

OPIN Presentation May 2021

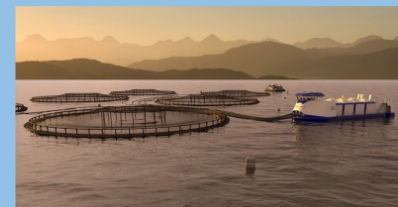
Presented by Jamie Young
Group Sales Director at
Gael Force Group



About Gael Force Group



Sustainable protein for a growing planet



Our Equipment



Gael Force Group is a global supply partner of equipment, technology, and services for the farming and catching of healthy, nutritious seafood.

Reputation Built on Trust

Our Mission

Our mission is to be the trusted product, technology and service supply partner of choice to our customers.



Our Vision

*We aim to grow Gael Force to be recognised as a **world class** Scottish company which will provide a sustainable high yielding legacy for all of its **stakeholders** over the very long term.*



Gael Force Facts

£40m Turnover



Locations in
UK and Canada



200 employees



Top placed Scottish firm
on Sunday Times HSBC
International Track 200



OPIN Presentation May 2021

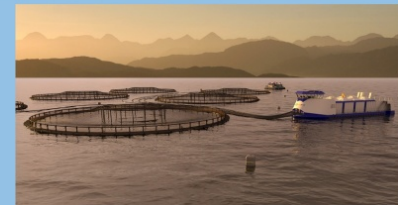
Presented by Jamie Young
Group Sales Director at
Gael Force Group



About Gael Force Group



Sustainable protein for a growing planet



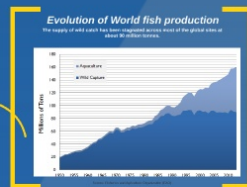
Our Equipment

Defining Market

According to United Nations report - World population would increase from

7.8 billion in 2021

8.50 billion in 2030



Why support sustainable fish farming?



Increase in population



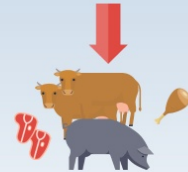
Less land on the planet for more vegetation - 70% of world's surface is water



Aquaculture



Supply from wild catch has stagnated in many regions



Poultry, pork and beef farming will be difficult - lack of space for more cultivation



Defining Market

According to United Nations report - World population
would increase from

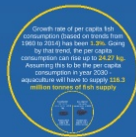
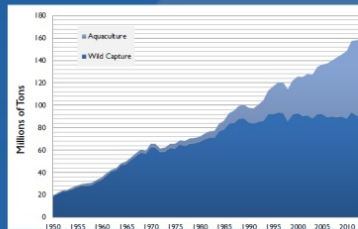
7.8 billion in 2021

8.50 billion in 2030



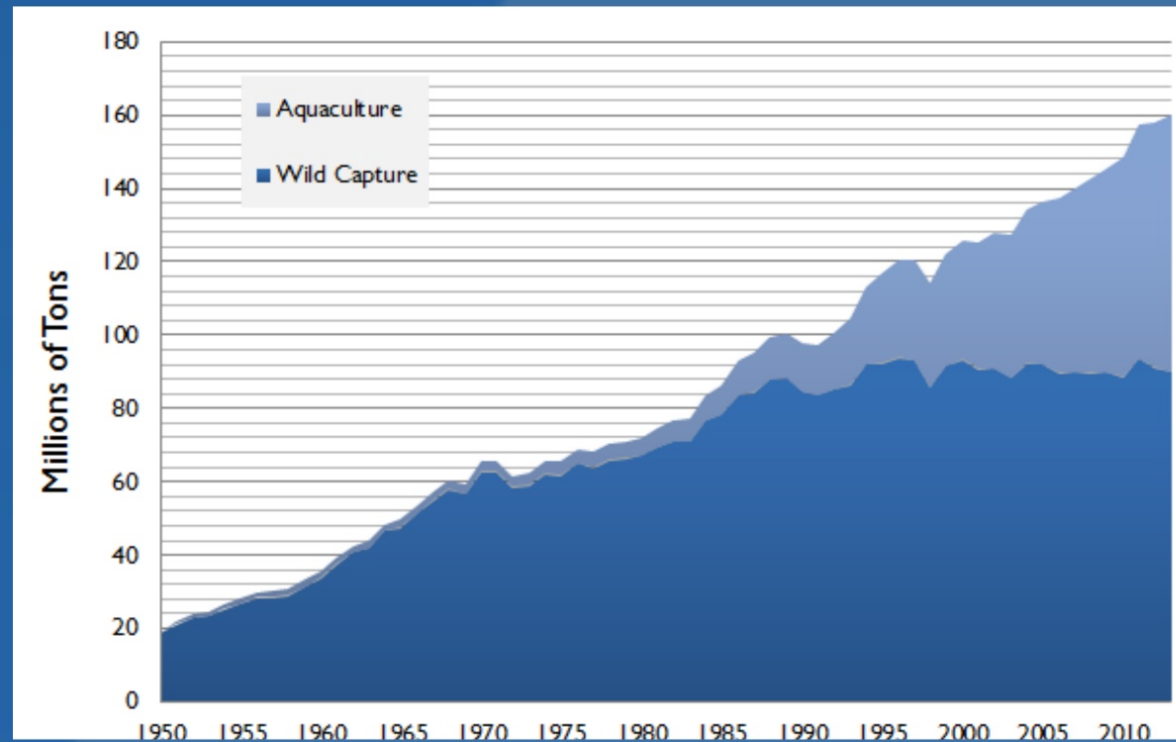
Evolution of World fish production

The supply of wild catch has been stagnated across most of the global sites at about 90 million tonnes.



Evolution of World fish production

The supply of wild catch has been stagnated across most of the global sites at about 90 million tonnes.



Source: Fisheries and Agriculture Organization (FAO)

Growth rate of per capita fish consumption (based on trends from 1960 to 2014) has been **1.3%**. Going by that trend, the per capita consumption can rise up to **24.27 kg**. Assuming this to be the per capita consumption in year 2030 - aquaculture will have to supply **116.3 million tonnes of fish supply**



Why support sustainable fish farming?

Feed Conversion Ratio

Feed conversion ratio (FCR) is the kilograms of feed required to produce one kilogram of fish.

Species	FCR	Feed (kg)	Weight (kg)
Atlantic salmon	1.2	12	10
Common carp	1.5	15	10
Yellow perch	1.8	18	10
Brook trout	1.4	14	10
Channel catfish	1.6	16	10
Salmon trout	1.3	13	10

FCR = Feed (kg) / Weight (kg)

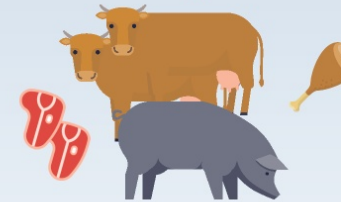
FCR = 1.2 for Atlantic salmon, 1.5 for Common carp, 1.8 for Yellow perch, 1.4 for Brook trout, 1.6 for Channel catfish, 1.3 for Salmon trout.



Increase in population



Less land on the planet for more vegetation - 70% of world's surface is water



Poultry, pork and beef farming will be difficult - lack of space for more cultivation



Supply from wild catch has stagnated in many regions







Aquaculture



Feed Conversion Ratio

Feed conversion ratio (FCR) tells us the kilograms of feed needed to increase the animal's body weight by 1 kg

				
Protein retention	28 %	37 %	21 %	13 %
Calorie retention	25 %	27 %	16 %	7 %
Edible Yield	73 %	74 %	73 %	57 %
Feed conversion Ratio (FCR)	1.3	1.9	3.9	8.0
Edible Meat per 100 kg fed	56 kg	39 kg	19 kg	7 kg

- Energy retention = energy in edible parts / gross energy fed
- Protein retention = protein in edible parts / kg protein fed
- Edible yield = Edible meat / Total body weight

Source: MOWI Salmon farming handbook 2021

OPIN Presentation May 2021

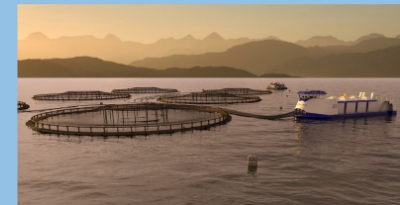
Presented by Jamie Young
Group Sales Director at
Gael Force Group



About Gael Force Group

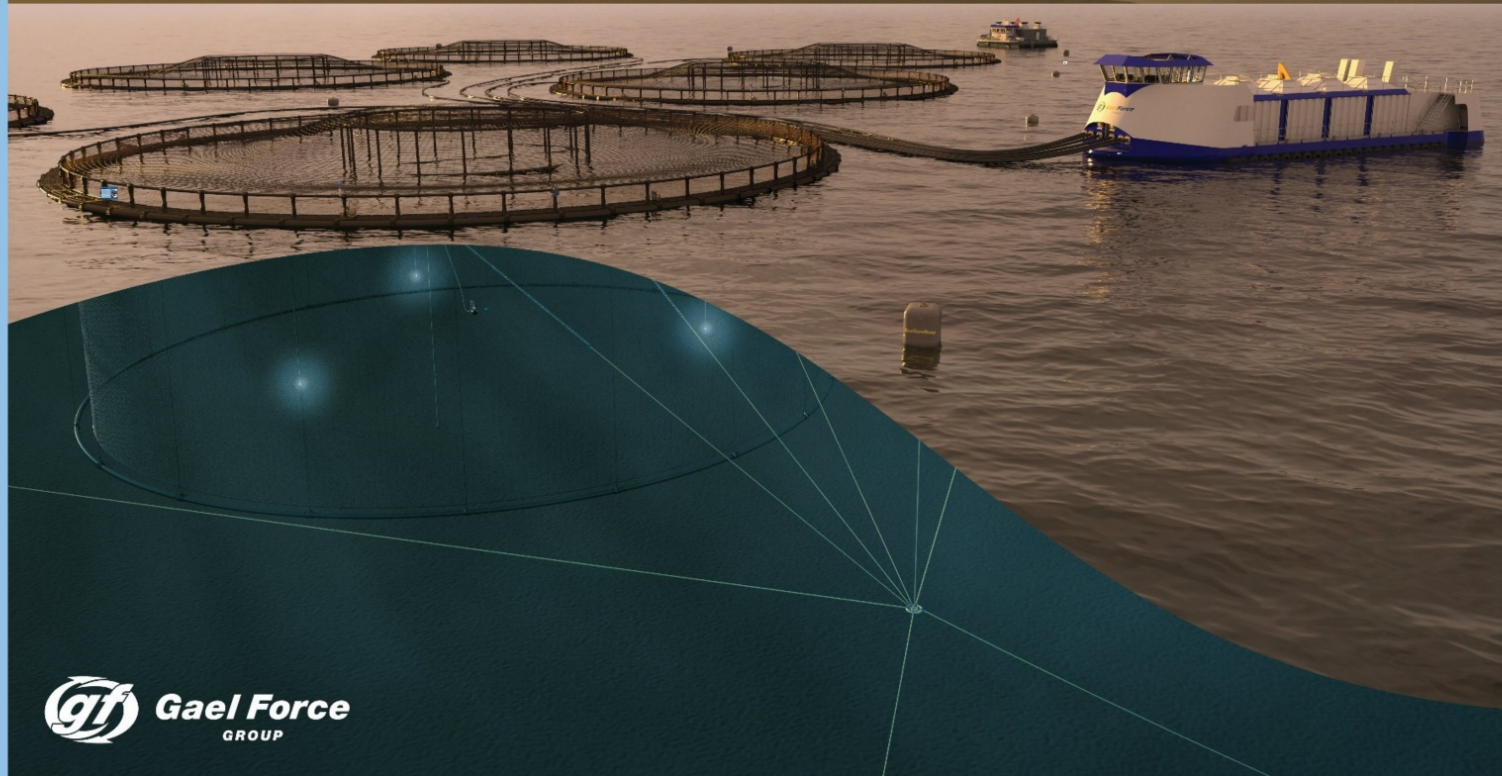


Sustainable protein for a growing planet



Our Equipment

Where are the power needs?

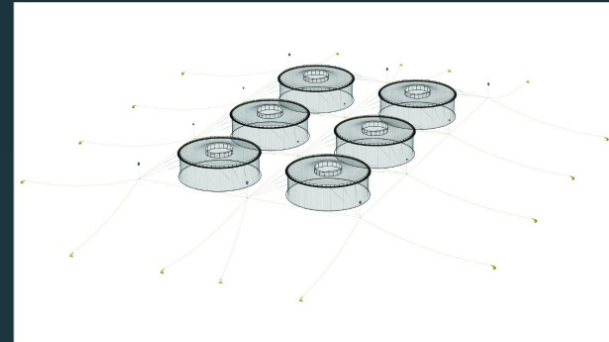


Mooring Systems

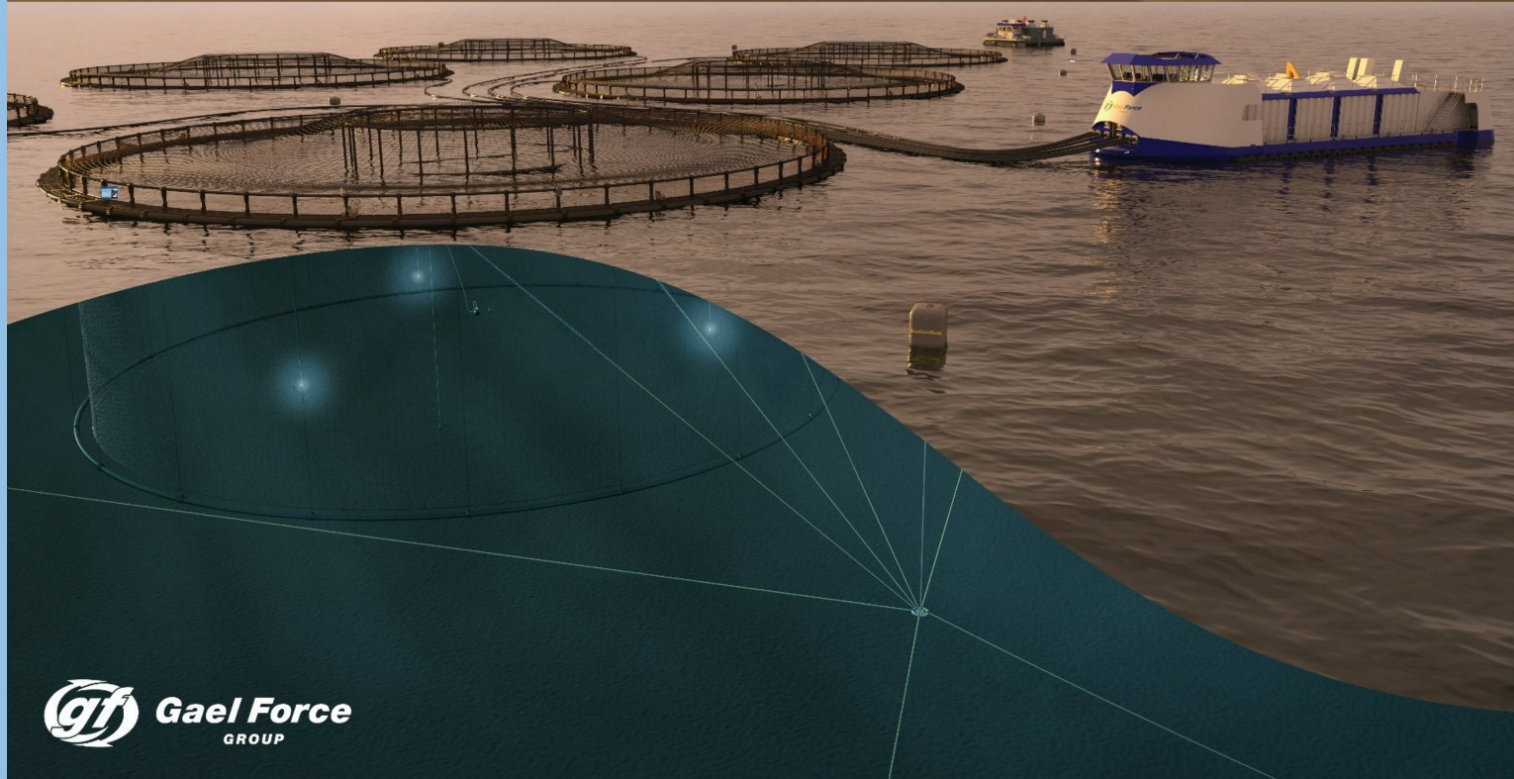
Secure your investment

Consisting of mostly hardware, these systems are vital in containment, they form serious part of consideration in any "additional" equipment added to site.

- Load cells
- ROV inspections
- GPS positioning



Where are the power needs?



Pen Systems

Durability when it counts

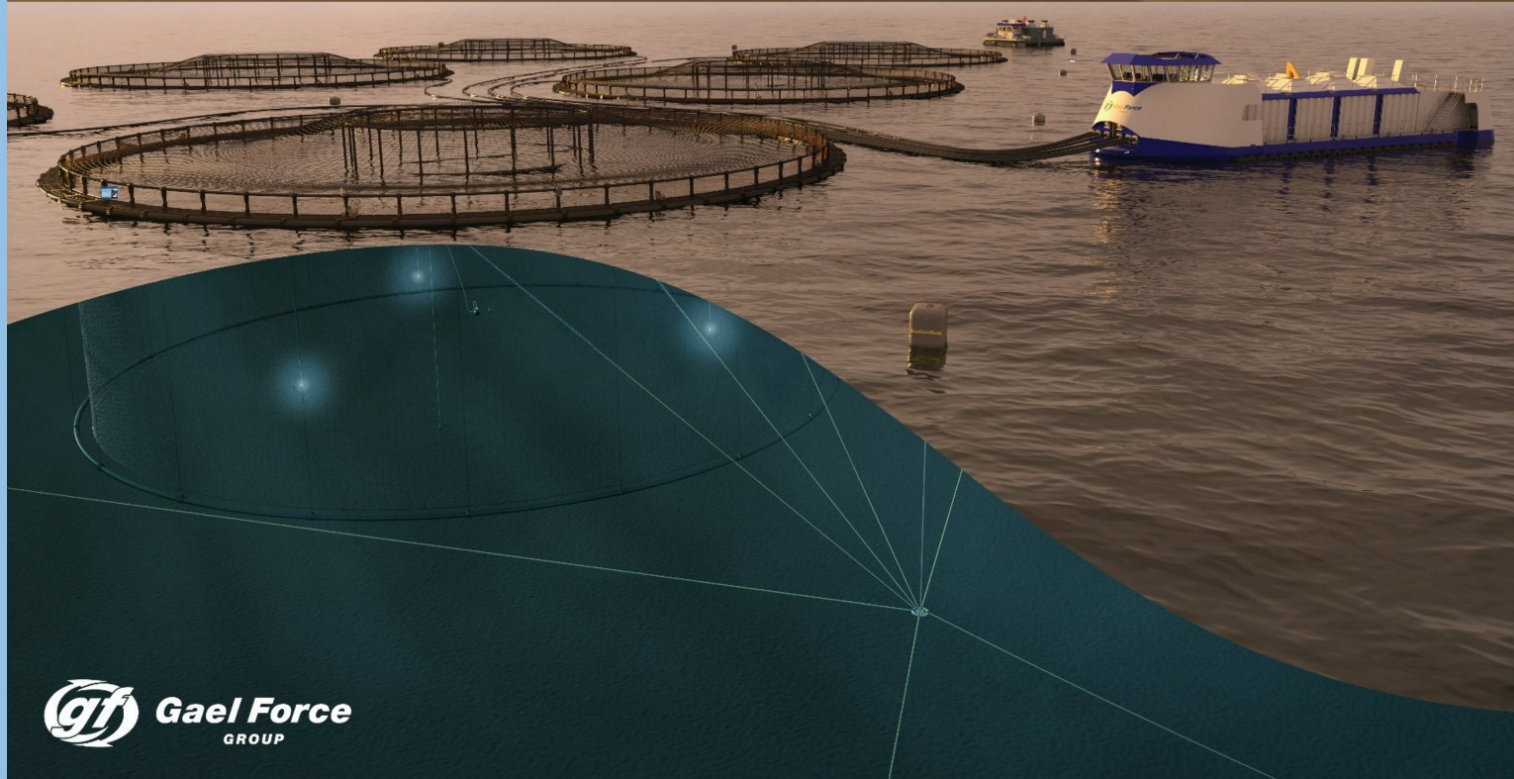
Over 30 Years of HDPE pen building experience, a robust and stable platform

- On pen technology
- Winch for net lifting - 8 or more per pen (1.2Kw per winch)
- Navigation markers
- Every pen powered...



 **SeaQurePen500**

Where are the power needs?



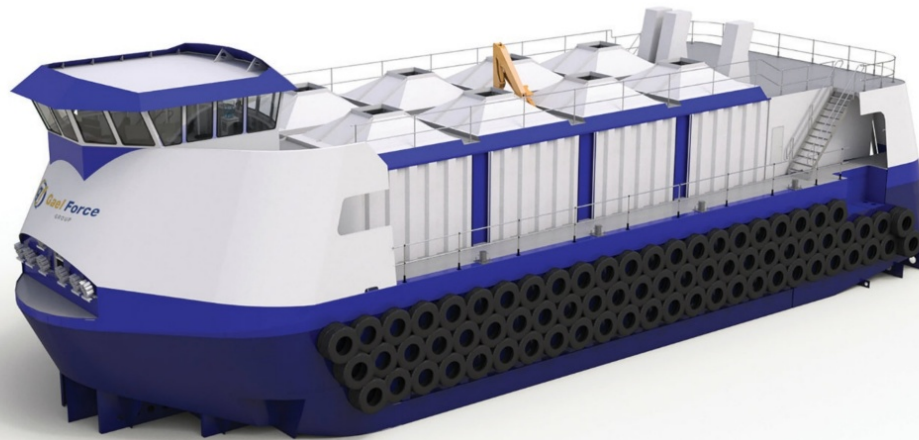
Feed Barges

Robustly built to last in hostile environments



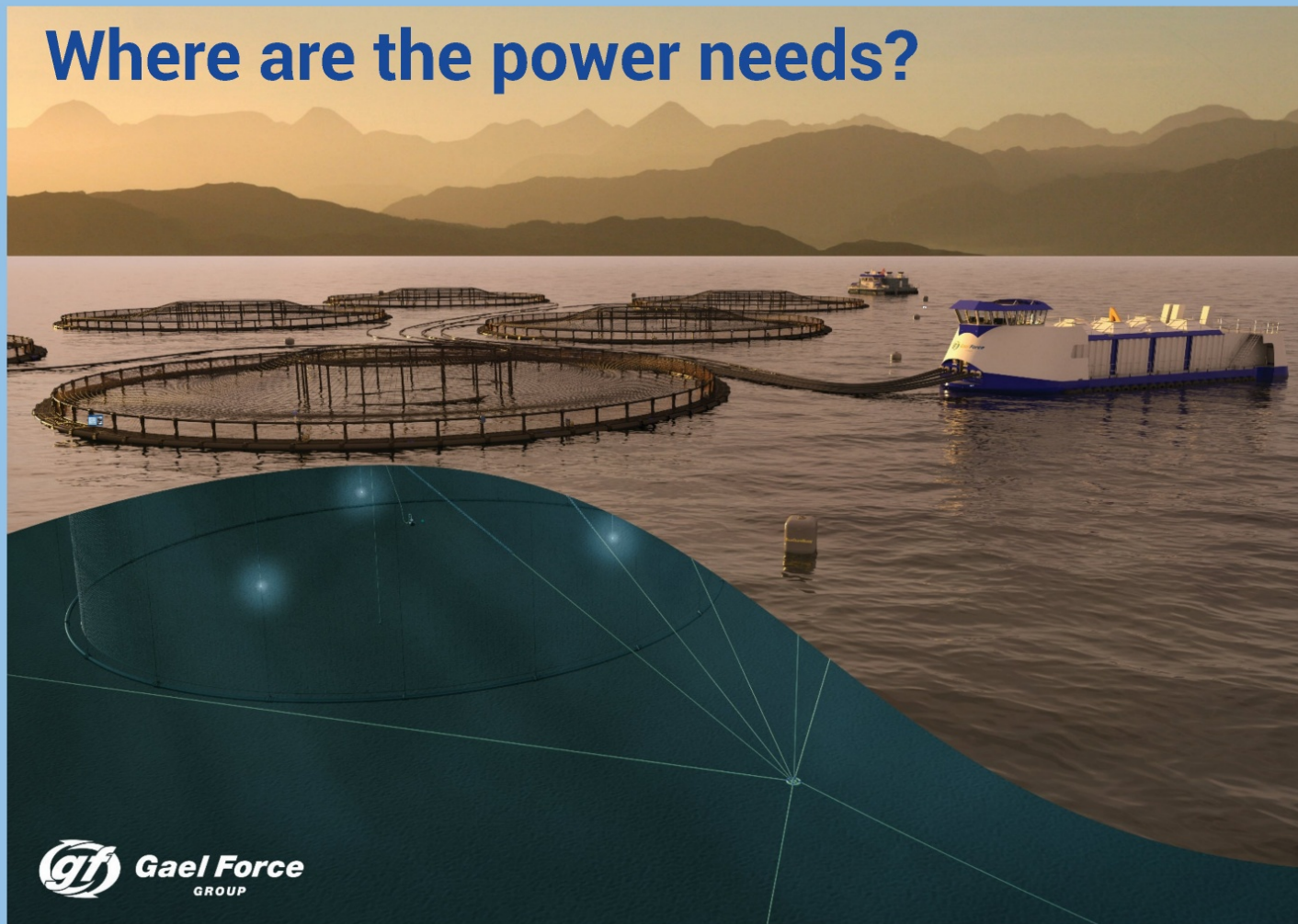
The lifeline to the farm production - Must always be on....

- Traditional Diesel generators - 210Kw or 2 of!



- Large plant requirements - Blowers 30Kw, Feed systems, Compressors, Cranes, Domestic supplies, IT.

Where are the power needs?



Feed Systems

Kind to feed, generous to fish

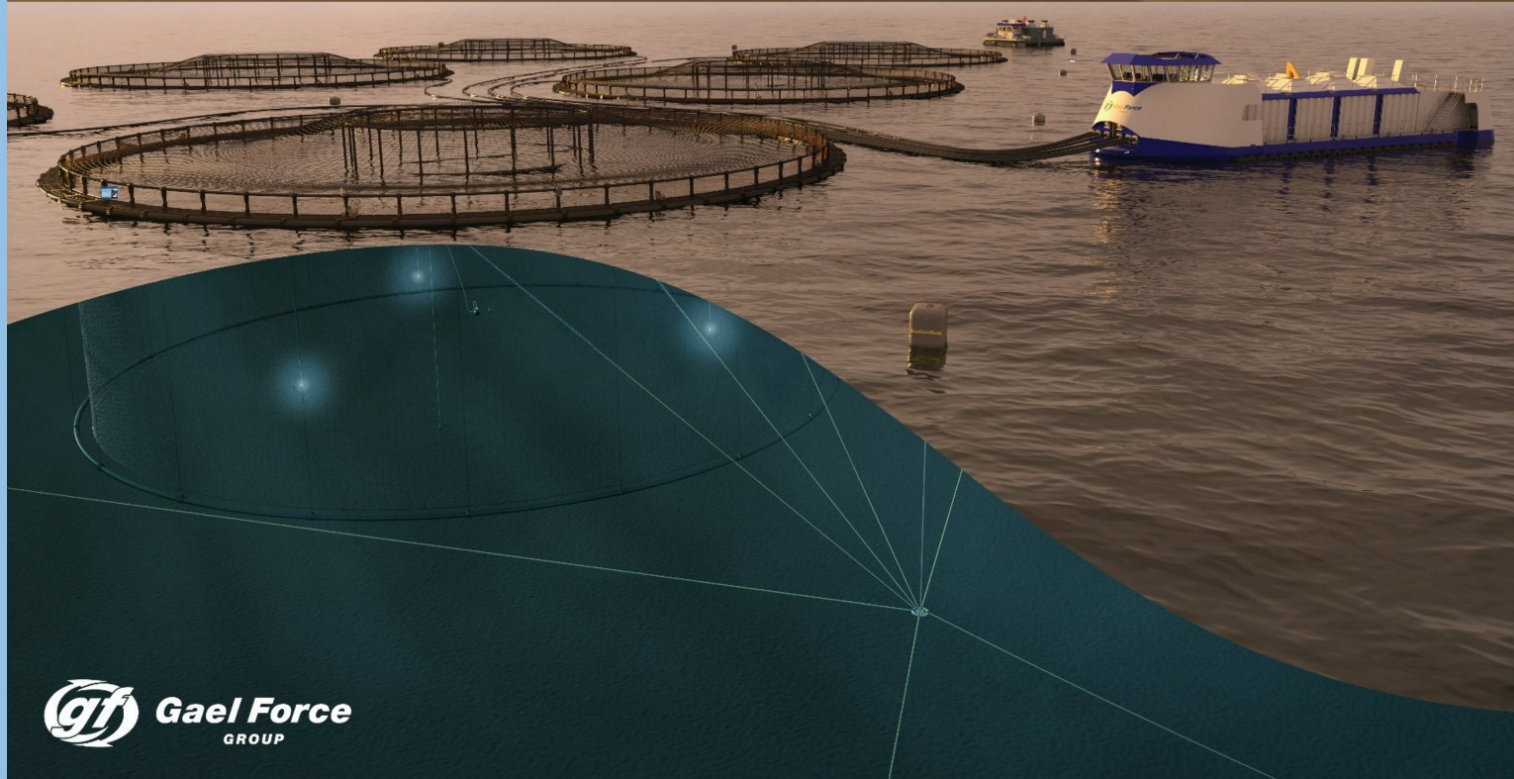
Minimises feed waste, and ensures fish growth = £££-

- Large blowers to move feed - 30Kw, 45Kg per Min per line- 2,3,4, lines at one time.
- Rotary valves, Augers and selectors
- Need to have redundancy



gf SeaFeed

Where are the power needs?



Camera Systems


Not just HD...

Feeding needs to be seen below the surface- Getting food to the fish is part of it, seeing what happens when it arrives is just as critical-

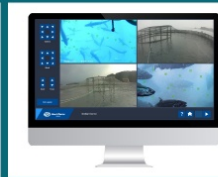
- Full pan, tilt, zoom cameras
- Winches to move around pen
- Environmental sensors
- Communications


Crystal clear
HD video tuned
for optimum image
and pellet detection


Camera operates
in infrared mode
in **very low**
light levels

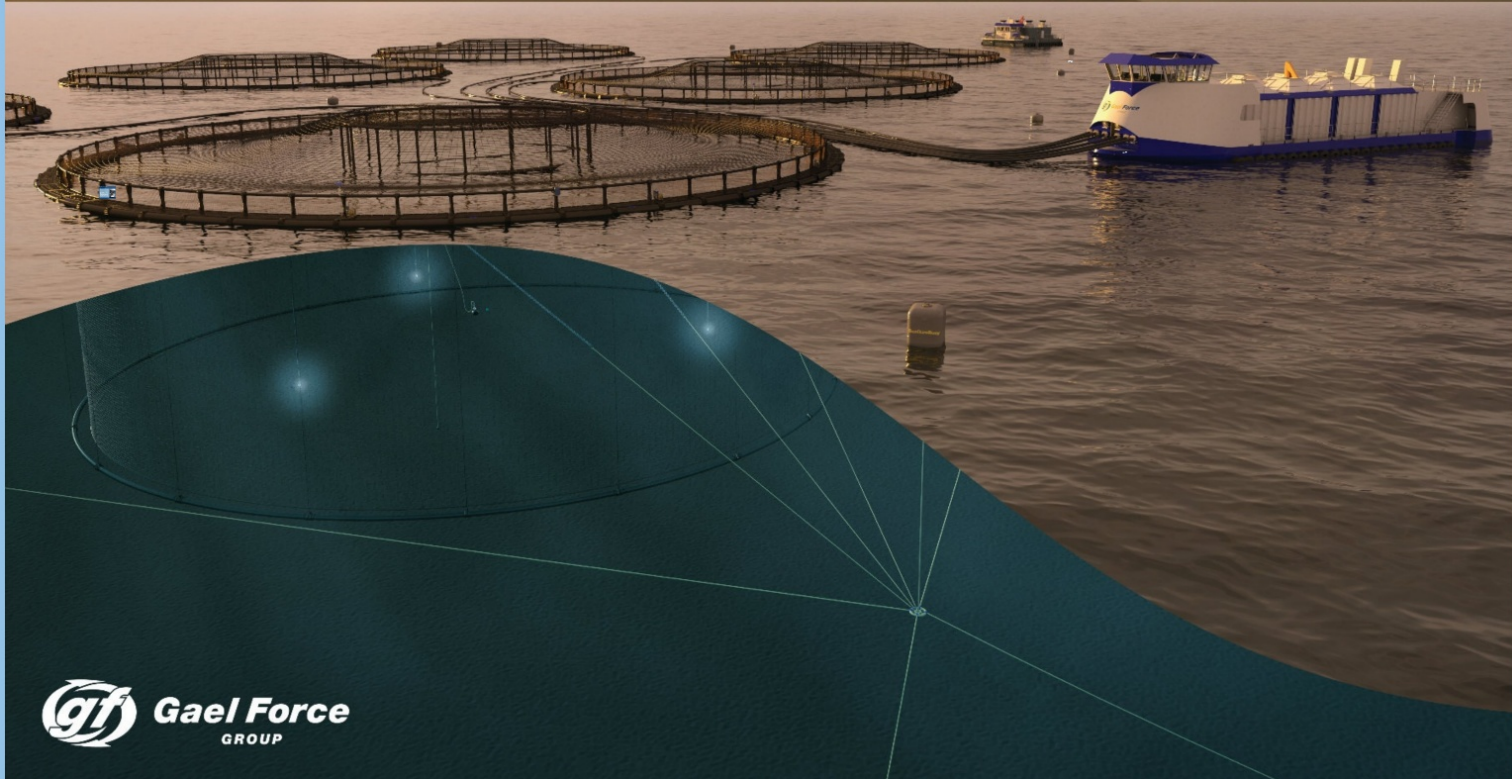

Data from depth
and optional O₂
sensor overlaid on
video and logged


Lens cleaning brush
removes any
fouling without need
to lift camera



 **SeaSight**

Where are the power needs?



Underwater LED Lighting

Seasonal use of lights to enhance growth and prevent maturation

- 3-4 lights per pen
- Metal Halide @ 1Kw per unit
- LED 400w per unit
- Must be on all time during season of use (day and night)

**70,000
HOURS**

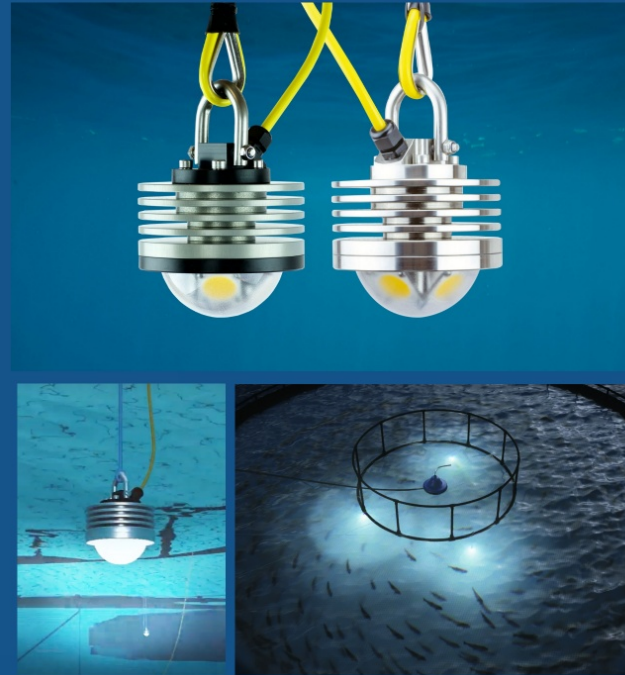
Approximate
life expectancy
of SeaLight



Robust
Reliable
Compact

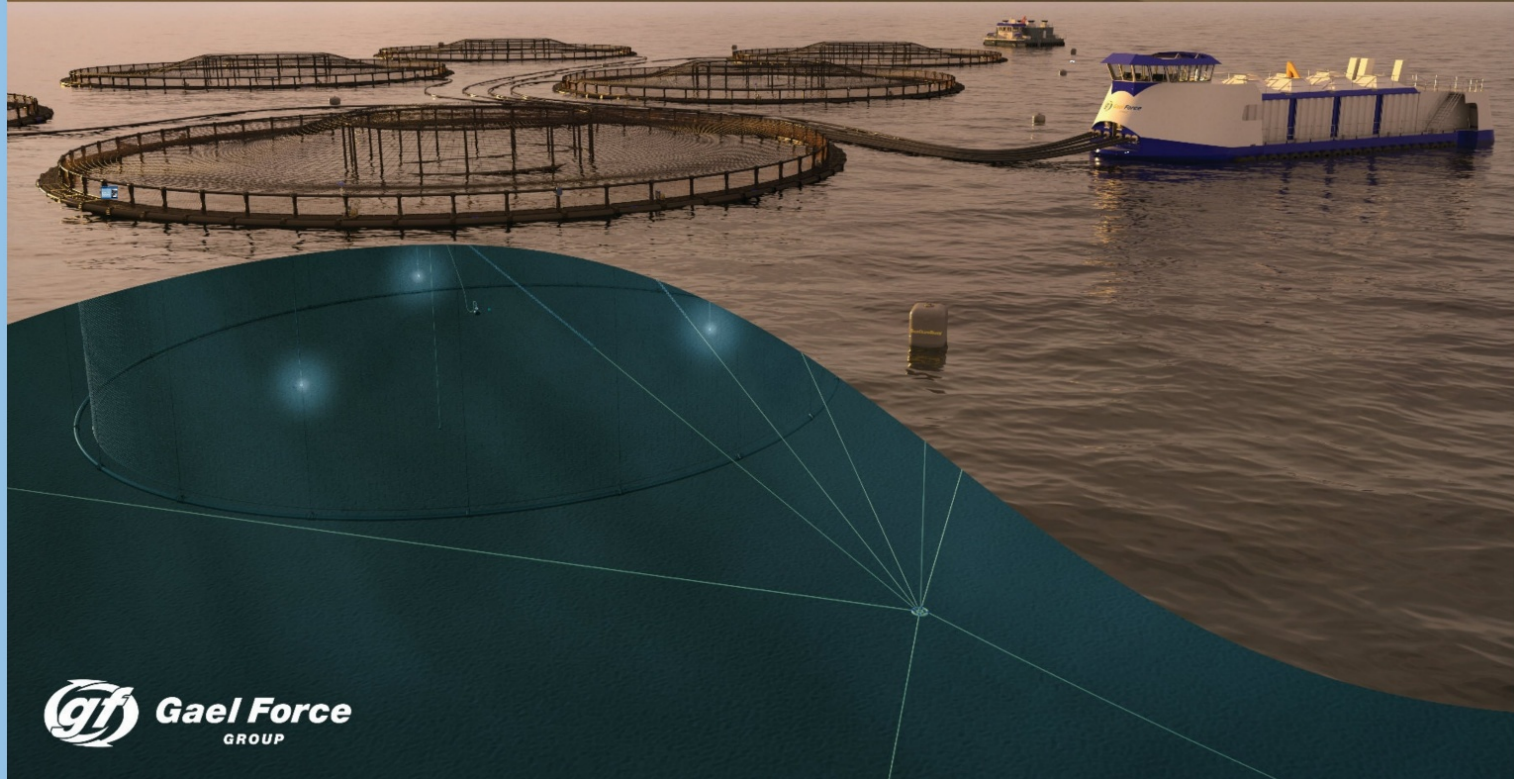


Huge energy savings
compared to
conventional lamps



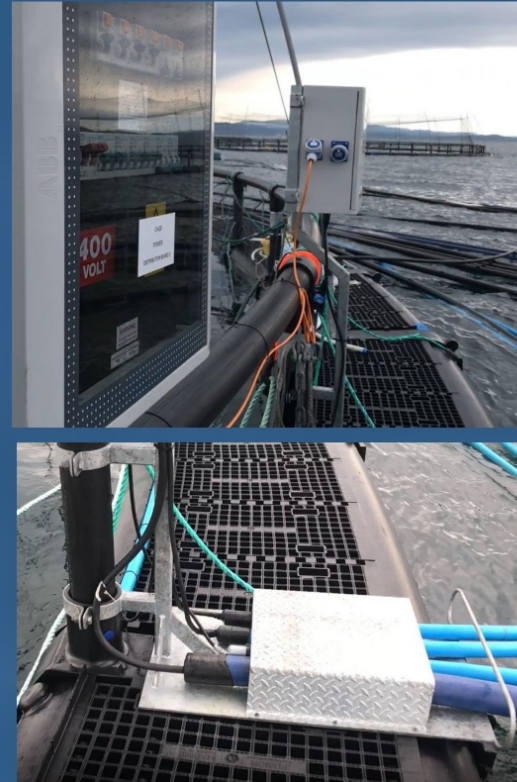
SeaLight

Where are the power needs?



Power Distribution to Pens

- Secure, reliable and tidy Power Distribution to pens maintaining uninterrupted power in a dynamic and exposed marine environment can be a challenge.
- Compliant to 18th edition regulations and signed off by our qualified electricians, the system allows for a fully flexible and safe installation from barge to pen.
- Mounted in IP68 rated enclosures with our bespoke mounting brackets, and robustly constructed to withstand high energy conditions.



OPIN Presentation May 2021

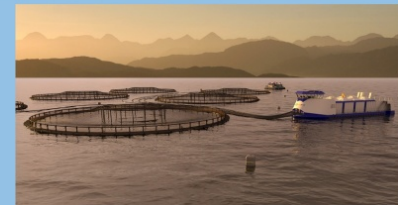
Presented by Jamie Young
Group Sales Director at
Gael Force Group



About Gael Force Group



Sustainable protein for a growing planet



Our Equipment