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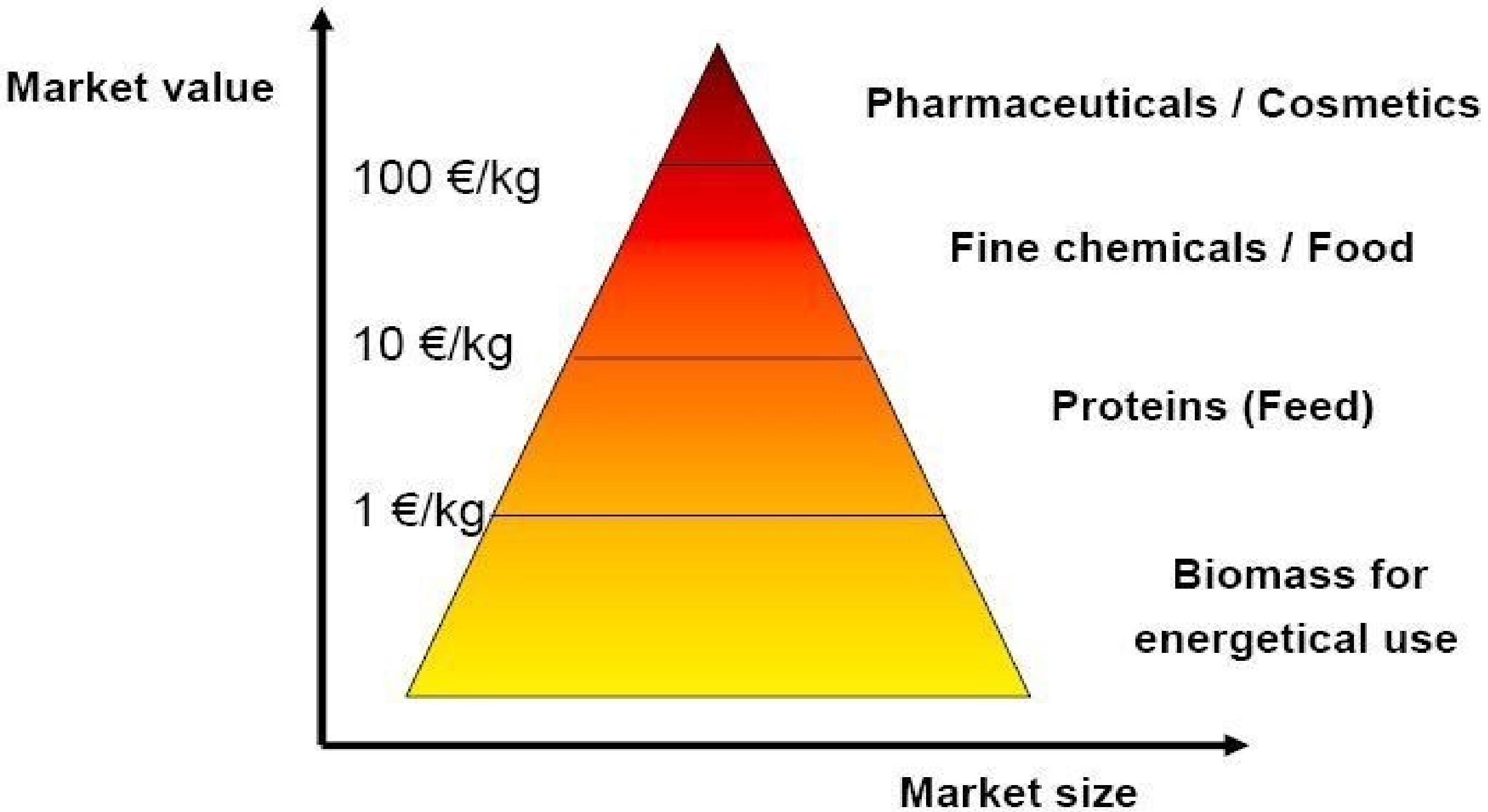
NutraMara



SUMMARY

- Established 2017
- Innovative Marine Biotechnology Company
- Close links with SeaMeGro
- Novel biorefinery process - from lab, to pilot and full industrial scale
- Green Chemistry - 100% aqueous processes
- Zero waste circular model - Origin Green Gold Membership
- Certified ingredients - Organic, Halal
- Product applications: Supplements, Cosmetics, Hair care and Pet Nutrition

Biorefinery/ Higher Value





COMPOSITION OF BROWN SEAWEEDS

Cellulose

Alginate

Fucoidan

Laminarin

Polyphenols

Proteins

Mannitol

Carotenoids

Minerals

CHALLENGES

- Natural raw material of variable composition
- Composition is function of species, location, season etc.
- Complex biopolymers-cell walls & intracellular sites
- Degree of polymerisation
- Often found in combined forms eg. glycoproteins
- Polyphenols bound to proteins
- Extraction processes may alter composition

A black and white photograph of industrial machinery. The scene is dominated by a complex network of metal pipes, valves, and large, flexible, corrugated hoses. The hoses are connected to various parts of the machinery, which appears to be a large-scale processing or manufacturing system. The background shows a metal frame and a window, suggesting an industrial setting. The overall tone is technical and industrial.

PROCESSING TECHNOLOGIES

- Hydrolysis (Vary pH , Temp, Pressure, Time)
- Micronisation
- Cryocrushing
- Differential pressure - cell bursting
- Enzymes /Bioprocessing
- Emerging technologies
- Ultrasonics
- Microwave

The logo for NutraMara, featuring the brand name in a sans-serif font with a small orange underline under the letter 'M'.

NutraMara

Structure-Bioactivity Challenge

For a given polysaccharide the main factors are:

- Molecular weight
- Degree of polymerisation
- Branching
- Degree of sulphation e.g Fucoidan

NutraMara

Research Partners



UCC

Coláiste na hOllscoile Corcaigh, Éire
University College Cork, Ireland



**University of Natural Resources
and Life Sciences, Vienna**



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin



MTU

Ollscoil Teicneolaíochta na Mumhan
Munster Technological University



University College Dublin
Ireland's Global University

SEABODY™



Arrange of next generation Nutraceuticals



SEA THEORY™



Ecological Hair Care



A New Wave of Pet Nutrition



Natural Pet Nutrition



Future

Strategic partners --- National, EU and US

Investment

Bioactivity testing

Clinical trials

New product development

New applications

IP Protection

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www.seatheory.com

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