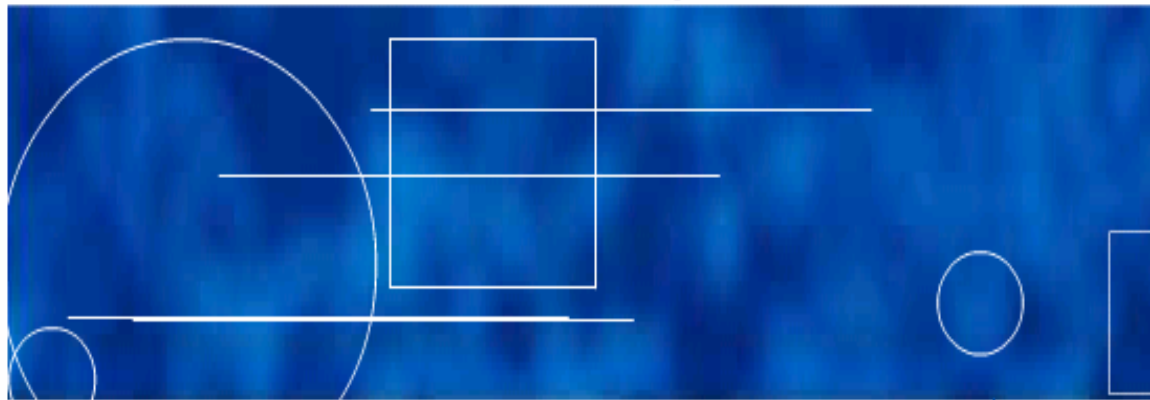


Stratēgro
International, LLC
Your Catalyst for Strategic Growth™



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Stratēgro \strə-'tē-grō\ *n.* (2003)

1. the harmonious pairing of strategy and growth. 2. a well-thought-out plan for expansion. 3. the premier consultancy for marketing and business growth

Haustfundur Rf 2004

Steve Dillingham

Nov. 12, 2004

Marketing New Seafood Products

- **Intro: Strategro® / Aquapreneur® Ventures**
- **Market-oriented development**
- **What are others doing?**
- **Traps and challenges**
- **Opportunities for Iceland**

Stratēgro International, LLC

Company Stats:

Founded: 2002

Comprised of: Stratēgro® Consulting Group
Aquapreneur® Ventures

Offices: West Orange, NJ / New York, NY

Aquapreneur® Ventures

Markets



Seafood/Marine Products and Ingredients

- Consumer and industrial applications
- Process/Application R&D and documentation
- Product Development: food, nutraceutical, dietary supplement, cosmeceuticals
- Agriculture, feed, fertilizer, biopesticides

Aquaculture

- Aquaculture of new/novel marine species
- New industrial technology/applications
- Diagnostics and disease prevention

Marine Biotechnology

- Discovery/R&D of new bioactive compounds
- New Uses/Applications for marine-derived products and materials

Market-Oriented Development

(The “D” in R&D)

The Big Idea:

First, identify new market needs through research (i.e. “low carb”).....or transfer established trend to new territory (i.e. “salmon hot dog”).

The Process:

Reverse engineer these findings back to **R**esearch, to figure out how to **D**evelop product/technology that delivers on market expectation.

Market-Oriented Development

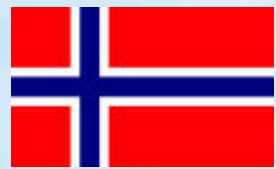
From a macro level, any marine sector development directed at new applications/new products, should follow this path.

The usual route: “ OK – this is what I’ve got – now how can I sell it ” can really be a long-shot.



Where these converge – is the “sweet spot”

What Are Others Doing?



Norway

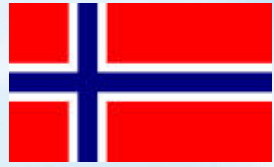
- **RUBIN** (Ministry of Fisheries and FHF)
- **NOBIPOL** (Centre for Biopolymer Engineering at NTNU)
- **MABIT** (Marine Biotechnology in Tromsø)
- **NIFA** (Institute of Fisheries and Aquaculture)
- **SINTEF** (Fisheries and Aquaculture A/S)



Norway

RUBIN:

- **Working to develop cooperation between international market players and Norwegian industry.**
- **Develop and Facilitate Structural Processes within and across Norwegian ingredient material suppliers**
- **Conduct international market and industry analysis**
- **Document effect and applications of marine ingredients**



Norway

Trade Association for Marine Ingredients

- **Founded Aug 31st, 2004 by RUBIN.**
- **10-20 members: individuals and non-industry.**
- **Group will work primarily with issues related to trade, market, and regulation.**
- **Most pressing issues are related to environmental toxins in fish oil and new veterinarian regulation from the EU that will be implemented in Norway.**



Norway

MABIT:

Marine Bioprospecting



Recently conducted a national symposiums for R&D and industry for commercial opportunities in marine bioprospecting



CANADA

Major Organizations

- **IMB** (Institute for Marine Biosciences)
- **Bio-East** (Memorial University of Newfoundland)
- **CIFT** (Canadian Institute of Fisheries Technology)



USA

- **COMB** (Center for Marine Biotechnology: U of Maryland)
- **CMAST** (Center for Marine Science and Tech: U of MASS Dartmouth)
- **Woods Hole** (MIT)
- **Scripps Institute** (U of California - San Diego)
- **HBOI** (Harbor Branch Oceanographic Institute)
- **Sea Grant / NOAA**
- **Hopkins Marine Station** (Stanford University)



USA

Alaska Science and Technology Foundation

- Asian Dried Seafood Market Analysis

Seafood Science and Technology Society

- Seafood quality and safety at retail
- Shelf-life factors and pathogens in fish and shellfish
- Studies on menhaden oil as a possible alternative diesel fuel
- National histamine training program for commercial fishing audiences now being developed with Sea Grant support



USA / CANADA



Pacific Seafood Technologists

- Omega-3 products, based on new FDA “qualified claim” allowance
- Properties of protein powders from Pollock Byproducts
- Aquaculture and feeds

Atlantic Fisheries Technology Society (AFT)

49th AFT Conference: Held Sept. '04 in Halifax

- Seafood processing, preservation and storage
- By-products technology and marine-based bioactives
- Innovations in shipping, marketing, handling of aquatic products
- Sous vide and modified atmosphere packaging of raw fish
- Safety of seafood products



Cooperative Developments:

SEAFOODplus

Objective: To make it possible to reduce health problems, to prevent major diseases, and to increase well-being among European consumers by using the opportunity to apply the benefits obtained through consumption of health promoting and safe seafood products of high eating quality.

Focus

- Human nutrition
- Consumer behavior and well-being
- Seafood safety
- Seafood from source to consumer product
- Seafood from aquaculture
- Traceability to ensure consumer confidence



Cooperative Developments:

SEAFOODplus

Many from RF involved. Some notable leaders:

➤ **Creation of New Business Activities**

(led by Sjöfn Sigurgisladottir / Rf)

➤ **High added-value Functional Seafood Products for Human Health From Seafood Byproducts by Innovative Mild Processing**

(led by Gudjon Thorkelson / Rf)

➤ **Improved seafood sensory quality for the consumer**

(led by Emilia Martinsdóttir / Rf)

TRAPS and CHALLENGES

Too many initiatives are not well grounded in exploring applications the market asks for..... or are practical from a regulatory standpoint.

Basic research is important, but ---

- Too many “gee whiz” results
- Caught in the “scientist’s loop”



“can have applications within functional foods or nutraceuticals”

Good Models to Follow

Alaska Sea Grant

- Alaska salmon powder potential in China

USDA – Univ. of Alaska, Fairbanks

- Aquaculture and Livestock Feed Supplements from Seafood Processing Wastes
- Nutritional Value of Processed Fish Byproducts for Young Pigs
- Feed Ingredients from Fish Processing Wastes

****Note: From prior study: “The conclusion is that the protein powders made from these under utilized fish have potential for use in human food, and in nutraceutical products due to their functional and nutritional properties”**

Good Models to Follow

Department of Fisheries and Aquaculture Fisheries Diversification Program

Newfoundland Canada

- **Value-Added Production** of Urchin Roe for Japanese Market
- Processing Discarded Crab Shell
- **Develop and Test-Market** Value-Added Shrimp Products
- **Product Development and Marketing** of Seaweed
- **Experimental** Seafood Smoker
- **Develop Markets** in Mexico for Underutilized Species
- **Clinical Trials** for Seaweed

.....and a host of biomass and experimental fishing studies for potential **new commercial fisheries**

Good Models to Follow

RUBIN has recently launched a project with the objective to look into the opportunity to develop the market / increase the revenue of marine byproducts for the consumer market.

Focus is on market opportunities in Norway and Asia. Two study trips to Asia has been conducted.

- Fresh Cod milt/Cod cheeks and “buklister” from Salmon to Japan
- Frozen Cod milt, Cod stomachs and heads to Korea
- Fish heads and skins for China
- Cod stomach and Cod cheek medallions for Singapore
- Cheek medallions of Cod to Norway

Potential for Iceland



Unique products/forms and custom packaging for specialty markets (Asia, US, Europe)



Exotic culinary flavors/powders/extract



New fisheries / under-utilized species

Potential for Iceland



Hydrolysed Protein

RAPID ABSORPTION

carbery
FOOD PRODUCTS

Hydrolysed Protein

Product Description:
Carbery Hydrolysed Protein is the best source of amino acids and essential amino acids in a protein form of great and is available in a variety of forms. It is a natural and healthy protein source for infants, children, and adults.

Key Features:
- Contains all essential amino acids
- Contains all essential vitamins
- Contains all essential minerals

Applications:
- For infants and children
- For athletes and bodybuilders
- For the elderly and those with health issues

Examples of use:
- In infant formula
- In sports nutrition
- In medical nutrition

Nutritional Information		Nutritional Information	
Per 100g	Per 100g	Per 100g	Per 100g
Protein	100%	Protein	100%
Carbohydrate	0%	Carbohydrate	0%
Fat	0%	Fat	0%
Fiber	0%	Fiber	0%
Sodium	0%	Sodium	0%
Calcium	0%	Calcium	0%
Iron	0%	Iron	0%
Zinc	0%	Zinc	0%
Copper	0%	Copper	0%
Manganese	0%	Manganese	0%
Selenium	0%	Selenium	0%
Chromium	0%	Chromium	0%
Molybdenum	0%	Molybdenum	0%
Cobalt	0%	Cobalt	0%
Nickel	0%	Nickel	0%
Vanadium	0%	Vanadium	0%
Fluorine	0%	Fluorine	0%
Boron	0%	Boron	0%
Silicon	0%	Silicon	0%
Aluminum	0%	Aluminum	0%
Phosphorus	0%	Phosphorus	0%
Sulfur	0%	Sulfur	0%
Chlorine	0%	Chlorine	0%
Iodine	0%	Iodine	0%
Bromine	0%	Bromine	0%
Strontium	0%	Strontium	0%
Zirconium	0%	Zirconium	0%
Barium	0%	Barium	0%
Lead	0%	Lead	0%
Mercury	0%	Mercury	0%
Cadmium	0%	Cadmium	0%
Antimony	0%	Antimony	0%
Thallium	0%	Thallium	0%
Platinum	0%	Platinum	0%
Gold	0%	Gold	0%
Silver	0%	Silver	0%
Copper	0%	Copper	0%
Zinc	0%	Zinc	0%
Iron	0%	Iron	0%
Calcium	0%	Calcium	0%
Phosphorus	0%	Phosphorus	0%
Potassium	0%	Potassium	0%
Sodium	0%	Sodium	0%
Magnesium	0%	Magnesium	0%
Chlorine	0%	Chlorine	0%
Sulfur	0%	Sulfur	0%
Fluorine	0%	Fluorine	0%
Iodine	0%	Iodine	0%
Bromine	0%	Bromine	0%
Strontium	0%	Strontium	0%
Zirconium	0%	Zirconium	0%
Barium	0%	Barium	0%
Lead	0%	Lead	0%
Mercury	0%	Mercury	0%
Cadmium	0%	Cadmium	0%
Antimony	0%	Antimony	0%
Thallium	0%	Thallium	0%
Platinum	0%	Platinum	0%
Gold	0%	Gold	0%
Silver	0%	Silver	0%

carbery
FOOD PRODUCTS

Potential for Iceland



- Do not get caught-up into “herd” mentality of the Marine Biotech “Gold Rush”.
- Not everyone working on new marine products, new species, etc., will succeed.
- Pick your place in the value-chain where you are most competitive.
- Don’t try to “brand”, unless you can sustain a brand.
- Team with those who have strong assets and resources that complete “the package” (i.e. sales network/infrastructure, brand, IP, \$\$)

Potential for Iceland



Collaberate

leverage Iceland's natural resources, and industry's core strength

Adopt/Adapt

learn from others – and improve

Research

product marketability, acceptance, and how to modify products to suit target market needs

Inspire

develop programs to reward entrepreneurial spirit – and risk taking!

Alaska Symphony of Seafood



Category	First Place	Second Place	Third Place
FOOD SERVICE	Cioppino with Alaskan Cod Orca Bay Foods 	Santa Fe Cod Strips American Pride Seafoods	Sealegs Brand® Seafood Crab Cakes Trident Seafoods
RETAIL	Salmon Chorizo Ocean Beauty Seafoods 	Alaskan Salmon Burger Trident Seafoods	Fred West Wild Alaskan Smoked Salmon Pepperoni Sea Products, LLC 
SMOKED PRODUCTS	Smoked Salmon Chile Cheesecake T&L Smokehouse	Fred West Wild Alaskan Smoked Salmon Sausage Sea Products, LLC 	Smoked Alaskan Salsa Salmon Alaskan Salsa Salmon 

Don't get caught in the trap!!





Iceland Has Good Momentum

❖ AVS

❖ RF

❖ MRI



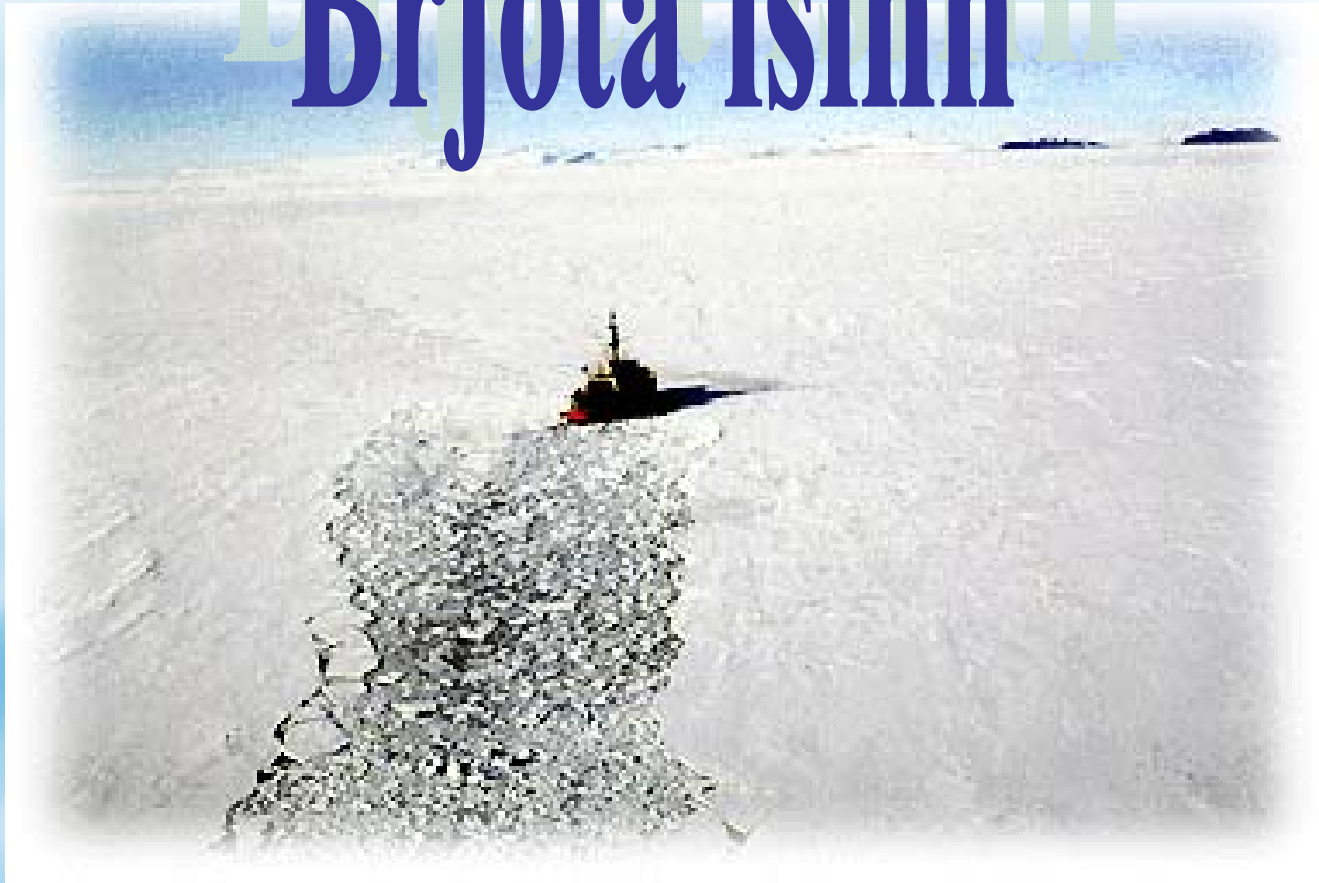


Iceland Has Good Momentum

AVS / Trade Council / Strategro Partnership

- market development
- research / market due diligence
- underutilized species / new target markets
- network / collaborations

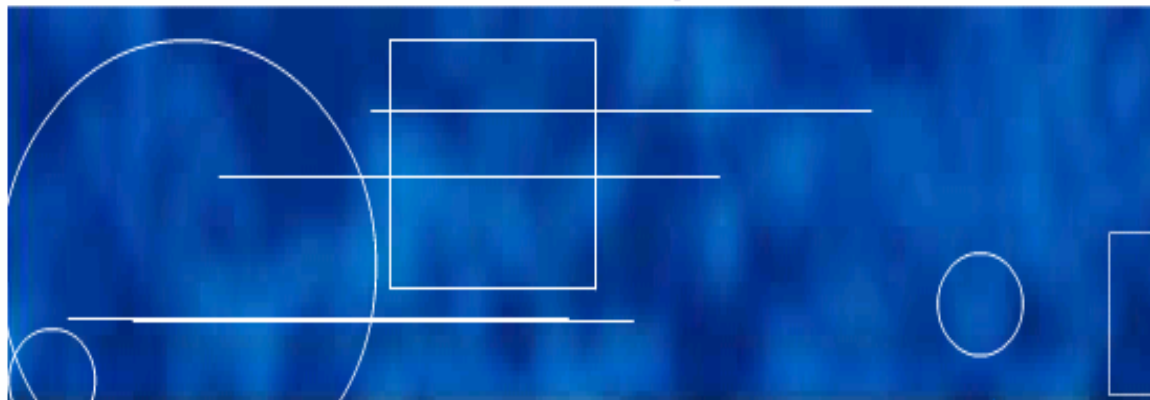
Brjóta isinn



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Thank You!

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