

Q3 2019

Interim Results as of September 30, 2019

1994 **25** 2019
YEARS
OF GREAT ACHIEVEMENTS
IN THE VACCINE SPACE



BAVARIAN NORDIC

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.



*Acceleration of our strategy
to become a leading and profitable vaccine company!*

Our 2019 vision & strategy

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

MAINTAIN global leadership of our smallpox vaccine business ✓

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

ESTABLISH a broad and deep cancer immunotherapy portfolio *on track*

EXPAND the commercial footprint and capabilities ✓

Transformative events accelerate pathway to profitability

FDA approval and acquisition of two commercial vaccines mark a turn for Bavarian Nordic



FDA approval of JYNNEOS™ for smallpox and monkeypox (liquid-frozen)

- Awarded Priority Review Voucher
- Fully-funded, Phase 3 lot-consistency study of freeze-dried MVA-BN ongoing to support licensure, expected in 2022



Acquisition of two commercial vaccines from GSK

- Accelerates our vision by 3 years to become a leading and profitable vaccine company
- Exploits significant manufacturing synergies between highly complementary technologies and builds on our expertise
- Strong cash flow generation allows us to continue progressing our promising pipeline



RSV Phase 3 design agreed with FDA

- Study will initiate in 2021



Ebola partnership with Janssen

- 500,000 Ebola vaccine doses to DRC



Equine encephalitis

- Phase 1 initiated with support from U.S. DoD



Fill and finish facility on track



On track to meet full year guidance



Expects EBITDA profitability in 2020

Future products & pipeline



Marketed vaccines

JYNNEOS™ / IMVANEX® /
IMVAMUNE®

Smallpox, Monkeypox (liquid-frozen)

Rabipur/Rabavert®

Rabies

Encepur®

Tick-borne encephalitis (TBE)



Mid/late-stage development

MVA-BN® Filo

Ebola (Janssen)

MVA-BN®

Smallpox (freeze-dried)

MVA-BN® RSV

Respiratory Syncytial Virus (RSV)

BN-Brachyury

Chordoma



Early-stage development

Next-generation cancer vaccines

Cancer

MVA-BN® HPV

HPV (Janssen)

MVA-BN® HIV

HIV-1 (Janssen)

MVA-BN® HBV

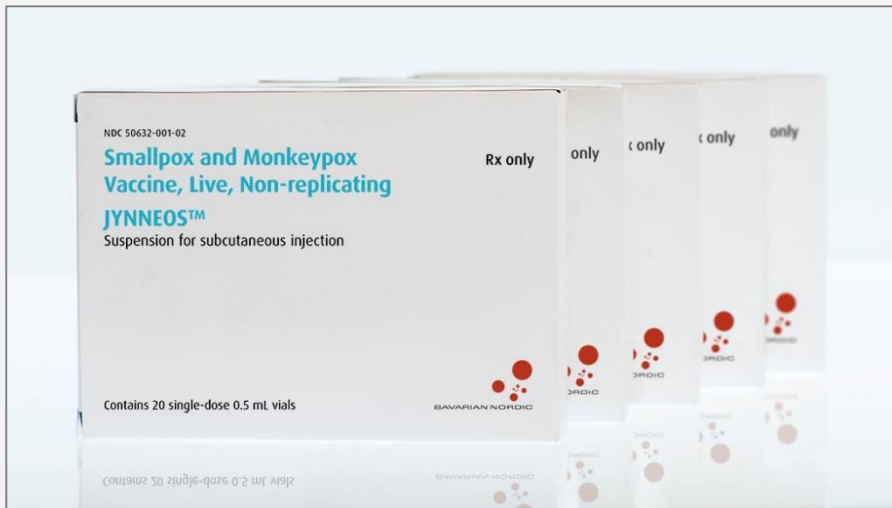
HBV (Janssen)

MVA-BN WEV

Equine encephalitis

FDA approved

- The U.S. FDA has approved JYNNEOS™ for prevention of **smallpox** and **monkeypox**
- Only FDA approved **non-replicating** smallpox vaccine
- Only FDA approved vaccine for prevention of monkeypox
- Company has been granted **Priority Review Voucher**



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The first and only FDA approved non-replicating smallpox vaccine

JYNNEOS™
(Smallpox and Monkeypox Vaccine, Live, Non-replicating).
See full Prescribing Information on [JYNNEOS.com](https://www.jynneos.com)

Expanding the smallpox market

Post-approval market opportunities for the general adult population expanded beyond national stockpile

U.S. Stockpiling

Pre-approval (EUA)

To protect 10 million citizens at risk



20M doses, liquid-frozen



Post-approval

To protect 66 million citizens
(contraindicated to ACAM2000 and their household contacts)



132M doses, freeze-dried

Recurring sales potential

Current recommendation

- Military personnel in South Korea (50,000 per year)

Future

- All troops entering basic training (~240,000 per year)
- All active duty military personnel (~3 M)

Seek to re-invoke 2002 US smallpox vaccination guidelines

- 0.5M to up to 10M healthcare workers
- Other civilians who wish to be vaccinated

Monkeypox market opportunities

Potential target populations for monkeypox

- Those living in endemic areas
- Those traveling to endemic areas for business/leisure/charity
- Multinational companies with large local and expatriate presence (e.g. oil & gas industry)
- Products for travelers are primarily privately paid

New revenue driver with significant upside

- Pricing expected to be in line with other travel vaccines
- Peak sales of around 65 mUSD anticipated
- Additional factors not included that could increase sales:
 - Ex-US travelers to all affected countries
 - Multinational companies operating outside of Nigeria
 - WHO recommendations
 - Local use in affected African countries
 - Local use in the US and EU

+5M

international arrivals into
monkeypox-affected
countries in 2017

Nigeria outbreak

Overlaps with areas of
highest population density,
and highest oil extraction

Nigeria has +2M

inbound travelers per year
with an estimated 300k
coming from the US and UK

Creating a leading infectious disease franchise

- Acquired vaccines providing a strong complementary and strategic fit

Addition of proven and established, market leading commercial products...



RABIPUR

- Vaccine against rabies



ENCEPUR

- Vaccine against TBE

...to existing infectious disease portfolio



- Smallpox
- Monkeypox
- Ebola (together with Janssen)

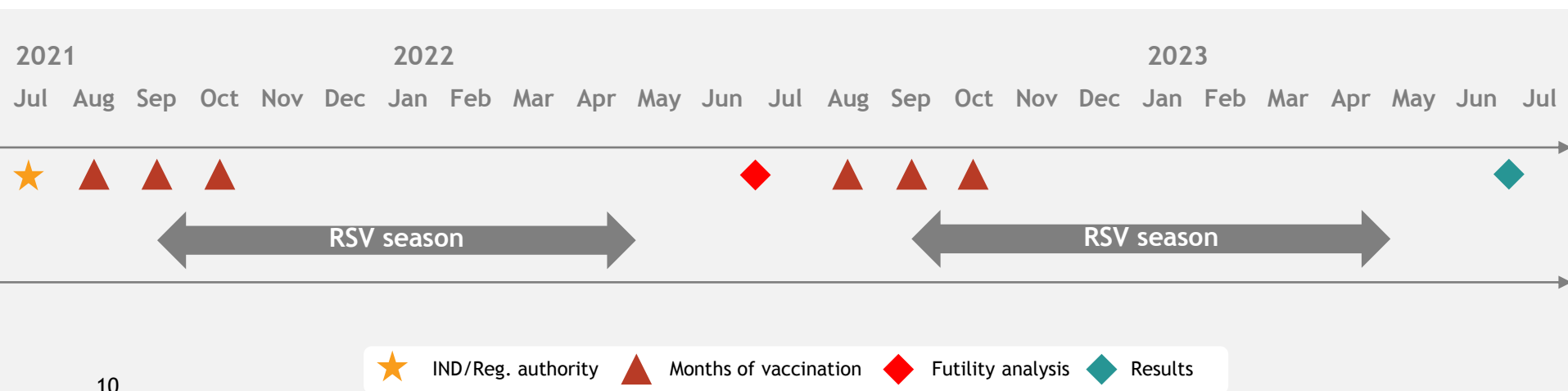
- Rabipur/Rabavert and Encepur are two highly effective vaccines with strong, established revenue streams and market positions and attractive margins
- Rabies and TBE incidence is expanding as a result of deforestation and climate change
- Opportunity to establish a dedicated and focused commercial organization managed by senior and experienced leadership being recruited now
- Sales & Marketing efforts will outmatch recent historical levels
- Significant synergies in manufacturing as Rabipur/Rabavert and Encepur utilize the same live virus manufacturing technology as MVA-BN

Thereby creating a leading infectious disease franchise with significant synergies

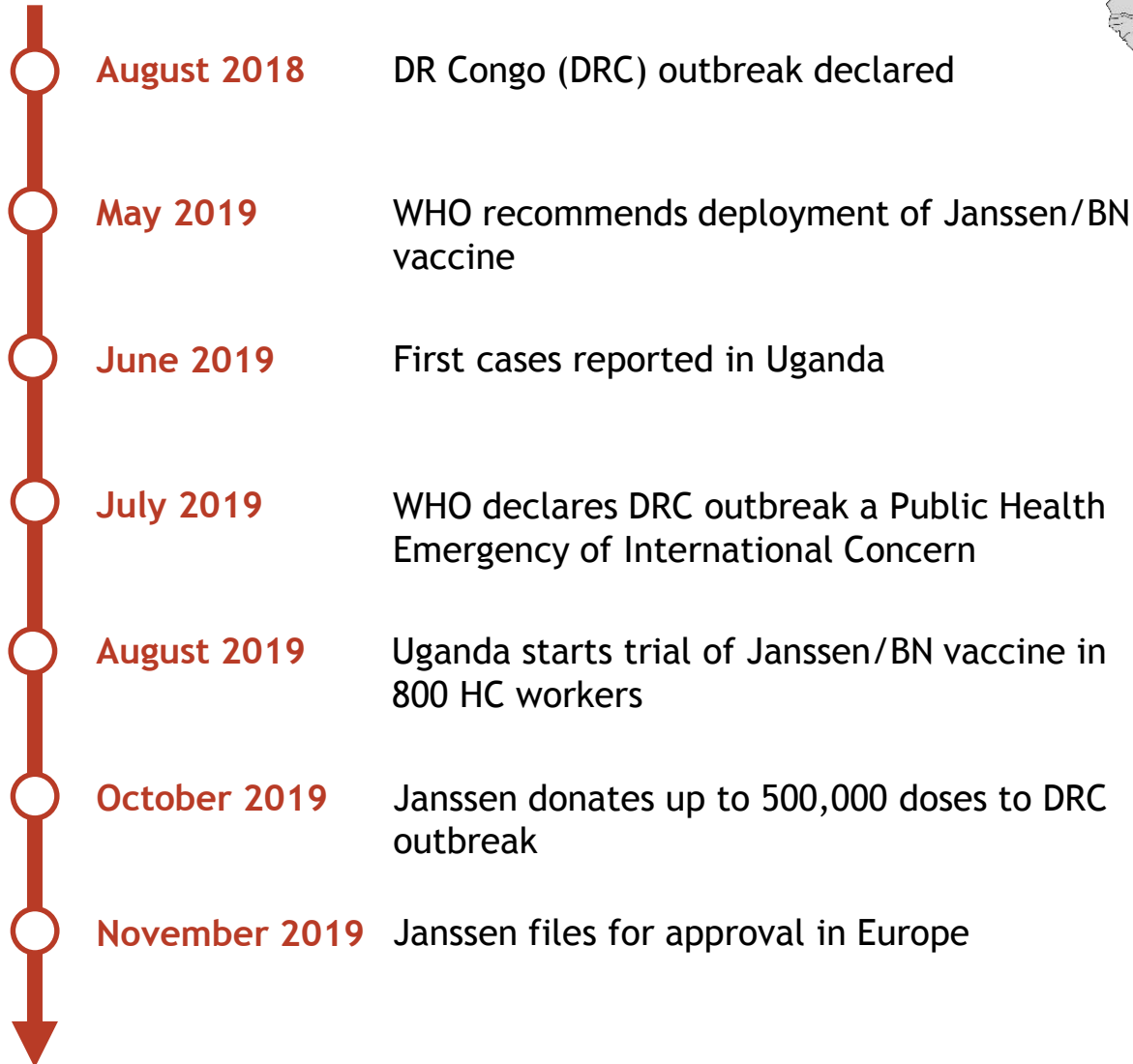
RSV Phase 3 design agreed with FDA

Commencing in 2021 with initial readout in 2022

- Randomized, placebo-controlled trial with an adaptive design
- 12,000 - 14,000 subjects over two seasons (6,000 for the first season)
- Total number of subjects will depend on the independent analysis performed after first season
- After passing the first season threshold there would be a ~75% chance of successfully reaching the efficacy endpoint of the trial
- Estimated costs to determine futility after the first season will be USD 40 million
- Second season will cost an additional USD 50-70 million
- Phase 3 study will be initiated in 2021 to allow sufficient time to establish an improved commercial scale production and formulation to meet the demands of this blockbuster indication



Ebola update



DRC outbreak

More than 3,000 reported cases, two-thirds of which have died



Equine encephalitis - an emerging disease

- A new vaccine program targeting three separate strains of the **equine encephalitis virus**
 - Eastern (EEEV)
 - Venezuelan (VEEV)
 - Western (WEEV)
- Multi-year agreement with U.S. Department of Defense of up to USD 36M for completion of Phase 1
- A Phase 1 dose-ranging trial is ongoing (N=45)
- A successful Phase 1, based on demonstrating a favorable safety and immunogenicity could lead to follow-on funding to support further preclinical, clinical development and manufacturing to support licensure in the U.S.

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The virus

Transmitted to humans via mosquitos.

While EEEV, VEEV and WEEV vary in infection rates and severity of disease, all three pathogens are associated with risks of flu-like symptoms, potential central nervous disorders, and death.



No vaccine

Currently no preventative vaccines available



U.S. outbreak

In 2019 to-date, more than 30 EEEV cases, including nine deaths have been reported, mostly in north-eastern parts of the U.S., making it the worst outbreak yet.

Building a broad immunotherapy portfolio

Proof-of-concept

BN-Brachyury

- Ongoing Phase 2 in chordoma
- Combination with radiation
- Topline results expected in 2020



Exploratory research

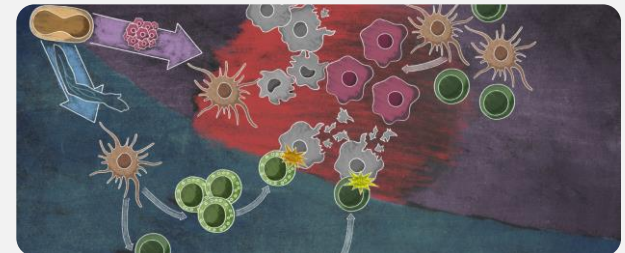
Intravenous / intra-tumoral

- Leveraging MVA-BN platform
- Encoding tumor antigens and costimulatory agents
- Moving into the clinic in 2019



Next generation BN vaccines

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

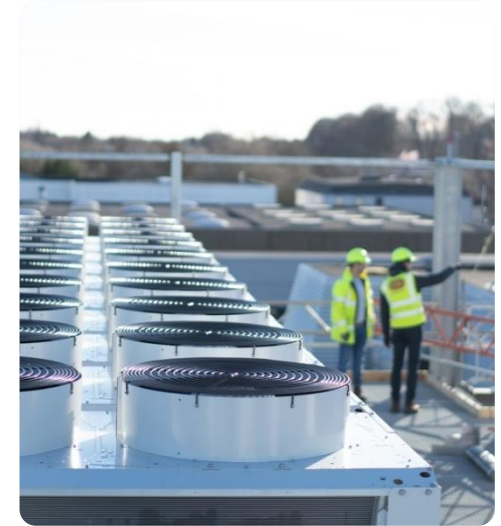


Nat. Commun. 2019: Synergistic cancer immunotherapy combines MVA CD40L induced innate and adaptive immunity with tumor targeting antibodies

Investing for the future & returning to profitability

Expanding our manufacturing capabilities

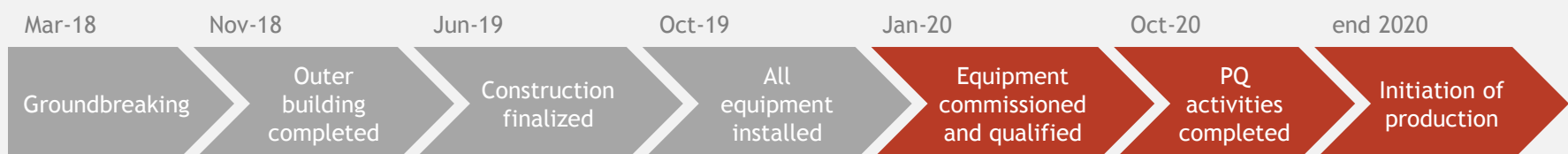
- Addition of large-scale fill and finish line to our existing bulk production will significantly expand our manufacturing capabilities
- Existing facility will be adapted to allow for integration of the products from GSK
- New independent clean room suite will be established to enable simultaneous bulk manufacturing of multiple products. To be initiated in 2020
- Enables us to continuously support our partnerships, including fulfilling our smallpox vaccine contract with the U.S. government
- Launch of future products



Fill and finish

Up to 8M freeze-dried & 40M liquid doses per year

Fill and finish project timeline

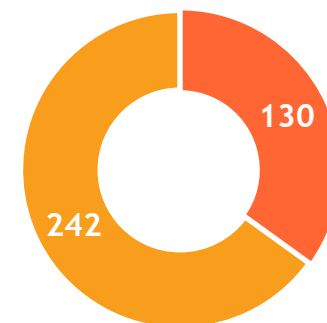


Financial results and outlook

Full year guidance maintained

- Majority of revenue from second tranche of bulk smallpox vaccine contract (50 mUSD) will occur in Q4
- 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 9m, 2019 (mDKK)



■ MVA-BN, US ■ R&D Contracts

	9m 2019	FY2019E
Revenue	372	600
EBIT	(298)	(360)
Cash preparedness	1,740	1,000

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

	9m 2019	FY 2019E
Revenue	54	92
EBIT	(43)	(55)
Cash preparedness	254	154

Reported figures are based upon an assumed exchange rate of DKK 6.86 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 1,740 million including unutilized credit lines

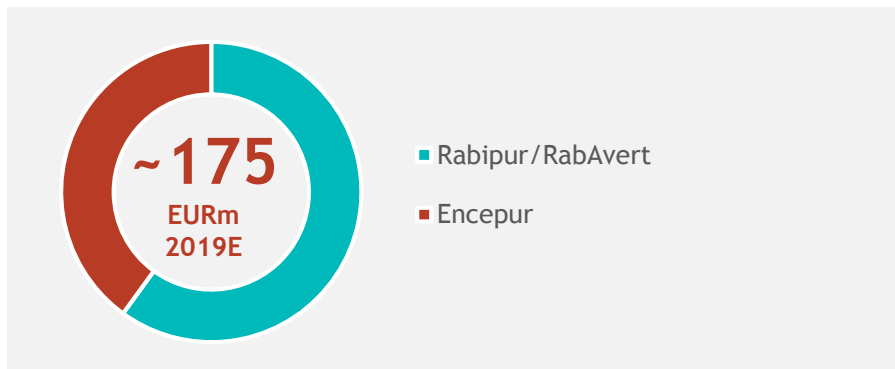
	mDKK		mUSD	
	9m 2019	FY2018	9m 2019	FY 2018
Securities, cash & equivalents	1,496	2,317	218	338
Less Repo assets	-	(247)	-	(36)
Unutilized credit lines	244	244	36	36
Total cash preparedness	1,740	2,314	254	337
Mortgage	26	28	4	4
EIB loan	372	372	54	54
Total debt (excl. Repo liability)	398	400	58	58

USD / DKK = 6.86

Contribution from the acquired products and long-term outlook

- a pathway to sustainable profitability and positive cash flows for Bavarian Nordic

Annual sales of acquired products



Financial ambitions for acquired products

	Transition years 2020-2024	Post full transition 2025
Sales growth	Rabipur/RabAvert (Rabies) - low to mid single digit Encepur (TBE) - mid to high single digit	
EBITDA-margin ¹	30-40% 2020 impacted by non-recurring transition cost (5-10 points)	>50% Even higher, excluding existing indirect production overheads (5-8 points)

Preliminary 2020 guidance - pro forma

- Positive EBITDA
- Not including sale of priority review voucher

Note: (1) Amortization of intangible assets created by the acquisition not included in EBITDA

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 studies exploring IV/IT* administration with different vaccine constructs
- ✗ Report initial ORR results from **CV301** and atezolizumab in bladder cancer

EXPAND the commercial footprint and capabilities

- Finalize construction of **fill and finish** facility

Q&A

