

# IAA in Financial Informatics – A PDRA Perspective

Javier Sanz-Cruzado



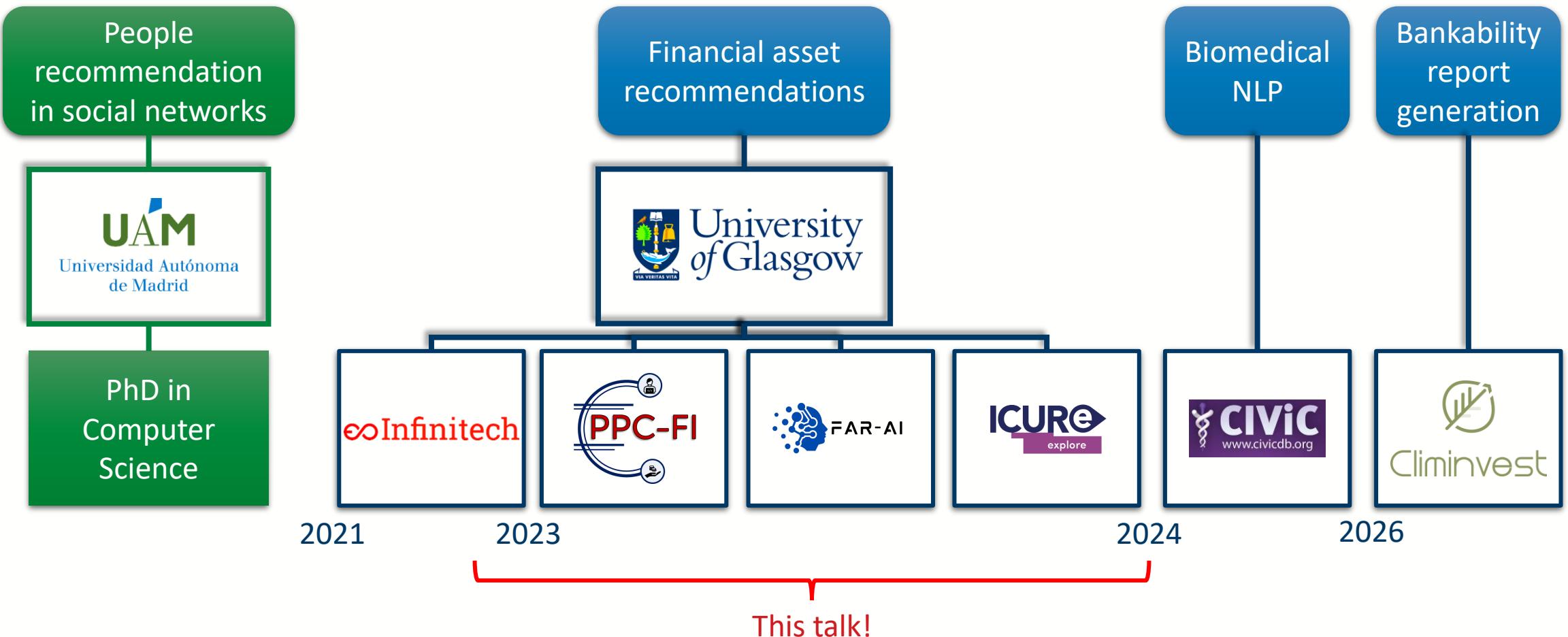
**WORLD  
CHANGING  
GLASGOW**

**Upwards Seminars**  
28<sup>th</sup> January 2026

**A WORLD  
TOP 100  
UNIVERSITY**

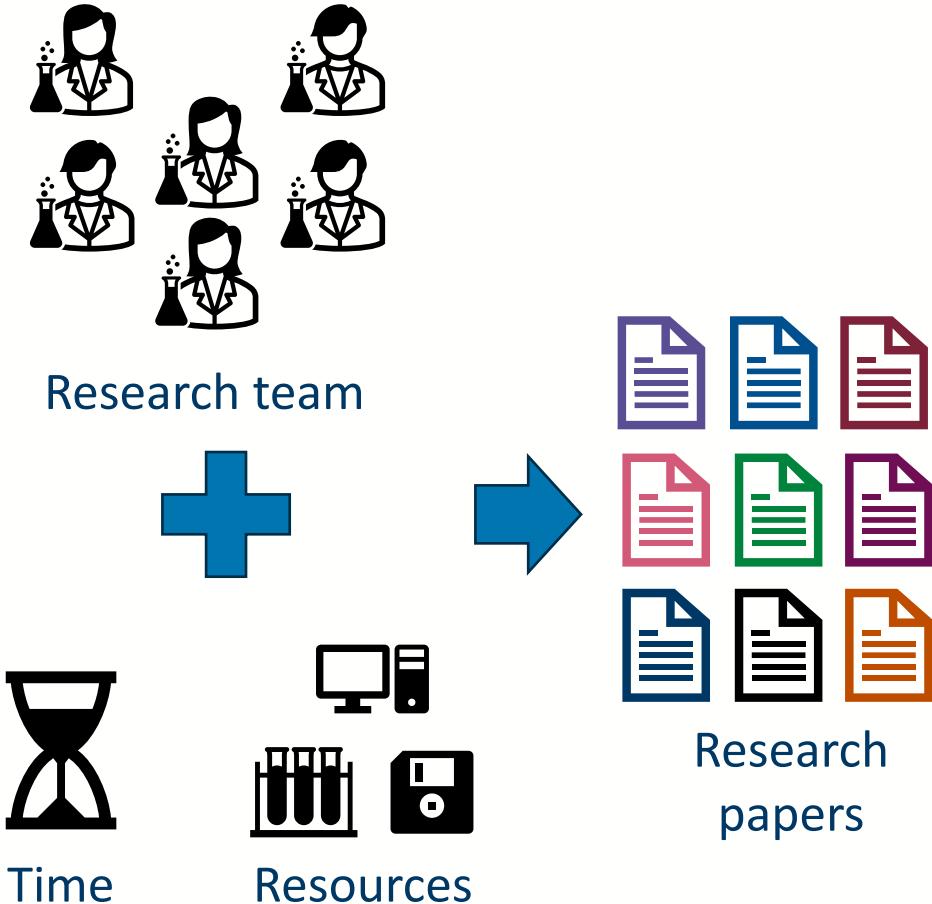
# A bit of context about myself

- Postdoctoral researcher (PDRA) at the **Information Retrieval Group**
- Joined the School in November 2021



# A timeline towards impact

# The foundation



Before working towards impact,  
you need to start from the **core research**

In our case, **recommender systems**

## On Transaction-Based Metrics as a Proxy for Profitability of Financial Asset Recommendations

Javier Sanz-Cruzado  
javier.sanz-  
cruzadopuig@glasgow.ac.uk  
University of Glasgow  
Glasgow, Scotland, United Kingdom

Richard McCreadie  
richard.mccreadie@glasgow.ac.uk  
University of Glasgow  
Glasgow, Scotland, United Kingdom

Nikolaos Droukas  
droukas.nikolaos@nbg.gr  
National Bank of Greece  
Athens, Greece

Craig Macdonald  
craig.macdonald@glasgow.ac.uk  
University of Glasgow  
Glasgow, Scotland, United Kingdom

Iadh Ounis  
iadh.ounis@glasgow.ac.uk  
University of Glasgow  
Glasgow, Scotland, United Kingdom

### ABSTRACT

The use of recommender systems to assist in the provision of financial asset and portfolio recommendations to investors is increasing, spanning a wide range of algorithms and techniques. Several strategies have been devised for the evaluation of financial asset recommendations, with the two most prominent strategies measuring (a) the money customers could obtain if they followed the recommendations (profitability-based evaluation) and (b) the ability of

used in the trading process, and the impact of governmental regulations or global events [40]. In addition to these external factors, FAR systems need to consider factors related to the customers, like the alignment of the recommendations with their financial risk tolerance. These complexities show that the financial domain is markedly different to traditional recommendation domains, and as such we cannot assume that observations from those domains will generalize to the finance space.

- Funded by the EU Horizon 2020
  - Research and innovation project
  - Focused on taking expertise and applying it for target use-cases, but are **pre-commercialization**
- **Dates:** October 2019 – March 2023
- **PI (Glasgow):**



Iadh Ounis



Craig Macdonald



Richard McCreadie

**Goal:** We were tasked to build a **financial recommender system** for banking customers (recommend investments)

I joined in November 2021!  
My first project as a postdoc!

- As part of the Infinitech project, we worked on a **prototype** for testing with a **Pilot**.
  - In our case, the **National Bank of Greece**.
  - Here, you start thinking on how to convert your innovation into a product.
  - And you usually think about a small part of the larger ecosystem...
  - ... as you work with multiple partners.

∞Infinitech

CUSTOMERS PORTFOLIO CHARTS RECOMMENDATIONS SEARCH

Received data for LU0823421689. 2022-11-30

Customer ID 0004718496C71D464F57	Name Claud Thomas	DoB Wed Feb 09 1949	Customer Type Mass	Investment Capacity €80k - €300k	Customer Tags None
Risk Level Conservative (*)	Investment Horizon 12 months	Investment Target 20000	Portfolio Value €9347.54	Date Last Questionnaire Sat Jan 01 2000	FINISH

**Recommendations**

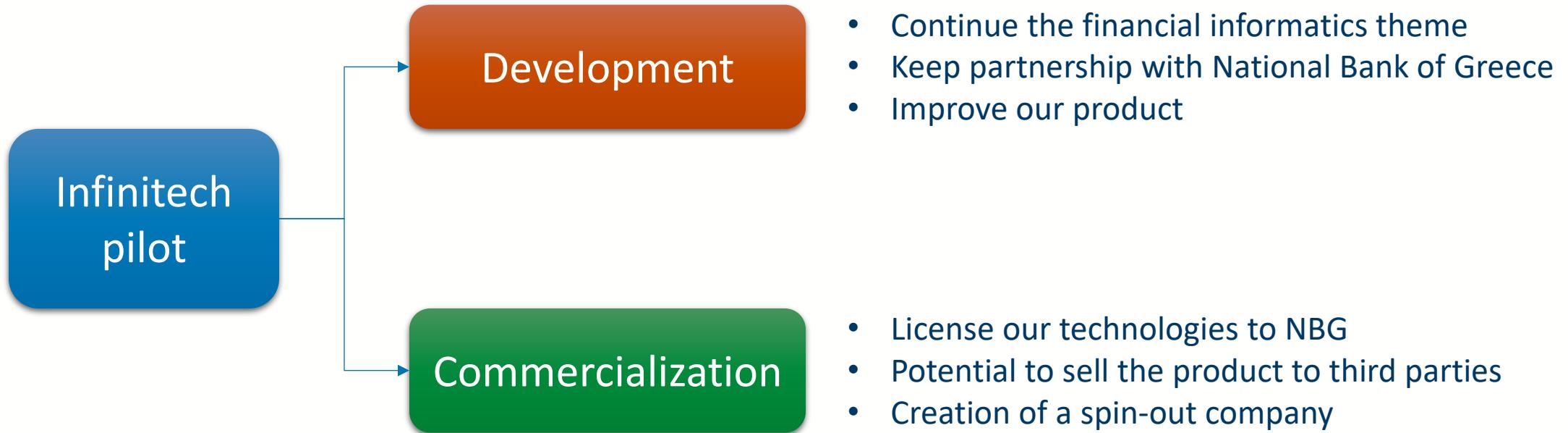
STOCK	MTF	BOND			
SUB-CLASS					
Other		COUNT			
		15			
Bond		2			
ASSET ID	CLASS	SUB-CLASS	PROFITABILITY	LIKE	DISLIKE
GEQ4286 LX (LU0823421689)	MTF	Bond	17.85%		



NATIONAL BANK  
OF GREECE

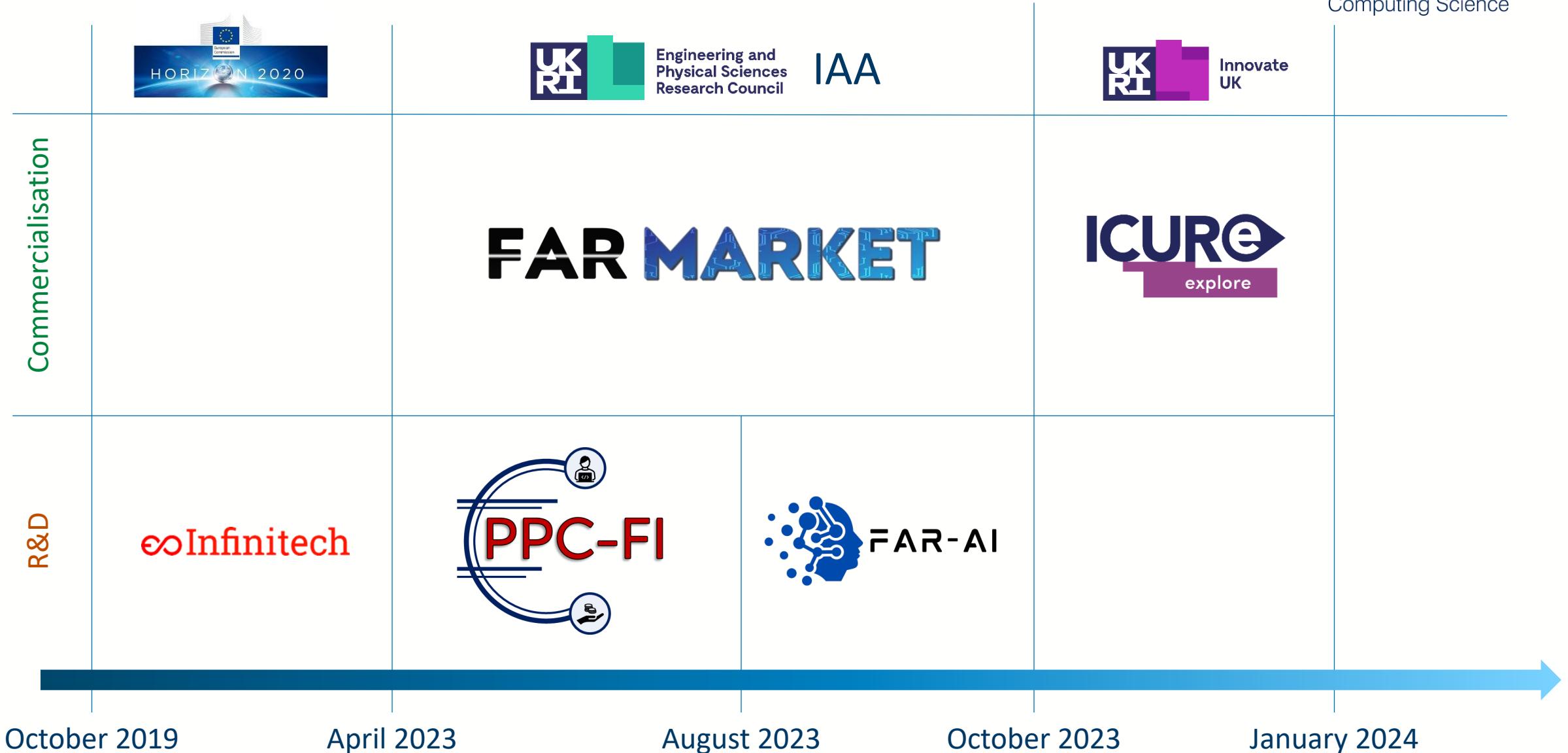
# But projects eventually end...

And there are still ways towards impact



And this is the point where IAA appeared!

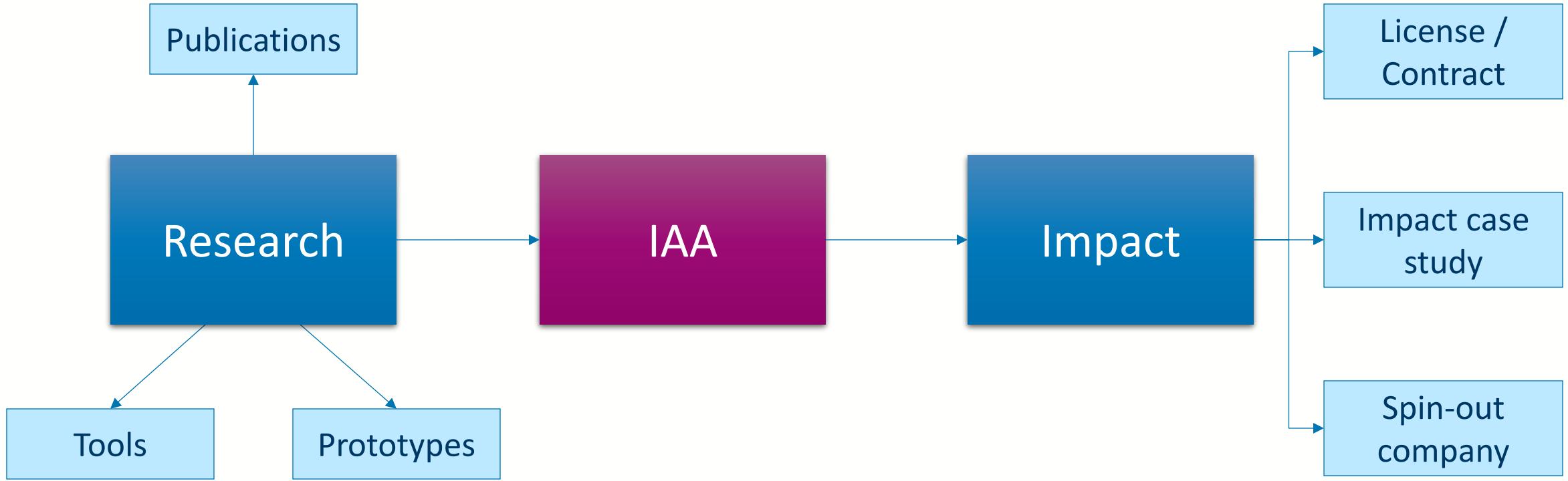
# The complete timeline





# EPSRC Impact Accelerator Account (IAA)

# EPSRC Impact Acceleration Account



EPSRC IAA funds **innovation** projects aimed towards the creation of **impact**  
based on **existing research**

# EPSRC Impact Acceleration Account

- EPSRC IAA are **not** research projects!
- These projects do not fund new research!
- Or travelling to academic conferences!
  
- They are an **intermediate step** towards impact

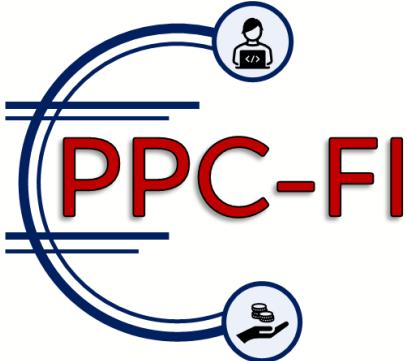
	Standard Call	RA-led call
<b>Primary investigator (PI)</b>	Research & Teaching staff	Research Associates (PDRAs)
<b>Funding</b>	Up to £50,000	Up to £20,000
<b>PDRA time (estimated)</b>	Up to 10 months	Up to 4 months
<b>PI salary allowed</b>	No	Yes

# The EPSRC IAA process





Our PDRA-led IAA projects



## PPC-FI: Personalized Portfolio Construction for Financial Investments

- RA-led EPSRC IAA project
- **Funding:** £17,586
- **PI:** Dr. Javier Sanz-Cruzado
- April 2023 – July 2023
- Partners:



NATIONAL BANK  
OF GREECE

**Development of personalized portfolio recommendation and  
optimization algorithms for retail customers**

Towards licensing / impact case study

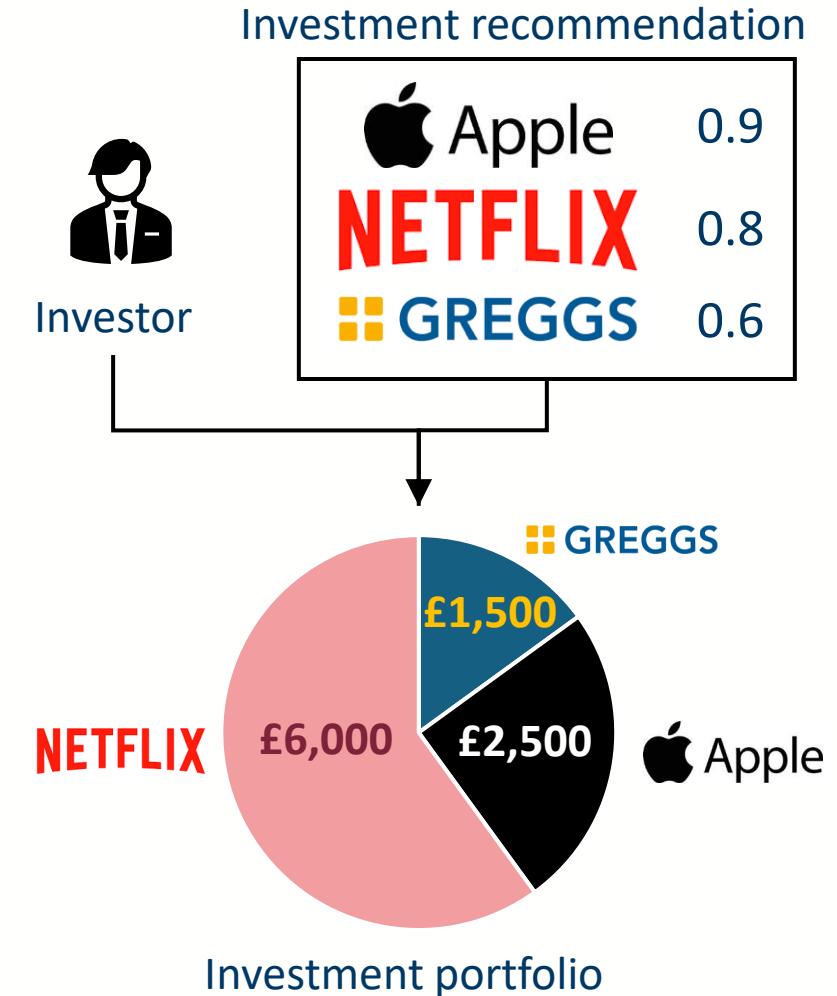
# The PPC-FI project concept

## Improve and refine existing prototype to license it to external partners

- No major research required
- Allowed continuous collaboration with NBG
- Potential application of research within NBG's daily operation

## Project description

- Development of personalized portfolio construction algorithms
  - Identify financial asset for investors (**our recommenders!**)
  - And the amount they should invest on each (**new feature!**)
  - Adapt the amount to the needs of the investor (risk, horizon, capacity).
- Integration on the Infinitech prototype.



# Lessons learned...

---

- Focus on **impact**, not on research
- This is a **collaboration** with a partner, not an R&D contract
  - Get a strong support letter (including actual or in-kind costs from your collaborators)
  - What are the benefits for the university?
  - What are your partners contributing?
- Identify the **benefits for the PDRA**
  - IAA does not just fund contract extensions
  - Clearly estate what advantages leading this project has for you
- Ask for support from the IAA team
  - Pre-submission (they will give you some initial feedback)
  - Post-submission (improvement points and panel feedback)



## **FAR-AI: Personalized Portfolio Construction for Financial Investments**

- RA-led EPSRC IAA project
- **Funding:** £10,658
- **PI:** Dr. Javier Sanz-Cruzado
- August 2023 – October 2023

**Development of a financial asset recommendation platform for the  
UK market**

Towards commercialization / spin-out company

# The FAR-AI project concept

## Prepare an existing prototype for demonstration and commercialization

- No research
- Make easier to reach interested third parties
- Potential for spin-out creation



Prototype demonstration

## Project description

- Collection of UK financial set
  - Remove constraints from the NBG data
  - Adapt to target market
- Refinement of the prototype
- Celebration of a workshop on Scotland Fintech Festival
  - Title: “What’s my investment? Automated recommendations for investors”
  - Date: October 5<sup>th</sup> 2023

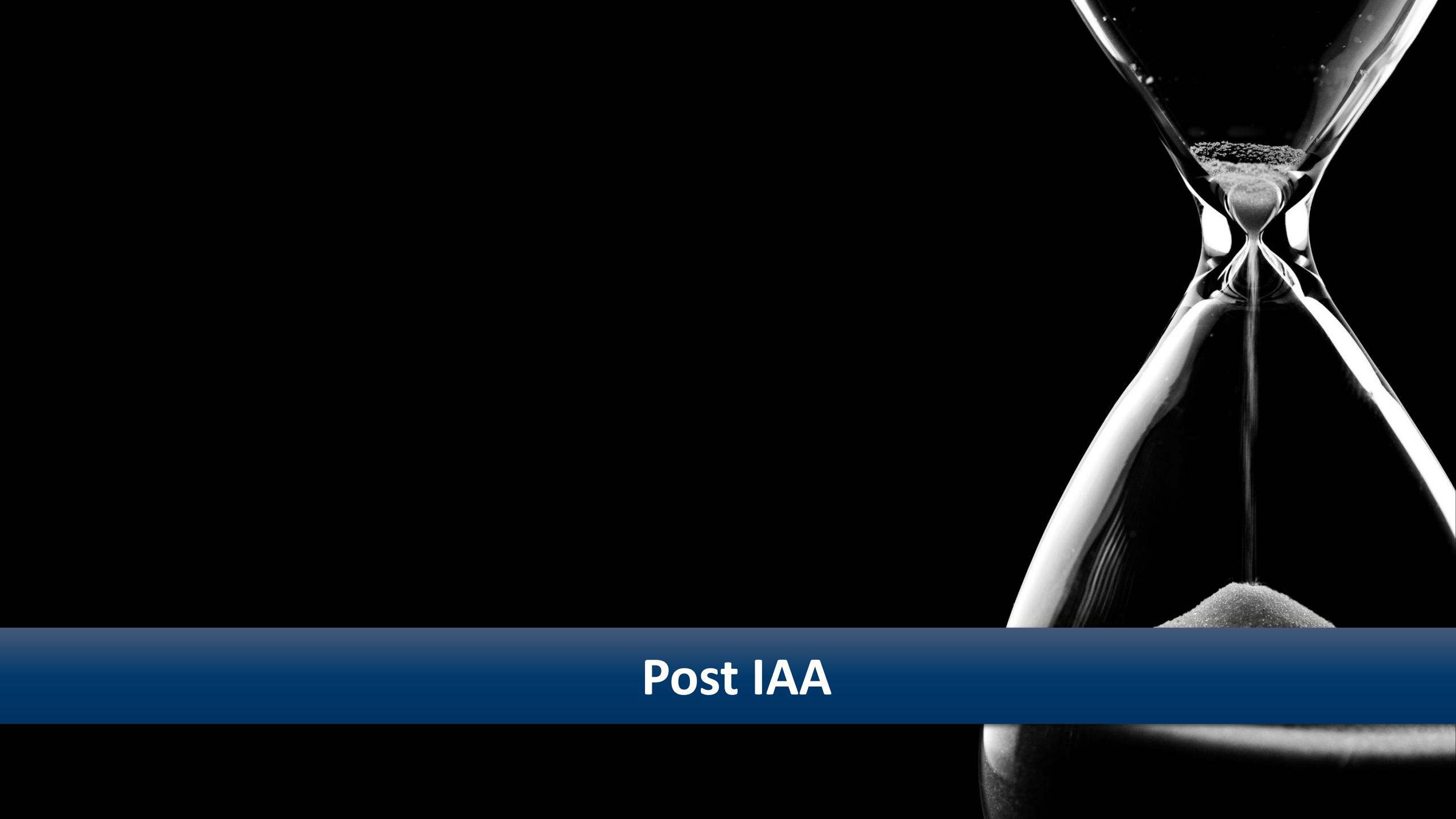


Workshop website

# Lessons learned...

---

- Most lessons from PPC-FI apply here
- You don't need an external partner for IAA
- In that case, find support from IP & Commercialization team (Darian Brookes)
- IAA can support organization of outreach events



Post IAA



- Funded by Innovate UK
- **Funding:** £35,000 (£15,000 for salary, £20,000 for market discovery)
- **PI:** Dr. Richard McCreadie
- October 2023 – January 2024
- Partners:

## RA-led exploration of the potential commercialization of research technologies

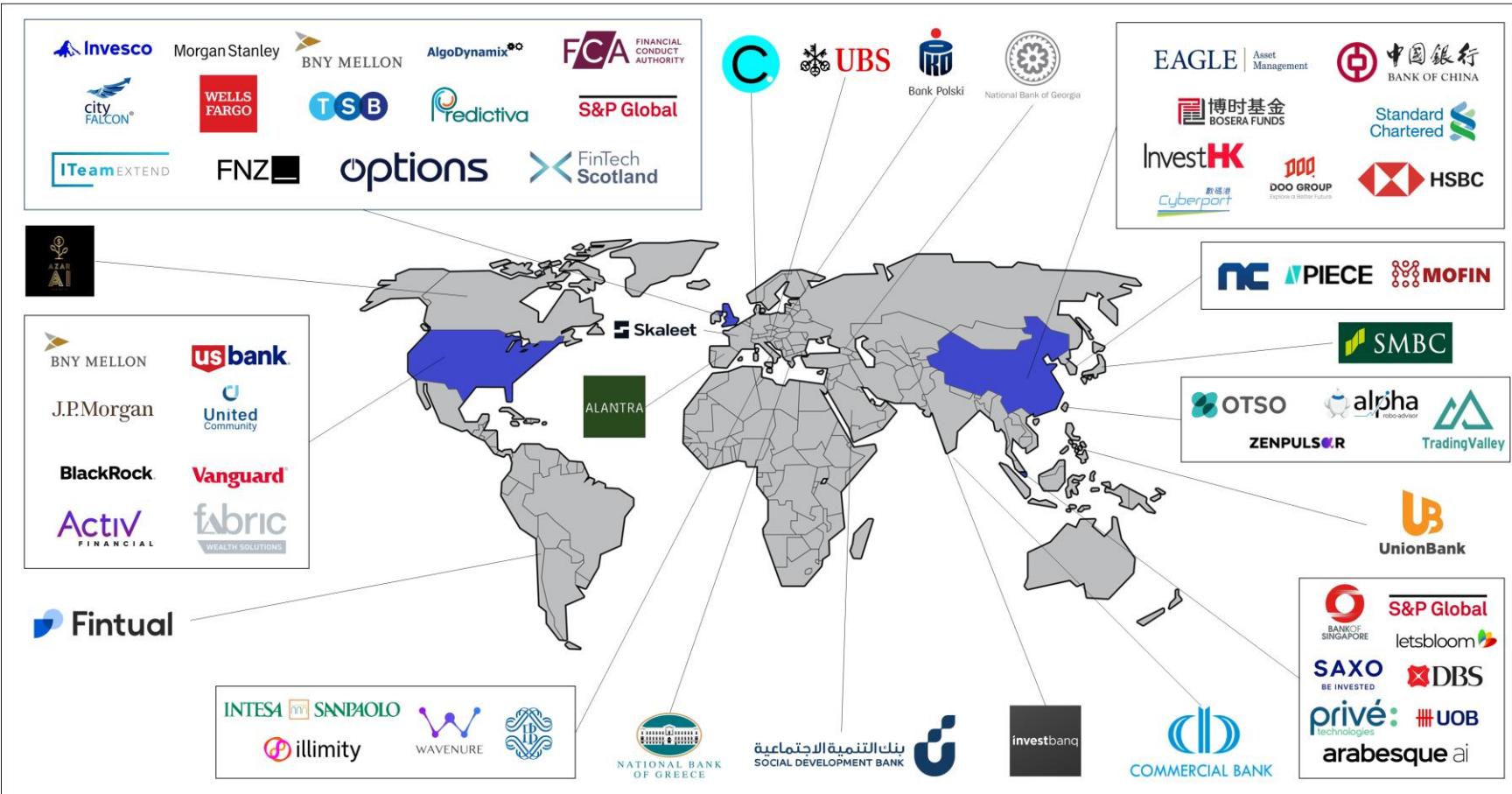
### The team:

- **Entrepreneurial lead:** PDRA (Dr. Javier Sanz-Cruzado)
- **Principal scientific advisor:** Academic (Dr. Richard McCreadie)
- **Technology Transfer Officer:** Commercialization (Darian Brookes)
- **Business Advisor:** External expert (Richard Braidwood)

Can we create a  
spin-out company  
from our research?

# Our ICURe Explore journey

We explored the market by attending trade shows and conferences all over the world



7

EVENTS

>70

CONVERSATIONS

>50

COMPANIES

>20

COUNTRIES



Lessons learned and advice

# On RA-led IAA projects...

---

## Pros

- Growth opportunities
  - Funding application training
  - Leadership and management skills
- Positioning yourself outside the university
- Further collaborations with external partners

## Cons

- Intermediate steps towards impact – need to secure funding before end of project
- Very short projects (up to 4 months without external funding)
- No time for generating research outputs (not what IAA is about)



Slides

# Questions?



Dr. Javier Sanz-Cruzado

✉ [javier.sanz-cruzadopuig@glasgow.ac.uk](mailto:javier.sanz-cruzadopuig@glasgow.ac.uk)

💻 <http://javiersanzcruza.github.io>

