

ImplaVax®

A Next Generation, Needle-Free, Injectable Unit Solid Dose Vaccine Formulation and Delivery Platform

BioLaunchPad, BioTrinity 2021

21st June 2021

www.enesipharma.com



Enesi Pharma

A world class team with transformational technology

- An award-winning innovative UK based biotech company developing a range of next generation, Implavax[®]-enabled, needle-free injectable unit solid dose vaccines
- Needle-free, syringe free, vial free, no reconstitution, no wasted doses, thermally stable, immuno-enhancing coupled to strong subject and HCP preference
- Enabled by our proprietary Implavax[®] formulation and delivery technologies
(11 patent families with current patent reach to 2039. Multi-purpose GMP aseptic manufacturing line being established)
- Target and indication agnostic, >20 pre-clinical data sets demonstrating Implavax[®] effectiveness and breadth of vaccine applications; > 10 pre-clinical trials in 2021
- Clinical studies being planned with firm regulatory foundations for success
(Multiple meetings and interactions with FDA (CBER & CDRH), MHRA etc.)
- Proven Management Team & International Scientific Advisory Board

Enesi is building a world-class company that will make a material and lasting positive impact on global health



ImplaVax[®] Vaccination Platform

Ideal combination of proprietary formulation and delivery technology



Needle Free By Design



Eliminates Vials No 'Mix & Shoot'



Error Free Assured Unit Dosing



Reduced or Eliminated Cold Chain



Reduced Waste



Reduced Hesitancy



Highly Thermally Stable



Enhanced Immune Response



Easy, Safe & Rapid Administration



Expanded Access



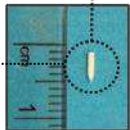
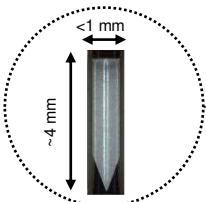
Strong Subject Preference, 'Pain Free'



Cost Effective, Sustainable

Quality by Design Philosophy

Design For Purpose	Produce On Demand
Distribute With Ease	Administer To All



3

- Reusable, Spring Powered Actuator
- Can be used for 1,000 doses
- 'Any time, any place, by anyone'

2

- Pre-Loaded, Single Use, Disposable, Unit Dose Cassette

1

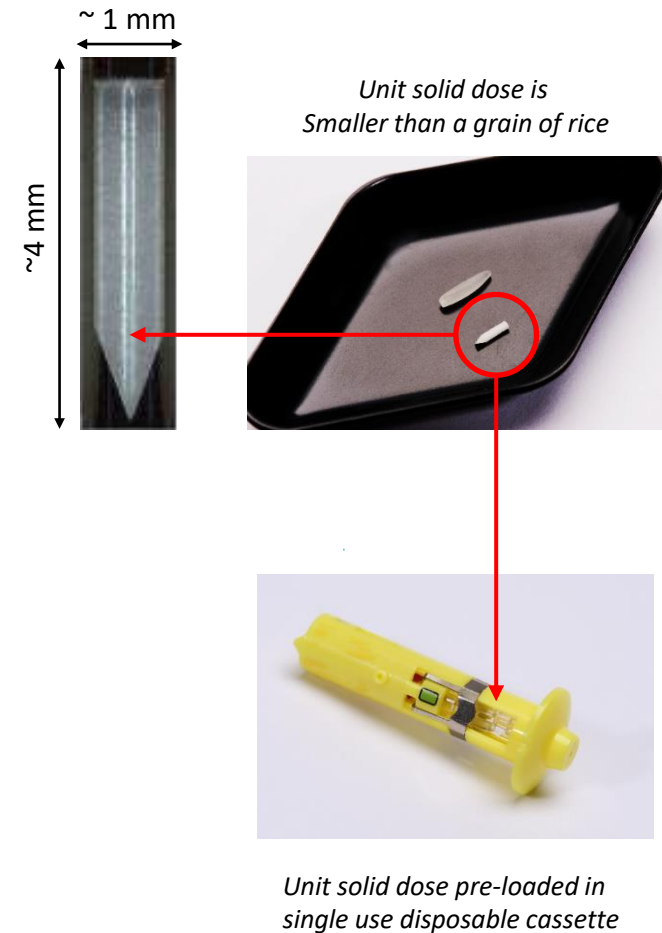
- Precision Engineered, Unit Solid Dose Vaccine Implant
- Proprietary Formulation Technology



Precision Engineered Unit Solid Dose

Optimal presentation for facile vaccine delivery and deployment

- Made using proprietary manufacturing technology
- Specific shape, form factor and dimensions
- Engineered tip to aid skin penetration
- Contains the vaccine, combinations of vaccine and adjuvants as required
- Uses approved GRAS parenteral excipients to confer both mechanical strength and thermostability up to 40°C
- Excipients may also contribute to immuno-enhancing effects
- Release rate of vaccine can be tailored for purpose
- Delivered transcutaneously ~3mm below surface of the skin at circa 6 m/sec
- Implant volume ~1/250th of typical liquid injection aiding 'painless sensation' on administration



Ease of Administration and Deployment

Any place, anywhere, by anyone ...



- Zero wear time, minimal administration site issues, guaranteed unit dose delivered
- Strong subject and HCP preference evidenced by multiple Human Factor Studies



Comparison to Alternate Approaches

ImplaVax® has many innate advantages over other methods

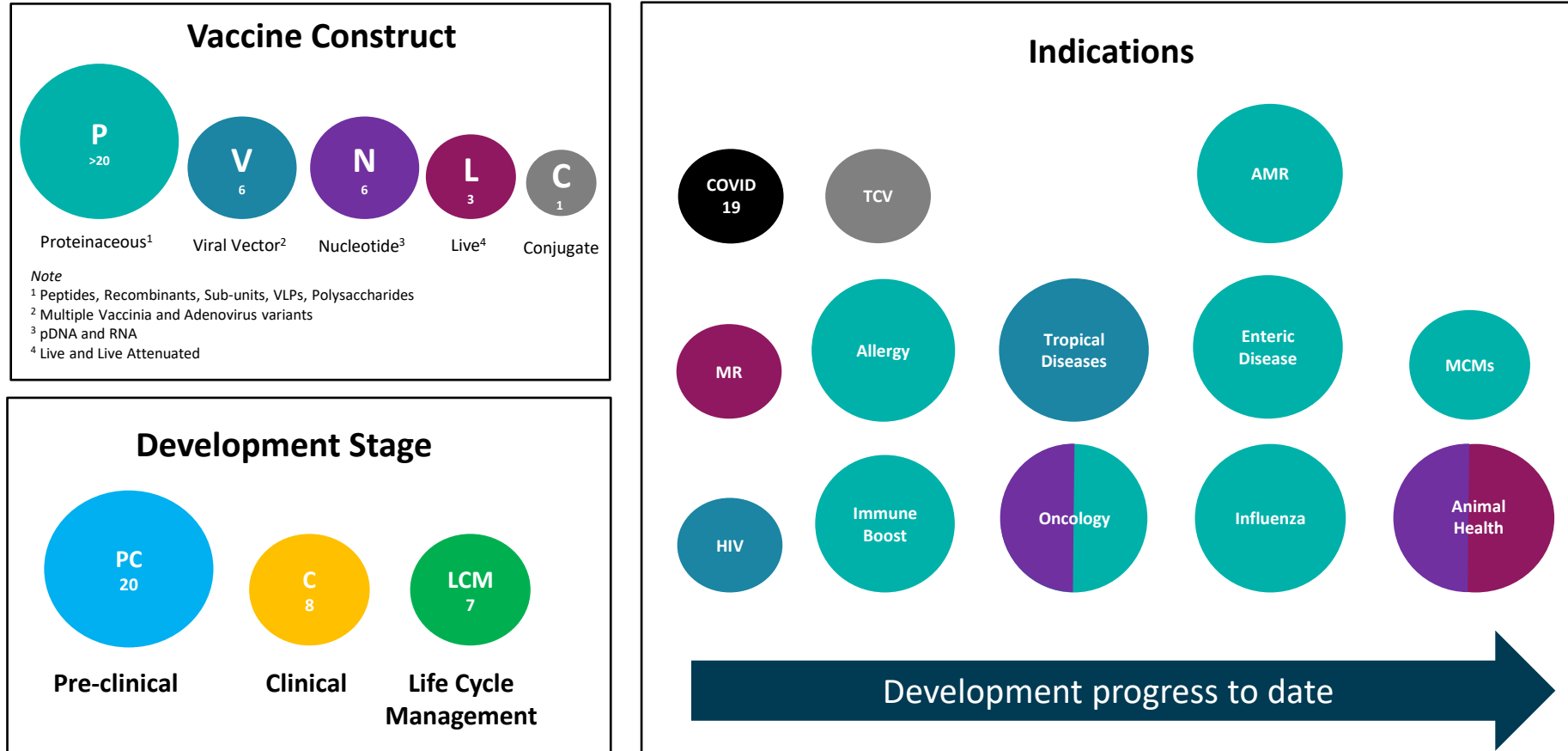
Vaccine Delivery System	Status	Needle Free	Diluent Free	Cold Chain Need	Unit Dose Delivery Assured	Target, disease, and construct agnostic	Adjuvant Free	Cross Contamination Risk	Wastage Rate	Dose / Regimen Sparing Shown	Administration Challenge	Total Time to Administer	Administration concerns / Injection Site Issues	Total Cost per Delivered Unit Dose
Needle & Syringe	Commercial	No	No	High	Yes	Yes	Sometimes	High	High	No	Med-High	30 sec	Frequent	Low-Med
Laser Poration	Commercial	Yes	No	High	No	No	Unknown	Med	Med	Possibly	High	Minutes	Frequent	High
Hydrodynamic Injectors	Commercial	Yes	No	High	Yes	Unknown	Sometimes	Low	Med	Possibly	Med	60 sec	Frequent	Med-High
Oral	Development	Yes	Yes	Low	No	No	Unknown	Low	Low	No	Med	Unknown	Unknown	Unknown
Intranasal	Development	Yes	Yes	Med	No	No	Unknown	Low	High	No	Med	30 secs	Unknown	Unknown
Microneedle Patch	Development	No	Yes	Low	No	No	Unknown	High	Med	Yes	Med-High	Up to 30 mins	Frequent	Unknown
ImplaVax®	Development	Yes	Yes	Low	Yes	Yes	As Required	Zero	Zero	Yes	Low	< 20 Secs	Minimal	Potentially Least

- No changes to macro clinical or administration practices or new challenges introduced
- Has potential to be the World's leading and default vaccine platform



ImplaVax[®]-Enabled Pipeline

Vaccine construct, development stage and indication agnostic



- To date, pre-clinical developments have been focused on breadth of application
- Next stage of Corporate Development is focused on value and product realization



Pipeline Highlights

Robust pipeline supporting platform forward sustainability

NB: Non-Exhaustive

 Pandemic Flu BARDA Drive	Immunomodulator <i>(Multiple Indications)</i> Undisclosed Partner	 Shigella WRAIR	HPV Undisclosed Partner
Staph. Aureus Undisclosed US Partner	Allergy <i>Undisclosed Partner</i>	 Measles-Rubella Gates Foundation	TCV Undisclosed Indian Partner
 Plague ChAdOx Vector University of Oxford	 Zika/Chik Sementis	HIV Undisclosed EU Partner	 Vector Scale-Up Innovate UK
 DNA Uni of Adelaide, ANOs	 RNA ICL, ANOs	 Animal Health Pirbright, ANOs	COVID-19 Generation 2.0+ Vaccines

Proteins

Conjugate

LAV

Viral Vectors

Nucleotide



Business Strategy

3 complimentary activities driving innovation and serial value



1

Licensing

- Target and Term Specific Collaborations
- Near term Revenues
- Staged Access Fee & Milestones
- Product Sales & Royalties

2

Global Public Health Projects

- Co-funded targeted product development leveraging non-dilutive Government, philanthropic capital and NGOs
- Commercial rights retained in developed world markets

3

Future Own Product Sales

- Own-funded new product development targeting areas of unmet need
- Commercial rights retained in full

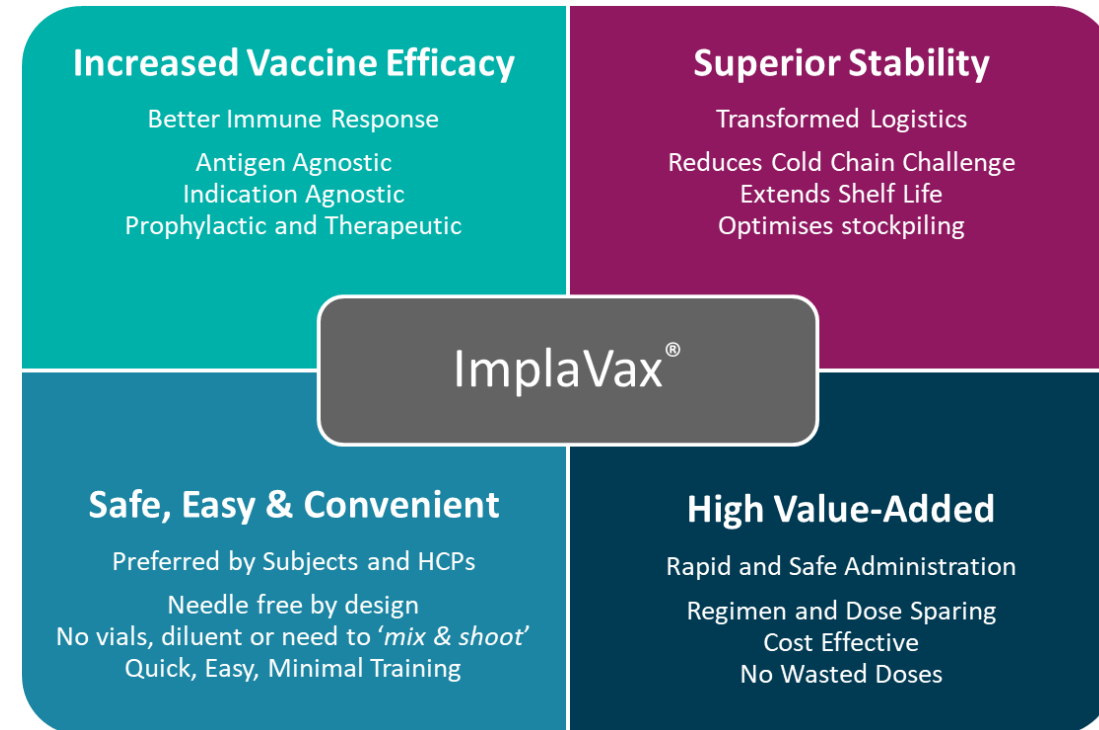
- Process R&D, data, and in-vivo testing translatable across all product opportunities



ImplaVax[®] Summary

Transformative Technology Positively Impacting Global Health

- ImplaVax[®] represents a paradigm shift in vaccination technology and innovation
- Multiple pre-clinical in-vivo proof of concept successes with ImplaVax[®] enabled vaccine candidates, constructs and indications have been achieved
- Clear road map for cost effective scale out and sustainable future production
- Firm foundations established for future clinical studies in areas of strategic national importance for global public health, preparedness and emergent threats



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