

Enesi Pharma

ImplaVax®

A World Leading Next Generation Vaccination Platform

September 2020

www.enesipharma.com



Enesi
Pharma

Delivering Immunity for Life

Introduction and Background

World class team with transformational technology



- An innovative biotech company developing a range of next generation unit solid dose vaccine products
- Enabled by our proprietary Implavax® formulation and device technologies
- Needle-free, thermally stable, immuno-enhancing, and cost effective coupled to strong subject preference
- Target and indication agnostic, wealth of pre-clinical data demonstrating Implavax® effectiveness and breadth of vaccine applications
- Proven Management Team and International Scientific Advisory Board
(Prof Christopher Davis OBE, Dr Steven Chatfield, Prof Jeffrey Almond, James Cheyne & Karl Simpson)
- Privately held, 27 FTE, based Milton Park near Oxford, UK
Situated at the heart of UK vaccine expertise

Enesi has built a world-class company of exceptional potential, that will make a material and lasting positive impact on global health

ImplaVax® Vaccination Platform

Ideal combination of Formulation and Device technology

[ImplaVax® Animation Link](#)



Needle Free
By Design



Eliminates
'Mix & Shoot'



Error Free
Unit Dosing



Reduced
Cold Chain



Stockpile
Optimisation



Thermally
Stable



Enhanced
Immune Response



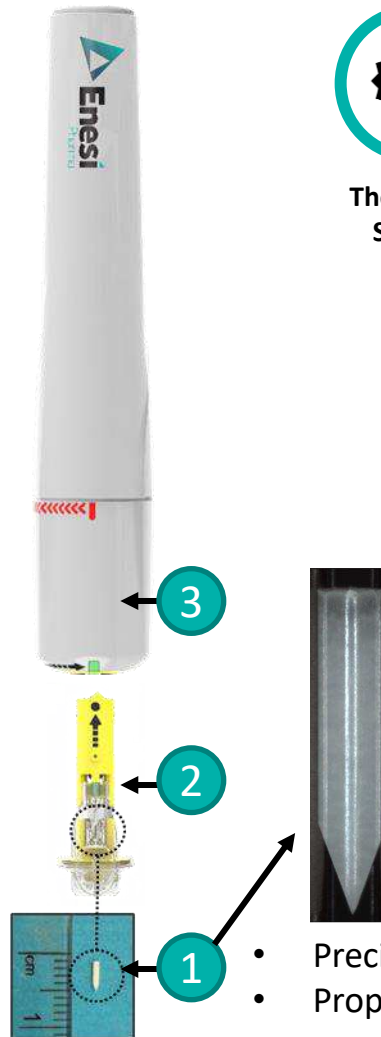
Easy, Safe & Rapid
Administration



Strong Subject
Preference



Highly
Cost Effective



- Universal Vaccine Implant
- 4 mm long
- < 1 mm in diameter
- Thermally Stable
- Contains the vaccine(s)
- Pain free

- Single Use, Pre-loaded, Disposable Device

- Precision Engineered Unit Solid Dose Implant
- Proprietary Formulation Technology

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Highly
Cost Effective



- Single Use, Pre-loaded, Disposable Device



- Reusable Spring Powered Actuator
Can be used for 1,000 doses
- Pre-Loaded, Single Use, Disposable,
Unit Dose Cassette
- Precision Engineered Unit Solid Dose Implant
- Proprietary Formulation Technology

ImplaVax® has World Leading Potential

Summary objective comparison to other vaccination approaches

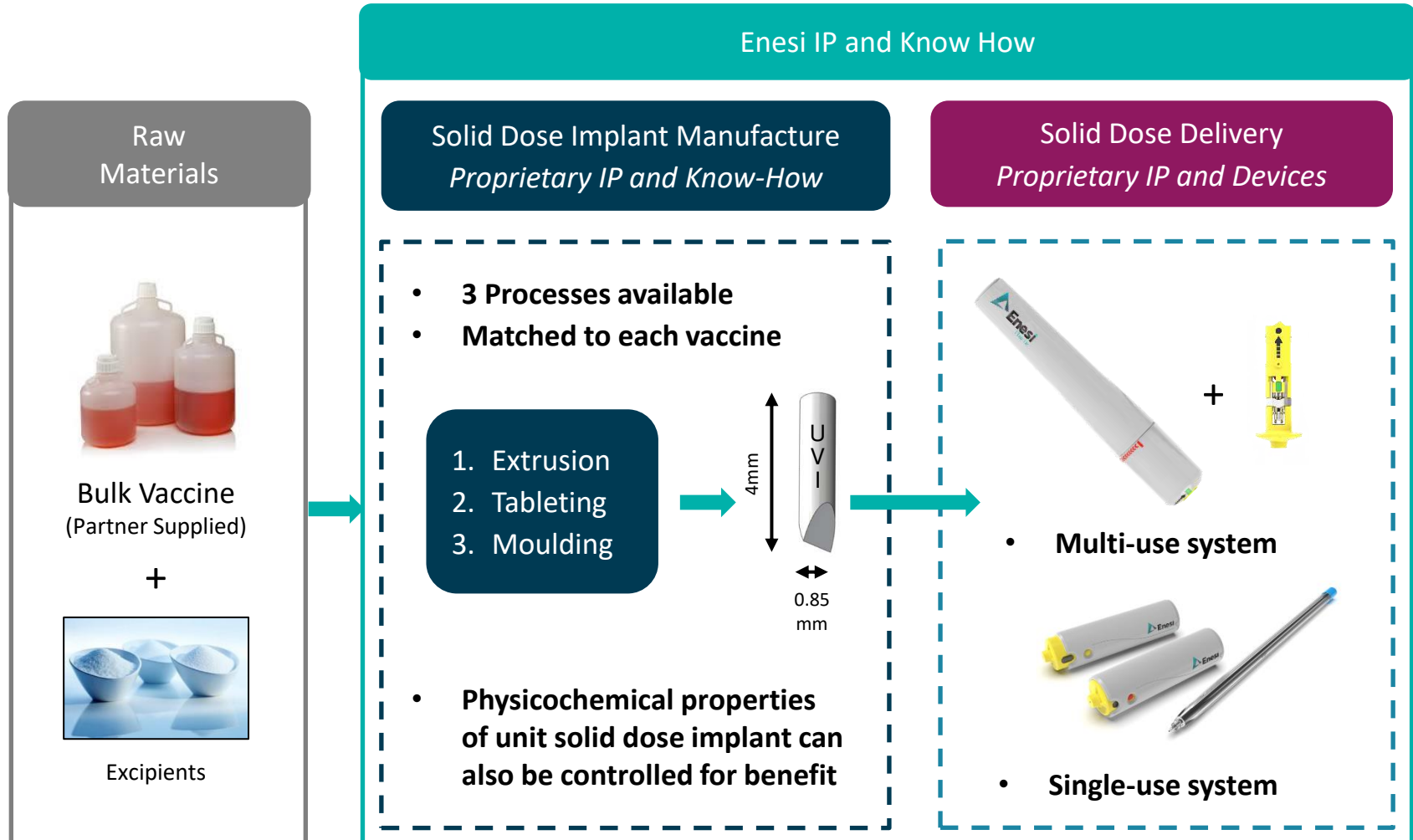


Vaccine Delivery System	Status	Needle Free	Diluent Free	Cold Chain Need	Unit Dose Assured	Target, disease, and construct agnostic	Adjuvant Free	Cross Contamination Risk	Wastage Rate	Dose / Regimen Sparing Shown	Administration Challenge	Total Time to Administer	Inject Site Issues	Total Cost per Delivered Unit Dose
Needle & Syringe	Commercial	No	No	High	Yes	Yes	Sometimes	High	High	No	Med-High	30 sec	Frequent	Low-Med
Microneedle Add on	Development	No	No	High	Yes	Yes	Sometimes	High	High	Yes	Med-High	45 sec	Frequent	Low-Med
Laser Poration	Commercial	Yes	No	High	No	No	Unknown	Low	Med	Possibly	High	Minutes	Frequent	High
Hydrodynamic Injectors	Commercial	Yes	No	High	Yes	Yes	Sometimes	Low	Med	Possibly	Med-High	60 sec	Frequent	Med-High
Microneedle Patch	Development	No	Yes	Low	No	No	Unknown	High	Med	Possibly	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

- Significant advantages over other delivery approaches, including microneedle patches
- Has potential to be the worlds leading and default vaccine platform

Manufacturing Overview

ImplaVax® fill-finish operations use standard unit operations

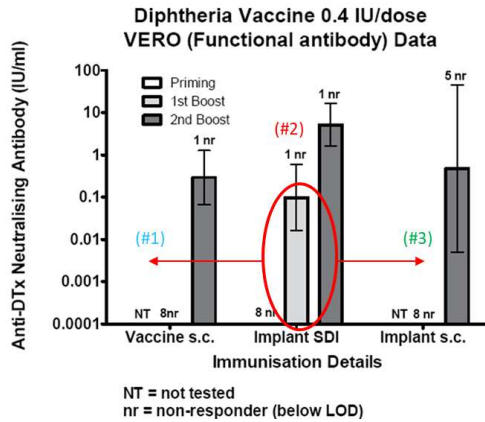


Commercial scale-out plans developed for world-scale supply to all geographies

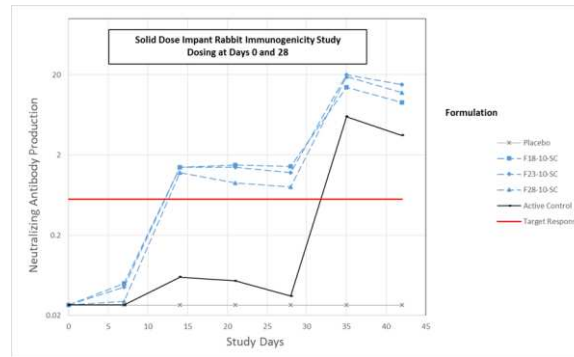
Exemplar ImplaVax[®] Data

Solid doses implants consistently improve vaccine performance

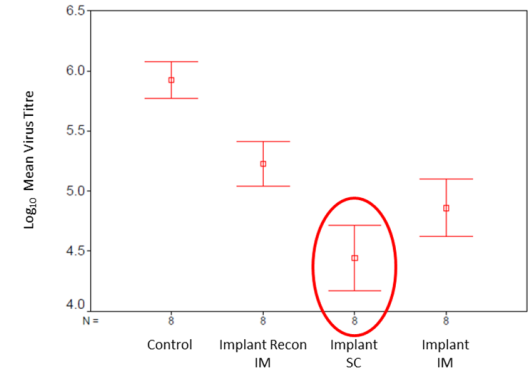
(1) Diphtheria



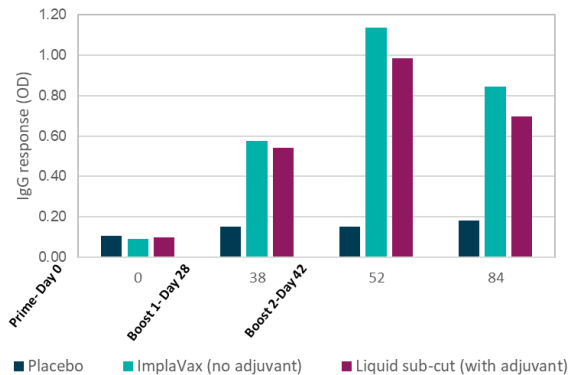
(2) Anthrax rPA



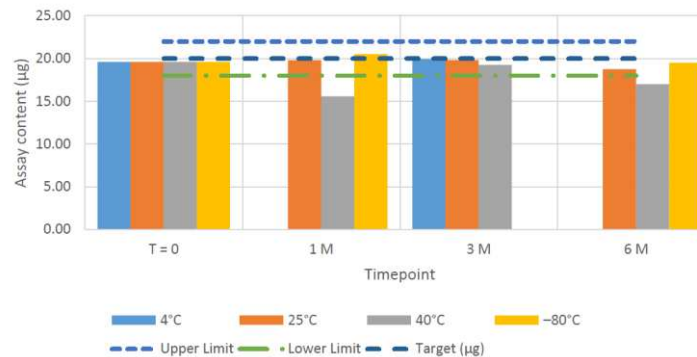
(3) Seasonal Flu – H3N2



(4) Seasonal Allergy



(5) Fusion Protein



(6) Injection Site



Solid dose vaccines improve immune response ^(1,2,3) can remove need for adjuvants ⁽⁴⁾
have excellent thermal stability optimizing logistics ⁽⁵⁾ and facilitate easy, safe administration ⁽⁶⁾

Human Factors and Compliance

Positive results from key subject groups

Would you prefer an injection with ImplaVax® or Needle and Syringe (N&S)?



Recently Vaccinated Adults



Parents of Infants < 18m



Parents of Children 2 -12 yrs



High Income Country Nurses






See notes below



Aid Workers



 HCP was retiring 1 week post study
 HCP would prefer ImplaVax® to N&S if ImplaVax® device was approved
 HCP provided suggestions for improvement which have now been implemented

Current ImplaVax® Projects

Target, construct and disease agnostic; exemplar partners



Pandemic Flu
BARDA Drive



Anthrax
PHE



Shigella
WRAIR

HPV
Undisclosed
Pharmaceutical Partner

TCV
Undisclosed Partner

Staph. aureus
Undisclosed US Partner



Measles-Rubella
Gates Foundation

HIV
Undisclosed Partner



Plague
ChAdOx
University of Oxford



Zika/Chik
Sementis

Seasonal Flu
Undisclosed Partner



Allergy
Sementis and ANO



Initial Scale Up
Innovate UK

DNA, RNA
University of Adelaide
& other Partners

Animal Health
Undisclosed Partners

COVID-19
Opportunities to
Assist and Partner

Proteins

LAV

Viral Vectors

Others

Enabling a COVID-19 Solution

Opportunities for ImplavaX®-enabled COVID-19 Candidates



- **New and Improved Therapeutics and Vaccine Candidates**
 - ImplavaX® enabled short synthetic peptide immunomodulator, targeted to therapeutically stimulate the host immune system to clear COVID-19 infection, with US partner
 - ImplavaX® enabled glycoprotein-based vaccine targeting spike protein with US partner
 - ImplavaX® solid-dose formulations already established using similar recombinant proteins & peptides that are being proposed for use in a number of current third party COVID-19 vaccine candidates
 - Enesi also have operational familiarity with adenovirus (*ChadOx*, *Oxford University*) and multiple vaccinia vector formulations ; multiple DNA collaborations; RNA in development
- **Novel ImplavaX® Delivery System, either Multi-Use or Single-Use**
 - Could be given to any population, both in and outside the clinical environment
 - Could be mailed and used by untrained subjects in home setting using simple, needle-free, single-use disposable device.

Enesi Business Strategy

3 symbiotic value generating activities



- 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 and 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

Supported by Key Clients, Collaborators and 3rd Party Manufacturing Partners

ImplaVax[®] Summary

Transformative Technology Positively Impacting Global Health

