAND the commercial footprint and capabilities

- Take advantage of core manufacturing capabilities and capacity
- Build commercial infrastructure to drive profitable growth

- Strong presence and capabilities in the smallpox vaccine area
- MVA-BN is the only non-replicating approved smallpox vaccine in Europe and Canada.
- Pending FDA approval and award of Priority Review Voucher
- U.S. government contracts awarded to-date valued at nearly USD 1.8 billion

THE PAST

- 22 clinical trials completed including two Phase 3 studies
- Approved in the U.S. for emergency use
- 28 million doses stockpiled for immune compromised - now expired
- BLA submitted

THE PRESENT

- Bulk vaccine worth USD 333 million produced to-date and stored for future fill and finish
- Approval expected in Q3 2019
- Priority Review Voucher to be sold
- Initiation of Phase 3 with freeze-dried vaccine imminent
- Finalizing construction of fill and finish facility

THE FUTURE

- USD 299 million in secured future revenue from completion of 13M freeze-dried doses
- 10-year contract with additional procurement options
- Post-approval opportunities beyond stockpiling according to existing guidelines
 - Military personnel
 - Healthcare workers

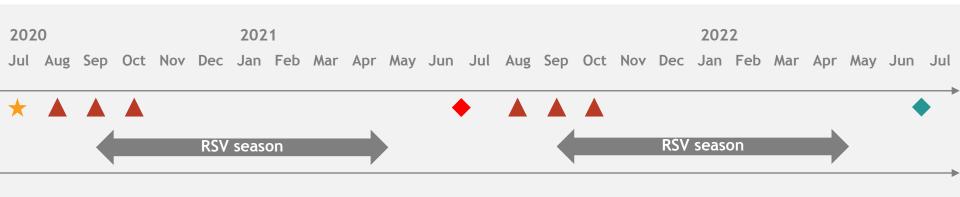
- Outbreak in DR Congo since 2018 continues with high number of new cases
- More than 2,700 reported cases, two-thirds of which have died
- WHO has declared the outbreak a Public Health Emergency of International Concern and recommends use of Janssen/BN vaccine
- Uganda trial of Janssen/BN vaccine in 800 healthcare workers recently initiated
- Janssen/BN vaccine to-date investigated in 6,000+ individuals in Phase 1, 2 and 3 trials

August 2018 DR Congo outbreak declared May 2019 WHO recommends deployment of Janssen/BN vaccine June 2019 First cases reported in Uganda **July 2019** WHO declares DR Congo outbreak a Public Health Emergency of International Concern August 2019 Uganda starts trial of Janssen/BN vaccine in 800 HC workers

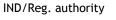


RSV PHASE 3 CONSIDERATIONS

- Ongoing dialogue with the FDA regarding requirements for licensure of MVA-BN RSV
- Trial design to be finalized with FDA
- Current Phase 3 considerations:
 - Phase 3 in 12,000 14,000 depending on statistical plan to be agreed with the FDA
 - Study will start in 2020
 - Looking to conduct a Phase 3 over 2 RSV seasons including a futility analysis after season 1
 - Estimated Phase 3 trial cost: USD 80-120 M









Months of vaccination



Futility analysis



MALLPOX INFECTIOUS DISEASE





Fill and finish facility

- Up to 8M freeze-dried & 40M liquid doses per year
- Key driver in securing higher smallpox revenues in the years to come
- Support new partnerships
 - Launch RSV
 - Licensing of pipeline assets
 - Manufacturing for partners/collaborators

Project timeline

Mar-18 Nov-18 Jun-19 Oct-19 Jan-20 Oct-20 end 2020

Groundbreaking

Outer building completed

Construction finalized

equipment installed

Equipment commissioned and qualified

PQ activities completed

Initiation of production

BUILDING A BROAD IMMUNOTHERAPY PORTFOLIO



BN vaccine + standard of care (e.g. chemotherapy & radiation)

- Proof of concept trial of BN-Brachyury plus radiation ongoing in rare cancer chordoma
- Trial expanded after positive response





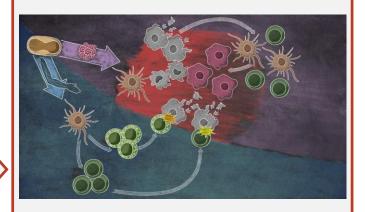


BN vaccine + checkpoint inhibitors

- Three Phase 2 trials of CV301 in combination with checkpoint inhibitors ongoing
- Bladder data expected in 2H19

Next-generation BN vaccines

- · Providing the body with more weapons
- Customizable for type of cancer & delivery
- One construct for multiple targets

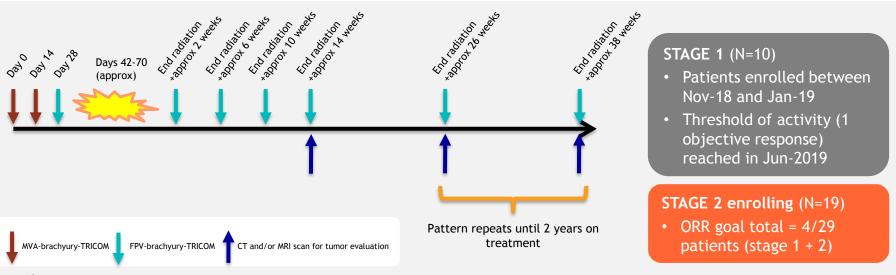


Initiating 2019

ONGOING TRIAL IN CHORDOMA

ULTRA-ORPHAN CANCER WITH LIMITED TREATMENT OPTIONS

- Multi-site trial to assess the effectiveness of **BN-Brachyury** vaccine and current standard of care, radiation therapy, in patients with advanced chordoma
- **Radiation** has been shown to inflame the tumor, releasing cancer antigens, increasing the targeting of brachyury
- Establish if combo therapy results in a clinically-meaningful ORR
- Currently enrolling patients for Stage 2 after having observed a partial response in one patient in Stage 1

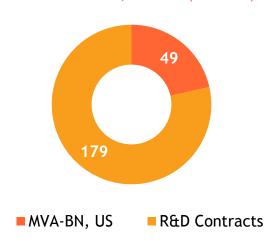


FINANCIAL RESULTS AND OUTLOOK

Full year guidance maintained

- Majority of 2019 revenue expected in H2 from second tranche of bulk smallpox vaccine contract (50 mUSD)
- R&D costs of approx. 570 mDKK (420 mDKK in P&L)
- Investments in FnF of approx. 270 mDKK (peak year)
- Sale of Priority Review Voucher has not been included in guidance

Revenue 6m, 2019 (mDKK)



	mDKK				
	6m 2019	FY2019E			
Revenue	228	600			
EBIT	(201)	(360)			
Cash preparedness	1,882	1,600			

Cash preparedness includes cash, cash equivalents, investments in securities and the aggregate amount of undrawn credit lines.

mUSD	
FY 2019E	6m 2019
92	35
(55)	(31)
246	287

Reported figures are based upon an assumed exchange rate of DKK 6.56 per 1.00 USD, whereas FY estimates are based upon an exchange rate of DKK 6.50 per 1.00 USD

FINANCIAL POSITION

Break-down of financial position

- Strong financial position enabling continued execution of strategy
- Cash preparedness of DKK 1,882 million including unutilized credit lines

		mDKK		mUSD
	6m 2019	FY2018	6m 2019	FY 2018
Securities, cash & equivalents	1,638	2,317	250	353
Less Repo assets	-	(247)	-	(38)
Unutilized credit lines	244	244	37	37
Total cash preparedness	1,882	2,314	287	353
Mortgage	26	28	4	4
EIB loan	372	372	57	57
Total debt (excl. Repo liability)	399	400	61	61

USD/DKK = 6.56

2019 PRIORITIES AND GOALS

MAINTAIN global leadership of our smallpox vaccine business

- ✓ Initiate Phase 3 study of freeze-dried MVA-BN
- FDA approval of liquid-frozen MVA-BN
- Award of Priority Review Voucher

EXPAND and rapidly **ADVANCE** the pipeline of infectious disease programs

- Finalize RSV development plan
- Initiate Phase 1 dose finding study of equine encephalitis virus vaccine
- Initiate Phase 1/2a study of HIV vaccine with Janssen

ESTABLISH a broad and deep cancer immunotherapy portfolio

- ✓ Report initial ORR results from Ph2 study of BN-Brachyury in chordoma
- Initiate Phase 1 intravenous administration of BN-Brachyury
- Initiate Phase 1 intra-tumoral administration of CV301 in solid tumors
- Report initial ORR results from CV301 and atezolizumab in bladder cancer

EXPAND the commercial footprint and capabilities

Finalize construction of fill and finish facility

