



AQUACULTURE INNOVATION Europe

11-12 September 2018 | London, UK

 @AHInnovation #AquacultureLondon

We are proud to announce the 12 companies selected to present at the 2018 Aquaculture Innovation Innovation Showcase.



ENTOCYCLE



KnipBio 



Proteon 
Pharmaceuticals

Quantidoc 



VAKSEA



Associate Partner:



Event Partners:



A Special Thank You to the **SELECTION COMMITTEE**

The Selection Committee members were responsible for selecting the showcase companies at Aquaculture Innovation 2018. Each member has a wide experience and knowledge within the industry and between them they leverage an exceptional understanding of emerging markets and new innovations in aquaculture.



Oliver Hardcastle
Senior Advisor



Sarai Kemp
VP Business
Development



Tom Prins
DealFlow Manager



Maarten Goossens
Principal



Björgólfur
Hávardsson
R&D Director



Carsten Krome
Founder



Christian Rangen
Founder



Make the Right **CONNECTIONS**

Our meeting mojo platform allows you to preschedule meetings with these 12 start-ups!

The Aquaculture Innovation Summit is committed to bringing innovative and inspiring emerging companies together with partners looking to acquire and invest.

To ensure all our guests make the most valuable connections possible at the Summit, all attendees will have access to the **MEETING MOJO** platform, which allows you to create a bespoke meeting schedule, ensuring you connect with the industry stakeholders that are **most important** in building your business.

MEETING MOJO gives you access to the entire attendee list and allows you to message AND invite people to connect during the formal meeting sessions run throughout the day.

Scheduled **MEETINGS**

Who You Will Meet

- + Start-Ups & Early Stage Biotech Companies
- + Business Development Teams from International Pharmaceutical Companies
- + Leadership from Multinational Corporations
- + Mid to late-stage Health and Nutrition Companies
- + Global Distribution Leaders
- + Venture Capital and Private Equity Investors
- + Market Intelligence and Consultancy Providers
- + Universities and National Regulatory Bodies
- + Contract Research & Contract Manufacturing



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INNOVATION SHOWCASE FINALISTS



About Arbiom: Arbiom seeks to address two critical issues facing animal agriculture: protein sourcing and gastrointestinal health, by integrating a historically non-food material (wood) into the food supply chain. Our Wood to Food approach enables the production of a nutritional, traceable, sustainable protein-rich ingredient for feed and food consumption.

Website: www.arbiom.com

What makes your company unique?

Future fish meal supply shortages and price volatility are driving the aquaculture industry imperative to incorporate alternative protein sources in feeds. Soybean meal is the main protein source, but it has limitations for feed applications as it is deficient in some essential amino acids, notably methionine and taurine. Among alternative protein players, Arbiom has no direct competitors using ligno-cellulosic material to produce SCP. Our Wood to Food approach is a differentiating and valuable proposition because it positions Arbiom protein product as a more natural, sustainable and traceable protein source that is industrially scalable. Many alternative protein producers face challenges with scale and quality.

Describe the features and benefits of your technology

Arbiom's high-protein ingredient (60%+ crude protein) is an ideal high-quality alternative to fish meal for sustainable animal nutrition. Our ingredient is coming from an enhanced strain of *Torula* yeast, a yeast which has history of safe use, and is already approved by major regulatory agencies. The enhanced amino acid content, particularly lysine, methionine, and threonine, high digestibility (92%), and rich beta glucan/ mannan content helps address two critical issues facing society today: protein sourcing and gastrointestinal health.

Describe the underlying technology of your product

Arbiom produces a high-protein product with proprietary bioprocessing technology that converts wood into hydrolysates which are a highly fermentable growth medium for single cell protein. Wood offers many advantages: it is abundant, natural, non-GMO, not competitive with food crops and has established, industrial supply chains.

Arbiom is scaling-up our technology to demonstration scale through the SYLFEED industry consortium, which assemble key players in the wood to food value chain. The programs' objective is to build a demonstration facility that will produce multi-tons of product annually starting in 2019 and guide the commercial-scale plant design. Arbiom is completing material handling and in vivo trials and will be ready to send samples for customer trials by year end.

INNOVATION SHOWCASE FINALISTS

ENTOCYCLE

About Entocycle: We're Entocycle and we've developed patent-pending technology to industrially farm insects. It's a new form of protein that can replace traditional proteins like fishmeal and soy both of which are farmed unsustainably. Put simply it's smart, scalable and sustainable farming for the future.

Website: www.entocycle.com

What makes your company unique?

Several companies are breeding insects for animal feed. But the biggest challenge is achieving scalability. This, we believe, is our key competitive advantage as our patented breeding technology is entirely modular and can be farmed anywhere which we've proved from our home in London Bridge. We also adopted a trusted agriculture business model which allows for rapid scale both domestically in the UK and internationally.

Describe the features and benefits of your technology

We take waste from food growers and brewers and feed it to Black Soldier Fly larvae. In just eight days, they consume the waste and become high quality protein, lipid and fertilizer. We sell these to the fish, animal and pet feed industries. We believe that technology is the key to unlocking the industrial scale needed to supply meaningful quantities of protein these markets. So we've developed proprietary technology using controlled environment agriculture (CEA) techniques, vertical farming, IoT, robotics and automation to optimise nature's capabilities. We've automated the breeding system for insects allowing us to produce protein at unprecedented scale.

Describe the underlying technology of your product

The technology we've developed is focused on two outcomes;

- 1) Reducing our cost of production and
- 2) Allowing us to decentralise production.

Through automation of the insect breeding process, we've taken breeding efficiency to 80% from a market average of 25%. We've also developed an IoT networked larvae metering system using visual recognition to remotely monitor production. Innovations such as these allow us to site production further up the supply chain, next to waste streams, mitigating the transport costs of moving raw material. This method also allows us to distribute capex, protect our IP and most importantly, scale at pace.

INNOVATION SHOWCASE FINALISTS



About JALA: JALA is empowering shrimp farming to increase their yields through data-driven farming. We provide a water monitoring system, farm management, and decision support system so farmers can do the right treatment based on actual data. Our value is to prevent disease, increase farm productivity, and bring sustainable and profitable shrimp farming.

Website: <https://jala.tech>

What makes your company unique?

For every hectare of shrimp farm, the farmer spends \$6300/yr for the shrimp expert alone to do farm planning and data interpretation, not including the manual water measurement device that cost up to \$3000. Our competitor as IOT measurement device specifically for shrimp farm is Eruvaka and Osmo System. Our competitive advantage is that we are well equipped with farm management and decision support system, along with access to a capacity building for the funding opportunity, and certification

Describe the features and benefits of your technology

90% of shrimp farms in South East Asia already have at least 1 dormant disease living in the water, waiting for a shrimp's immune system to be compromised. This costs farmers billions of dollars every year. JALA is transforming the shrimp industry through data-driven farming. Our system provides real-time water quality monitoring, and planning & reporting tools, complete with a decision support system so farmers can initiate the right treatment at the right time, based on data which has been collected and analyzed. All the data from every farm is articulated to gain valuable insight into the industry as a whole, such as a farm performance, production levels, and disease patterns across the region. JALA, your shrimp farm assistant on the go.

Describe the underlying technology of your product

JALA provides a data-driven farming solution to enabling precision shrimp farming. We assist farmers through:

Monitoring System: We developed IOT monitoring device that gathers 5 water parameters, articulated into data analytics and decision support system, to help farmers do the right action to prevent disease.

Farm Management System: Our smart farm management platform allows farmers do simulation and planning, scheduling, and reporting. Farmers can achieve cost efficiency through the smart management system.

Farm Capacity Building: We offer transparency and traceability report system that will allow farmers to access a source of funding, insurance, and certification. This will lead to premium market access for their shrimps.

INNOVATION SHOWCASE FINALISTS



About KnipBio: To meet aquaculture's forecasted demand, we will need additional sources of protein that lead to high performance. KnipBio is creating a range of premium ingredients from low-cost feedstocks that contain high concentration of protein and important immuno-nutrients. KnipBio aims to help growers make healthier fish and shrimp while stabilizing the traditional volatility of cost of inputs.

Website: www.knipbio.com

What makes your company unique?

The competitive advantage we have is a combination of superior products, process and execution strategy. In feed conversion trials, KBM has been shown to be an effective replacement for other traditional proteins while at the same time offering additional immunonutritional benefits that significantly reduce fish mortality. Because KBM is fermented in a "brewery", this strategy will enable more stable pricing compared to other forms of proteins used to make aquafeeds. KBM is highly traceable and provides necessary relief to the over-harvesting on precious marine resources.

Describe the features and benefits of your technology

One of the constraints towards the continued growth of aquaculture is the lack of quality protein. Current sources are no longer sustainable (i.e. fishmeal) or divert agricultural production away from human consumption (soybean meal). KnipBio Meal is a bacterial-based single cell protein (SCP) made from low-cost and sustainable inputs. The result is an affordable feed ingredient containing high concentrations of protein as well beneficial additives including prebiotics, taurine and other anti-oxidant carotenoids including astaxanthin that provide coloring for salmonids and shrimp. Our targeted nutrition platform delivers functional molecules focused on commercially relevant fish species to ensure optimal animal growth and overall health.

Describe the underlying technology of your product

Using our proprietary PROTEINplus technology we have developed ~1000 unique strains of the bacterium *Methylobacterium extorquens* and identified those offering superior functional performance as an aquafeed ingredient. Our goal is to create targeted solutions for commercially important aquaculture species. For example, our KBM500 feed ingredient is designed for salmon consumption and contains an amino acid profile closely resembling fishmeal plus the carotenoid astaxanthin, an important antioxidant and coloring agent for salmon. We are now at the stage of transferring production of our SCPs to industrial scale fermenters for general commercialization.

INNOVATION SHOWCASE FINALISTS



About Manolin: Manolin is creating a digital health analytics platform to accelerate the resource sharing between aquaculture farms to better monitor, treat, and prevent health outbreaks. We aggregate data from both public and private sources to provide the industry with key insights on the health of farms.

Website: manolinaqua.com

What makes your company unique?

There are a few competitors in our space such as Anteo, Searis, Steinsvik, and AkvaGroup. While their target markets are not identical to ours, they represent companies who are working with similar data. Our team has experience leading big data solutions for the US government. That experience, coupled with our speed to market sets us apart. Selling software solutions to farms is challenging, but 15% of all active farms in Norway are on our system within just 3 months.

Describe the features and benefits of your technology

We've developed and launched a cloud based digital platform that aggregates data collected from the Norwegian government and other industry partners. Our customers are presented with a dashboard to explore data and configure notifications regarding the health of their farm and area. They can keep track of disease reports, analyze trends, and monitor health treatments in their area. Our system has been designed to integrate big data solutions such as a machine learning and distributed computing to perform advanced analytics across the health of farms. Additionally, we're building out user and data communication channels to provide our ecosystem with a centralized location for collaboration on fish health.

Describe the underlying technology of your product

Health is one of the largest issues in aquaculture. In salmon, sea lice is an issue that costs the industry billions of dollars in damage and harming wild stocks of salmon. We're creating a centralized platform for communication and data sharing between governments, researchers, and the industry to monitor environmental issues and respond to health outbreaks faster. Our service provides farmers with real-time notifications from neighboring farms on health metrics (sea lice, treatments, environmental data). With that information, our customers can better plan future treatments, collaborate collectively address outbreaks, and share information safely between with others in the industry improve the health of the overall aquatic environment.

INNOVATION SHOWCASE FINALISTS



About Mithal AS: Imagine a robot cleaning your pen automatically and showing you how nice it has cleaned every day. Mithal AS has captured this imagination in its newly developed autonomous tool named REMORA. REMORA will be stationed in your pen and with its brushes prevent growth from forming on the net. While doing this, REMORA will digitally inspect each single mask and report online on any potential issues based on set conditions. REMORA can be fitted on all nets with simple additions and no modification.

Website: www.mithal.no

What makes your company unique?

REMORA provides an unprecedented combination of digital online reporting and daily gentle cleaning of nets. The dominant competition is high pressure cleaners that is used with week(s) intervals where the growth has been allowed to mature, and its removal results in the water being fouled creating an unhealthy environment for the fish. The alternative growth prevention is copper which does not have the best compatibility with food production.

Describe the features and benefits of your technology

REMORA will provide the fish farmer carefree maintenance of its pen, clean nets without spills of dissolved growth or copper coating, and a complete digital registry of the net condition. REMORA is a small robot using a patent pending climbing mechanism to attach itself to the net and providing traction to allow its stationary brushes to wipe the net clean of any forming growth. REMORA is controlled through an umbilical cord providing power and returning images and report to the desk of the fish farmer wherever these are wanted. Through machine learning, REMORA will adapt its operation to any pen and keep track of development of any issue over time. The reporting will allow the fish farmer to inspect and compare results from previous days.

Describe the underlying technology of your product

REMORA is currently in prototyping stage having undergone its first few encouraging wet tests. A full-scale test will be conducted at a Marine Harvest location over the coming months. The algorithms developed for REMORA will be capable of documenting the cleaning effects of the brushes by comparing half the pen left uncleaned with the other half being subjected to brush. REMORA is using novel mechanical technology to attach and move across the net. The technique is believed to be more stable and maintenance free than other methods currently used by net cleaners on the market. REMORA will be constructed with durable material and few modules that will be easily changed if necessary, even in the harshest conditions.

INNOVATION SHOWCASE FINALISTS



About Planktonic AS: Planktonic AS has developed a revolutionary way of cryopreserving a crustacean nauplii and deliver extremely easy to use live feed to marine hatcheries in industrial volumes. CryoPlankton will replace rotifers and artemia in hatcheries, with superior nutritional value and increased biosecurity, no need for cultivation, just thaw in seawater and feed.

Website: www.planktonic.no

What makes your company unique?

The production of rotifers and artemia is costly and challenging for several reasons, besides the inferior nutritional value:

The supply of high quality artemia is very variable, with fluctuating prices. Rotifers and artemia are prone to carry pathogen bacteria and virus, especially vibrio. The feed culture itself could collapse. The production is dependent on highly skilled employees.

CryoPlankton brings increased biosecurity, ease of use, consistent quality and standardized procedures. The industry wants an alternative to rotifers and artemia.

Describe the features and benefits of your technology

Using CryoPlankton is easy. Just thaw, wash and revitalize in seawater and after 6 hours the live prey will be fully revitalized and resume their normal swimming activity, ready to be fed to the fish larvae.

CryoPlankton delivers increased biosecurity, ease of use and the nutritional value is superior to rotifers and artemia, due to high proportions of the marine fatty acids DHA/EPA in phospholipids. Rotifers and artemia must be enriched as they contain no or minor DHA/EPA, but the fatty acids from enrichment will be stored in the form of triacylglycerides. TAG is not easily accessible to fish larvae. Natural plankton will increase growth, reduce malpigmentation and deformities, increase survival and stress resistance.

CryoPlankton could be the solution to releasing the potential for growth and farming of a range of different marine species globally.

Describe the underlying technology of your product

Planktonic harvest zooplankton from wild populations. The current CryoPlankton is a specific specie, at a specific life stage, and with a uniform size. After harvesting, the nauplii are mixed with a cryopreservation agent, which ensures that the nauplii survives the freezing process. After freezing, the nauplii are stored in containers with liquid nitrogen.

Planktonic has developed a harvesting method and a preservation technique that enables production of CryoPlankton in large industrial volumes. The technology is very suitable for cost effective up-scaling, and the harvest and production is possible in many areas globally, as the cryopreserved species(s) can be found around the globe.

We have also succeeded in cryopreserving other species from the same family of crustaceans, making us able to deliver CryoPlankton in different size fractions in near future.

INNOVATION SHOWCASE FINALISTS



About Proteon Pharmaceuticals: Proteon develops bacteriophage-based solutions that significantly reduce or eliminate the need to use antibiotics in food animal production in aquaculture, poultry and dairy cows. Reducing antibiotic usage has long been a major challenge for the agricultural industry; existing alternatives to antibiotics are unable to solve the problem.

Website: www.proteonpharmaceuticals.com

What makes your company unique?

Proteon has introduced the first bacteriophage-based products designed to prevent disease in food animal production into the market. Our products have been highly effective in testing as well as in commercial usage, with close to 100% efficacy.

Antibiotics remain, despite the existence of alternatives, the main method used to prevent bacterial disease. Therefore, the biggest challenge we have is breaking the 'habit' of unnecessary antibiotic usage. This will require significant investment in public awareness and education, especially to veterinarians and industry leaders who are not familiar with the potential of bacteriophages and precision biology.

Describe the features and benefits of your technology

Proteon's products destroy targeted pathogenic bacteria with efficacy rates approaching 100%. This allows the farm to prevent disease or treat and eliminate existing infections, improving food safety, increasing productivity and reducing the environmental footprint. Proteon has developed solutions to diseases in aquaculture, poultry and cattle. Our products are created from natural components, they leave no residue and have no side effects in animals, humans or the environment.

Our products enhance economic performance by reducing risk and unpredictability in animal farming. They also can increase immunity, improve animal health and welfare, support gut microbiome diversity and increase growth/performance. Our products are precisely engineered but not genetically modified.

Describe the underlying technology of your product

Proteon uses a proprietary phage-platform to discover, carefully select, test and deliver precision-engineered phages. We use precision biology, combining genomic sequencing and bioinformatics to identify and test for appropriate phages. Identified from nature, phages are selected and developed using "in silico" methods to model performance and guarantee effectiveness in industrial application. We then engineer the phage treatment to assure optimal delivery and effectiveness in the environment.

Our current products are classified as feed additives. We have received registration in India and Ukraine for a poultry product, preventing human pathogenic salmonella, and an aquaculture product preventing pseudomonas/aeromonas. We have filed product registrations in the EU and US.

INNOVATION SHOWCASE FINALISTS



About Quantidoc AS: Our decision-making tool, Veribarr™, documents the fish's slime cells responsive capability, enabling us to forecast on the fish's robustness and immunity. Quantidoc creates value for customers by providing objective & comparable data linking the fish's immunity with diet, environment & handling.

Website: www.quantidoc.com

What makes your company unique?

Most diagnostics are designed to screen for potential diseases. Quantidoc AS however look for objective evidence of health. No other players in this industry has a similar approach today. Based on our 3 scientific papers we have standardized protocols, methods and processes that has been used in 50 different projects over the last years. These results are all tied to a significant of metadata. This enable us to compare and understand the mechanisms involved for so far 6 commercial farmed fish species. By quantifying and documenting the status of the fish's innate immune system a more tailored and preventive approach can be made by the farmer on choosing diet, technology and husbandry practices.

Describe the features and benefits of your technology

Samples of tissues are processed and analyzed with our proprietary software for specific cell types. The results are objective, repeatable and statistically robust and can be related to a database of currently 10.000 analysis. Based on this we can quantify the strength of the primary barriers for the actual fish group. The knowledge of the actual barrier strength enables the farmer to prevent or handle disease more proactively than today. This is vital input at critical stages such as:

- Smolt robustness before transfer to sea
- Evaluating claimed effects of different feeds
- Better handling of fish involving mechanical stress
- Before expected stress scenarios like water quality problems, algae blooms, sea lice infestations, low O2 levels.

Describe the underlying technology of your product

Quantidoc AS has developed a proprietary software that transforms 2D slices into 3D pictures for numerical quantification of specific mucous cells in terms of volume and relative density. Based on thousands of manual histological measurements, a dedicated software has been developed that does this automatically. Our software can screen multiple samples simultaneously with high precision at a fraction of the time required by a trained histologist. All samples are tied to a database with a significant amount of relevant metadata from each fish group. This enable us to compare a set of data to relevant other fish – thus we can state and predict the relative robustness of the actual fish group.

INNOVATION SHOWCASE FINALISTS



About VakSea, Inc: VakSea has developed an innovative system that uses insect larvae to affordably produce specialty, immune-boosting proteins that can be delivered orally and have been shown to reduce disease-related losses. VakSea is creating a range of protein-based products to reduce mortality caused by diseases in aquaculture and to increase yields.

Website: www.vaksea.com

What makes your company unique?

The current gold standard for protecting against viral disease in aquaculture is injection vaccination. While injection vaccines are highly effective, they cannot be used for shrimp or young fish that are most susceptible to disease, require a time-intensive and expensive injection by skilled workers, and are too expensive. VakSea produces immune-boosting proteins in insect larvae that can be incorporated into feed and delivered orally. Our proteins convey immune protection and can be used to protect fish and shrimp at the hatchery stage. We have demonstrated that our insect larvae-produced proteins generate an immune response and significantly reduce mortality in both fish and shrimp when exposed to viruses.

Describe the features and benefits of your technology

Disease devastates the aquaculture industry, causing annually increasing losses globally. In 2017, disease caused \$22 billion in losses and represented the single greatest threat to the long-term sustainability of aquaculture and the viability of farms. VakSea is developing a range of immune-boosting proteins that have been demonstrated to protect both fish and shrimp from viral diseases, improving farm economics and securing the viability of the industry.

VERSATILITY: VakSea's insect larvae system can be used to produce high-quality immunoprotective proteins for the vast majority of viruses that impact fish and shrimp.

AFFORDABILITY: VakSea can affordably and reliably produce specialty proteins and protein-based products that are traditionally difficult or not cost-efficient to manufacture.

SIMPLICITY: VakSea can produce bioactive proteins that offer strong immunoprotection inside insect larvae, eschewing the complex, multi-step biochemical production and purification systems that are typically required.

EASE OF USE: VakSea incorporates its immune-boosting proteins into traditional feed, enabling farmers to simply feed them to fish without worrying about proper dosing.

Describe the underlying technology of your product

VakSea has developed a novel insect larvae platform for producing immune-boosting proteins for aquaculture. Our key innovation is the development of a versatile and reliable insect larvae production system. With this insect larvae system, we can produce large quantities of the desired specialty protein inside insect larvae, process the insects into a flour, and incorporate the specialty protein product into a feed that is easy to deliver to fish or shrimp. VakSea can rapidly and affordably create a broad range of immune-boosting proteins using this platform and can extend the platform to produce other specialty proteins for the aquaculture industry, including immunostimulants, growth promoters, and gut health promoters.

INNOVATION SHOWCASE FINALISTS



About Verifik8: Verifik8 is a sustainability analytics platform, where social and environmental practices of farms are monitored and verified. It links the supply chain stakeholders (input suppliers, buyers, retailers, cooperatives, etc.) into a digitalized platform, becoming a datahub. It crosschecks information from the farm, hatchery and feed mill to communicate it to their buyers.

Website: www.verifik8.com

What makes your company unique?

Verifik8 is the first in-kind verification system to provide an affordable, yet credible real-time performance monitoring solution to the industry. It decreases audit time and costs. Verifik8 is an agnostic solution to industry standards and it is an inter-operable solution (GSSI, ASC, Fairtrade, etc). Our database working as a data-hub sees other farm data collection tools as other data-streams to crosscheck information and increase data robustness. Non of our competitors have the social metrics to monitor social performance on farms, created during the last 2 years with the help of the Social Monitoring Expert Group.

Describe the features and benefits of your technology

Seafood supply chains are highly scattered, which gives small-scale farmers a limited market access. Farmers have low accessibility to certification due to high costs and lack of knowledge, and the supply chain lacks of transparency and traceability mainly at the farm level. Verifik8 provides the story of your product through a socio-environmental performance measurement and brings trust to the supply chain.

Describe the underlying technology of your product

Verifik8 provides with real-time data collection at farm level, crosschecked by data from input suppliers. It has solid analytics to constantly monitor the supply chain, predict production volumes and identify any red flags. It benchmarks social and environmental performances against industry relevant sustainability standards. It generates regular performance and compliance reports, together with an early warning system. Verifik8 assesses the socioenvironmental farm performance through an extensive number of KPIs aligned with the relevant standards.

Verifik8 is being piloted with shrimp farmers in Thailand along Thai Union supply chain. We have an iteration for sugarcane in Thailand, with Nestle and Pepsico, and 500 sugarcane farmers using Verifik8.

INNOVATION SHOWCASE FINALISTS



About WSense: WSENSE is an innovative SME, spinout of Un. of Rome La Sapienza, with a strong and experienced R&D team, a crew of passionate and enthusiastic visionaries, specialized in underwater monitoring and communication systems with pioneering patented solutions on underwater networking and the Internet of Underwater Things (IoUT).

Website: wsense.it

What makes your company unique?

Very few companies worldwide have market ready solutions for underwater networking, and WSense is pretty much ahead on a variety of aspects, including performance. It is the only company that has solutions that allow secure, performing and reliable multimodal underwater networking that supports multivendor interoperability. This means that heterogeneous multivendor underwater probes, robotic technologies and even divers can be seamlessly connected into an underwater smart wireless network.

Describe the features and benefits of your technology

RELIABILITY: WSENSE smart networking layer brings full reliability to underwater networks by dynamically changing paths, protocols and settings to best fit current environmental and operational conditions.

PERFORMANCE: WSENSE application and networking intelligence, results in greater bandwidth and energy efficiency, extending capabilities of current systems.

INTEROPERABILITY: Holistic support to interoperability by JANUS and multi-modem support, and an architecture designed to run on a large number of field-used embedded platforms, supporting integration of heterogeneous, multivendor commercial acoustic modems, sensors, AUV/ASVs.

SECURITY: Our underwater secure communication frameworks support encryption, authentication, integrity, key management through lightweight schemes designed to minimize resource consumption.

Describe the underlying technology of your product

WSENSE designs and develops innovative, robust, reliable, performing and secure underwater communication and monitoring systems.

WSense has market ready solutions on: Smart multi-modal (wireless optical and acoustic) underwater networking technologies; Underwater wireless sensor networks monitoring water quality and able to transmit in real time compressed images; optimized underwater systems of miniaturized sensors and robots.

WSENSE solutions guarantee a complete cableless networking interoperability among various vendors of underwater sensors and autonomous vehicles (UAV, ASV, AUV), ensuring realtime monitoring and an extensive surveillance of underwater environments, enhancing and providing affordable value to assets our customers have already invested in, adding functionality to current systems.

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