

## Tailoring your feeds

# OPTIMIZATION OF FEEDING STRATEGIES WITH NUTRIENT-BASED MODELS: RESULTS OF MODEL EVALUATION

A.I.G. Raposo\*<sup>1</sup>  
 A. Nobre<sup>1</sup>, F. Soares<sup>1</sup>  
 T. Silva<sup>1†</sup>, L. Conceição<sup>1</sup>  
 A. Sagia<sup>2</sup> & K. Seferis<sup>3</sup>

<sup>1</sup>SPAROS, Lda  
 Olhão, Portugal.  
 †Affiliation throughout the work's development period

<sup>2</sup>Integrated Information Systems SA (i2s)  
 Athens, Greece.

<sup>3</sup>Blue Analytics LTD  
 Limassol, Cyprus.

Corresponding author:  
 andreiaraposo@sparos.pt

### Project:

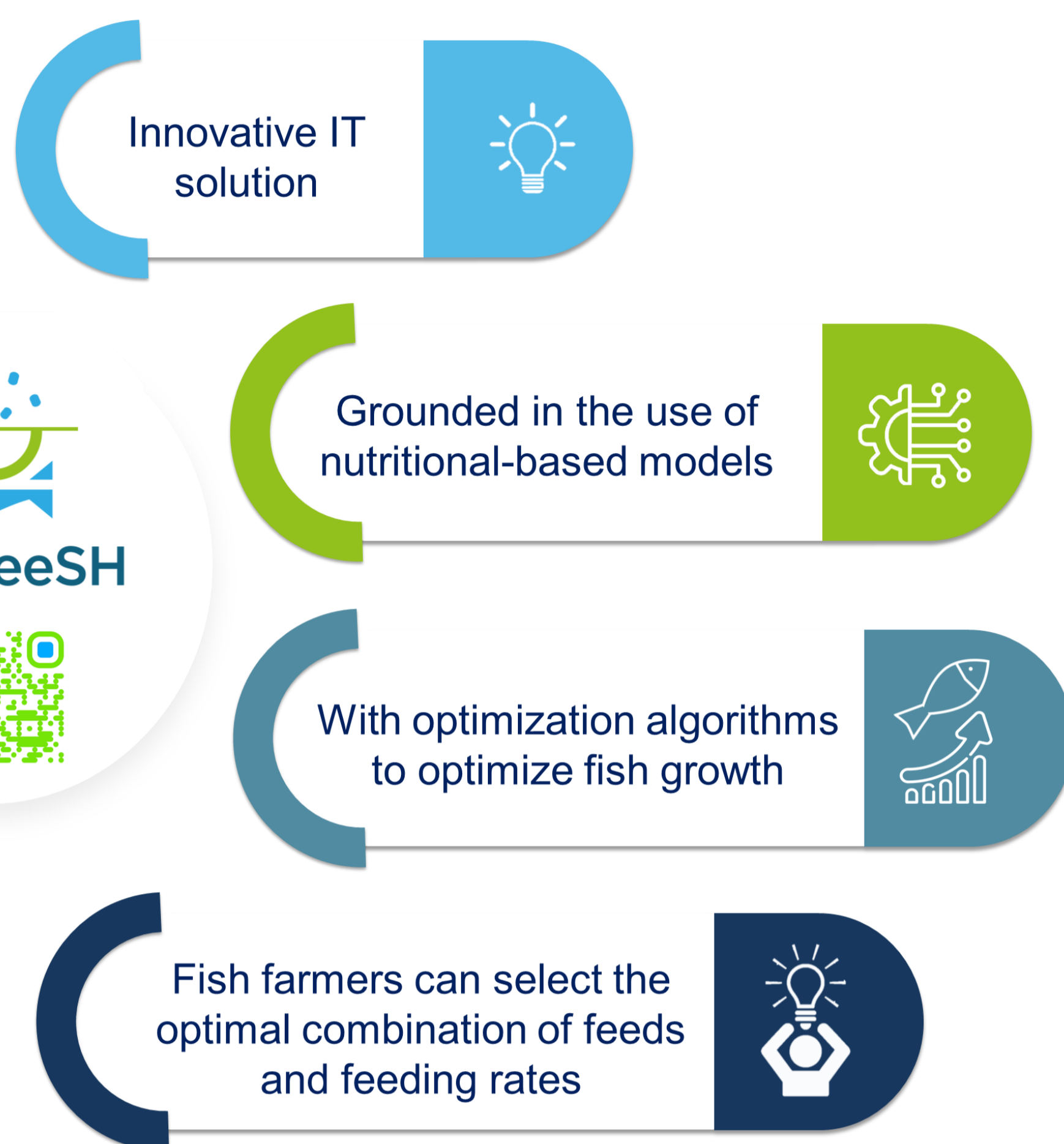


### Partners:



### Acknowledgments:

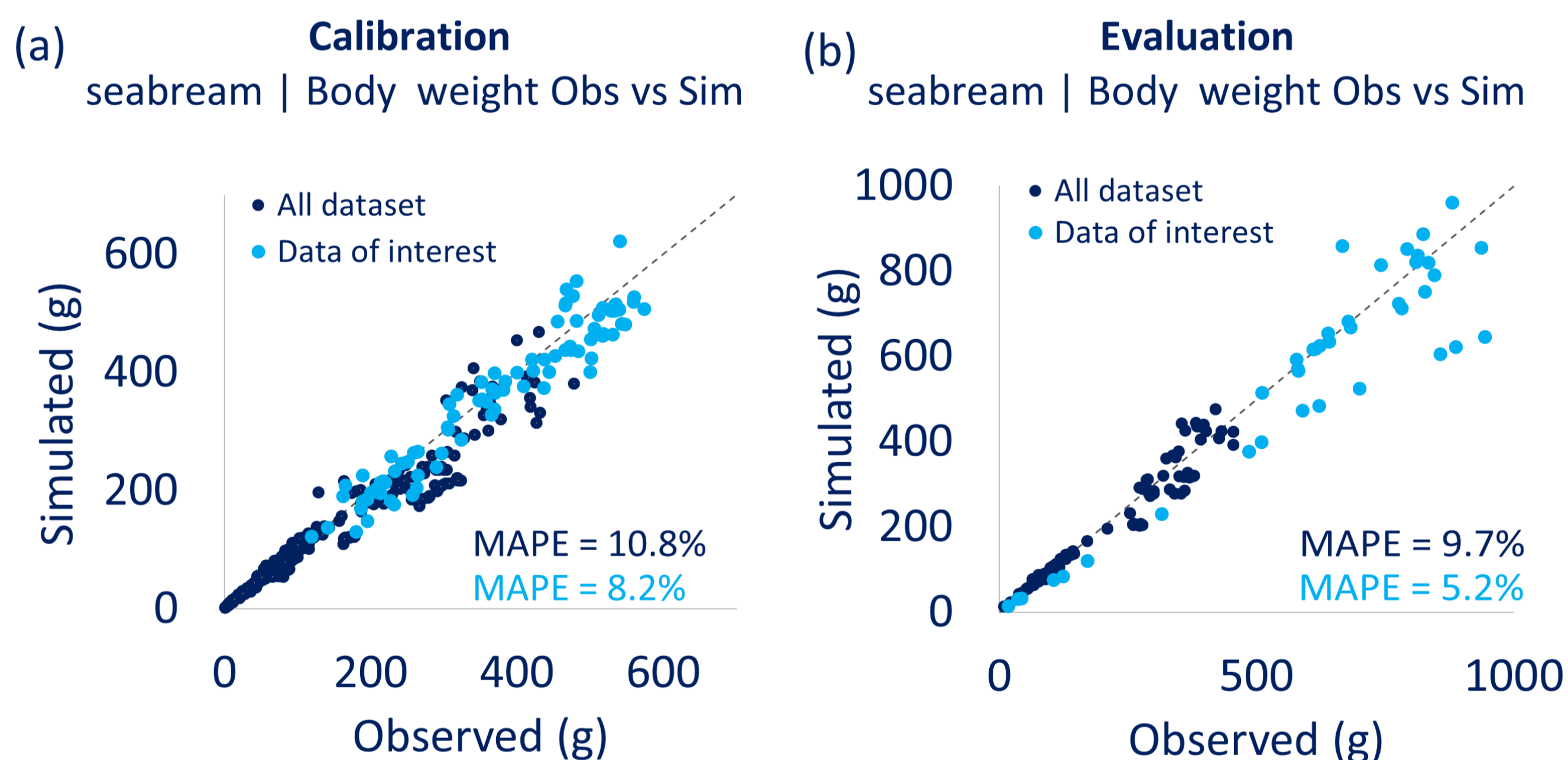
This work is part of project E!2498 OptiFeeSH\_17506, supported by EUROSTARS-3 program, and by Portugal and the European Union through ERDF, Algarve 2030, and COMPETE 2030, in the framework of Portugal 2030. The Portuguese National Authorities or the European Union cannot be held liable for any use made of this publication.



## OBJECTIVE

Evaluate a nutrient-based model to predict the growth of gilthead seabream (*Sparus aurata*). This evaluation is essential for the data enrichment and model optimizer processes in the OptiFeeSH software.

## RESULTS



**Figure 1.** (a) Scatter plot showing the differences between observed and simulated data for model calibration. (b) Scatter plot showing the differences between observed independent data and simulated data for model evaluation. Black dots represent all data points, while blue dots indicate the relevant datasets for seabream production conditions. MAPE = Mean Absolute Percentage Error.

- Model have **lower calibration** and evaluation errors for seabream: calibration MAPE = 10.8%; evaluation MAPE = 9.7%.
- Considering only the relevant **datasets for production conditions** the **error metrics** are even **lower**: calibration MAPE = 8.2%; evaluation MAPE = 5.2% for seabream.

The **OptiFeeSH** project has the potential to **transform fish farming practices** through its **innovative approach**, and future research will focus on expanding the model to include more species and exploring other optimization targets.