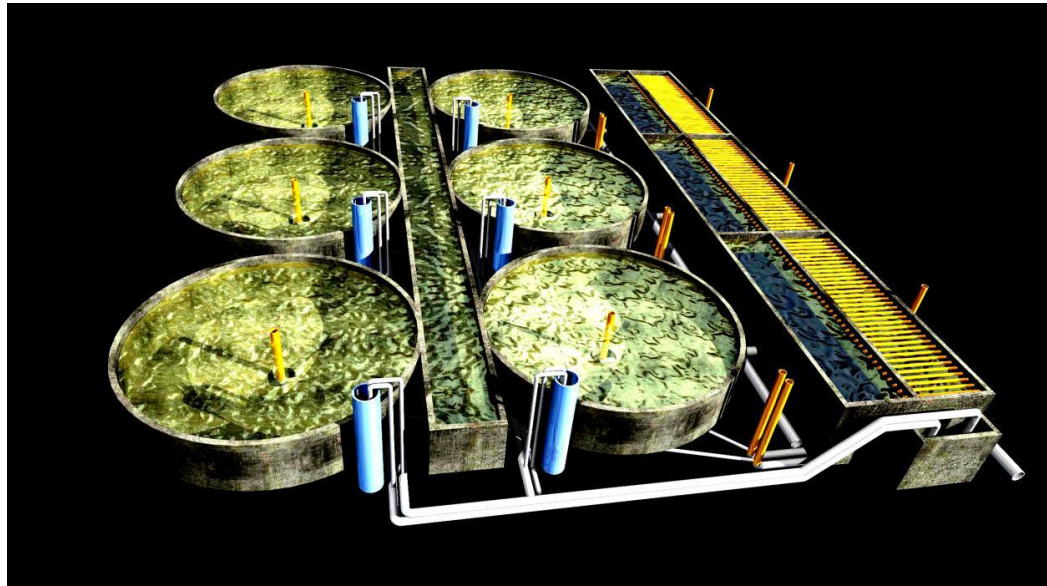




*SCE & Partner presents its flagship design of  
Indoor Aqua-Culture Facility (IACF)*



*High Efficiency, Modular Design  
Intensive Fish Growth Facility*

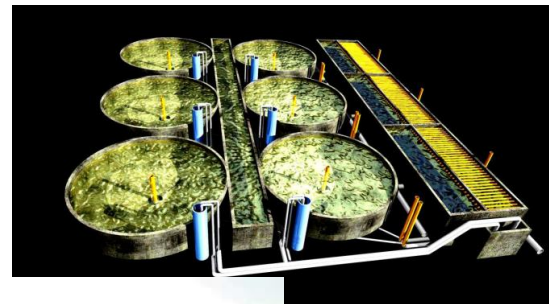


# *SCE Environmental Pte Ltd*

*Your Partner In Total aqua-farming and fish processing Solution*

The company is a market leader in the global arena of aqua-farming and fish processing, by offering comprehensive innovative designs and products based on:

- Proprietary, cutting-edge technology and products
- Advanced engineering design
- Multi disciplinary technological integration
- Invaluable hands-on experience of numerous years
- Turn-key project design and production management
- Unparalleled Integration capability
- Dedicated customer support throughout the interaction
- International networking and cooperation



*Taking aquaculture to the next level*



# *SCE Environmental Pte Ltd*

*Your Partner In Total aqua-farming and fish processing Solution*

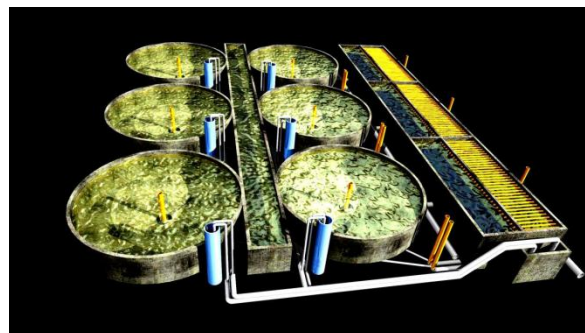
The company offers a wide range of equipment developed and perfected upon its hands-on experience in the field. The products are divided into 4 segments:

- Outdoor fish farming
- Indoor fish farming
- Processing equipment comprehensive solutions
- Hatchery fish fingerlings , brood & stock



Aside of Aquaculture, The company equipment and know-how can be applied to the following Industries

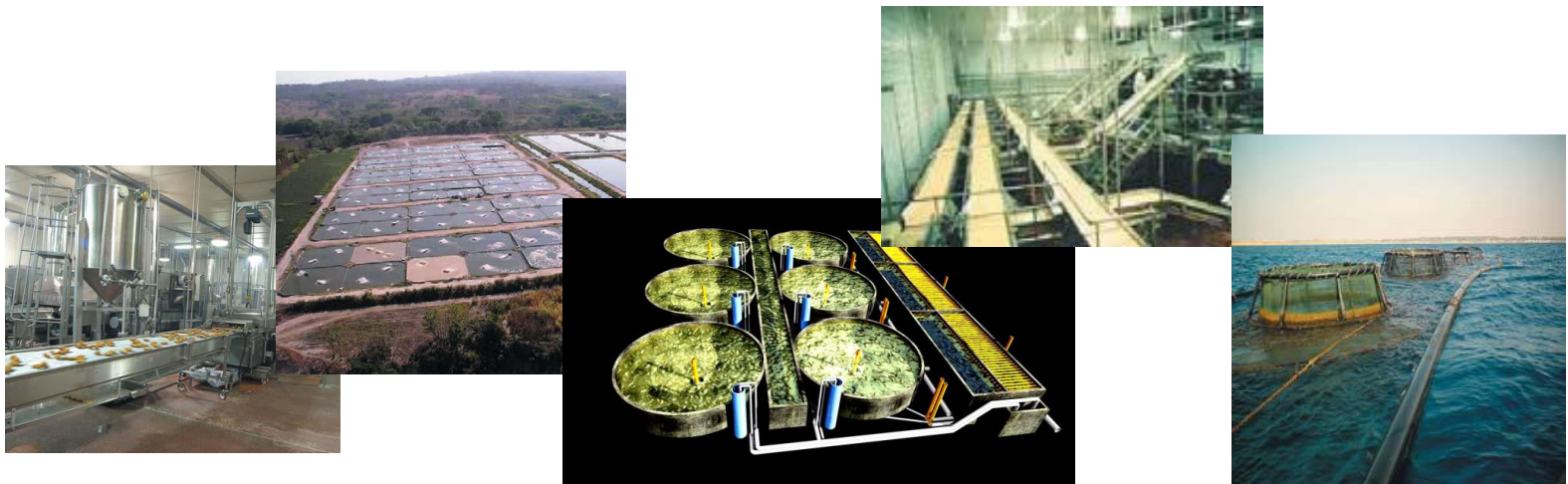
- Processing plants
- Food processing plants
- Poultry
- Plastic production
- Recycling
- Pharmaceutical
- Chemical plants
- Agricultural processing



*Taking aquaculture to the next level*

# *Our Vision*

- The Company strives to attain the leading position of the global Indoor Aquaculture Technology Leader.
- The Company dedicates its capabilities to the supply of IACF Systems matching the Customer needs and local conditions.
- The Company positions itself at the frontier of the know-how.
- The Company strives to update, continuously, its capabilities, and seeks to develop the front edge of Aquaculture Technology.

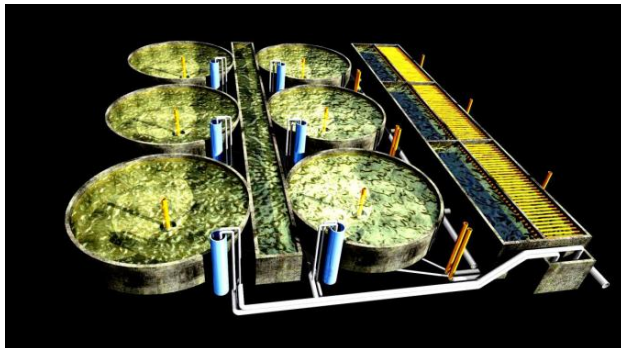




# *Executive Summary*

## *Foreword*

- With the global changes in the aquatic environment, low-seas offshore water pollution, and intensive off-shore fishing, the aquatic-culture crops are becoming disproportional to the growing feeding demands of the exploding numbers of population, striving for seafood products. This situation may become worse, and the conservative fisheries can collapse within a few decades.
- An alternative method for fish growth is the establishment of artificial, mechanized, intensive aqua-culture growing facilities. Open ponds are normally subject to adverse weather climate changes, while when established within an environmentally controlled site - these facilities offer a year round rendered crops of edible fish, ready and available for fresh market supply.
- The experience gained by the company achieved a successful Indoor Aqua-Culture Facility (IACF) design. This basic, modular type of facility design, allows a clear definition of any adaptation to local needs and requirements, rendering a lower than the other competitors cost-barriers for such a facility erection, combined with highest growth efficiency and lowest operational costs. The company is currently the most advanced company, operating in this field of aquaculture, and is assuming its leading role of cost-effective, proven source of intensive indoor fish growth facility supplier.





## *Our Partner*

- Founded in 1989, the company began its operation in Aquaculture farming. Recognizing the market need for sustainable aqua farming solution, the company set out to develop innovative solutions under controlled conditions to overcome the challenges of increasing global demand for seafood on finite land.
- Today the company is dedicated to moving its customers to the forefront of the aquaculture industry and to commercial success by delivering cutting edge technologies, advanced engineering, integration, turnkey project design, new unique products, multi-disciplinary production management and on-going support.
- Through its international channel of equipment manufacturers the company also offers a far-reaching global aquaculture network.
- Currently the company employs a team of 50 people providing engineering, production, application capabilities all backed by an international Business Development team and a motivated network of international distributors.
- The company regards its customers as the major and central factor for its success. The company team exercises its hands-on experience to provide expert customer service and support unparalleled in the aqua-farming industry. Its knowledge-base is a by-product of the founders' internal fish farming production managed on the company's own fish farming sites. These internal projects enable the company to develop and test aquaculture equipment and systems in its own facilities before they are marketed to customers.

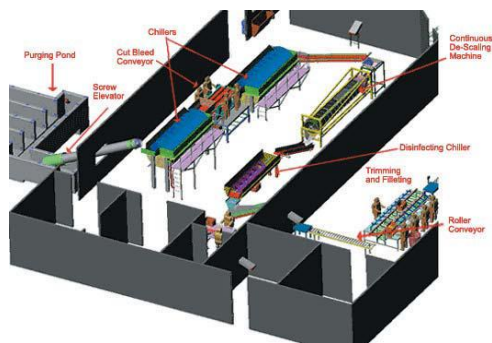


# *Present Lines of Business*

The company commercial activity is based on and offers three main Business Lines:

- Design, construction and installation of Indoor Aquaculture Facilities (IACF);
- Provisioning of equipment dedicated to fish growth in inland open-ponds, and in off-shore cage farms;
- Provisioning of the necessary equipment and the establishment of Fish Production Processing Plants.

These three main Lines of Business are supplemented with supply of a variety of dedicated equipment – uniquely designed for variety of purposes; fish disease veterinarian, proficient assistance; and culture of seafood.



3D Design of fish processing plant



SRB-3 3D design  
Automatic sorting  
machine & manual  
grading table



FMT-16  
Marketing  
tank



# *Technical Assets and Know-How*

- The company Expert Team excels in a variety of Fish Production Technologies.
- In addition to the capability of design and establishment of the leading IACF line-of-business, based on Customer-tailored parameters, the experts and the Engineering Team provide technical solution for the upgrade of open-pond fish growth facilities.
- The Team possesses a proven know-how for growing various species of fish in any scale of production volume. Based on parameters learned from various Marine Research Institutes, and knowledge gained on their own existing commercial farm setups the team acquired also the proficiency with Sea-bream.
- The Team is intimately familiar with the necessary adjustments of the technical facility parameters to the biology of all pond-cultured and researched species. The Team is capable of constructing a facility and work-out a species growing plan – with the Customer and with a (if necessary) advisory expert – when facing a less-known species. The facility operating parameters, technical and environmental, are adjusted then to the specific fish biology.
- The Team masters the know-how of strategically designing and placing the technical variants of the IACF, with emphasis on the reduction of production costs, and producing a cost-effective, optimized facility.







# *Our Proposal Submissions*

## */ Project Strategy*

- The company will provide to each potential Customer a comprehensive Proposal for the establishment of any of its Aquaculture Facilities, defining exactly the establishment process, the deliverables, and the supporting activities. This information is included in its Program Statement of Work (SOW).
- The company **warrants its involvement in the process until the contractual results are achieved. In any case deficiencies are found, resulting from The company activity – the necessary measures will be undertaken to delete the deficiency.**
- The company will support its Customers on a long-term logistic support on clearly agreed terms.
- The company will assist its Customers in exploiting further developments and proficient upgrades to existing facilities.
- The company will become an industrial anchor to its Customers



# *Indoor Aqua-Culture Facilities*

## *Background*

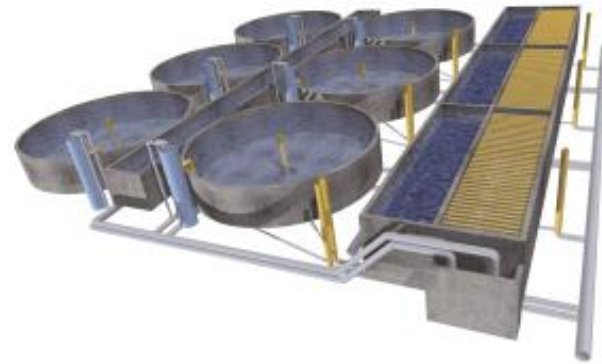
- Marine fisheries have shown a constant decline in recent years. According to Food and Agricultural Organizations, Most of the world's commercially fished species are depleted, over-fished or fully fished. Fish growers and scientists agree that the oceans have attained their maximal sustainable yield, if this continues; world fisheries could collapse within a few decades.
- Health benefits associated with seafood-based diets have triggered a rise in consumer demand for seafood products. In order to ease the pressure on wild fisheries and to satisfy the growing global consumption of seafood products, fish and seafood must be produced through Aquaculture and Mari culture. In response, global aqua culture has been steadily increasing (10% per year) during the last decade, and has been the fastest growing sector in the global agricultural industry.
- "Open-pond" aquaculture systems are subjected to climatic and other restrictions. The intensive indoor aquaculture facilities designed and supplied by the company allow for an all year around production of most fish species reared in today's aquaculture market.
- The innovative development of the company's Indoor Aqua-Culture Facilities (IACF) incorporates technology developed by Mr. Gary Myers which is used in one of the only large indoor intensive aquaculture facilities in the US that has been economically viable and successful from startup.





## *The Technologies @ snapshot*

- The facility includes an array, module, of production tanks. Each module is connected to a separate water circulation and treatment system. The modules are designed for daily wastewater discharge from the proposed system into a settling pond or algae pond. The system design includes special oxygen dissolving units. Water temperature is maintained through by-product heat from oxygen generation units or via an external heat source. A monitoring system controls water parameters in each production tank. The optimized production concept (IACF) enables favorable production cost and creates competitive advantage over many other production methods, based on:
  - Controlling environmental factors
  - Precise fish production protocols
  - Reduced shipping costs
  - Reduced labor costs.





## *Indoor Aqua-Culture Facilities advantages*

- Year-round production.
- Sustainable marketing production on a daily basis.
- Cost of production is not influenced by external weather or temperature.
- IACF can be installed under extreme conditions with inter climate control.
- Implementation of Industrial concepts for fish production (unlike most of today's aquaculture).
- Maintains lowest costs of construction and fish production when compared with other leading indoor fish culture systems.
- Reduction of required water intake.
- Has the lowest dependency on the surrounding habitat.
- Has the lowest impact on the environment.
- Advanced management and system control protocol.
- Maximum control over fish rearing conditions, thus minimizing risks involved.
- Fish are grown in depurated water with no contaminants, toxins or off flavor sources (may be groundwater source without industrial pollutants frequently found in lakes, rivers, and oceans). As a result, the produced fish are very 'clean' and can be marketed as a "clean fish" product.
- Our IACF can grow fish in salt and fresh water thereby accommodating a wide range of different fish species which can be grown in any location regardless of water restrictions.





# *The Company Line of Products for Aqua farms*

- The company applies its comprehensive integrated approach to product design, development and implementation. The company supplies innovative aquaculture products and equipment that have been successfully implemented in many projects throughout the entire farming and processing phases.
- The company is on a constant quest to transfer core technology to customized solutions, to ensure more efficient production in all its customers' ventures. Customized Product Development.
- The company policy is to implement new technologies and to customize equipment and products where possible. When products cannot be developed in-house, The company offers to procure the product or component.
- The overall objective is the commercialization and mechanization of client ventures to help clients reach maximum harvest yields and profitability.



**SRB-3 3D design  
Automatic sorting  
machine & manual  
grading table**



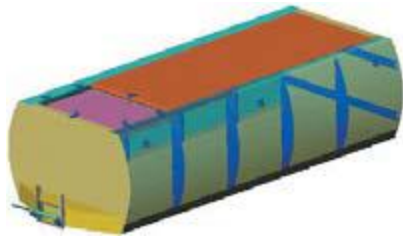
**FMT-16  
Marketing  
tank**



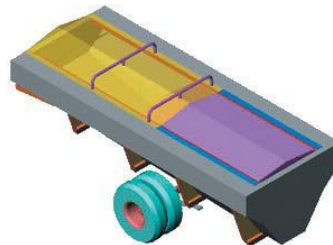


# *Fish Transfer Tanks*

The company's durable handcrafted live haul tanks are made from stainless steel or fiberglass. Some models have been designed with inner walls to create a strong, rigid and insulated tank.



**16m tank**



**8m tank**



**6m tank**



**FMT-16  
Marketing  
tank**



**TK-8**



**TKR-10  
(rear unload)**



**TKR-22**



# *Sorting & Grading Machines*

The company's 's sorting machines enable fish sorting by size and type. Some species require manual grading, while others are more suited for automatic grading. The process starts from grading the fish by species and size.. Sorting speed of The company's graders varies and depends on the type of device as well as the stock's sizes.

## Highlights:

- Reliable and sustainable
- Gentle method of operation and simple adjustment options
- Low maintenance
- Heavy Duty



**SRB-3 3D design  
Automatic sorting  
machine & manual  
grading table**



**SRB-3  
Belt Sorting**



**SRB-4  
Sorting**

## Specifications:

- High precision fish sorting machine constructed of Stainless Steel , with variable sorting belts electric or hydraulic motor driven. Includes receiving tank from fish elevator into the sorting belts, including electric box and regulator, water spraying system. Three chutes under the sorting device to discharge the sorted fish, including a system to change size of sorting tank.





# *Aerators*



**Mushroom aerator**



**Four impellers aerator**



**Six impellers aerator**



**Diesel aerator**



**SS motor gear**



**SS aerator**





# *Line of Products for Processing Lines*

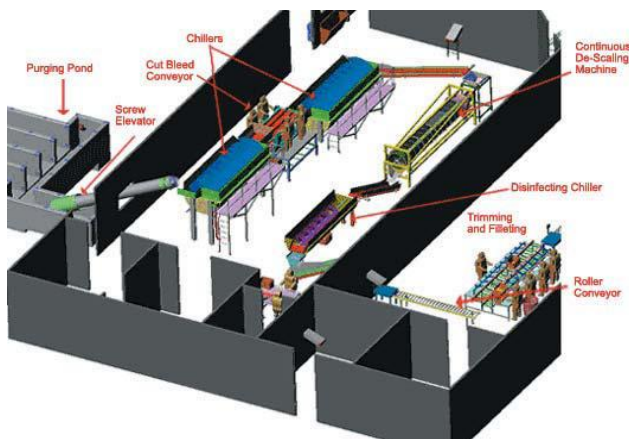
The company applies its comprehensive integrated approach to product design, development and implementation. The company supplies innovative aquaculture products and equipment that have been successfully implemented in many projects throughout the entire farming and processing phases. The company is on a constant quest to transfer core technology to customized solutions, to ensure more efficient production in all its customers' ventures.

## **Processing Solutions Overview**

- The company offers a full range of durable, low maintenance equipment and parts for the entire automated fish processing line. The machines come equipped with all necessary components to operate immediately. All processing products sales are backed by The company support services. Most products can be customized and tailored to client's specifications.

## **Aquaculture – Turnkey Solutions**

- The company team shares a wealth of experience in turnkey solutions for aquaculture processing plants. Being a manufacturer, distributor and project management consultancy, the company is well positioned to customize and tailor-make a solution that specifically meets each client's needs. The company's approach to the turnkey project is to apply innovation and a readiness to meet any challenge.



3D Design of fish processing plant





# *Line of Products for Processing Lines*



**Sorting & weighing system**



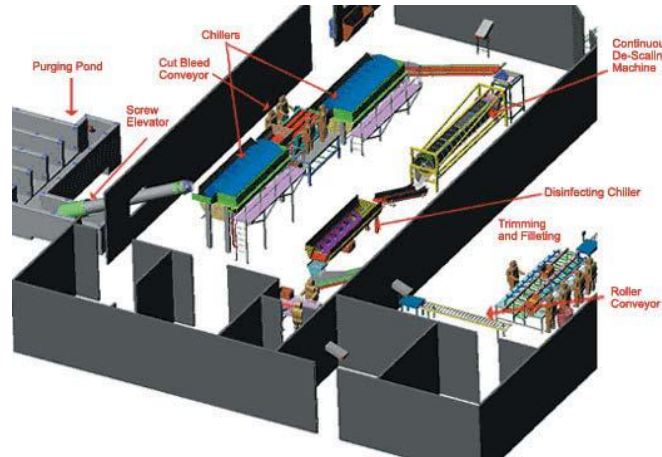
**Weighing & packing**



**Processing plant**



**Process line**



**3D Design of fish processing plant**



**Sorting & packing**



# *Spiral Conveyors Tanks*

## **Applications:**

- Bleeding
- Chilling
- Chill Kill
- Disinfecting
- Washing
- Dewatering



**SCT-8 W 2  
Bleeding tank**



**SCT-6 W 1.6  
Disinfecting tank**

## **Highlights:**

- Lightweight design
- Gentle method of operation and simple adjustment options
- FIFO system
- Low maintenance
- Easy cleaning



**SCT-12 W 2.5**



**SCT-3 W 0.8 x 3**

# *Conveyers*

## **System Advantages:**

- Easy cleaning
- Low and easy maintenance
- Food approved
- Ergonomically design
- High quality manufacture standards
- Flexible design



**SL-84  
Trough conveyer**



**SL-83 Modular  
Transportation conveyer**



**SL-88 High temperature  
process**



**G-54 Supporting conveyers  
for frying lines**



**Vacuum + slat  
conveyer**



# *Sorting and Weighing Machines*

## **Highlights:**

- Lightweight design
- Automatic brake when the drawbar is put down
- Gentle method of operation and simple



## **Specifications:**

- High precision fish sorting machine constructed of Stainless Steel , with variable sorting belts electric or hydraulic motor driven. Includes receiving tank from fish elevator into the sorting belts, including electric box and regulator, water spraying system. Three chutes under the sorting device to discharge the sorted fish, including a system to change size of sorting tank.



# *Speed Cleaning Machine*

The Speed Cleaning Machine's expanding global markets span five continents. From US based supermarket chains to major fish processing plants, satisfied customers are praising the Speed Cleaning Machine's dramatic impact on their business.

- **The company is known for its innovation, efficiency and ability to achieve** results. The company revolves around customer-driven service and offers outstanding consultation services and technical support to its customers around the world. Whether looking for a sensational gutting and scaling machine and its complimentary Water Treatment System and Vacuum Extractor, or turnkey solutions for your supermarket or fish processing plants we stand ready to serve you.





# *Screw Elevators*

## Highlights

More careful fish handling – fish are lifted in water  
Maintains healthy stock by reducing stress factor  
High quality, stainless steel structure  
Custom-made accounting for clients special needs inc;  
length, width etc.,

## Specifications

Framework made of stainless steel or metal  
Archimedes screw made of stainless steel  
Flexible tilting, sliding & lifting  
Diesel hydraulic or electricity operated  
Entrance cone 710 mm, pipe diameter 550mm  
Remote control emergency cut-off cable  
Capacity 12 tons/h



**SE-6**



**SE-11.5**



**SE-8**



**SED-12**



# *SUBflex - A Net cage System for Open Sea Aquaculture*

- Next level marine aquaculture is advancing to the open sea, a few miles offshore, where water quality is superior and where farming can co-exist with tourism, marine wildlife and coastline trade and development..
- SUBflex is a single-point mooring submersible and flexible net cage aquaculture system. The single-point mooring function generates circular movement around a single anchor, dispersing feces to a diameter of 1,000 meters.
- The construction supporting the net comprises of high-density polyethylene, creating a strong and flexible structure that can continuously move in the current and waves.
- The technology enables the system's pipes to haul seawater prior to a predicted storm in a bid to submerge the system to the sea bottom. Once the storm subsides the pipes are refilled with air to re-float the cages.
- SUBflex's first half-scale farm was installed in 2004 within East Mediterranean waters, 2 km offshore. The cages and fish (Gilthead sea bream) survived storms with 7-8 meter waves at submerged states, and survived waves of 2-3 meters at surface states.
- Open sea biological conditions proved to be ideal; oxygen levels are high, constant currents provide fish with excellent water exchange and the amount of fouling on the net is minor. The first full-scale SUBflex system (300-350 ton/year), assembled on Israel's south coast, will be anchored in the Mediterranean, 11 km offshore at 60 meters depth.







# Current Business Projection

The IACF technology assumed the leading role in the company export activities, world-wide. This focusing on the establishment of such IACF with as many as possible potential Customers and, consequently, the submission of comprehensive Proposals, resulted in a tremendous growth in this activity in FY 2007.

The attached below Table presents, in general terms, the status resulting from the intensive marketing activity. Listed are countries, located as potential high-rate consumers of fish products. The enclosed information presents:

- (a) the number of Projects signed, subject to valid Agreements,
- (b) the number of Projects after Proposal submission, and in various stages of contractual negotiations,
- (c) the number of identified, potential Customers in the territories.

Projects Statuses Country	Signed Projects (a)	Negotiated Projects (b)	Potential Projects (c)
• Israel	2	3	3
• Poland	1	1	2
• Russia	2	5	5
• Mexico	1	2	1
• Canada	-	-	2
• Rumania	-	3	-
• U.S.A	3		
• Indonesia	1		
• Bulgaria	3		
• Ukraine	-	2	-
• Greece	-	2	-
• Australia	-	2	3
• Trinidad	-	-	1
• Mauritius	-	-	2
• Nigeria	2		
• Ghana	1		
• South Africa		1	

Most of the proposed and negotiated IACF, based on Customer's requests, correspond to initial production volumes of 500 to 2,000 ton fish per annum. All Customers receive Proposals with the suggestions and information on potential upgrades and scale up of production volumes, for increasing the efficiency and the proficiency of the Systems vs. the necessary, additional investment.

An average cost of the establishment of such a volume of production facility is measured in (Rough Order of Magnitude of) USD M2.0 – M10.0.



## *Overseas past projects involvements*

- 1. Anova -Holland 900 ton cat fish/tilapia
- 2. PescaNova -Spain 12,000 ton seabream
- 3. Pescanova - Brazil 15,000 ton tilapia / pacu
- 4. Netuno -Brazil 25,000 ton pirarucu/tilapia
- 5. AaquaChile -Costa Rica 17,000 ton tilapia
- 6. AquaFinca -Honduras 30,000 ton tilapia
- 7. Mareostro -Italy 50,000 ton processing
- 8. Fjord Marin -Turkey 15,000 ton seabream/sea bass
- 9. Nordzee -Turkey 5,000 ton seabream
- 10. Shimshek -Turkey 5000 ton Trout
- 11. Bacgi - Turkey 5,000 ton Trout
- 12. WhiteFish -Kazakhstan 1000 ton carp/sturgeon/peddle fish
- 13. Aquacoopercion Salvador
- 14. S.a Trading -U.S sturgeon 3 ton caviar
- 15. Fresh catch - Belize 4500 ton Tilapia
- 16. Revivim - Israel 150 ton catfish / pangasius /grouper
- 17. Dag al hadan - Israel 3 ton caviar
- 18. Miniaqua - U.S 1000 ton Tilapia/ Barramundi
- 19. Azerbaijan - 5 ton caviar 200 ton striped bass
- 20. Aquamar - Ecuador 15,000 ton tilapia
- 21. Biocantinela - Ecuador 1000 ton Shrimps
- 22. Aquaperu - Peru 1500 ton
- 23. S.A.B -Nigeria 2000 to
- 24. Vicfish - 5000 ton Nile perch processing
- 25. Palomo - Guatemala 2000 ton Tilapia
- 26. Pelon - Costa Rica 3000 ton



### Summary : Type of Fishes

1. Tilapia
2. Sea bass
3. Catfish
4. Carp
5. Grouper
6. Shrimps
9. Sea bream
10. Pebble fish
11. Pacu
12. Pirarucu
13. Sturgeon
14. Caviar
15. Striped Bass
16. Pangasius
17. Trout
18. Barramundi
19. etc.



# *SCE Environmental Pte Ltd*



Thank you Very Much!



## *Our Contact*



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