Novel and Healthy Pasta for Children

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Filipa R. Pinto (filipa.gomes@ipleiria.pt)
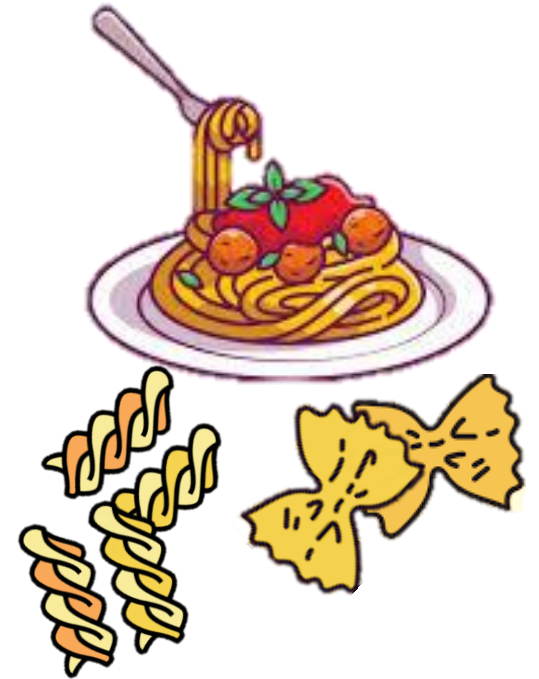
Balanced infant nutrition

Good Nutrition

New Food Ingredients from natural origins

Good physical and intellectual development of children

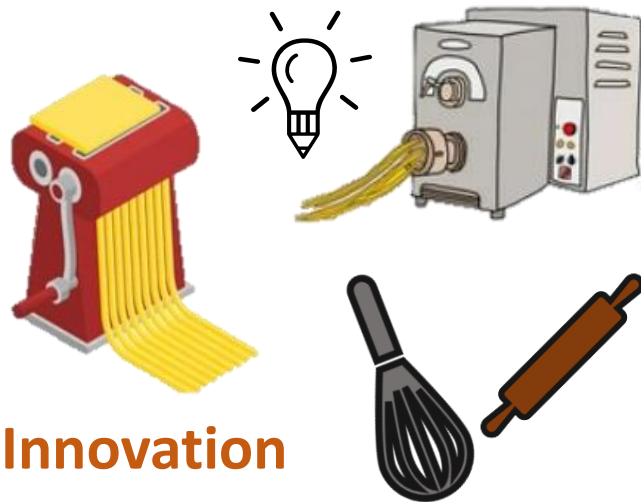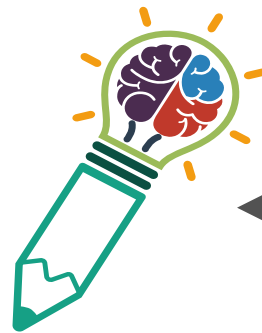**Good nutritional quality Staple food in many countries**

Market review

Market Competition

Market Differentiation

Innovation

Research and Development

R&D Project

POLITÉCNICO DE LEIRIA

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ARNET
AQUATIC RESEARCH NETwork

Cereals/Grain
Vegetable protein

+

Algae & Marine resources

=

HP4A
Healthy Pasta 4 All

Healthy

Sporty

4KIDS

Researching and developing
an innovative range of dry pasta
incorporating marine resources

Source of:
Fibre, Protein, Iodine, Vitamins and Mineral elements;
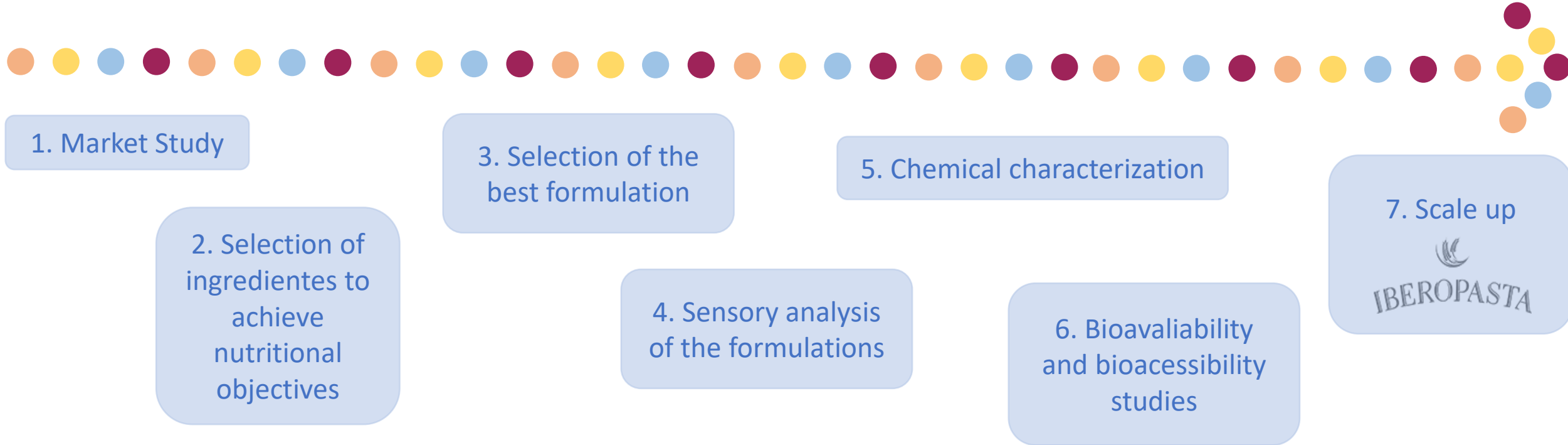**Low content of:**
Satured fatty acids and Sodium;
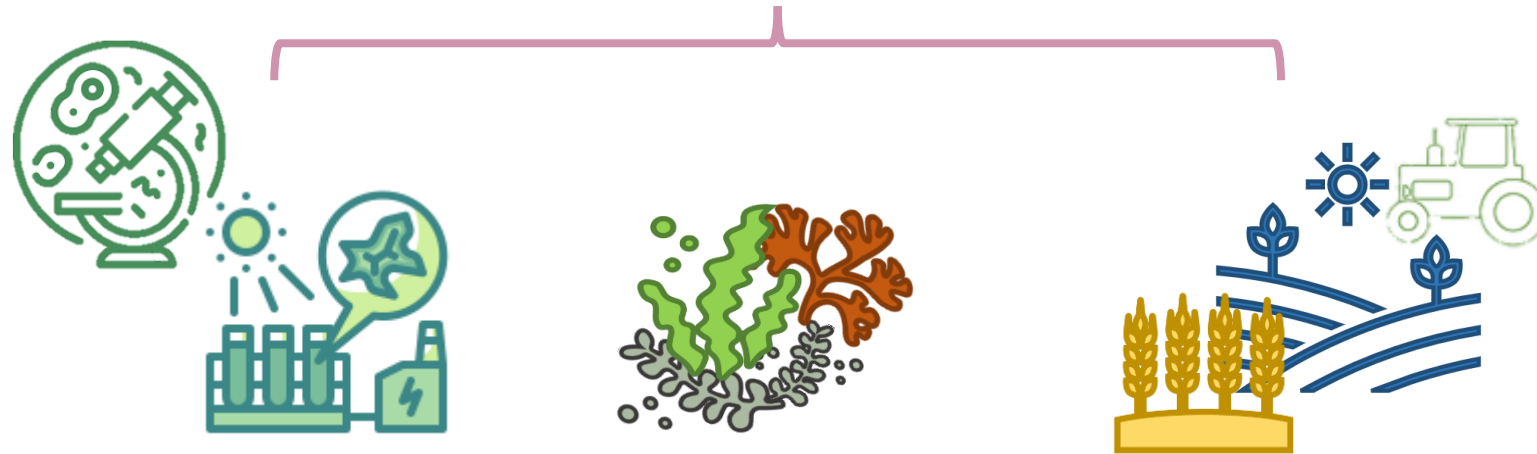**Presence of:**
Natural Colouring Agents.

R&D Project

MARE – Polytechnic of Leiria

Project Tasks

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Crude Protein - (Dumas Method)
Crude Fat - (Folch et al. (1957))
Vitamin profile - (HPLC)
Mineral Elements - (ICP-OES)

1. Market Study

2. Selection of ingredientes to achieve nutritional objectives

3. Selection of the best formulation

4. Sensory analysis of the formulations

5. Chemical characterization

6. Bioavaliability and bioacessibility studies

7. Scale up

IBEROPASTA

Project HP4A - 4kids

Innovative formula of dry pasta

We present an innovative formula of dry pasta containing macro and micro algae and field crops such as beets or spinach

Formulated especially for children and toddlers

Results and discussion

Mineral Elements content (mg/100g)	Na	214,34 ± 13,42
	K	456,65 ± 7,19
	Ca	98,34 ± 6,12
	Mg	73,64 ± 3,26
	P	1008,42 ± 7,45
	Fe	4,87 ± 0,16
	Zn	2,69 ± 0,13
	Se	0,00219 ± 0,00017
	I	0,16 ± 0,000133

Vitamins	Vit.A	<0,5	mg/kg
	Vit.B1	0,282 ± 0,021	mg/100g
	Vit. B12	17,77 ± 13,529	µg/kg
	Vit. B2	0,152 ± 0,031	mg/100g
	Vit. B3	5,28 ± 5,591	mg/kg
	Vit. C	<5	mg/100g
	Vit. D2	<0,0005	mg/100g
	Vit. E	0,14 ± 0,091	mg/100g

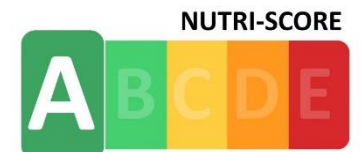| High Content	Source of

Results and discussion

according to the Regulation (CE) No. 1924/2006 of the European Parliament and the Council

Nutritional facts	Per 100 g of product	% DDR
Energy	1661,61 kJ (393,35 kcal)	20
Lipids Of which:	1,41 ± 0,02 g	2
Saturated fatty acids	0,44 g	2
Carbohidrates	77,46 ± 0,13 g	30
Of which: Sugar		
Fiber	16,73 ± 0,04 g	
Protein	9,34 ± 0,01 g	18,7
Sodium	0,535 ± 0,033 g	35,7

Low Lipid content

High Fiber content

NUTRI-SCORE
A B C D E

Results and discussion

Consumer survey

Gender ♀ **55,8 %** ♂ **44,2 %**

Profession/Career Academic Field

Age 17-64 years old

Product characterization

Parameters
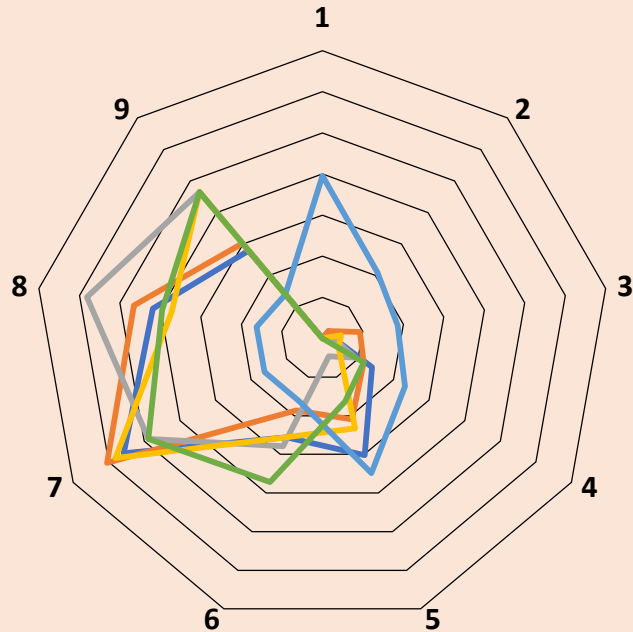
- Visual Aspect
- Color
- Texture
- Odor
- Sea Taste
- Flavour
- Global Appreciation
- Purchase Intention

DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
1	2	3	4	5	6	7	8	9

Would you give pasta enriched with seafood to a child?

Consumer survey

Parameters Evaluated

Legend: Visual Aspect, Color, Texture, Odor, Sea Taste, Global Flavor
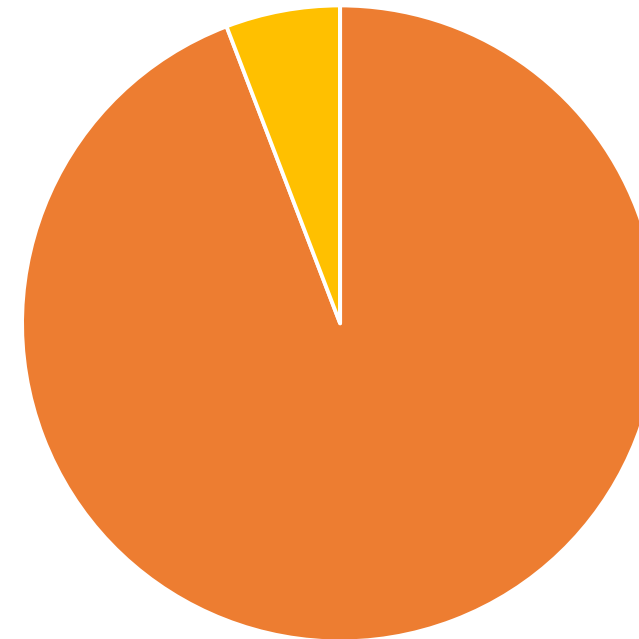
Market related Questions

Legend: Global Appreciation, Purchase Intent

Conclusions

We created at high nutritional value dry pasta formulated with algae and crops.
Presenting high protein content(9.34g/100g), excellent sensory acceptance (75% above 7 on scale) and a strong purchase intent (score 9).

Would you give pasta enriched with seafood to a child?

■ Yes   ■ Maybe   ■ No

Research Team on the Project

POLITÉCNICO DE LEIRIA

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ARNET AQUATIC RESEARCH NETwork

I&D Centre: MARE – Polytechnic of Leiria

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