

# SHELL-VOLUTION

## Mussel cultivation developments

02 October 2025

**Sustainable Shellfish  
Smart Science  
Shared Growth**



Funded by  
UK Government

OUR ISLANDS  
OUR DEAL 



# Planning for the future...

- Once in a lifetime (?) access to research funding for the mussel sector
- Don't want to muck it up...

Background

Recap on history

Work and plans

Opportunities to get involved

Make significant advances if we work **TOGETHER!**

**SHELL-VOLUTION**

A wide-angle aerial photograph of a mussel farm. The water is a deep blue, with numerous black buoys connected by lines, creating a grid pattern. In the background, a range of mountains with green and brown slopes stretches across the horizon under a cloudy sky.

# SHELL-VOLUTION

Shellfish aquaculture - evolution to next-generation

Evolution of mussel farming into its next generation through Knowledge Exchange

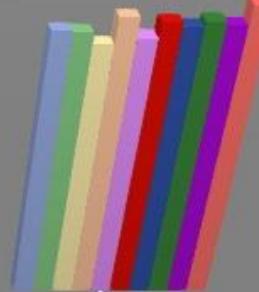
# Mussel Aquaculture Sector

- An incredible protein source with amazing credentials
- Sector built from
  - micro businesses
  - a few SMEs
  - Local ownership
- Important for rural economy
  - important multiplier



# Scottish mussel production

% tonnage output by region



Shetland

80% of tonnage

Western Isles



Highland



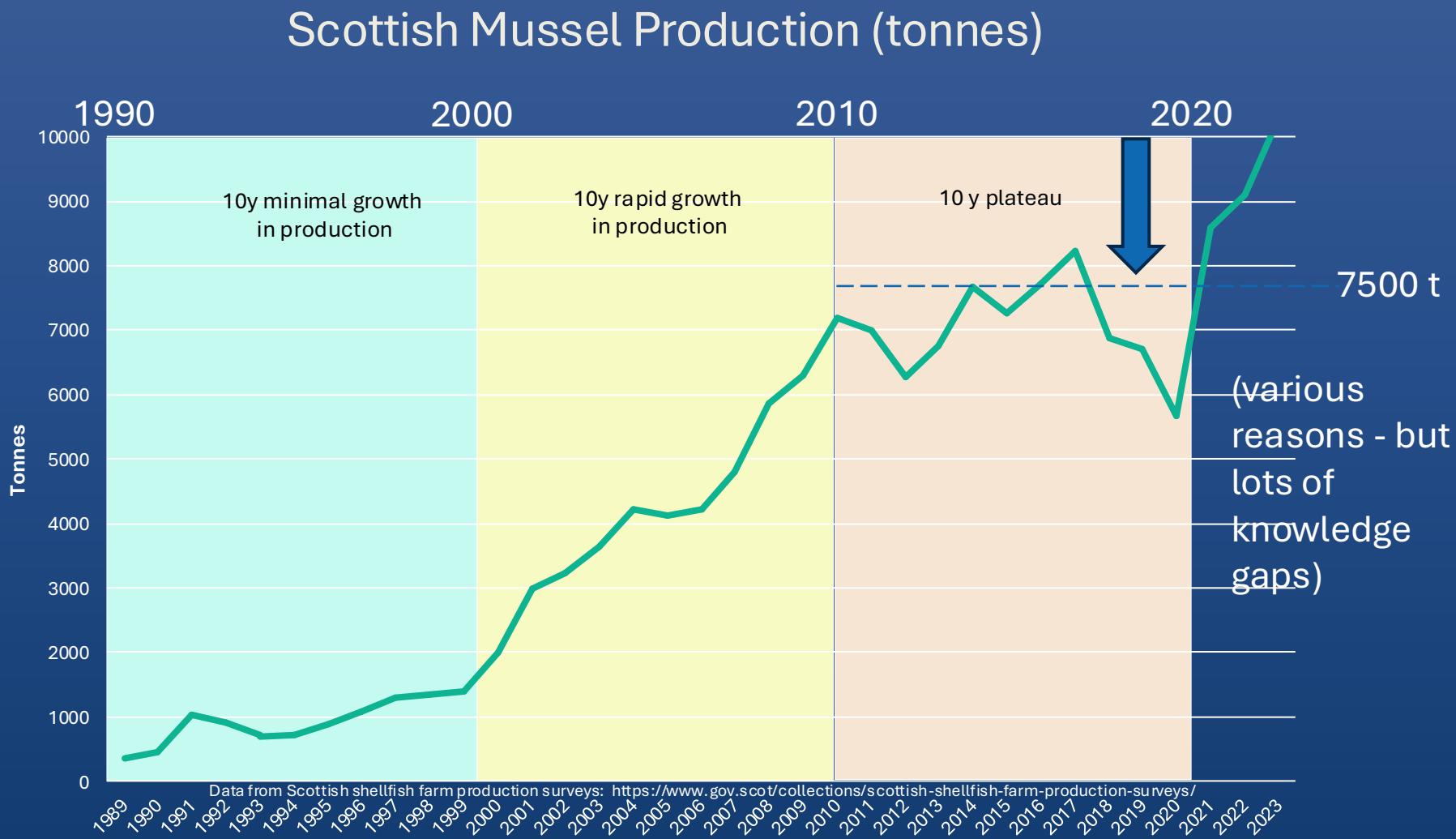
Strathclyde



Data from **Scottish shellfish farm  
production surveys**

<https://www.gov.scot/collections/scottish-shellfish-farm-production-surveys/>

# Why?



# What?

- Evolution in aquaculture has been rapid because of strong track record of
- **innovating** and
- **addressing knowledge gaps, head-on**

- Close Knowledge Gaps with **“Contract Research”**
- **Long term** - to match growth cycle of the stocks



# Benefits of Shell-volution

## Production

Increase from c7500 to **c18,000** tonnes p.a.

## Jobs

- **c55 FTEs on farm**
- help to **retain existing** c100 FTEs

## Environment

- Ecological benefits
- Nutritional benefits
- Low carbon foodstuff

## Innovations

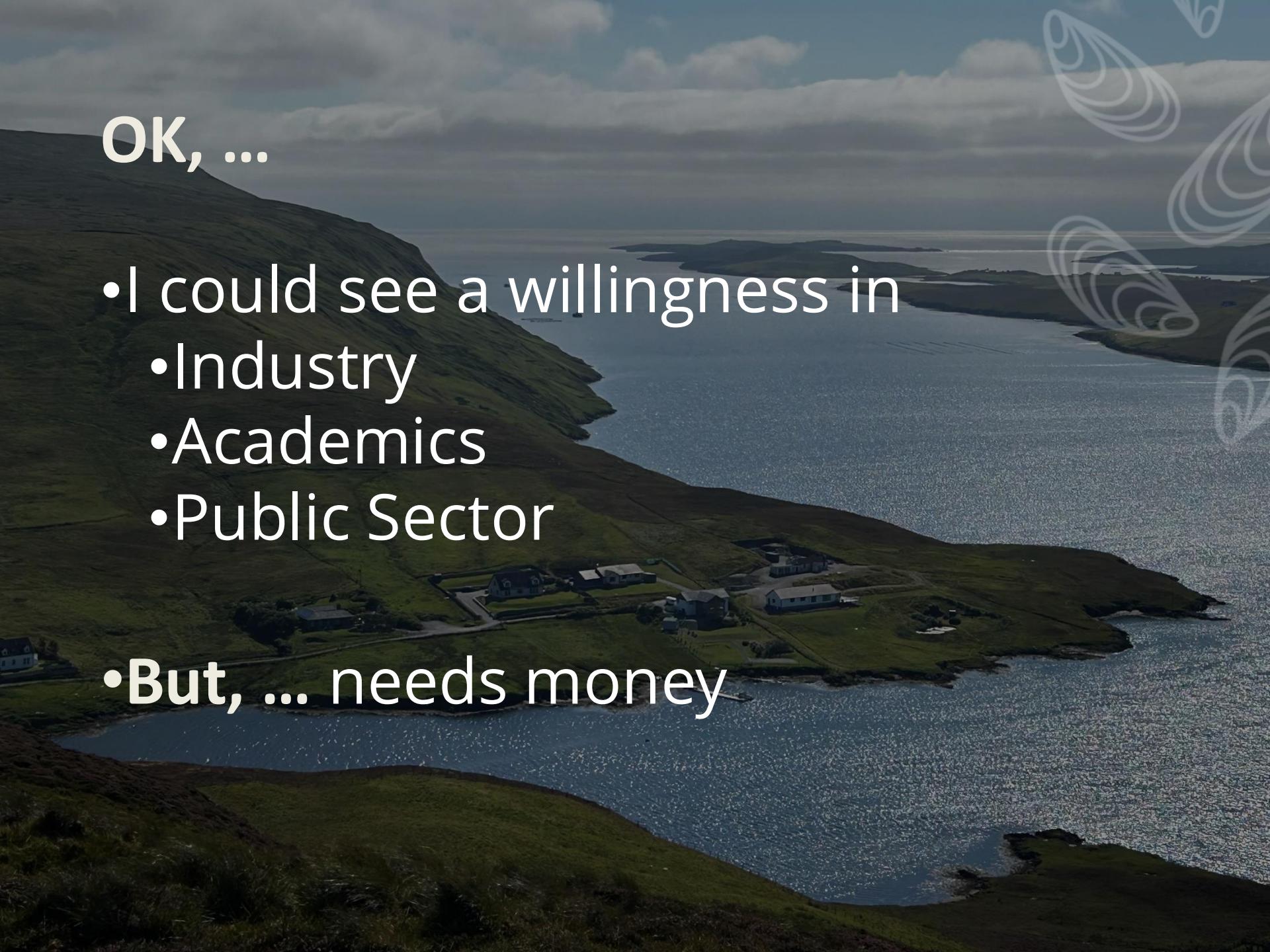
- More innovation
- Capacity and capability for research institutes (especially in Shetland),
- KE and IP opportunities , also for transnational projects

# Where?

“Impact to be  
most felt in  
Shetland”

Most fieldwork in  
Shetland



The background of the slide is a photograph of a coastal landscape. A large, dark green hillside slopes down to a bright blue body of water. In the middle ground, a small, isolated cluster of houses and buildings is nestled among the greenery. The sky above is a mix of bright blue and white, fluffy clouds.

OK, ...

- I could see a willingness in
  - Industry
  - Academics
  - Public Sector
- **But, ...** needs money

# How?

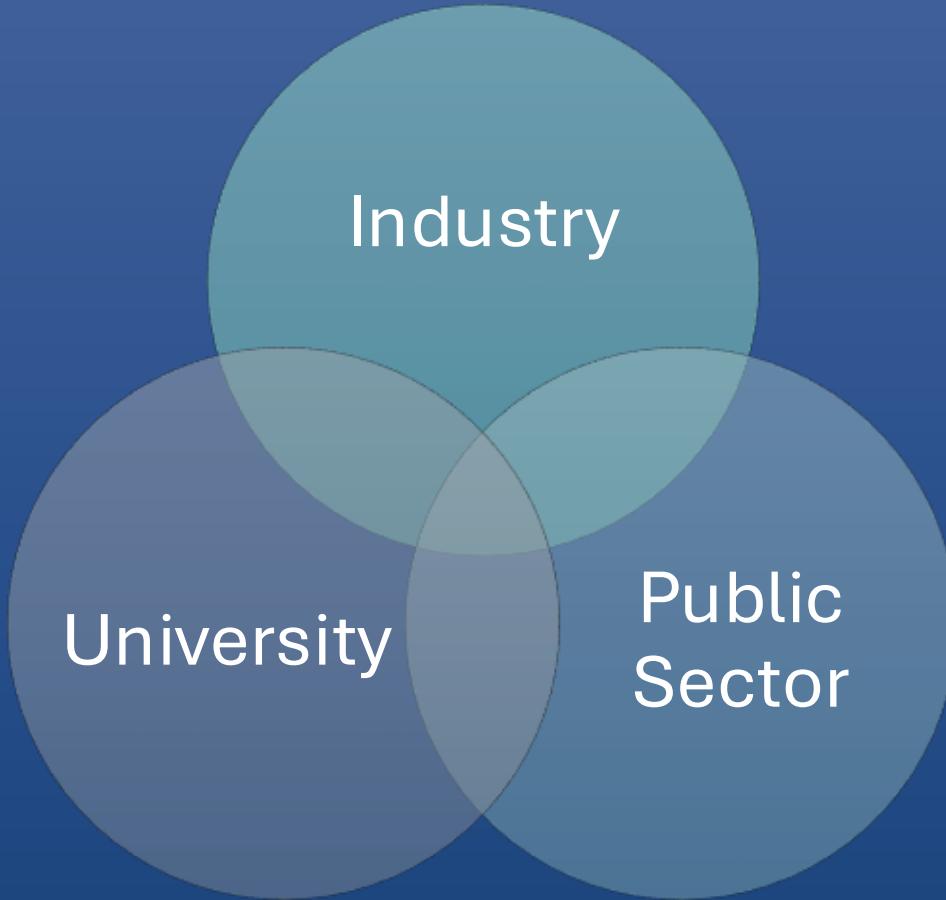
Funder Identified...

## OUR ISLANDS OUR DEAL



- Investment from UK Gov + Scot Gov
- £100m (£33m to each Local Authority)

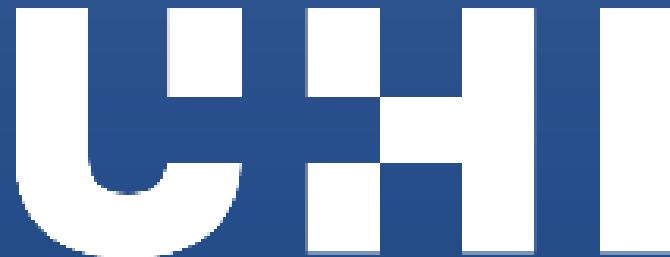




Leveraging input from three sectors  
“Triple helix model of innovation”

**Industry-led** – *not by “Scientists in White Lab Coats”*

# Project needed a ‘home’



## Executive Office

Regional Strategic Body for  
HE and FE

Summer 2018 - “6 months”





[On My Way Slow GIF -](#)  
[On My Way Slow](#)  
[Doggie - Discover &](#)  
[Share GIFs](#)

ARE WE THERE YET?

...

- ...6 years later ....
- (mentioned at ASSG 2024)

•£4.4m

- Incredible amount of input and support (FBC):
  - Michael Tait,
  - Elaine Jamieson,
  - Robin Shields,
  - Ruth Henderson,
  - Nick Lake,
  - Alison Wilson,
  - Shona Clyne,
  - Lynn Thrower....



# SHELL-VOLUTION

The word "SHELL" is in white capital letters. The letter "V" is stylized with three white, curved, shell-like lines. The word "OLUTION" is in white capital letters.

LIVE

- Recruitment during Winter 2024/5
  - Project Team in post: 1 April 2025
- Developing process and procedures

# Project Team



Dean of Faculty of  
Science, Health and  
Environment



Project Director

Project Manager

Seconded from 1 April 2025

## Voting x7



Executive  
Office



Producers x3



Seafood  
Shetland



ASSG



Scottish  
Shellfish

## Observers x4



Crown Estate  
Scotland  
Oighreacdh a' Chrùin Alba

The Crown  
Estate Scotland



Sustainable  
Aquaculture  
Innovation  
Centre



Shetland Islands  
Council



Highlands and  
Islands  
Enterprise

## Project Team



UHI  
Project Team

Project Board

SHELL-VOLUTION



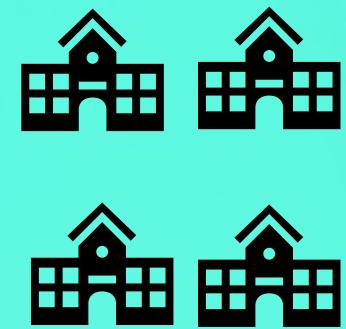
# Shell-volution Challenge Fund

= the mechanism to distribute money to researchers

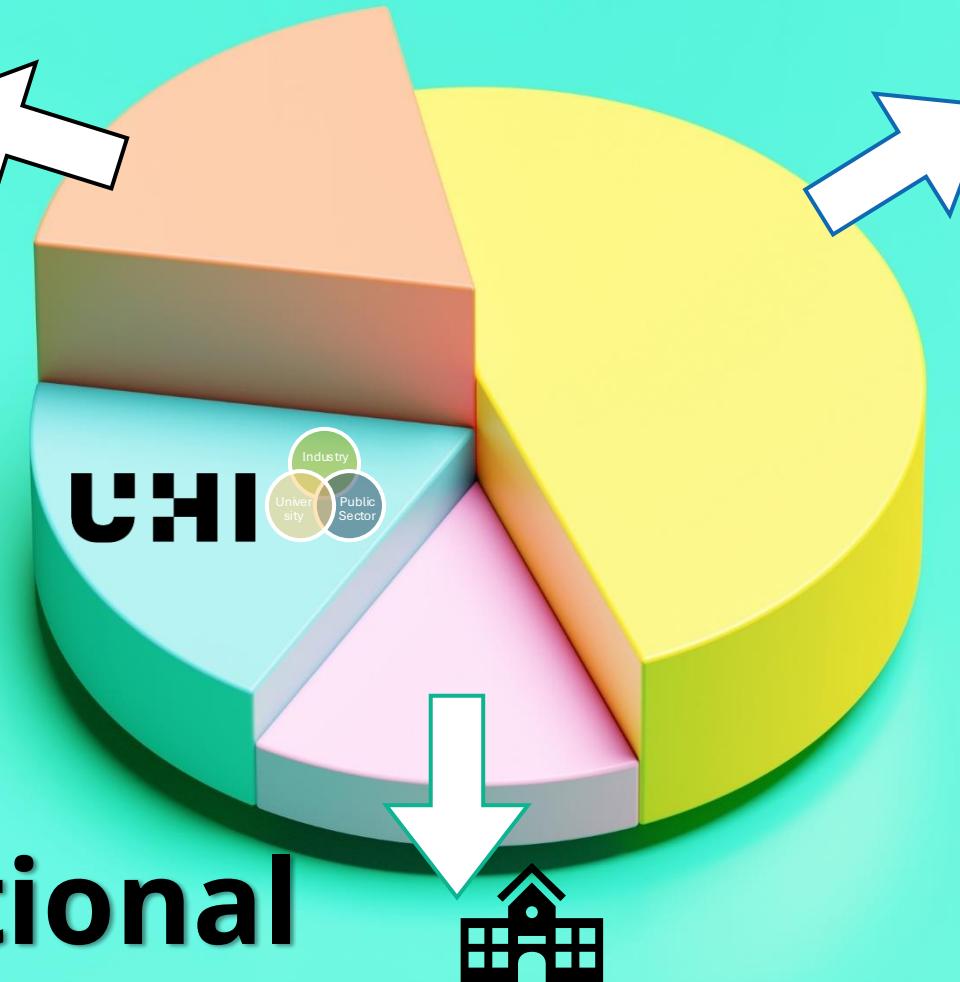
# Why a “Challenge Fund”?

- = a “competition to deliver on a challenge”
- Has **innovation** at the core
- Working **together** on agreed goals

**Competitive Tenders**



**£4.4m  
9 years  
+£additional**



This is NOT  
about  
plugging  
gaps in  
university  
funding....

Money is  
excellent,  
but not vast

**Shell-volution Challenge Fund**

# Research Agenda?

Projects topics will evolve during the project

- Several:
  - Smallish projects
  - Multi-work-package / Multi-year projects
- Potential for some studentships  
(if research questions requires)

- **International collaborations** are possible / desirable
- Applicants might be required to demonstrate some **co-funding**  
(intervention level not yet agreed - e.g. 80% FEC model for RCs, innovation funding is typically lower %)

# Developing the Shell-volution Research Agenda - Grouping and Prioritising

Themes

Topics

Projects

# Project will fund research across three themes

## Themes

1. Spatial
2. Farming and the environment
3. Sharing Best Practice

## Themes

# Stakeholder Engagement – Producers

## - Research Topics and Projects?



Project Team visited

Seafood Shetland members

Spring-Summer 2025

List of prioritised **Topics** are on our webpages

Themes

Topics

Projects

# Project ideas

- from Industry
- And prioritised by them

Themes

Topics

Projects

**Projects are still  
under discussion**

Mapping

Modelling

Population  
genetics

Tech. for measuring  
and monitoring  
growth

Forecasting  
production

Handling spat and  
juvenile mussels

Retubing  
strategies

eDNA, eRNA  
spat and biofouling  
organisms

Dropper  
deployment  
timing

Rope choice and  
influences on  
success  
(e.g. microbiome)

materials or surface  
treatments to  
improve spat  
collection

Big data

# Choosing which projects go to tender?

- Project lists will be reviewed regularly
- Achieve consensus with industry
  - (by representatives on the Board and with stakeholder engagement)
- Project Board **votes** for which projects will go forward to tender

- 1-2 Challenge Funds rounds per year
- Possibly Early 2026

2x ITQs – now awarded  
- Baselineing -

**Baseline  
Assessment and  
Interactive  
Mapping of  
Shetland Mussel  
Spat Recruitment**

**Shetland's Data  
Landscape –  
Mapping and  
Mobilising for  
Shell-volution**

UHI Shetland

Aquaterra

# Stakeholder Engagement - Academics

- If you have interest relevant to mussel aquaculture and it fits into the Shell-volution Themes – **we want to hear from you!**
- May not have recognised project topics aligned to your research, but you may have ideas that industry or project team hasn't yet considered.

>>> Contribute to **Research Agenda 'map'**

Could use funding from non-Shell-volution sources

# Stakeholder Engagement - Non-producers

- Could you get involved?
- Could Shell-volution help you achieve your goals?
- Explore avenues for Co-Funding

# Informal - Virtual Coffee Break (Teams)

Get in touch to  
find out more and discuss your ideas





# Shell-volution Expressions of Interest



Launched at ASSG 2025

# Expressions of Interest

## - Ideation

**Widen our stakeholder engagement**

**Stimulate interest**

**Guage interest**

**Helpful**

**Potential for  
'match making'**

**for management**

**to shape  
Projects for Tender**

**Scientists / Farmers**

# Eols

**- submit multiple - large or small -**

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Concise summary of research idea or project

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Estimated cost and time

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Preliminary work required?

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Collaboration

# Shell-volution | Expressions of Interest



[www.uhi.ac.uk/shell-volution](http://www.uhi.ac.uk/shell-volution)

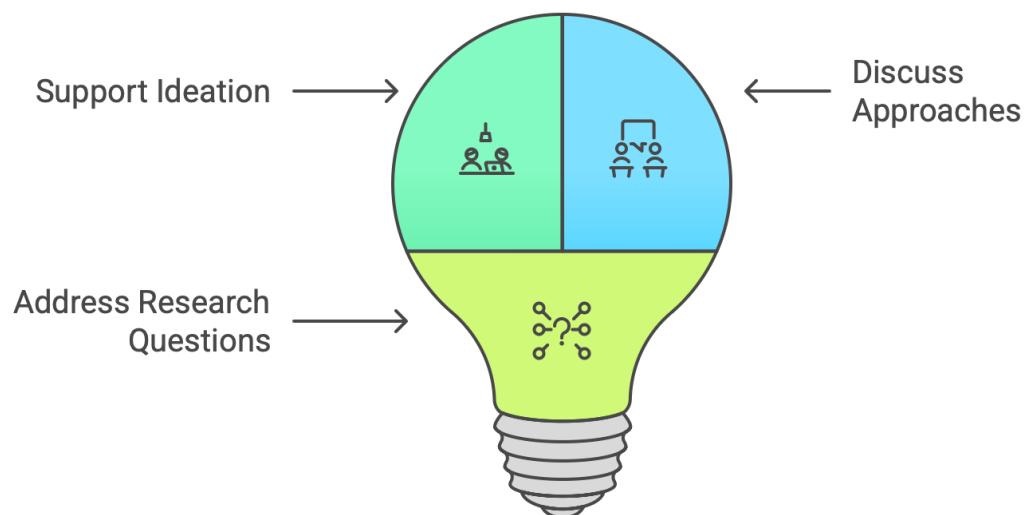
# Scientific Community - Hackathons

Opportunity to get together and tackle industry research question(s)

Most likely in-person (central belt – TBC)

E.g. Big data / Data mining

E.g. Innovative ways to monitor and measure growth on farms



# Join our Mailing List



Email us for

Occasional news  
Hackathon details  
Challenge Fund  
rounds



[shell-volution@uhi.ac.uk](mailto:shell-volution@uhi.ac.uk)

# Planning for the Future

## = Shell-volution's main aim

- Research that is industry-led, coordinated, meaningful, applied
- **close Knowledge Gaps**
- Learning will be shared
  - Not to swamp
  - Not to benefit specific business(es)
  - To non-Shetland producers
- 9y gives opportunity for innovation learning cycles within the project term





Thanks to everyone that has helped and for  
sticking with this!!!!!!



Funded by  
UK Government

OUR ISLANDS  
OUR DEAL 

**SHELL-VOLUTION**

Get Connected:

E | [shell-volution@uhi.ac.uk](mailto:shell-volution@uhi.ac.uk)

W | [uhi.ac.uk/shell-volution](http://uhi.ac.uk/shell-volution)

