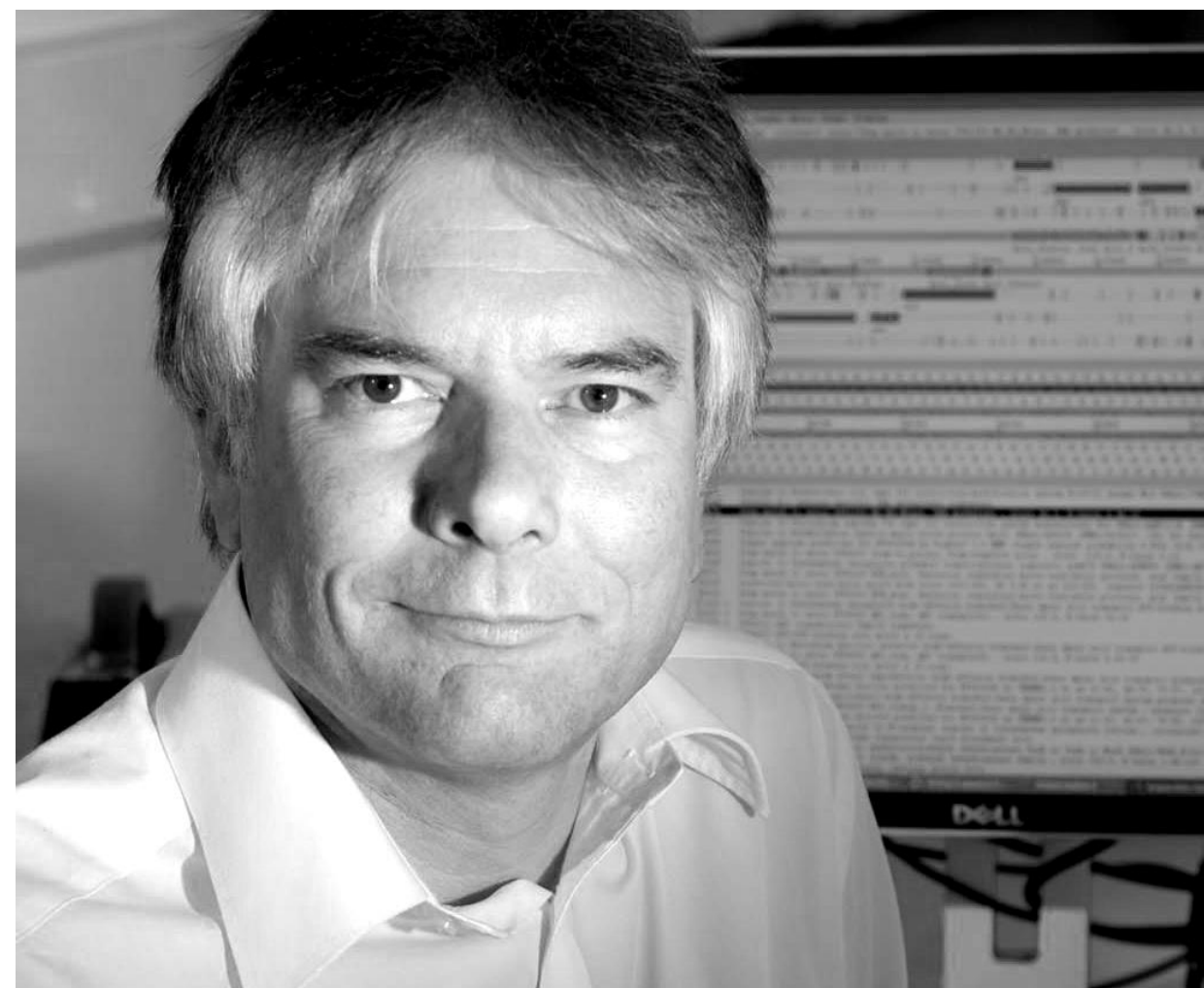


**BioSystems**<sup>TM</sup>  
TECHNOLOGY

# BioSystems Technology



**Dr Olivia Champion**  
Co founder and CEO  
University of Exeter  
UBC, LSHTM, PHE, WHO



**Prof Rick Titball**  
Co founder and CSO  
University of Exeter  
Head of Microbiology, Dstl

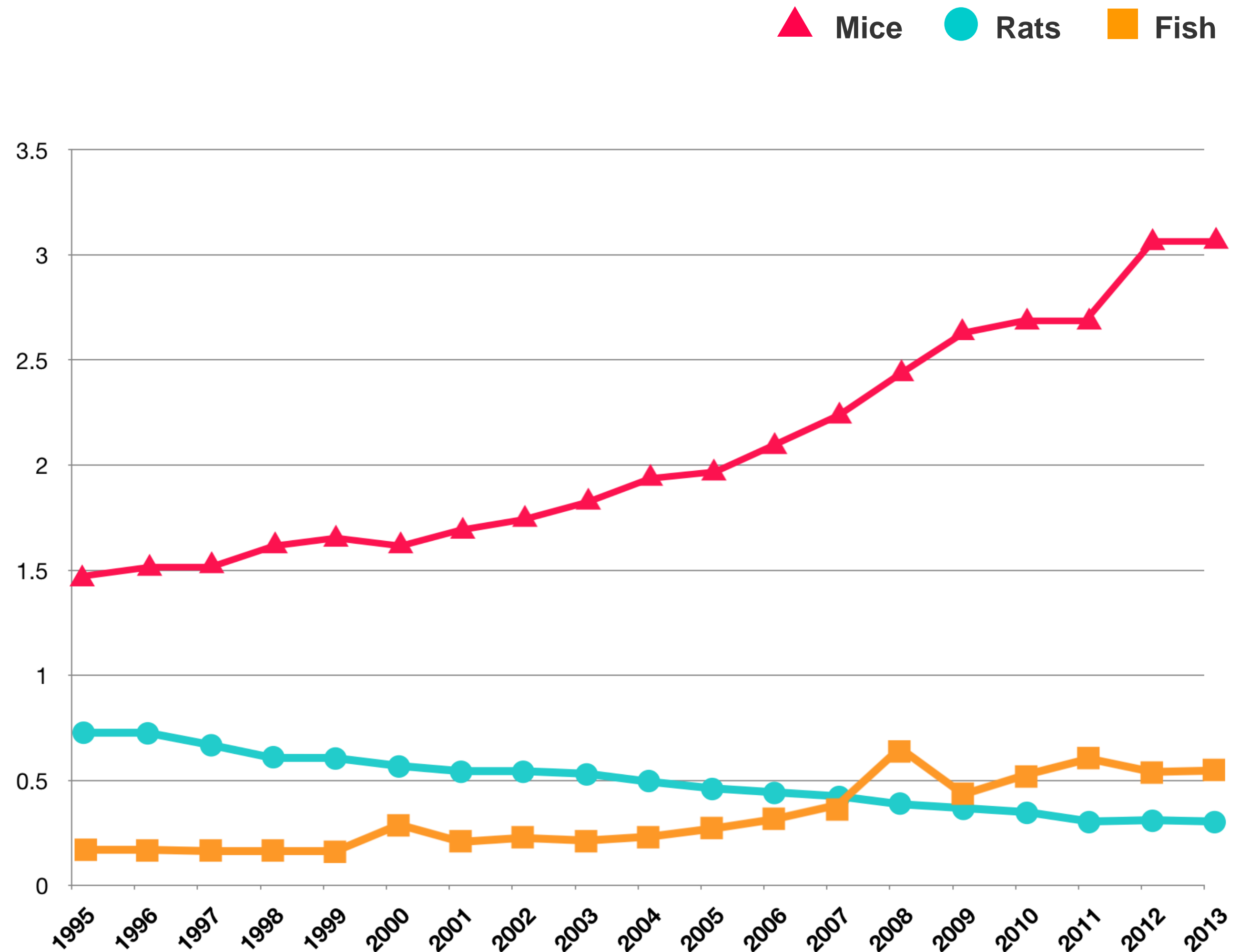


**Mr Mike Stainer**  
Finance Director

# The Problem

It is government policy to reduce animal experimentation **BUT** the numbers of animals used are increasing

Procedures using mice, rats and fish in the UK 1995 - 2013



# The Problem

Mammalian models are widely used for research but there are issues:

**Time**

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**Regulation**

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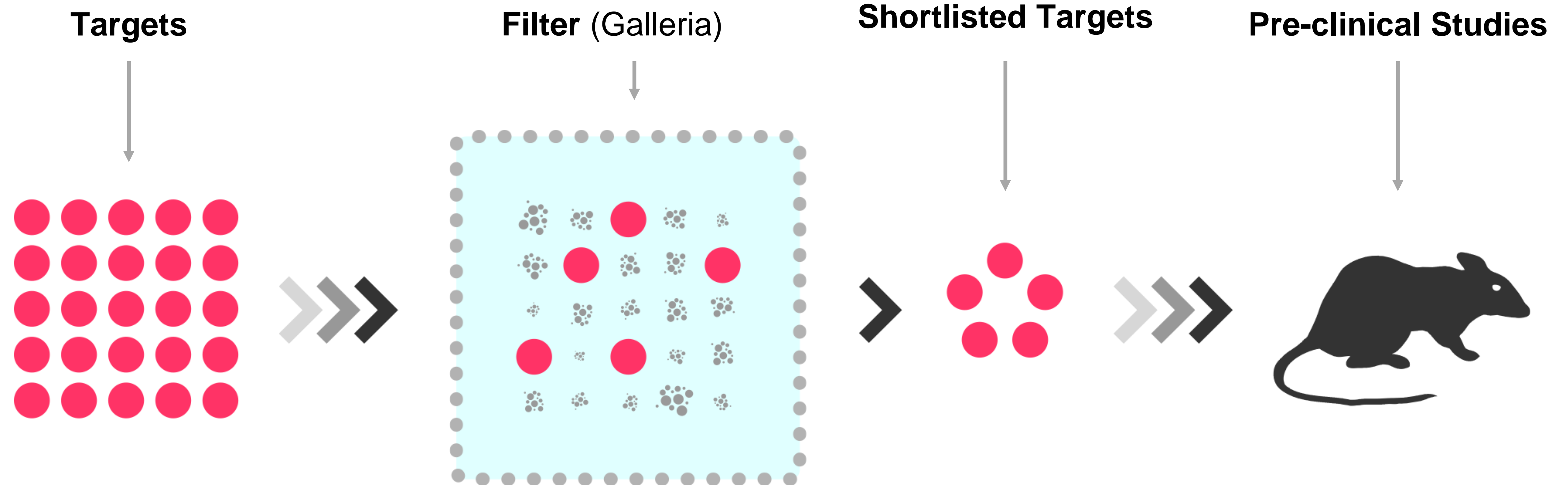
**Ethics**

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**Cost**



# The Solution



# *Galleria mellonella*

The larvae were only available from pet shops as animal food or bait

Our business focus is to breed and supply genetically determined *G. mellonella* larvae that have been quality controlled.

Patent pending, genome sequenced, trademark product name

Cost of a single mouse



£200 - £400

Cost of a single  
*Galleria mellonella* larvae

£1



# TruLarv<sup>TM</sup>

Age defined

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Weight defined

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Surface decontaminated

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Bred from a genetically determined colony

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No antimicrobial

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No hormones

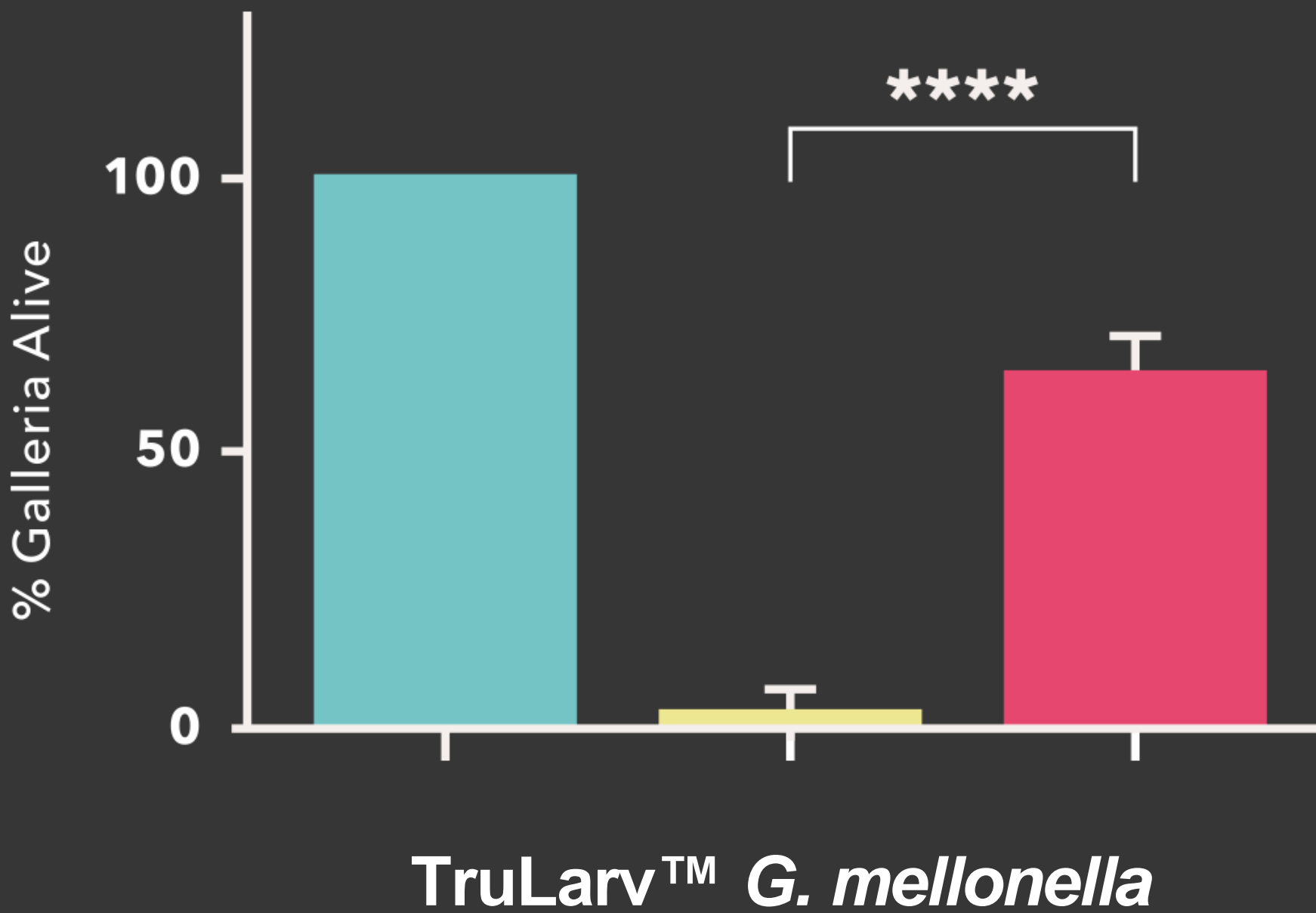
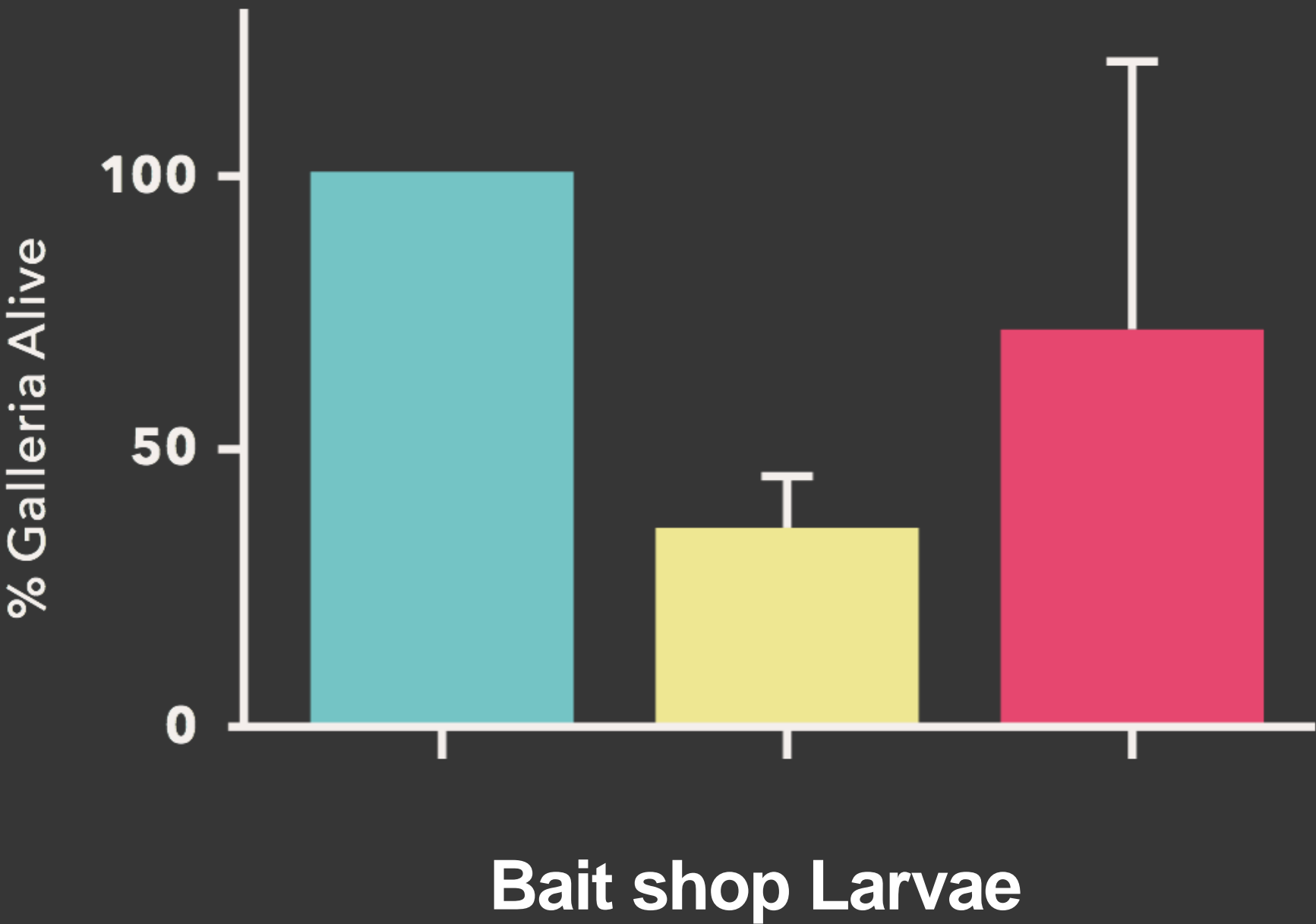


# Experiment results with TruLarv™ are more reproducible

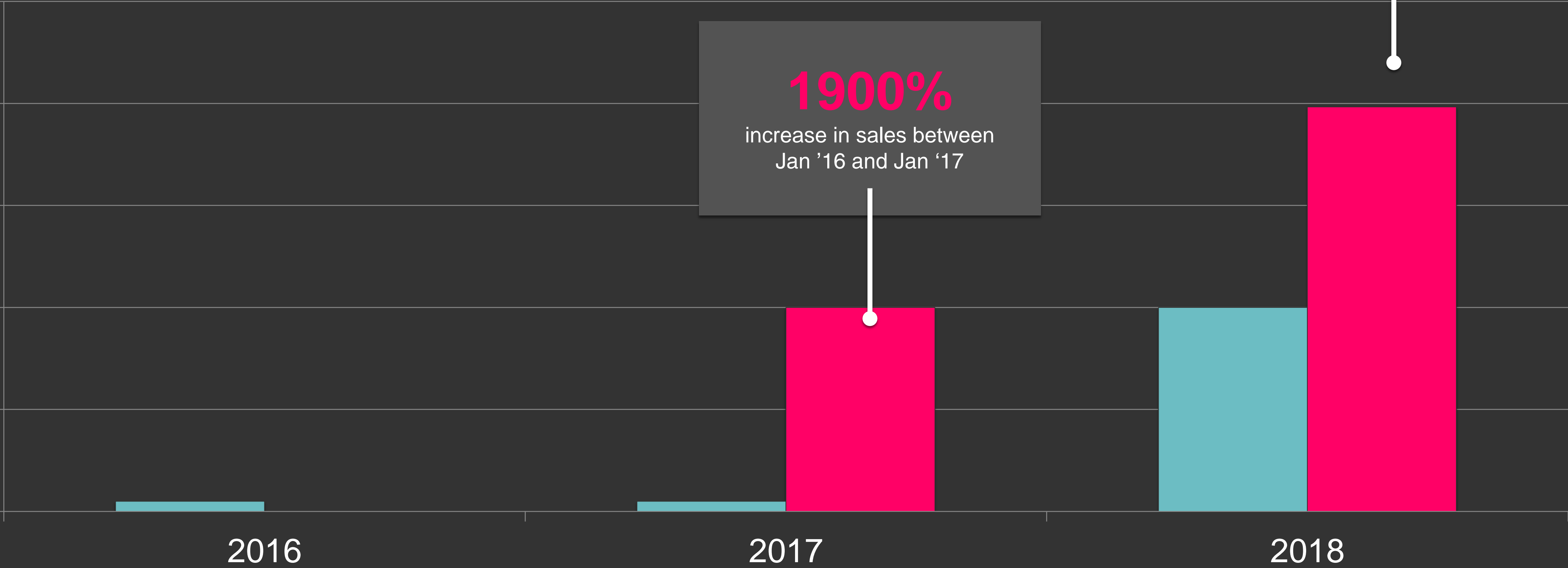
In both of these studies, groups of 10 larvae per test group were used and experiments with pet food grade larvae or TrLarv were repeated three times.

KEY

PBS	
Wild Type	
Mutant	
$P < 0.001$	



# Sales Figures 2016-2018



# Global Exports

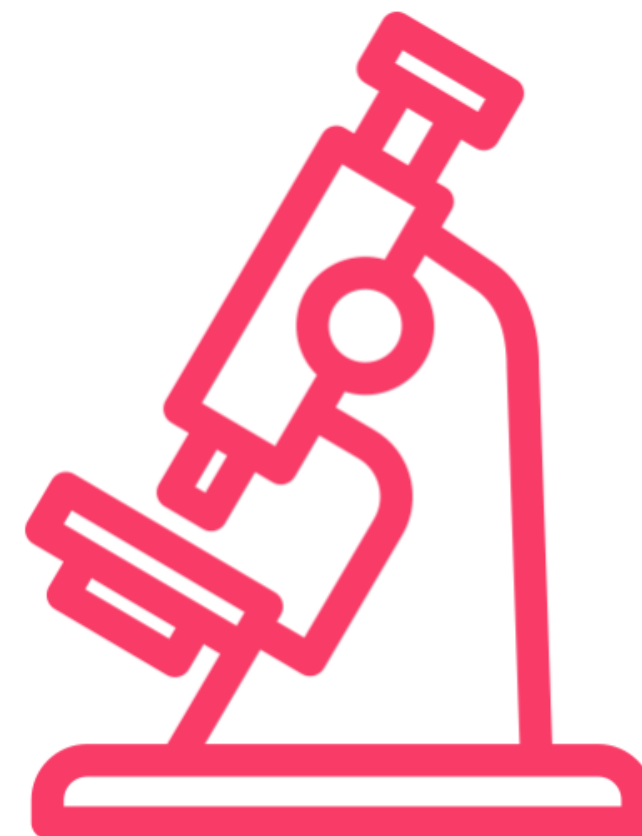


Exporting to 11 countries throughout Europe

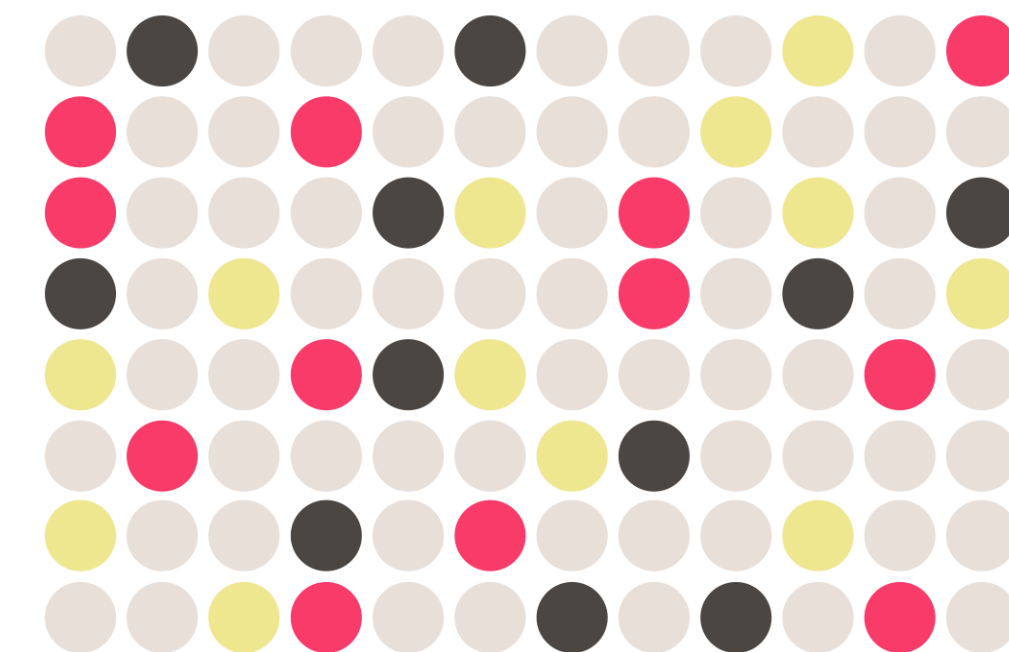
# Product Pipeline



Training courses



Tools for manipulating  
*G. mellonella*



High-throughput screening

# My Entrepreneurial Journey



# Research Interest

Infectious Disease

Interest in alternative research models

Won grant funding from Veterinary Laboratory Agency to develop the *Galleria mellonella* model

Over 20 research publications – over 1000 citations

Six book chapters

Two patents



# iCURE

## SetSquared University of Exeter, UK

Six months out of the laboratory funded by InnovateUK and HEfCE (£50K)

Primary market research

6 months, £50K market research

Talked to around 100 potential customers

By the end we were convinced that there was a business case to be made.



# Market Demand

## Policy Makers

Home Office

MHRA

NC3Rs

## Customers

### Industry

Huntingdon Life Sciences

### Academia

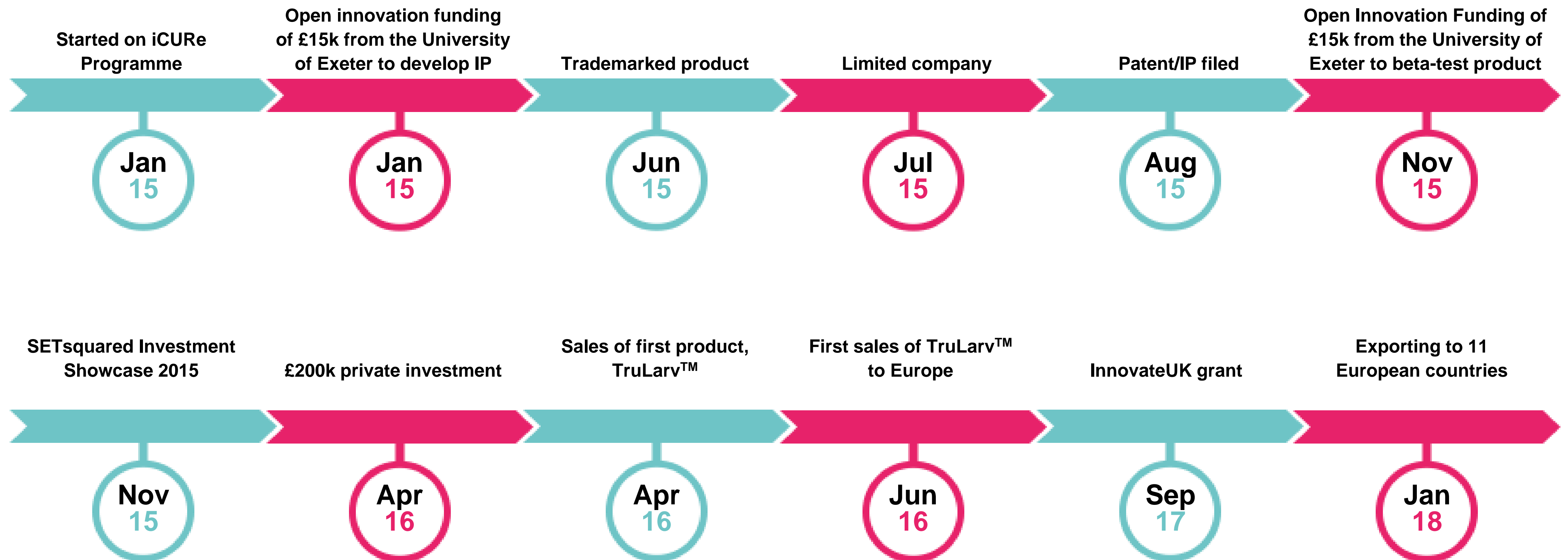
LSHTM, Exeter, Surrey

### Government laboratories

Dstl, PHE, AHVLA, Cefas



# Timeline of Success



# Funding

**Open Innovation Funding from the University of Exeter to develop IP**

January 15

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**Open Innovation Funding from the University of Exeter to beta test product**

November 15

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**SETsquared Investment Showcase 2015**

November 15

Private investment – April 16

**Grant funding:**

NC3Rs Crack it

MRC P2D

Innovate UK

# BST Team



**Full time CEO**

**Olivia Champion**

Transition from UoE research fellow to BST over six months

*Role:* Sales and marketing, business development, product development



**Business manager**

**Nicola Senior**

September 16

*Role:* operations, accounts, general and admin



**R&D**

**Amy Housden**

September 2017



**Digital media**

**Nadia Fourie**

November 2017

# Stay in Touch



Follow us on Twitter @\_BioSystems

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Check out our web site: **[www.biosystemstechnology.com](http://www.biosystemstechnology.com)**

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Email us on **[info@biosystemstechnology.com](mailto:info@biosystemstechnology.com)** and let us know if you'd like to receive our monthly newsletter