Disclaimer

This Presentation is confidential and is being supplied to you solely for your information and may not be reproduced, further distributed to any other person or published, in whole or in part, for any purpose. Subject to certain exceptions, this Presentation is not for distribution in the United States, Australia, Canada or Japan or any other jurisdiction where its distribution may constitute a violation of the laws of such jurisdiction.

The information contained in this document ("Presentation") has been prepared by Benchmark Holdings plc (the "Company") and neither this Presentation, nor the information contained in it should be considered a recommendation by the Company or any of its shareholders, directors, officers, agents, employees or advisers in relation to any purchase of the Company's securities, including any purchase of or subscription for any shares (or securities convertible into shares) in the capital of the Company. This Presentation has not been fully verified and is subject to material updating, revision and further amendment. Any person who receives this Presentation should not rely or act upon it. This Presentation should not be re-distributed, re-published, reproduced or disclosed by recipients, in whole or in part.

While the information contained herein has been prepared in good faith, neither the Company nor any of its shareholders, directors, officers, agents, employees or advisers give, have given or have authority to give, any representations or warranties (express or implied) as to, or in relation to, the accuracy, reliability or completeness of the information in this Presentation, or any revision thereof, or of any other written or oral information made or to be made available to any interested party or its advisers (all such information being referred to as "Information") and liability therefor is expressly disclaimed. Accordingly, neither the Company nor any of its shareholders, directors, officers, agents, employees or advisers take any responsibility for, or will accept any liability whether direct or indirect, express or implied, contractual, tortious, statutory or otherwise, in respect of, the accuracy or completeness of the Information or for any of the opinions contained herein or for any errors, omissions or misstatements or for any loss, howsoever arising, from the use of this Presentation.

This Presentation may contain forward-looking statements that involve substantial risks and uncertainties, and actual results and developments may differ materially from those expressed or implied by these statements and past performance is no guarantee of future performance. These forward-looking statements are statements regarding the Company's intentions, beliefs or current expectations concerning, among other things, the Company's results of operations, financial condition, prospects, revenue generation, growth, strategies and the industry in which the Company operates. By their nature, forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. These forward-looking statements speak only as of the date of this Presentation and the Company does not undertake any obligation to publicly release any revisions to these forward-looking statements to reflect events or circumstances after the date of this Presentation.

This Presentation has not been approved by an authorised person in accordance with Section 21 of the Financial Services and Markets Act 2000.

In no circumstances will the Company be responsible for any costs, losses or expenses incurred in connection with any appraisal or investigation of the Company. In furnishing this Presentation, the Company does not undertake or agree to any obligation to provide the recipient with access to any additional information or to update this Presentation or to correct any inaccuracies in, or omissions from, this Presentation which may become apparent. This Presentation does not constitute an offer or invitation to subscribe for or purchase any securities and neither this Presentation nor anything contained herein shall form the basis of any contract or commitment whatsoever. In particular, this Presentation is for information purposes and does not constitute an offer or invitation to subscribe for or purchase any securities in the United States. The securities of the Company have not been and will not be registered under the US Securities Act of 1933, as amended (the "US Securities Act") or the securities laws of any state or other jurisdiction of the United States and may not be offered, sold, resold, pledged, delivered, distributed or transferred, directly or indirectly, into or in the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the US Securities Act and in accordance with any applicable state securities laws. There will be no public offering of the securities of the Company in the United States.

By participating in and/or accepting delivery of this Presentation you agree to be bound by the foregoing restrictions and the other terms of this disclaimer.

Benchmark®

Capital Markets Day

27th MARCH 2018
MALCOLM PYE, CEO

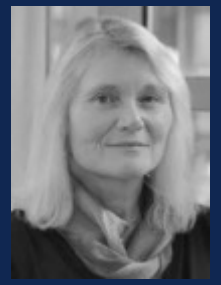
BMK team

Plc Board

Malcolm Pye
CEO

Mark Plampin
CFO

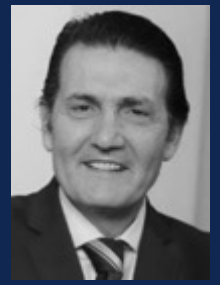
Alex Hambro
Chairman



Susan Searle
Senior Independent Director

Kevin Quinn
Non-Executive Director

Yngve Myhre
Non-Executive Director



Hugo Wahnish
Non-Executive Director

Athene Blakeman
Group Legal Counsel and Company Secretary

Operations Board

Philippe Léger
Head of Advanced Nutrition

Jan-Emil Johannessen
Head of Genetics

John Marshall
Head of Animal Health

James Banfield
Head of Knowledge Services

Roland Bonney
Group Lead, Key Account Management

Ivonne Cantu
Director of Investor Relations & Corporate Development

Anna Winton
Head of People

Benchmark’s vision

To be the leading global player in aquaculture health, genetics and advanced nutrition

- We address some of the main challenges facing the aquaculture industry
- We focus on improving yield, quality and profitability for our customers
- We bring together technology and biology to deliver innovative products that support producers throughout the growth cycle

Benchmark at a glance

Global platform to serve the major aquaculture markets

- R&D facilities and farms
- Diagnostic laboratories
- Commercial services
- Manufacturing/production

Leading market positions

Innovative technology

Unique product offering

Established track record

Group Revenue £140m

Customers 1435 in 70 countries

950 employees

Agenda

3.05 – 3.20	Macro Environment, Gorjan Nikolik, Rabobank
3.20 – 3.45	Advanced Nutrition, Philippe Léger
3.45 – 4.10	Animal Health, John Marshall
4.10 – 4.35	Genetics, Jan-Emil Johannessen
4:35 – 4.50	Financial Outlook, Mark Plampin
4.50– 5.15	Group wide opportunities – panel discussion

Benchmark Capital Markets Day

Key market dynamics

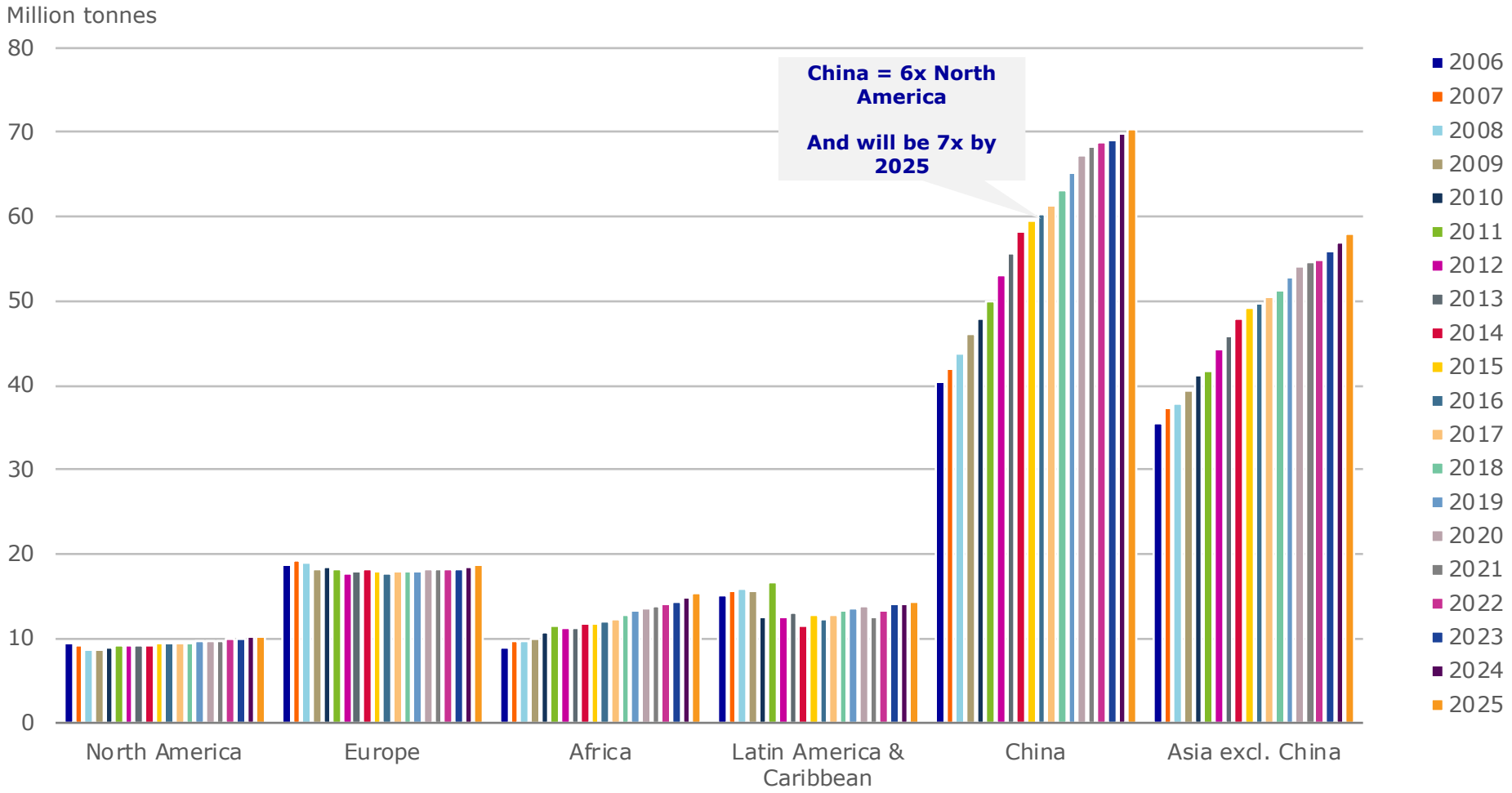
Gorjan Nikolik,
Rabobank Research: Food and Agribusiness
March 2018

Rabobank

Long term dynamics

Seafood demand growth is all about Asia, especially China

OECD outlook on the Fish consumption per region worldwide (in MT)



Source: OECD, Rabobank 2018

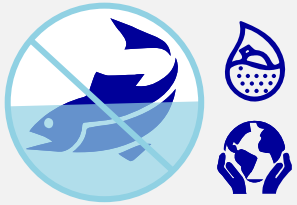
However, Chinese seafood demand growth will be satisfied, in a large part, with imports… from virtually every part of the world

Rabobank

Domestic supply dynamics

Production cost drivers

1. Higher cost of labour/lower labour availability
2. Disease/pollution pressure in aquaculture



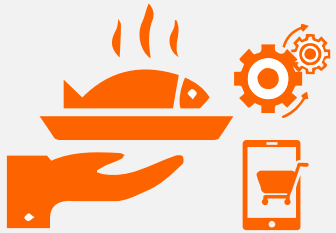
Environmental regulations

1. Decommissioning of inland and coastal fleets
2. Limiting aquaculture close to urban areas

Import demand dynamics

Import demand drivers

1. Income growth and strong currency
2. Distrust of locally-produced seafood (due to pollution and scandals)



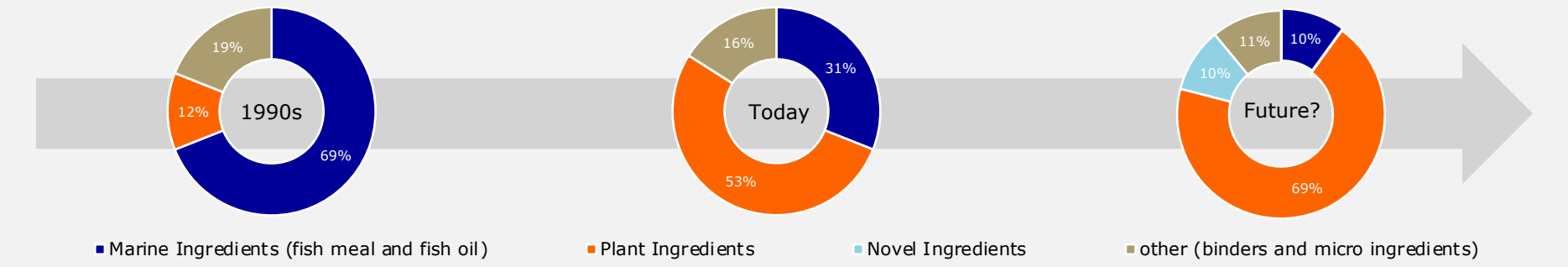
Import enablers

1. Online shopping
2. Improving logistical infrastructure/urbanisation

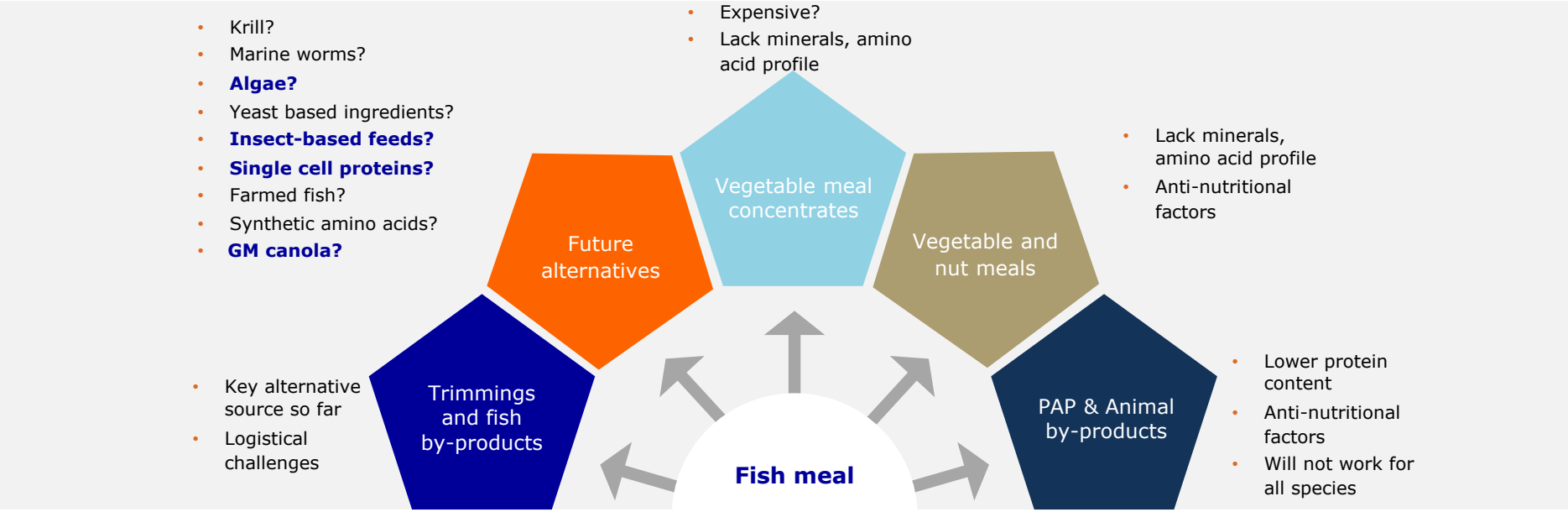
> Chinese-produced seafood is becoming less competitive vs. seafood from other regions, both in the Chinese domestic market and in key export markets
>
> A simultaneous reduction in exports and an increase in imports are likely to erode the current positive net trade position

New feed ingredients will change the feed formula, cost and sustainability of farming and fish marketing

Salmon feed formula evolution



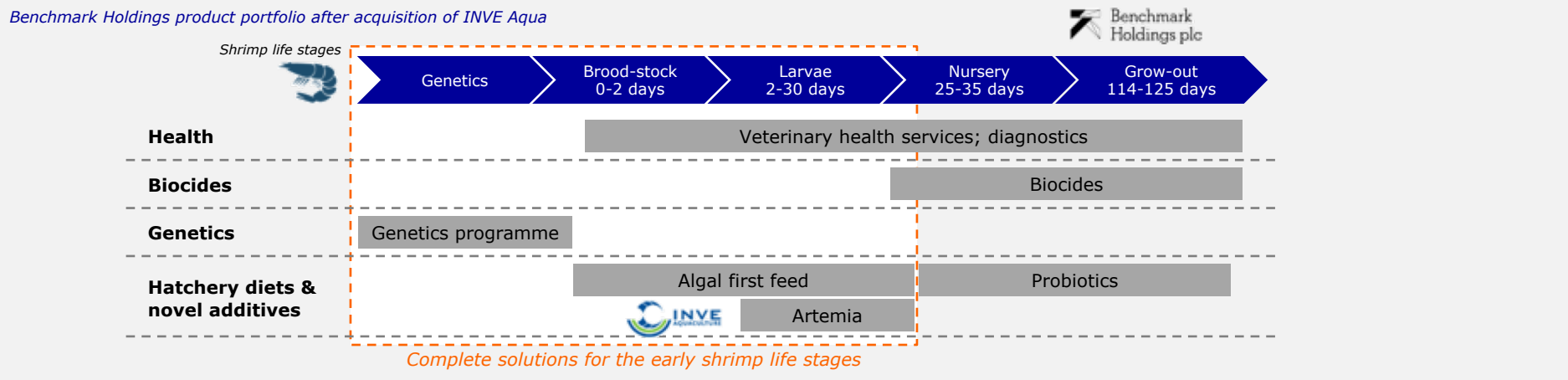
What offers a similar mix of amino acids and is available at the same scale and price?



New solutions to biosecurity are changing farm design and aquaculture business models globally

Continuous evolution of farm level technology in salmon

Complete solution to tackle health issues in juvenile shrimp

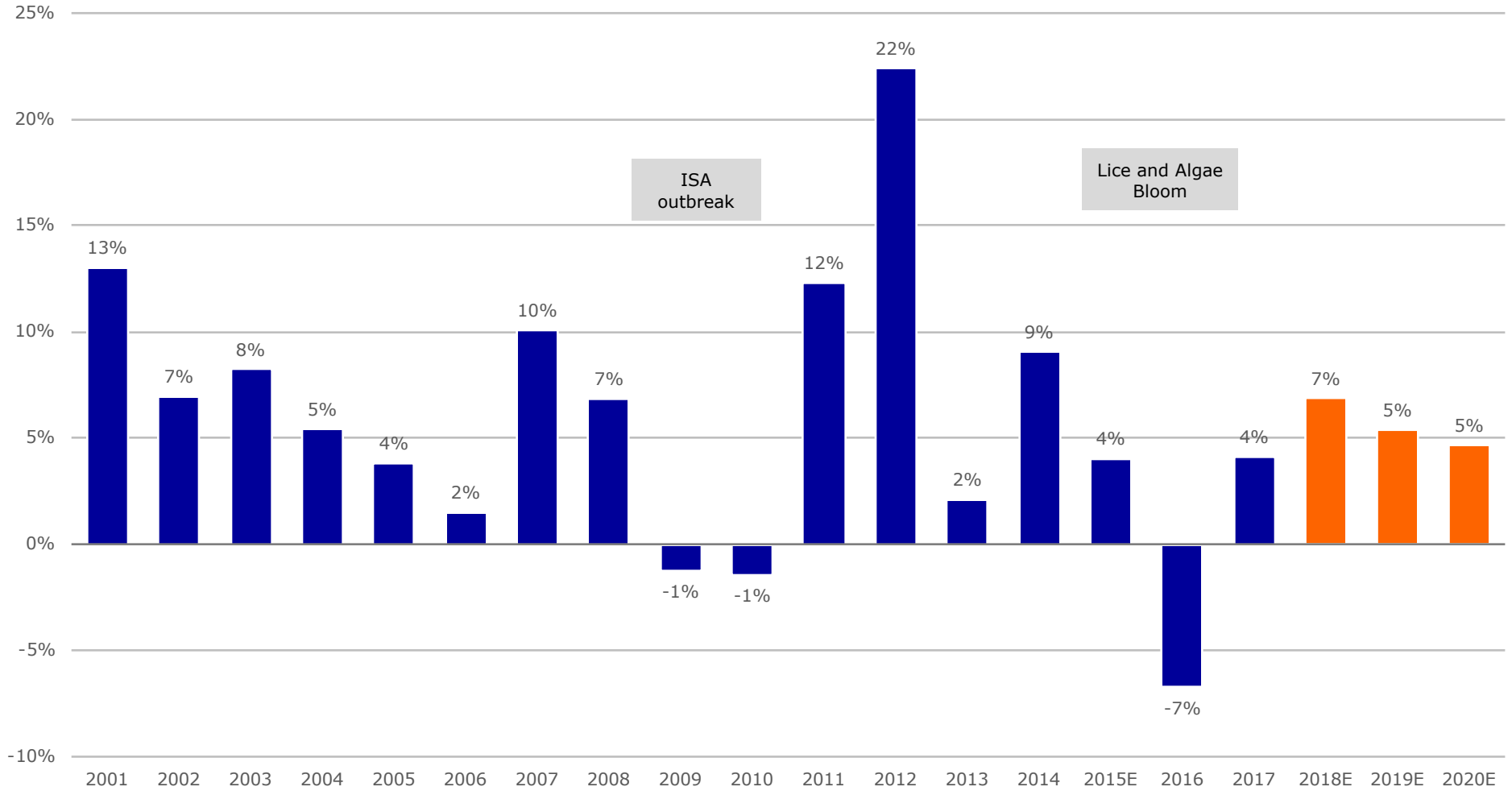


Sources: Company website, Rabobank Research, 2018

High profitability cycle in salmon farming to persist

After a record contraction in 2016, the supply recovery period continues but will be limited by legislation in the medium term

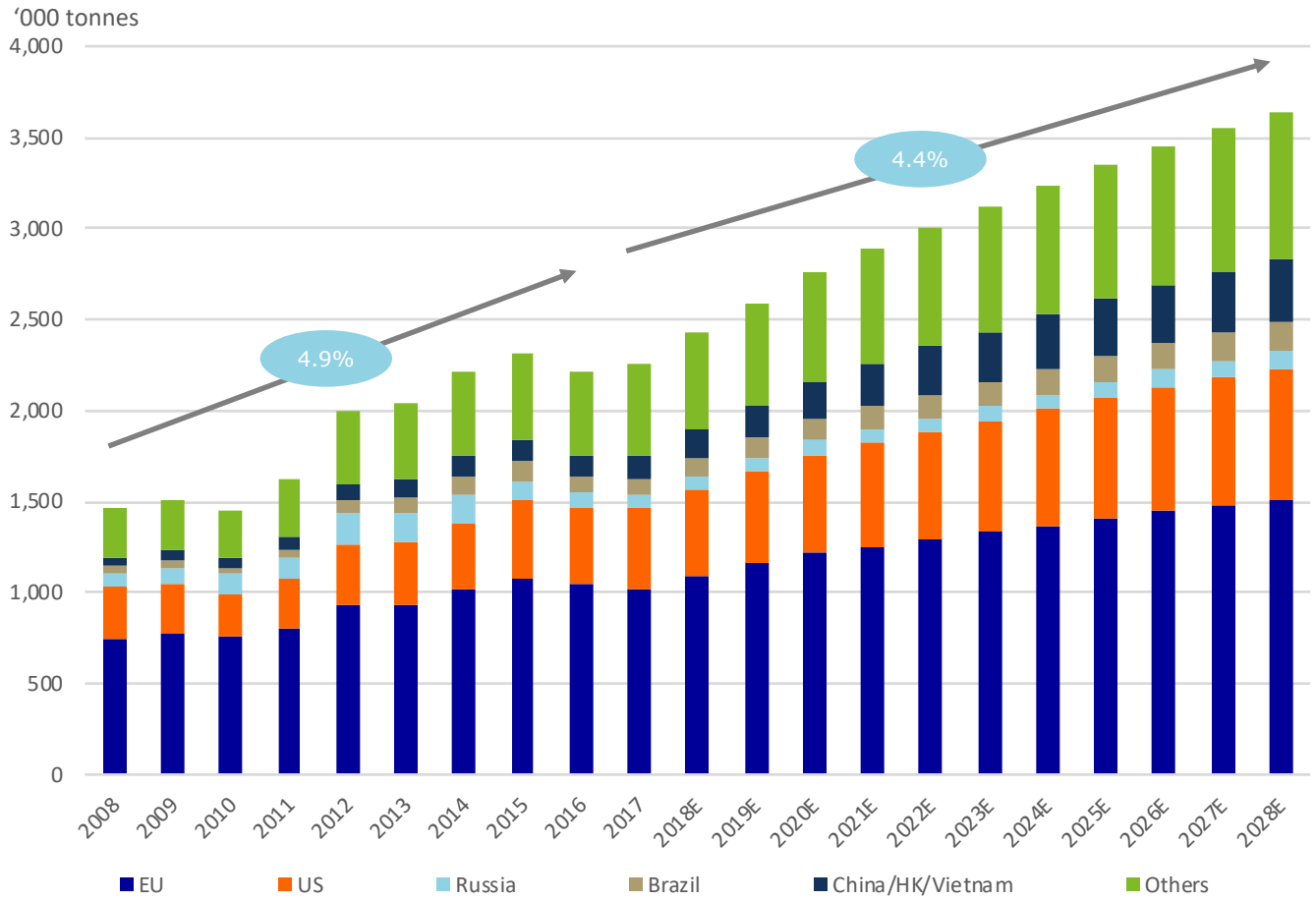
YOY change in global Atlantic Salmon supply and forecast (%)



Source: Rabobank, Kontali, Subsecretaría de Pesca, 2018

This comes at a time of strong global salmon demand, in both traditional and new makers

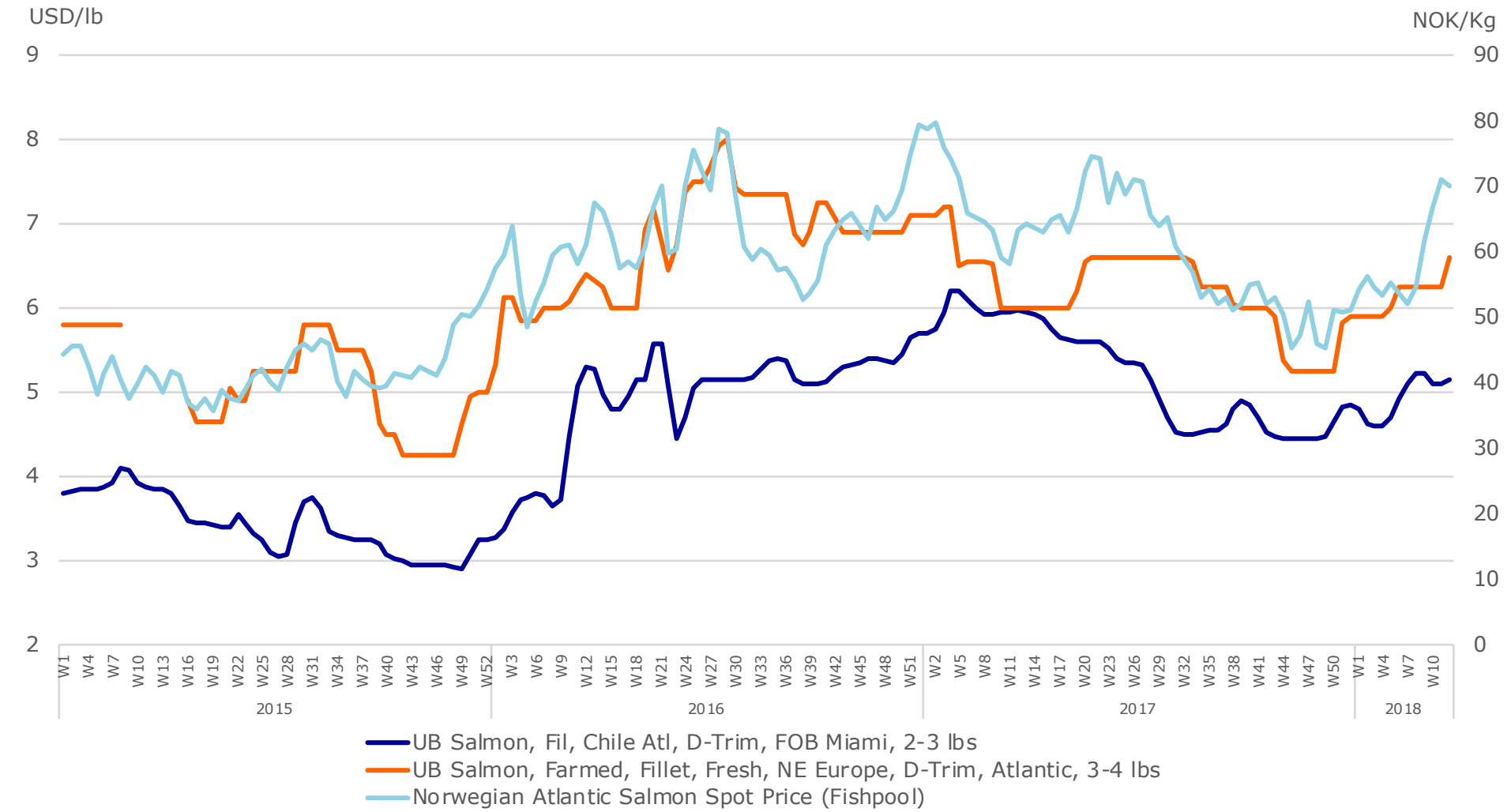
Potential growth of salmon markets



	CAGR '08-'17	CAGR '18-'28
EU	3.6%	3.6%
US	4.7%	4.6%
Russia	0.1%	1.7%
Brazil	8.0%	5.5%
China /HK/ Vietnam	16.1%	9.4%
Others	6.4%	4.4%
Total	**4.9%**	**4.4%**

Source: Rabobank, Kontali, 2018

Consequently prices are expected to remain high for the foreseeable future, supporting good profitability



Source: Urner Barry, Fish Pool, Rabobank 2018

Rabobank

Back to supply growth for shrimp farming (probably)

Shrimp: Due to EMS, supply from China and Thailand has been replaced with supply from Ecuador and India

Since approximately 2010 to 2017

India +400k MT

Ecuador +250k MT

Total +650k MT

China marine shrimp -500k to 400k MT

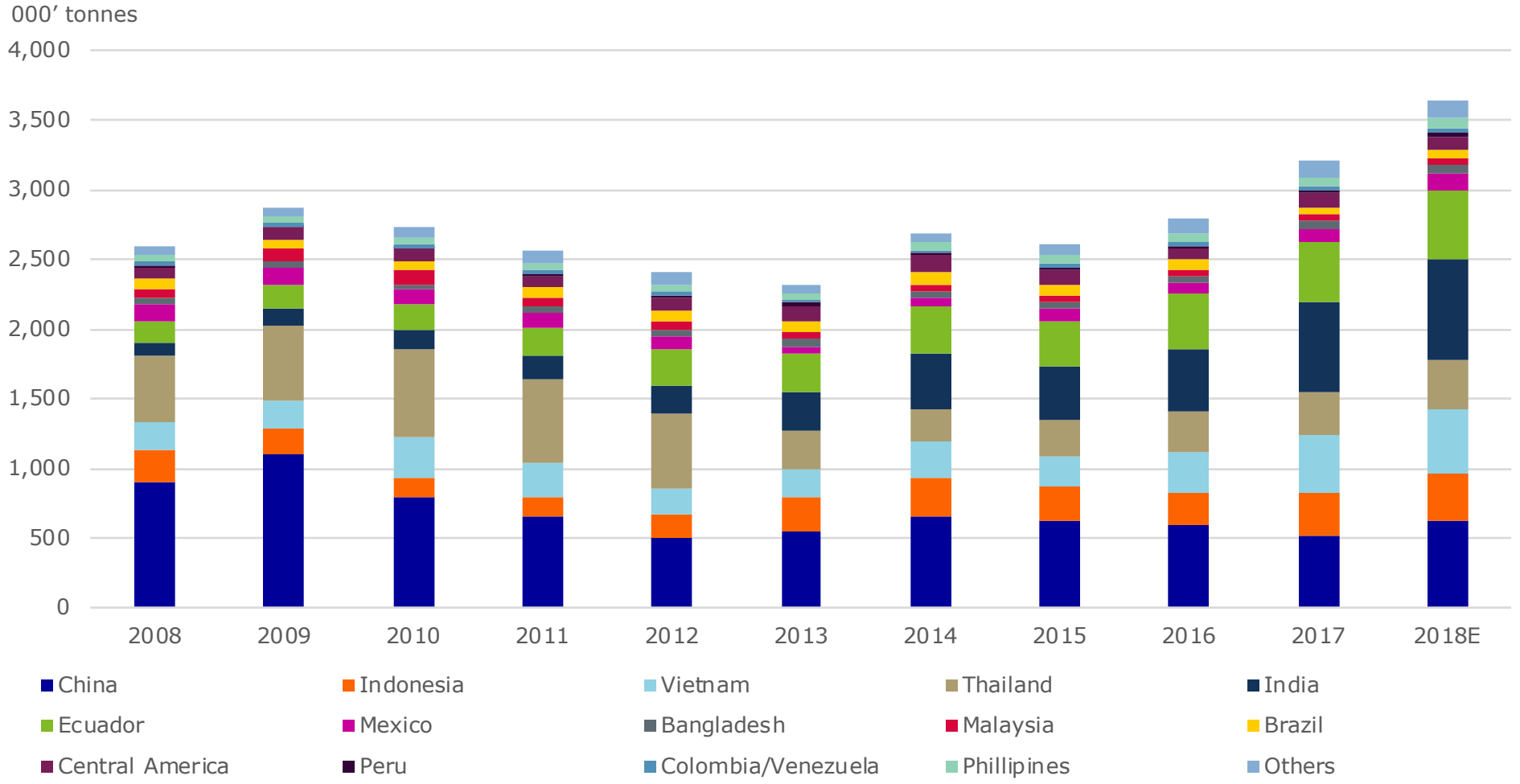
Thailand -200k MT

Total: -700k to -600MT

Source: Rabobank, 2018

Second half of 2017 may have been the start of a new growth phase for the global shrimp farming sector

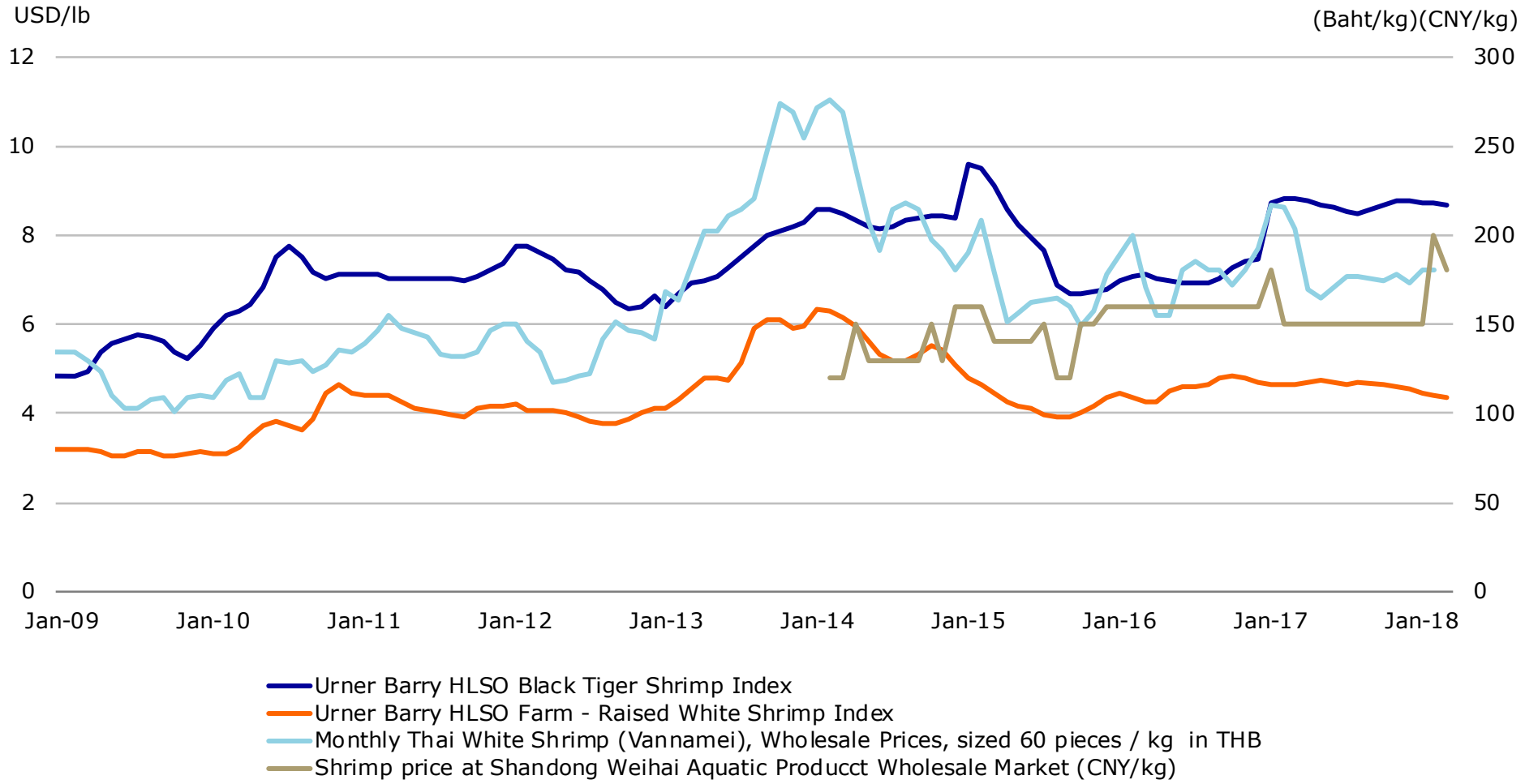
Global Shrimp aquaculture (marine species) 2008 – 2017E



Source: Rabobank, FAO 2018
**Chinese production includes freshwater Vannamei farming . M. Rosenbergii is not included. After 2011 we make significant corrections to FAO data based on industry sources*

Despite considerable shifts in supply, the market has remained balanced and shrimp prices relatively stable

Shrimp prices, white and black shrimp index in the US (left axis), Thai shrimp price (right axis)



Source: Urner Barry, Thai Union Frozen Foods, Rabobank 2018

Contact Us

Rabobank

Gorjan Nikolik
Senior Analyst – Seafood

Telephone +31 30 712 3825
Mobile +31 6 1243 2463
E-mail gorjan.nikolik@rabobank.com


Benchmark®
Caring for growth requires optimal nutrition
PHILIPPE LÉGER,
HEAD OF ADVANCED NUTRITION

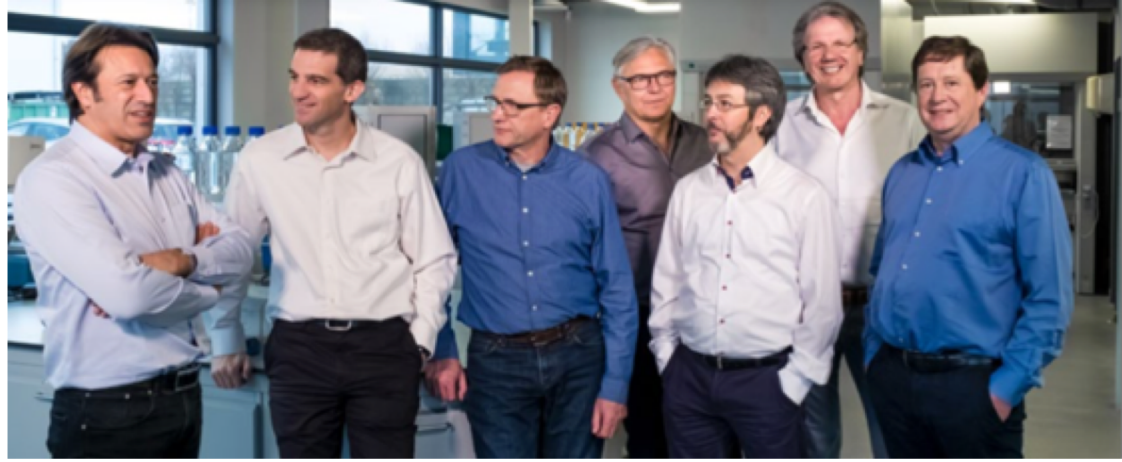
What does advanced nutrition mean for aquaculture

Drives performance and consistency of production

How?

By understanding and inducing biological processes that unlock and promote survivability, development and growth

History



35

years of innovation

Our scientific background leads back to the University of Ghent in the 1980s.

We put 35 years of innovation at the disposal of our customers.

1983
Artemia Systems nv.
Spin-off U-Ghent
PPF development

1991
Acquisition by **INVE**
Investment in market presence

1995
Investment in production & Artemia sources

2001
Investment in innovative health PRO and CAE

2009
Launch of SepArt a.o

2012
Launch of Best Balance

2016
Integration into **BMK**

2018
35th Anniversary

Management Team with depth of experience and track record

174 years
of professional experience

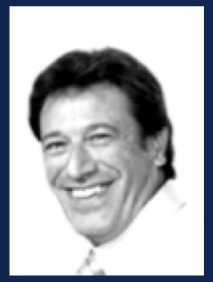
134 years
of experience in aquaculture

Phillipe Léger
Head of Advanced Nutrition

- 39 years' experience
- PhD Bioscience Engineering
- With INVE since foundation
- Strong local relationships with major producers

Patrick Lavens
Innovations Director

- With INVE since 1999
- PhD in Applied Biological Sciences
- 39 years experience in aquaculture



Stelios Leontios
Commercial Director

- Joined INVE in 1993
- Master in Bioscience Engineering
- 22 years experience in aquaculture

Wim Martens
Operations Director

- Joined INVE in 2000
- Over 15 years experience in aquaculture
- Master in Bioscience Engineering

Emiel de Becker
Strategy Director

- Joined INVE in 1995
- Masters in Finance
- Responsible for strategy execution

Pierre Hugo
Finance Director

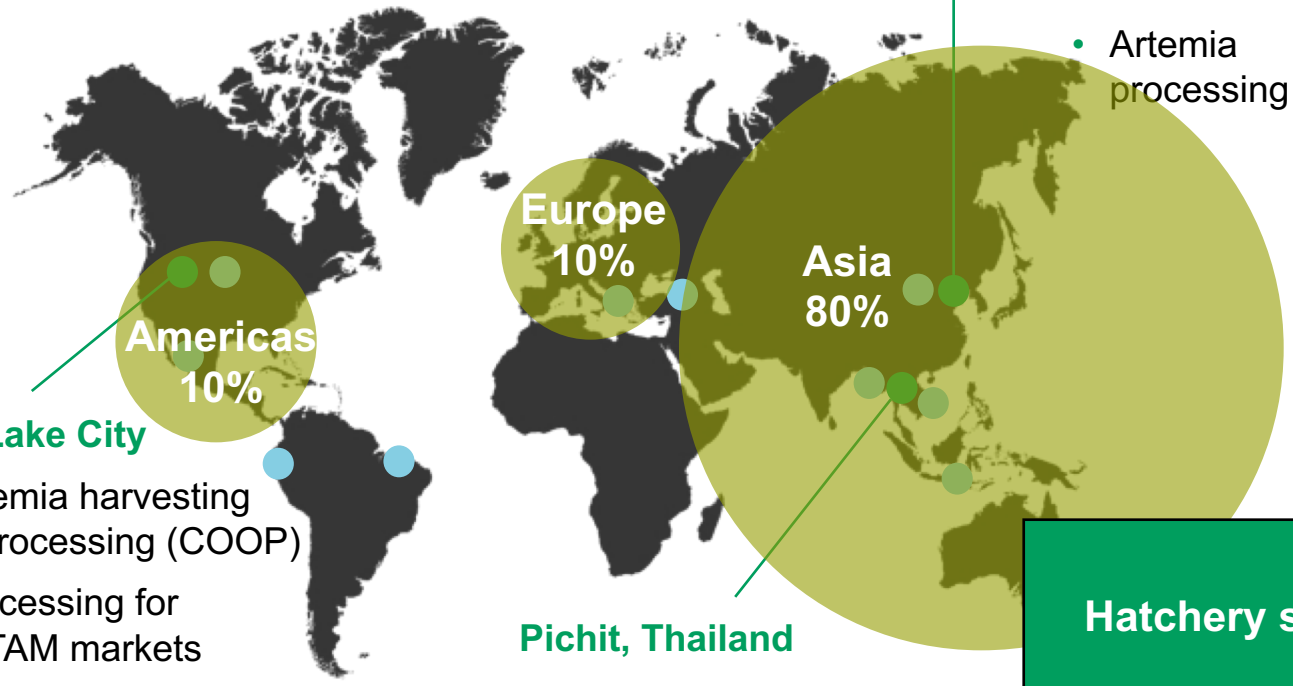
- Joined INVE from Pfizer in 2012
- Over 19 years' experience
- Master degrees in Finance, Taxation, Risk and Insurance Management

Marc De Feyter
HR Director

- Joined INVE in 2002
- Degree in mathematics & economics
- Responsible for People

Strategic footprint built around core markets

600+ customers in 70 countries



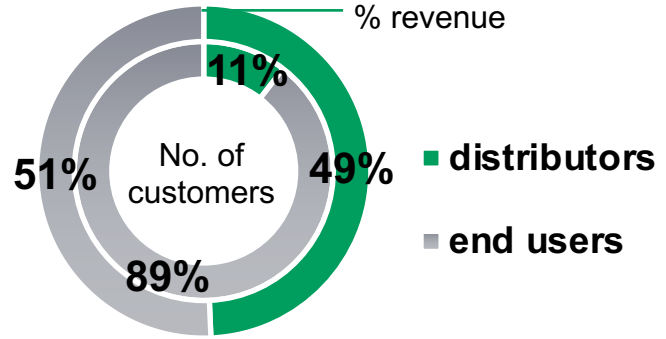
Tianjin, China
- Probiotics
- Artemia processing

Salt Lake City
- Artemia harvesting & processing (COOP)
- Processing for LATAM markets

Pichit, Thailand
- Main production

- Sales & Service
- Production
- Market potential

% Sales per customer segment



Hatchery segment	Farm segment (grow-out)
• Artemia • Enrichment diets • Compound micro diets • Probiotics • Robustness boosters	• Probiotics • Water treatments • Nursery feeds and farm feed additives

Market Overview - Hatchery

$500m

- Advanced nutrition plays critical role in hatchery
- Core markets in hatchery is estimated at over $500m with attractive growth
  - **Shrimp** —$360m
  - **Marine fish** —$150m
- Top end only = $300m
- **Dominant** share in **top end**:
  - 40%+ in most markets except China
  - 33% including China

Market Overview — Farm

$1bn

- High-end Farm feed estimated at **$11Bn** (incl. shrimp, marine fish and tilapia; FAOSTAT)
- **Niche** of Farm health and feed additives market (excl. antibiotics, vaccines) estimated at c. **$1Bn**
- **Minor** share:
  - Just **c. 1%** of additive and health market
  - **Pioneering top end** segment of innovative probiotics and water treatment products for disease prevention

Pillars of growth

Maintain leadership in hatchery

- Maintain technological leadership through continued **innovation**
- Maintain sufficient **market presence** and high **service** levels
- Progressing "***One Benchmark*" key account approach** in Asia

Increase market share in farm

- Enhance **market penetration** for probiotics & introduce novel products and nursery diets
- Focus on **integrated producers** and **partnerships** with leading feed companies

Develop salmon and tilapia "*One Benchmark*"

- Develop feed **probiotics** and **booster feeds** for salmon
- Develop **health products** for Tilapia: feed & water treatment

R&D priorities

- **Strengthen hatchery portfolio**
  - Upgrades, next generation products
  - Production efficiencies
- **Artemia**
  - Replacement diets
- **Expand into new markets**
  - Nursery/farm
  - Disease risk, environment optimisation
  - Salmon, tilapia

2012	Best Balance
2013	FRiPPAK Fresh #2
	O.Range
2014	Sanolife GWS
	Sanocare SURE
2015	Sanolife NutriLake
	Lansy Breed Performance
2017	Secure range Tilapia, D-Fense Artemia, Thalapure
	Natura, EDS, FIT

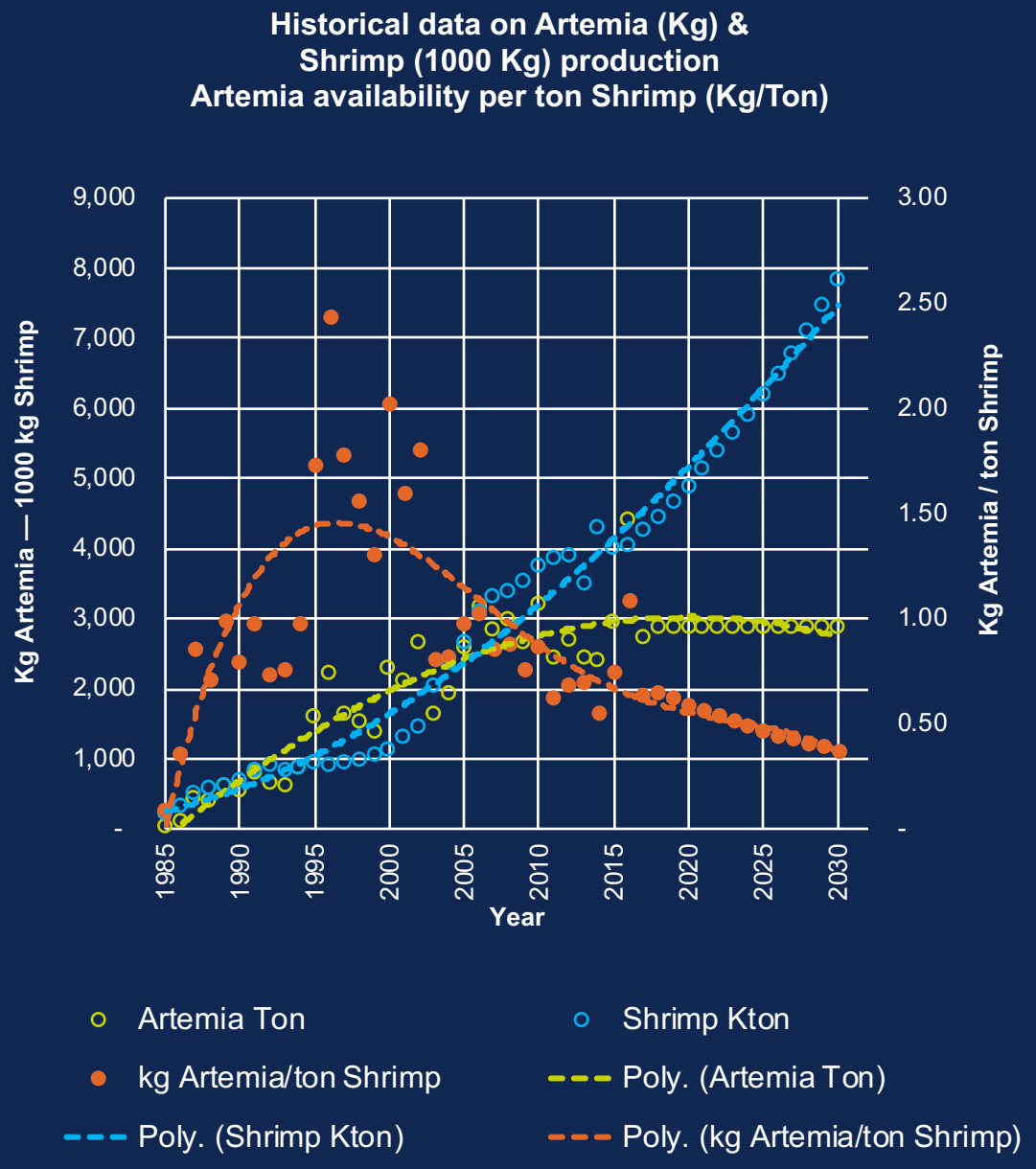
Pipeline Overview

	Development stage							Peak projected sales			
Species	**Development**			**Field Verification**	**Market preparation**		**Start of sales**	**DEV**	**VER**	**MKT**	**SLS**
Shrimp	(SDO3)							22.8			
Marine fish	(FD05)							7.0			
Shrimp					(ART01)	(ART02)				3.9	
Marine fish					(ART02)					0.4	
Shrimp	(SL18)	(SL20)					(SL16)	2.1			3.2
Marine fish	(SL19)	(SL20)					(FD06)	0.4			3.0
Shrimp	(SL22)			(SG28)				0.1	8.5		
Marine fish							(SL23)				0.2
Tilapia	(SC12)	(SC11)	(SL20)					6.1			
Shrimp	(SG25)					(SC15)	(SD29)	7.0		1.0	1.4
Marine fish	(SG26)						(FD07)	1.5			0.4
								47.0	**8.5**	**5.3**	**8.2**

A closer look at top opportunities

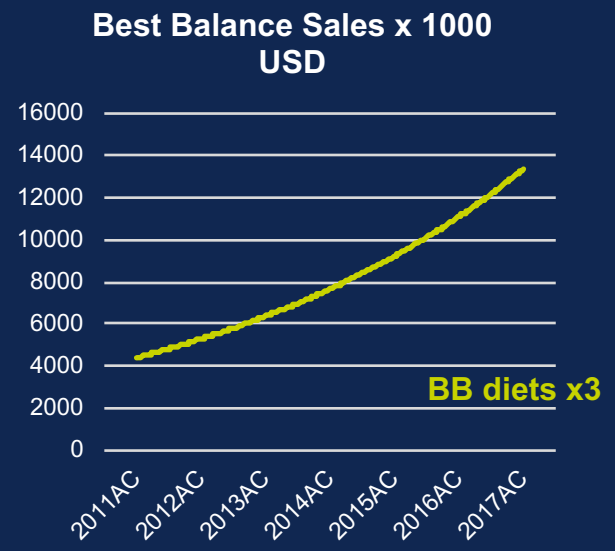
1. Artemia Replacement

- **Artemia** supply fully tapped: avg. 2900 MT/a
- **Shrimp** is biggest consumer >80%
- Shrimp production expected to **double** by 2030
- **Artemia availability per shrimp** to **halve** by 2030
- **Deficit** gradually filled with best **replacement product**



1. Artemia Replacement

- Current replacement diets do not meet artemia nutritional value — fry quality degrading
- BMK has current best offering (**Best Balance**: sales tripled in 6 years)
- **100% replacement** shall equal artemia nutritional value
- **More high quality fry** will be produced **with less artemia**
- Farmers expected to **use a mix** of artemia and its replacement
  - **Sophisticated** hatcheries will use **less artemia** and more replacement
  - **Most sophisticated** hatcheries may use **no artemia**
  - Significant **demand for artemia will continue** from **less sophisticated** hatcheries and **emerging species** (crab, grouper)
- Do not expect **cannibalisation** but **complementation**



BMK has long term access to Great Salt Lake Artemia.

GSL Artemia is currently the best and most sustainable source in the world.

A closer look at top opportunities

Nutrition + Health Performance Claims

Completing AAN Unique Value Proposition

Advanced Nutrition

Producing quality fry

- Maturation diets
- Started diets Natura
- Enrichment diets EDS
- Nursery Diets

Biosecurity

reducing contamination

- D-Fense Artemia: pathogen free
- Disinfectants
- Sanocare FIT: Vibrio control

Resilience

to increase immunity and stress resistance

- Sanoguard S.Pak: Improve immunity
- Sanolife GUT: gut health
- Sanolife PRO2: Stress resistance
- Nutraceutical boosters

Protocol for enhancing Performance and Consistency in production

Strong market drivers and BMK's success factors

1 → 2 → 3

Market drivers

- Growing **demand** for seafood vs stagnating fisheries
- Move to **intensive** farming
- **Professionalisation** for vertical **integration** and **consolidation**
- Drive need for **consistent** performance and quality
- Urgent need to combat **disease — prevention**

Mitigating Risks

- **#1 = Disease**
- **Climatological** impacts
- **Artemia** as a limited resource
- Industry in **development**: fragmentation, lack of professionalism and long term thinking

Success factors

- **Top performing** products — science based & market driven
- Local **presence** in key markets
- **Long term** commitment
- Strong **customer relationships & service**
- **Operational excellence**: reliable quality and compliant supply
- **BMK unique solutions platform** when combining AAN with other divisions

Benchmark®

Disease prevention drives productivity

JOHN MARSHALL,
HEAD OF ANIMAL HEALTH

What does health mean for aquaculture

Despite progress made using conventional technologies disease and parasites remain the largest restriction on the growth of aquaculture

Benchmark is developing solutions for some of the most costly diseases

Experienced team across disciplines to commercialise BMK pipeline

John Marshall
Head of Animal Health

- 20 years' experience in pharma
- Significant experience taking new products to market
- Ex **Novartis**

R&D

Robin Wardle

- 30+ years in aquaculture product development and commercial operations
- Ex **Merck**

Manufacturing

Bob Long

- 35+ years experience in animal and human health
- Ex **Novartis**

Regulatory

Dr. Lindsey Toon

- 20 years experience in pharma
- **Ex Merck**

Diagnostics

Dr. Hamish Rodger

- 30+ years experience as an aquatic veterinarian (Phd & Msc)
- Founding member of EU College of Aquatic Animal Health
- Specialist consultant to global salmon farming

We have the capabilities to succeed in aquaculture health

R&D

- Dedicated team of 25 scientists
- In-house facilities add speed and flexibility
- Innovative platform technologies
- Partnerships with universities, research institutes and pharma

Regulatory

- Experienced team with large pharma background
- Established relationships with regulators and local authorities
- Leveraging Group experience across multiple jurisdictions

Manufacturing

- State of the art GMP facilities
- Scale to launch and manufacture BMK's broad pipeline of products
- Flexibility to utilise excess capacity for toll manufacturing

Commercialisation

- Established market routes in salmon
- Synergy with Advanced Nutrition for marine fish
- Key accounts programme
- Technical sales and support — FishVet

In-house R&D

Speeding development of pipeline products

Cold water trials: Scotland

- Species: Salmon and lumpfish
- Successfully delivered trials for Ectosan & CleanTreat
- Home office licensed

Warm water trials: Thailand and Italy

- Species: Shrimp, tilapia and marine finfish
- Experimental scale shrimp hatchery
- Commercial scale testing

Manufacturing capacity to deliver pipeline

- State of the art GMP with flexibility for conventional and new technologies
- Operating at 50% capacity from a combination of own products, toll manufacturing and product development
- Utilisation will increase as pipeline products are delivered

Why in-house manufacturing?

- Vaccines differ from pharma - IP in manufacturing
- Greater reliability, flexibility and margins
- Easier to introduce new technologies
- Outsourcing requires large stable volumes

In-house strategy supports faster implementation of innovation

Competitive landscape

- Growing interest from big pharma validates opportunity
- Large multinational players but opportunity to compete with differentiated offering
- Major unmet needs across multiple markets

How do we compete?

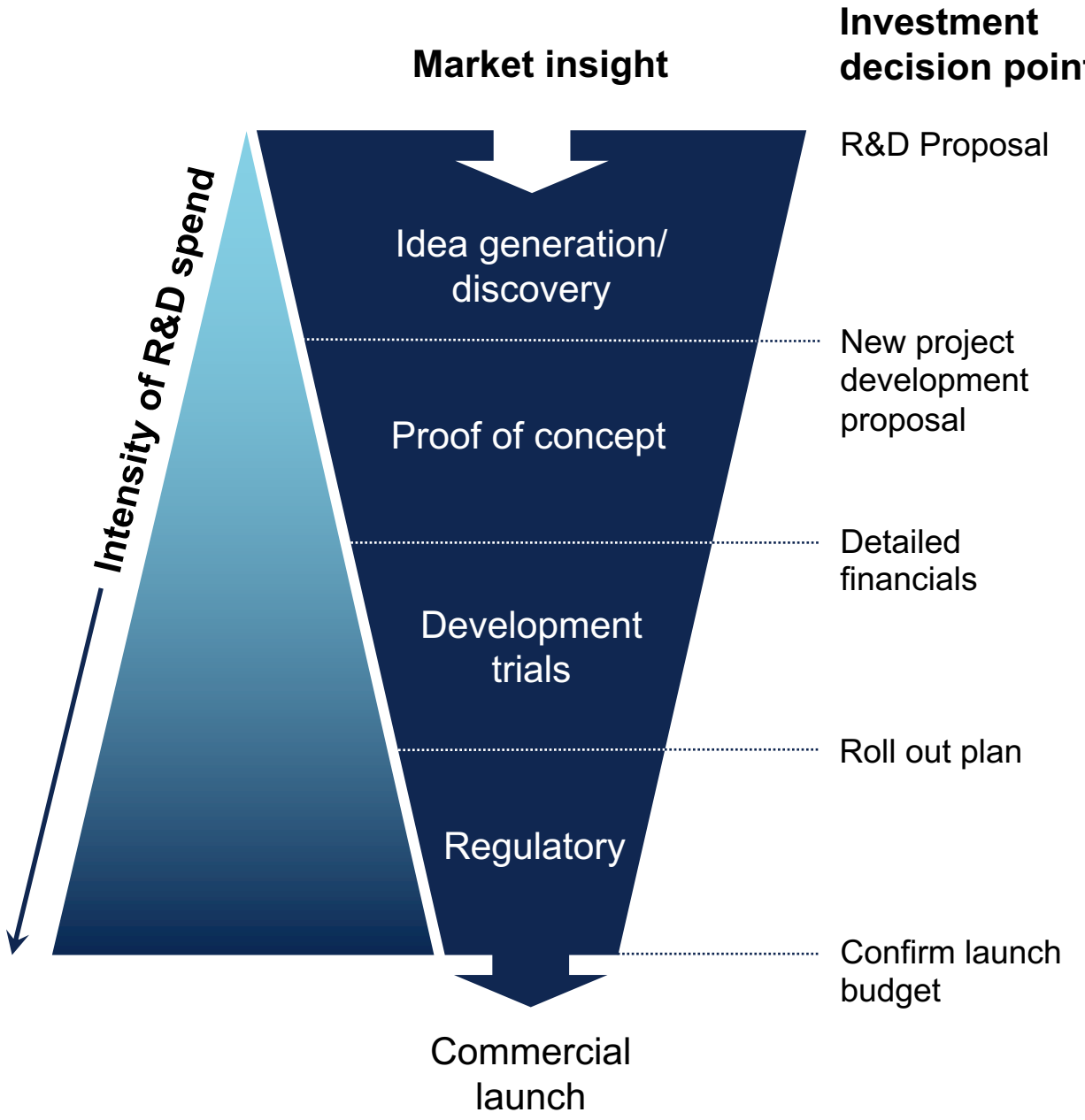
Benchmark®

1. Long term commitment to aquaculture producers
2. Use innovative technologies
3. Address unmet needs (most economically important parasite and virus diseases)
4. Long history of high quality aqua vaccine manufacture
5. Holistic platform – health part of total solution

Our Competitors	
zoetis PHARMAQ	Strong player with track record in conventional vaccines in salmon and marine fish
MERCK Animal Health	Long-term player, particularly in salmon and tilapia
Elanco NOVARTIS	Focused on salmon globally
Virbac CENTROVET	Generics supplier in Chile

Focused R&D strategy

1. Pipeline centred around large market opportunities and unmet needs
2. Develop platform technologies
   - VLP's, recombinants, live attenuated, DNA plasmids
   - New adjuvant technology
   - Unique cell lines
   - Oral delivery
   - CleanTreat
3. Prioritise projects based on return potential and strategic importance
4. Manage pipeline dynamically
   - Accelerate, pause or abort based on technical success and evolution of market opportunity
5. Holistic approach to disease, leveraging Group capabilities



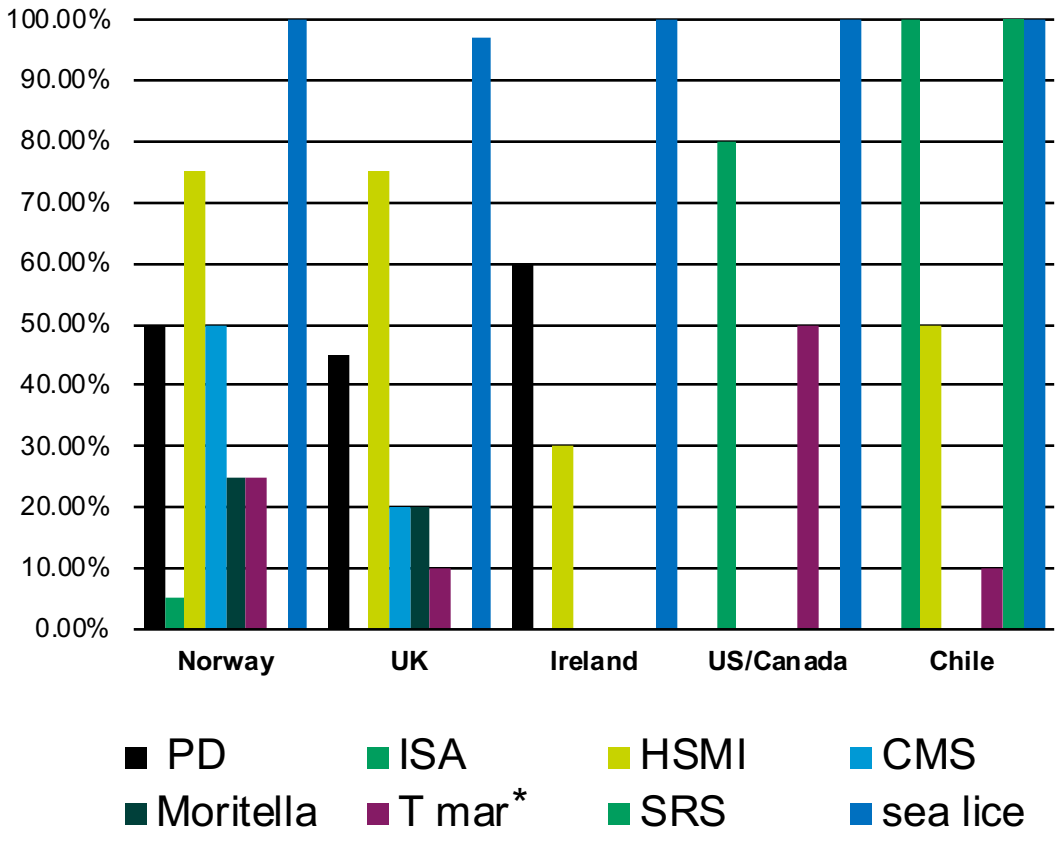
Animal Health pipeline overview

Peak projected sales (£), date of first sales (incl. field trials)	Discovery				Passed proof of concept				Development Trials				Regulatory process begins	Field Trials	Species total(£m)
Sea bass/bream								VAQ002 (3m) 2019		PAQ009 (20m) 2020	VAQ007 (12m) 2019	VAQ011 (10m) 2018	VAQ008 (1m) 2018	VAQ016 (1m) 2016	47
Salmonids	PAQ024 (6m) 2021	VAQ017 (25m) 2021	VAQ032 (10m) 2019	VAQ006 (15m) 2019	PAQ017 (3m) 2022	VAQ029 (9m) 2020	VAQ015 (6m) 2020	VAQ010 (1m) 2018	VAQ019 (1m) 2019	VAQ021 (2m) 2019	VAQ020 (1m) 2019	VAQ028 (19m) 2019	PAQ014 (1m) 2018	PAQ008 (45m) 2018	194
	PAQ004 (3m) 2022	PAQ022 (10m) 2021	VAQ031 (6m) 2021			PAQ018 (10m) 2021	PAQ007 (13m) 2021	VAQ009 (2m) 2020	VAQ022 (6m) 2019						
Tilapia	VAQ034 (3m) 2022	VAQ036 (1m) 2021	VAQ025 (1m) 2021									VAQ024 (1m) 2018		VAQ004 (1m) 2018	7
Shrimp														EAQ002 (10m) 2019	10
Cleaner fish				VAQ033 (1m) 2018											1
Catfish					VAQ003 (3m) 2019										3
Other aquaculture		PA016 (6m) 2022	PAQ021 (6m) 2022												12
Non aquaculture						VC002 (55m) 2021	VTS009 (50m) 2021		VC001 (165m) 2021				PAQ023 (3m) 2019		273
Peak sales Est. Prob success	**13 products £93m 10%**				**11 products £155m 30%**				**10 products £237m 50%**				**7 products £62m 80%**		

Top core opportunities

		Peak projected sales	Risk Weighted
1	**Next generation sea lice treatment**	£45m	£36m
2	**Salmon vaccines portfolio**	£99m	£26m
3	**Sea bass/sea bream portfolio**	£46m	£24m

Salmon opportunities
Incidence and impact of major diseases



*Tenacibaculcum maritimum

Source: Company estimates

Sea lice estimated annual cost to industry[1]

$500m+

PD impact in Norway[2]

$250m

SRS estimated annual cost to industry[3]

$300m

HSMI[4]

Up to 20% Mortality

Source: [1]Rabobank, [2] Norwegian Fish Health Report
[3] Rozas & Enriques (2014) [4] Fish Vet Group

1 Salmon lice: Next generation sea lice treatment + CleanTreat

- **100% efficacy** including in populations resistant to other medicines
- **Safe for most sensitive marine species**
- **Superior safety profile** even at high exposure level
- **Excellent fish welfare**

Overview of current sea lice treatments

	Efficacy	Welfare	Environment
Next generation sea lice treatment	**100%**		None
Pyretheroids	Low		Long
Azamethiphos	Moderate		Short
Avamectin	Low		Long
H202	Moderate	✗✗	Short
Fresh water	Declining	✗	None
Mechanical	Moderate	✗✗✗	None

Source: Company analysis

Next generation sea lice treatment + CleanTreat
Large opportunity initially in Norway with significant return potential

- Estimated annual peak revenue: £45m based on conservative assumptions:
  - Treatment market size: 1.1mtons
  - Market penetration: 25%
  - Treatments/year/farm: one
  - Premium price vs treatments in the market
  - Years to reach peak sales (from MA): 2yrs
- Target IRR: 50%

Next generation sea lice treatment roll-out plan

2018

- Field trials in Norway
- Great interest from producers to participate in trial extension
- Obtaining approvals to conduct field trials in other markets.
- Exploring CleanTreat opportunities

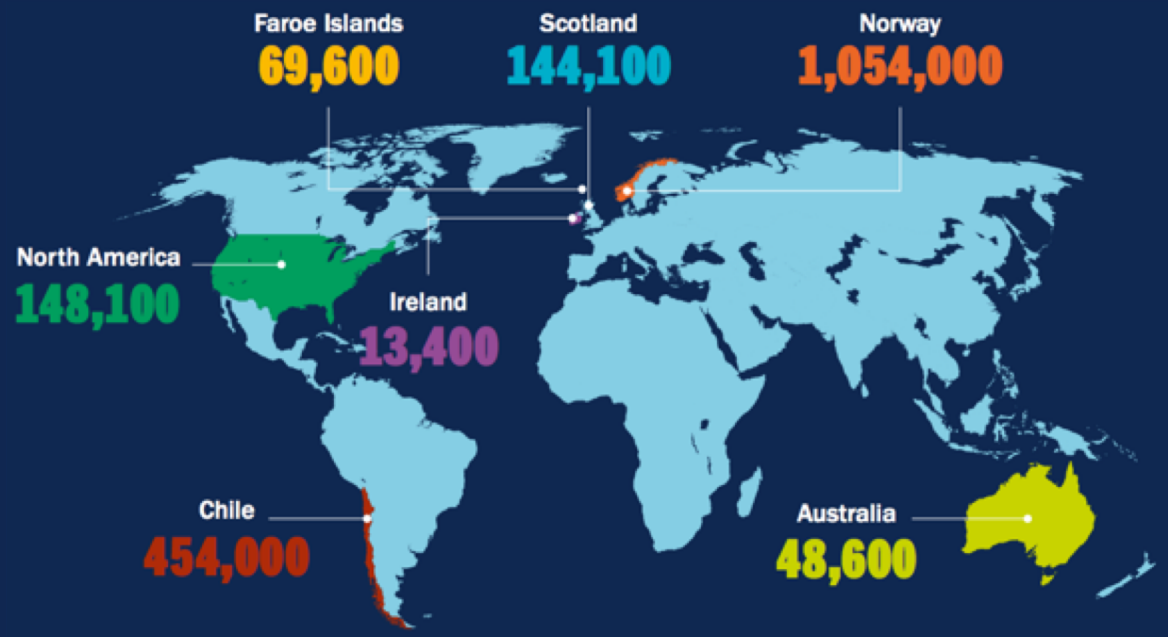
2019

- Field trials:
  - UK, Ireland and Faroe Islands
  - Canada
  - Chile

2020

- MA in place

Top salmon producing countries 2016[3] (tonnes GWE*)



Source: Salmon Farming Handbook

2 Salmon vaccine portfolio strategy

Unmet Need

+

Core Antigens

↓

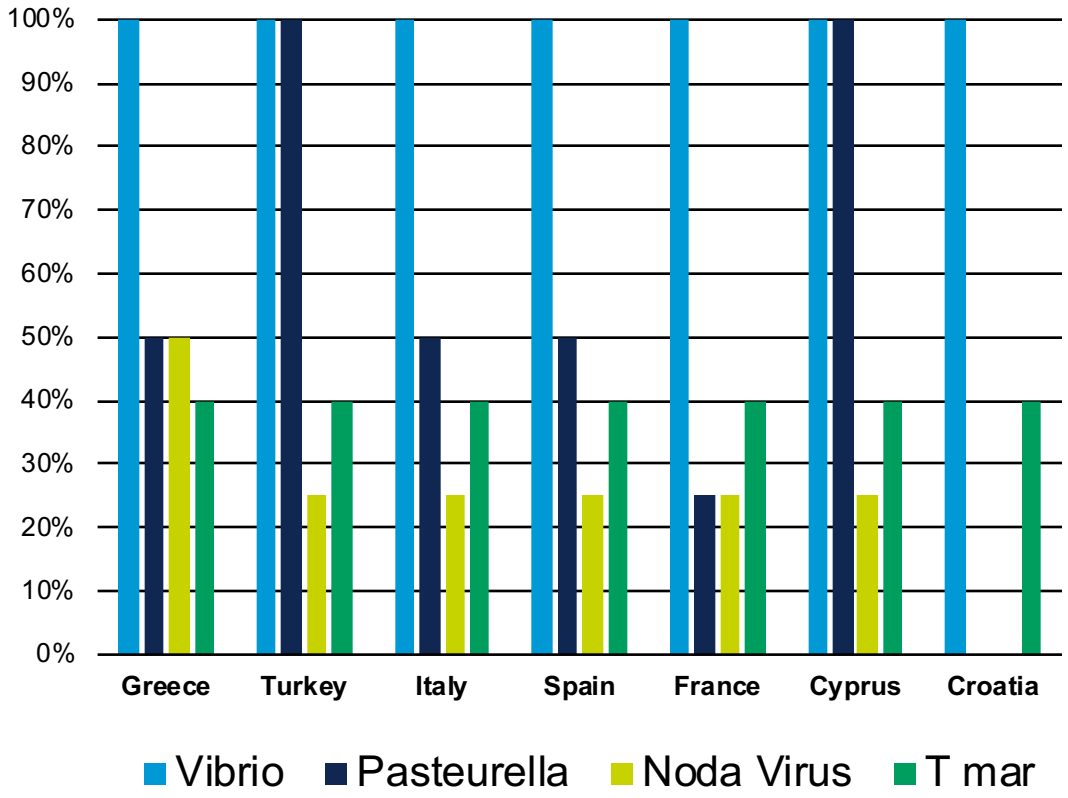
Full solution

- Apply new technologies to solve existing and unmet needs
  - High value added for farmers
- Focus diseases: sea lice, PD, SRS and skin lesions caused by Tenacibaculcum maritimum (Tmar)

- Follow with standard core antigens e.g. Vibrios to deliver full differentiated protocol
- Regional strategies for Chile, Norway, UK and Canada
- BMK holds core antigens (from Zoetis aquaculture asset acquisition)

- Patented technology and know-how
- Platform technologies for oral delivery, injection and immersion
- Peak projected sales: £99m (risk weighted £26m)

Marine fish opportunities
% incidence of major diseases by region



Nodavirus[1]

up to 100% mortality

Pasteurella
(in juvenile fish)

up to 90% mortality

Source: [1] Doan et al 2016, [2] Andreoni & Magnani, 2014

3 Warm Water Marine Fish Portfolio e.g. Sea Bass & Sea Bream

- BMK strategy is to build a flexible mix and match portfolio to deliver tailored, cost effective vaccination programmes
- Opportunity to leverage INVE's established position and long term relationships with key producers
- Scope to extend technology to other species

Summary

Key growth drivers

Disease is aquaculture's greatest limiting factor

- Unmet disease solutions in salmon
  - Sea lice greatest restriction on salmon industry growth
  - Virus and bacterial diseases cost to industry over $1bn
- Unmet disease solutions in marine fish
  - Nodavirus and Photobacterium
  - Parasites

Capabilities

- Group track record of commercialising
- New technologies allows first mover advantage
- State of the art manufacturing capacity
- Programmes showing superior performance
- Holistic solutions with BMK synergies

Main opportunities

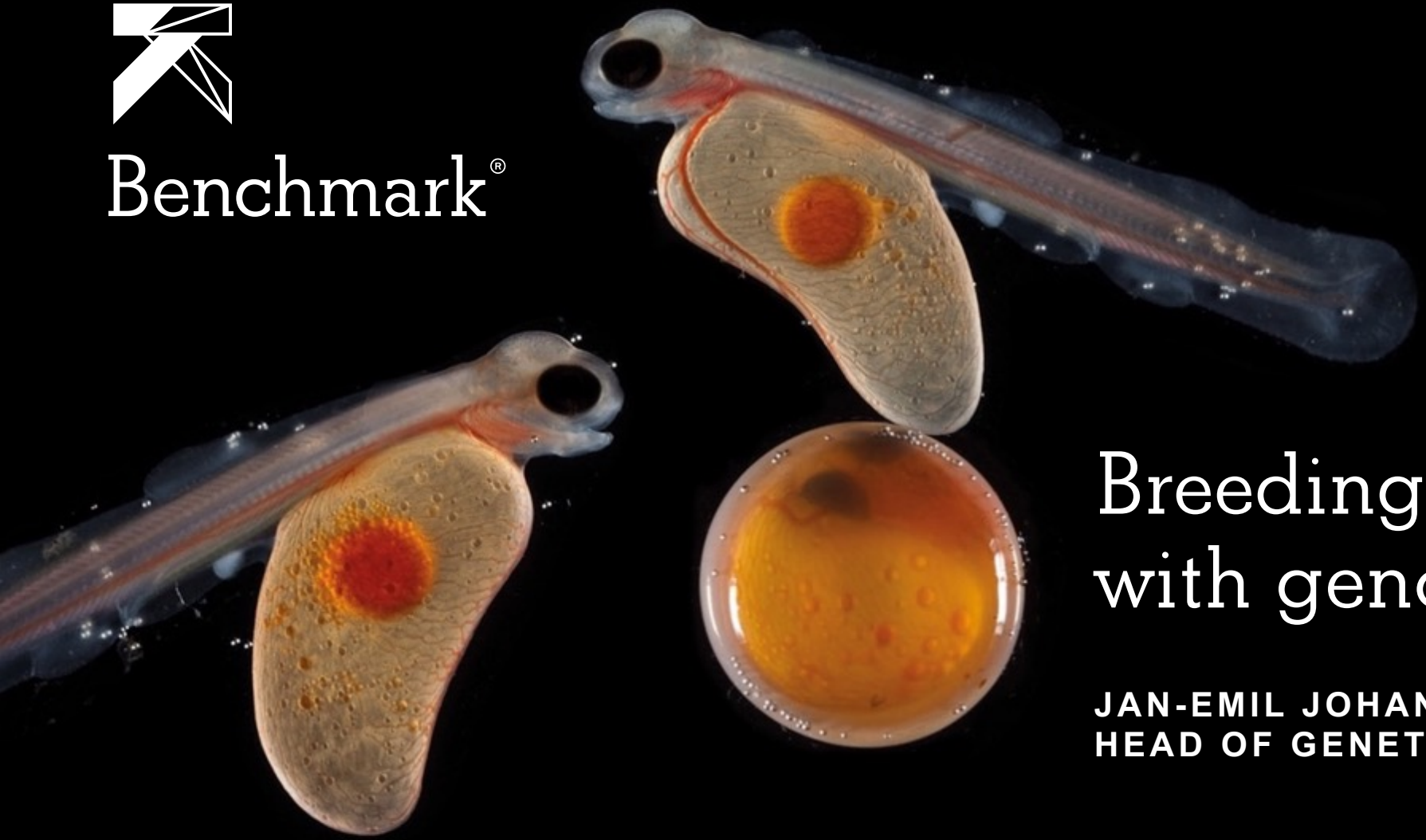
Salmon

- Sea lice treatment: Commercial trials in Norway, Faroe Islands, UK & Canada
- Exploit CleanTreat for current bath medicines & 'own' future medicines
- Novel Salmon Vaccine portfolio launch — oral vaccines, SRS, PD

Marine Fish

- Mediterranean Vaccine portfolio launch
- Strengthen commercial structure globally
- Global vaccines (VAQ028)

Benchmark®



Breeding for the future with genomic precision

JAN-EMIL JOHANNESSEN,
HEAD OF GENETICS

What does genetic selection mean for aquaculture?

Delivering the best genetic starting point for production efficiencies and health resilience

Revenues
£30.5m
2016: £20.7m

Adj. EBITDA
£5.8m
2016: £1.4m

Over 135 years experience in aquaculture genetics

Jan-Emil Johannessen
Head of Benchmark Genetics

- 30+ years' experience in the salmon industry
- Deep-rooted market insight into food production
- Ex **Lerøy** and **Rieber & Søn**

Dr. Morten Rye
Director of Genetics and R&D

- 30+ years' experience
- Established renowned genetic programme for aquaculture industries globally
- Ex **Nofima**

Dr. Jónas Jónasson
Operations Director, Salmon

- 30+ years' experience in aquaculture genetics
- PhD in Animal Breeding
- Experience with numerous species
- Ex scientist in genetics at the **Freshwater Institute, Iceland**

Oscar Hennig
Operations Director, Shrimp

- 25+ years' experience in shrimp industry
- Expert in disease management, farming technology and genetics
- Ex **Shrimp Improvement Systems & Kona Bay**

- **Hernan Pizarro**
  Operations Director, Tilapia
- 20 years' experience in aquaculture in the Americas
- Sales and marketing, technical services and business development
- Ex **Pfizer**

Built through acquisition of top players

Integration complete – synergies emerging

2014
SalmoBreed & StofnFiskur

2015
Akvaforsk Genetics & Spring Genetics

2016
Genetica Spring

Salmon
Shrimp
Tilapia

>300
customers in 30 countries

Top 5: 29%

Tilapia, Mexico

Shrimp, Colombia

Tilapia, Miami

Tilapia, Brazil (2018)

Salmon, Norway

Salmon, Iceland

1. Salmon — leading position in concentrated market

- Four key players and high entry barriers
- Market share gains from agreements with Lerøy and SalMar
- Future gains from innovation, biosecure year-round facilities, and partnerships

Products	BMK Revenue	Mkt size (ova m)		BMK share
Ova/ Broodstock/ Lumpfish	£27m	Norway	**400**	**35%**
		Scotland	62	37%
		Faroe	32	89%
		Iceland	25	100%
		Chile	305	2.3%
		N. America	58	6.9%
Services	£2.3m			

Source: Company estimate, [1]Kontali

Benchmark®

AquaGen

marineharvest

HENDRIX GENETICS

Market size

c. £90m

Projected market growth (2018-'20)[1]

5-7%

Benchmark®

How do we compete?

1. Leading genetic traits
2. Biosecurity
3. Year-round availability
4. Technical support
5. Customer Partnerships

2. Shrimp: opportunity to expand in large, underpenetrated market

Market

- Genetic underpenetration c.30% v 90%+ in salmon
- Current market (broodstock) estimated at US$100m
  - will grow with increase in sophisticated genetics and continued industrialisation
- PL's and nauplii represent much bigger opportunity – require local multiplication capabilities

Competition

- Some competition but underdevelopment and growth create large opportunity

SHRIMP IMPROVEMENT SYSTEMS · KONA BAY MARINE RESOURCES · CPF · blueGENETICS HOLDING

Benchmark®

Strategy

1. Continue to develop high performing strains from 20 year breeding programme
2. Leverage commercial experience in salmon and presence in shrimp hatcheries through advanced nutrition
3. Challenge "one size fits all" approach adapting lines and genetics to local markets
4. Continue to develop SPR shrimp for Asia and determine market entry routes

3. Tilapia — early entry, first mover advantage

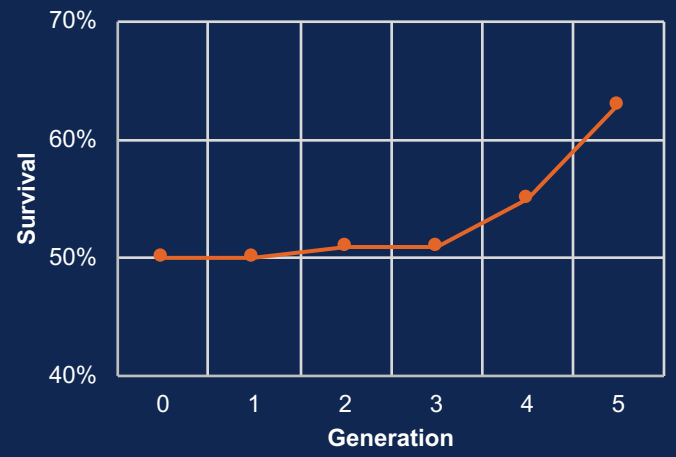
Market

- Less industrialised than shrimp
- Very low penetration of sophisticated genetics
- Highly dispersed — small local/FAO programmes
- Emerging privatisation; interest from large players (Aquagen)

Strategy

- Continue to develop 30 year breeding programme
  - Selection for growth, survival, strep resistance
- Invest in genomic tools
- Commercialise as market matures
  - Build from current base in Latam (Mexico, Brasil)

Genetic trend
Resistance to streptococcus



Survival increase from
51% to 63%
in 2 generations = 2 years

15%
Growth gain per generation

Commercialisation: flexible model maximises value for Benchmark

Products
Atlantic salmon ova
Atlantic salmon fry/smolts/broodstock
Tilapia eggs, fry/juveniles
Shrimp postlarvae (PL) Breeders, nauplii
Genetic services - multi species
Lumpfish

ROUTES TO MARKET

- Traditional sales
- License/royalty
- Sales of broodstock
- JV or franchises
- Own multipliers and/or fingerling production

Range of products and routes to market address all customer segments

R&D strategy

1. Long term breeding + latest genetic tools

- Breeding delivers long term continuous improvement
  - Growth, survival, maturation, feed conversion, quality
- Genomic tools add precision
- New traits focused on disease resistance using latest genetic techniques
  - ISA, PD, AGD, CMS

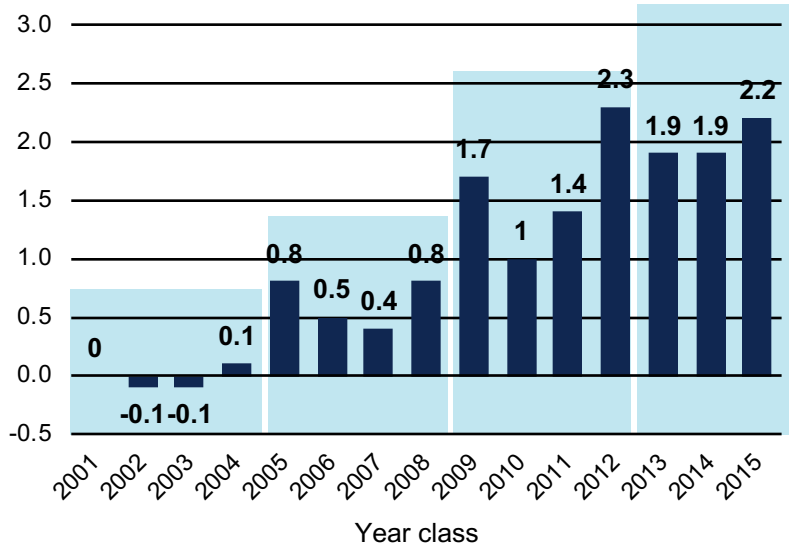
2. Leverage R&D and expertise across species

- Investment and experience with genomic tools can be used across species

3. Develop holistic solutions with BMK Group

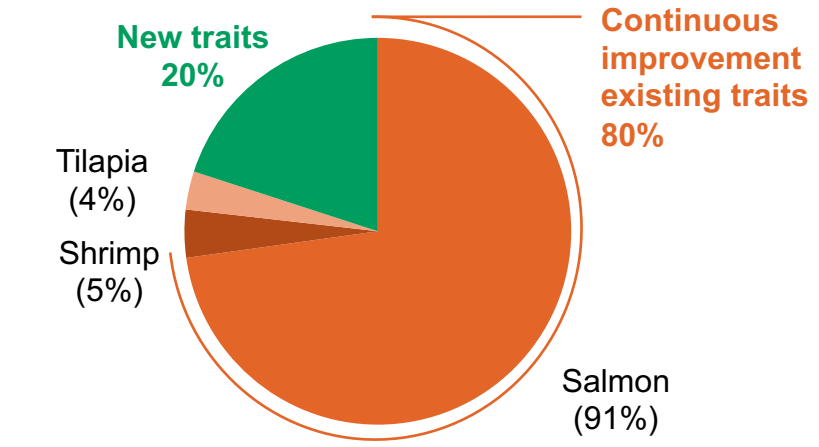
- i.e. sea lice strategy

Slaughter weight increase over 4 generations



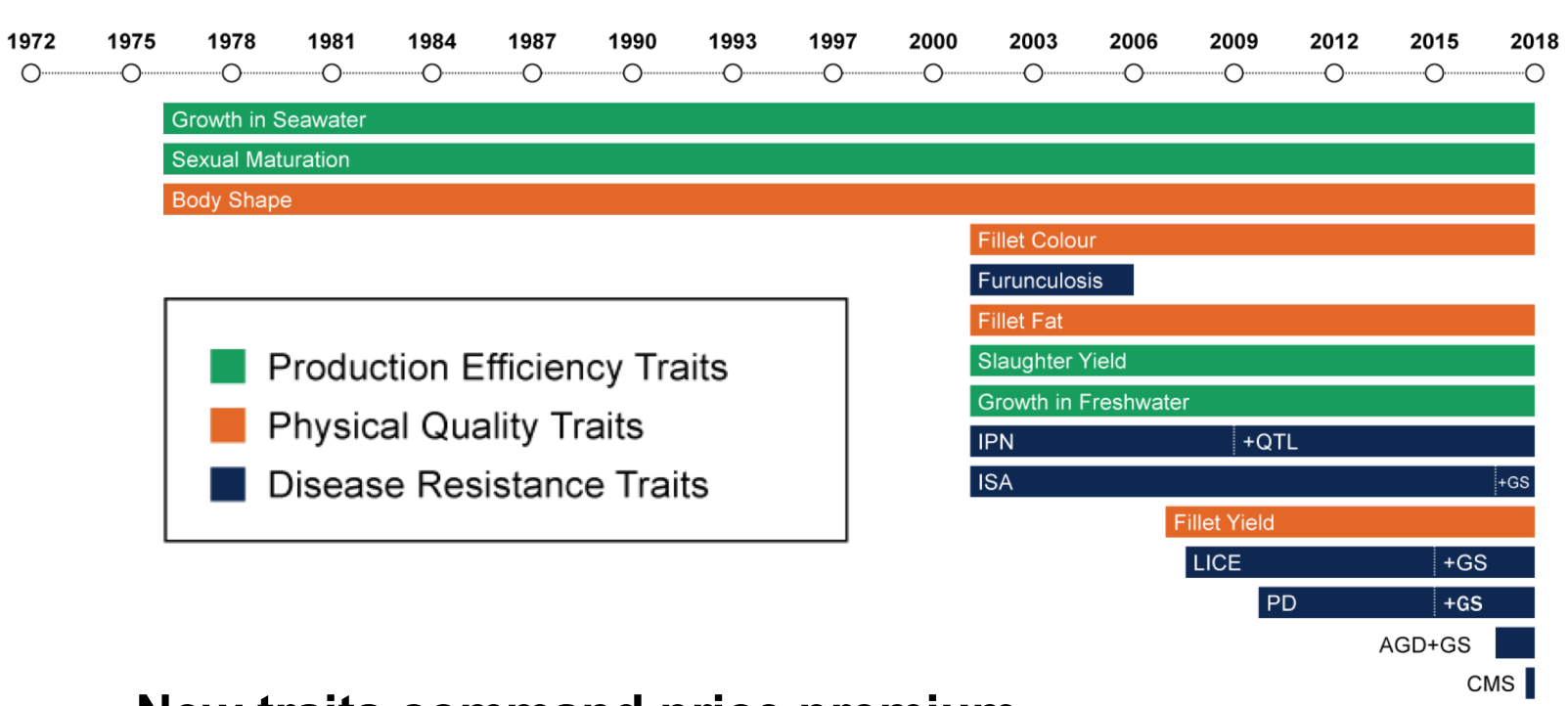
Source: Company data
Note: 2015 year class harvested in 2017 and 2018

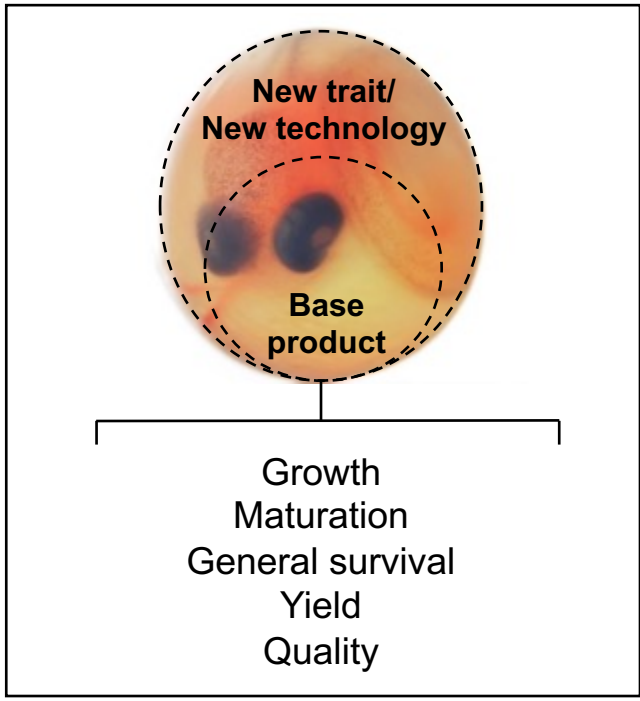
R&D spend (2017: £3m)



Evolution of genetic trait development

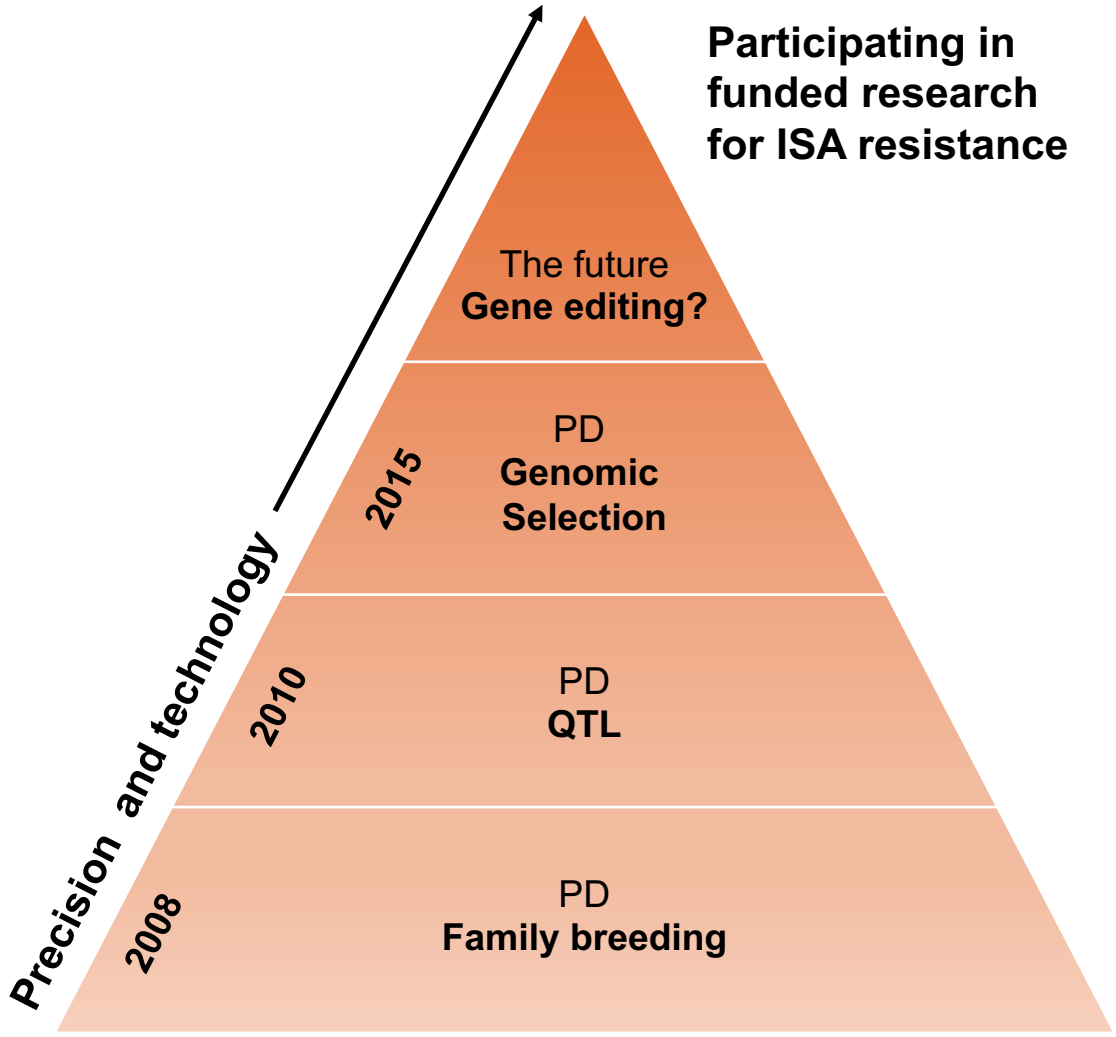
Salmon





New traits command price premium
….and become standard over time

We aim to be a leader in the understanding and responsible adoption of new genetic tools

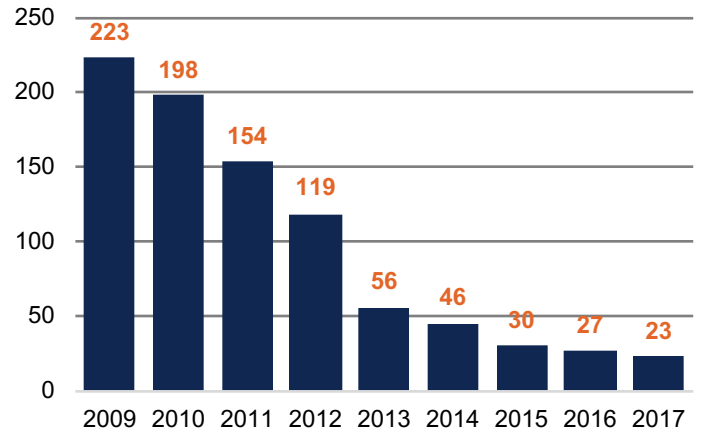


Participating in funded research for ISA resistance

Case Study - QTL

85% reduction in IPN with introduction of QTL

(Incidence of IPN in farmed salmonids 2009–2017)



Source: Veterinary Institute Norway

Rich pipeline of new traits

- New traits focused on resistance to diseases and parasites that result in major losses
- Commercial strategy moving from single traits to bundled products
  - Simplified offering
  - Opportunity for increased margins
- Local adaptation of shrimp and tilapia strains
  - Environmental factors and differences in farming systems require tailored genetics

Revenue Potential
£115m

	Pre-Project				Project phase		Test development		Launch			
Salmon			PF011 (5.4m) 20203	DH021 (3.5m) 2020	DH022 (3.5m) 2020	QF001 (0.2m) 2019		DS011 (2.1m) 2021	Genomics GS-Quality (0.3m) 2018	Genomics ISA (5.4m)	Genomics SRS (1.9m)	Genomics AGD (2.7m)
Lumpfish									Lumpfish Scotland (4m)			
Tilapia	DT003 (6m) 2021	DT006 (3m) 2020	DT005 (3m) 2020	DT004 (4.5m) 2020					DT002 (4.5m) 2018	DT001 (4.5m) 2018		
Shrimp							DP002 (28m) 2019	DP001 (32m) 2019				

Outlook

Growth drivers

Salmon

- Production efficiency
- Year round delivery and biosecurity

5-7% projected growth (2018-2020)[1]

Shrimp

- Disease control
- Increased industrialisation

5% projected growth (2015-2019) [2]

Tilapia

- Industrialisation and investment

c.5% projected growth per annum[1]

Risk Mitigation

Diversification of geographies and species mitigate risks

- disease
- border closures
- environmental effects

Main opportunities

Salmon

- Increased in-house capacity (Salten)
- Disease resistance traits => margin growth

Shrimp

- Develop SPR shrimp for Asian countries

Tilapia

- Develop superior strain as catalyst for industrialisation

Source: [1]Kontali, [2]GOAL (2017)

Benchmark®

Financial Outlook

MARK PLAMPIN, CFO

Divisional Outlook

Nutrition

- Growth driven by replacement diets and health products
- Margin improvements from focus on direct sales in key markets
- Working capital in line with sales growth
- Investment capex and R&D funded by operational cashflow

- **Current 21% Adjusted EBITDA[1] % margin**
- **Mid to long term mid-twenties Adjusted EBITDA[1] % margin**

Health

- Top line growth from product launches
- High margin products
- Investment capex and R&D short term needs funded by Group cashflow and facilities
- Longer term operating cash will fund ongoing capex / R&D and will support returns to shareholders

- **Current Adjusted EBITDA[1] negative**
- **Long term Adjusted EBITDA[1] % margin develops through breakeven to mid-twenties**

Genetics

- Strong growth drivers with new traits drive higher prices and market gains
- Increased capacity supports growth and operational leverage
- Working capital - increase in breeding stock as volumes grow
- Investment capex and R&D funded by increasing operating cashflow

- **Current 19% Adjusted EBITDA[1] % margin**
- **Long term (3-5 years) mid-twenties Adjusted EBITDA[1] % margin**

[1] Adjusted EBITDA is earnings before interest, tax, depreciation, amortisation, exceptional items and acquisition related expenditure

Financial Discipline

Leverage and Headroom

- Net debt increasing in the short-term
- Covenant Leverage[1] peaks around 2.5x
- Liquidity headroom minimum £10m
- Applying cost and capital discipline to manage headroom
- Long term positive Free Cashflow[2] applied to pay down debt
- Steady state Covenant Leverage[1] targets 1.5x to 2.0x

Capital Allocation

- Capital allocation based on business case including strategic, commercial, financial:
  - DCF[3], IRR[3] and ROIC[3]
  - Base threshold of WACC[4]
  - Risk weighted hurdle rate specific to each project
  - Typical hurdle rates 14% to 20%
- Use of JV's to share financial and execution risk

[1] Covenant Leverage is net debt (excluding ringfenced JV's) to Adjusted EBITDA (earnings before tax, depreciation, amortisation, exceptional items and acquisition related expenditure)

[2] Free Cashflow is operating cashflow less capex (including capitalised development costs)

[3]DCF = discounted cashflow analysis, IRR = Internal rate of return, ROIC = typically year 4 or 5 return on cumulative invested capital

[4]WACC = company weighted average cost of capital

Summary and Outlook

- Diversified Group with leading market positions in high growth markets
- Two profitable, stable, cash generating core divisions:
  - Animal Health on path to earnings generation in the medium term
- Short term capex and R&D requirements funded from Group cash generation and facilities in place:
  - Review of non-core activities underway
  - Cost and capital discipline
  - Peak capex expected over next 12 months
- Production capacity to grow and drive operational leverage
- Long term cash generation to deliver returns to shareholders whilst continuing to invest for organic growth