



Status Report

Q2-Q3 2018

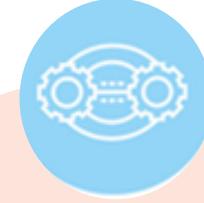
Highlights Q2 + Q3



50 graduates



**147 mNOK
Innovation
funding**



8 start-ups

Highlights Q2 + Q3

Knowledge:



- 24 graduated from the Cluster's first MBA program in Global Seafood Management
- 26 graduated from the 2nd program of the Cluster's Seafood Trainee program

Innovation:



- 40 mNOK investment in a new pilot centre to support faster innovation in RAS-technology, Digitalisation and Advanced 3D printing (Ocean Innovation National Catapult)
- 60 mNOK in EU funded innovation project
- 47mNOK funding for collaborative innovation projects in the Cluster

Entrepreneurship:



- 8 international start-ups participated in HATCH accelerator program in Marineholmen

Strategy for the future

- Our strategy process will focus on industry-led collaboration and defining mutual strategic priorities of activities in non-competitive areas.
- Focusing on cluster-building activities to scale up our ecosystem by strengthening collaboration between the 5-pillars of innovation (figure 1)
- Foster linkages with other relevant international clusters
- Attract and develop world-class talent, develop a shared innovation roadmap, increase investments to enable faster innovation

Operational approach:

- Workshops with BoD and resource groups
- Interviews with cluster members
- Duration of process June - December 2018

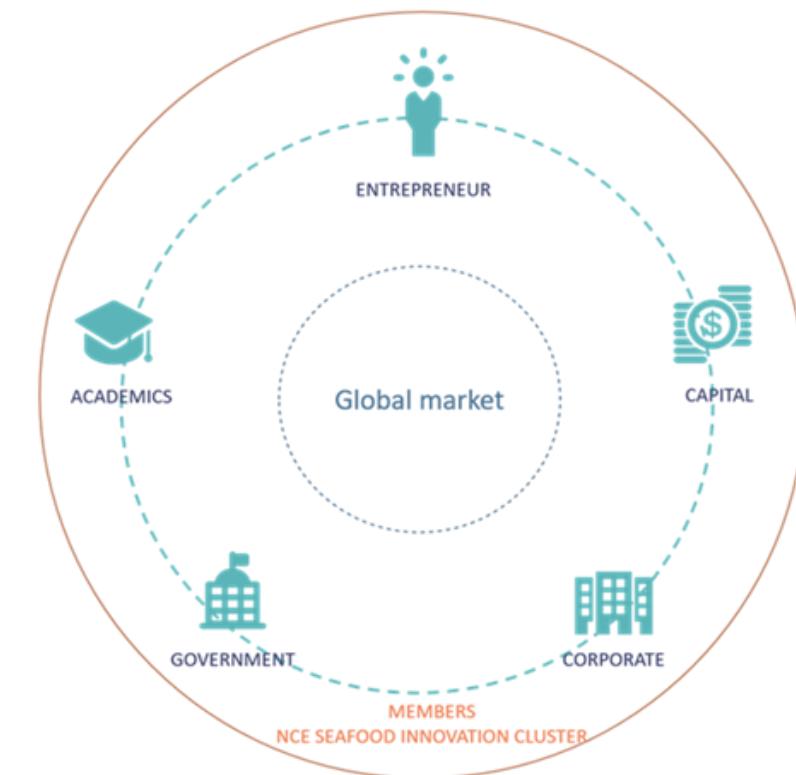
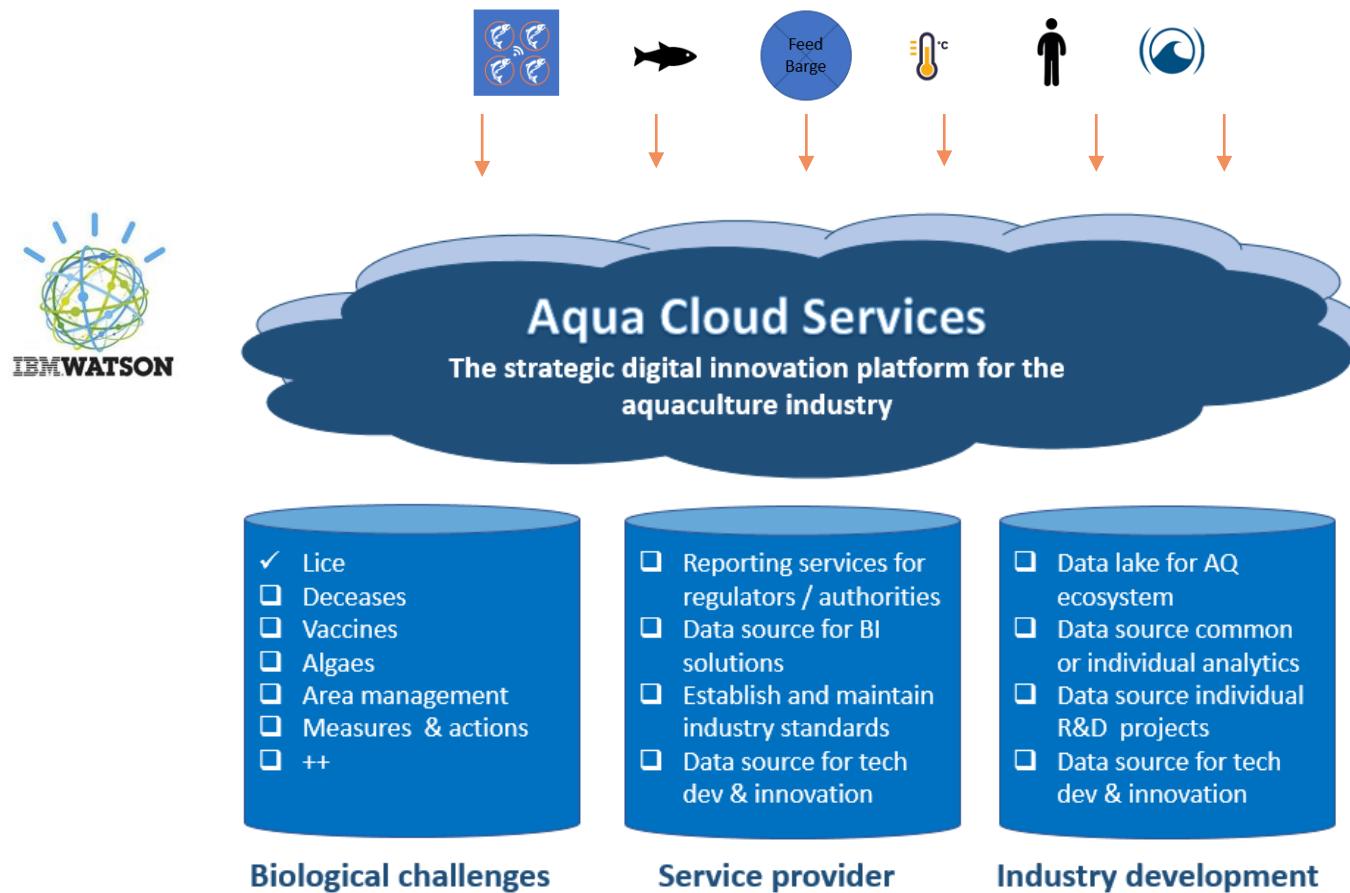


Figure 1: Introducing MiT's 5-stakeholder model including five pillars of innovation. Connecting multiple actors including start-ups, corporates, regulators, risk capital and academics.

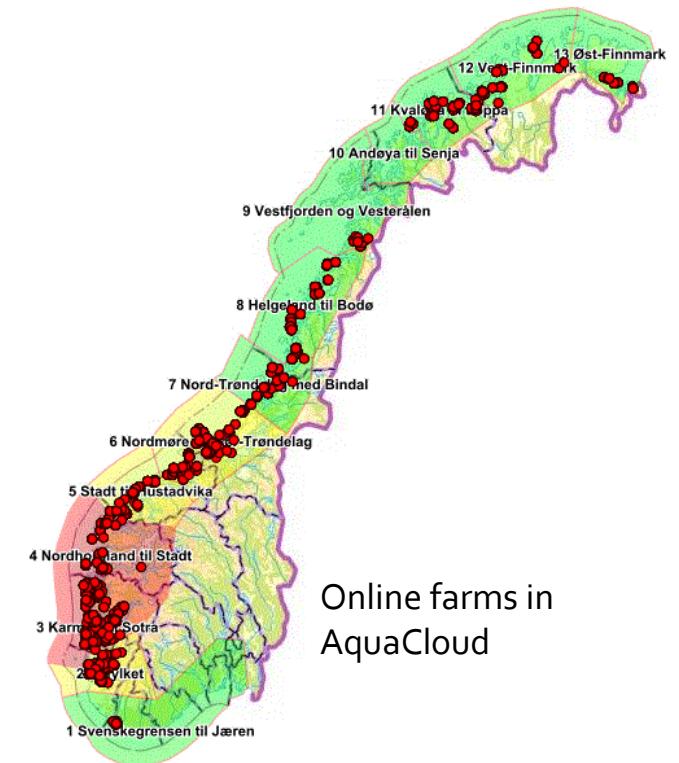
AquaCloud-a digital innovation ecosystem for the aquaculture industry



- ✓ Communication
- ✓ Conferences
- ✓ Tech Dev Incubators
- ✓ Hackatons
- ✓ Reputation
- ✓ Contracting
- ✓ Education
- ✓ Open Industry standards

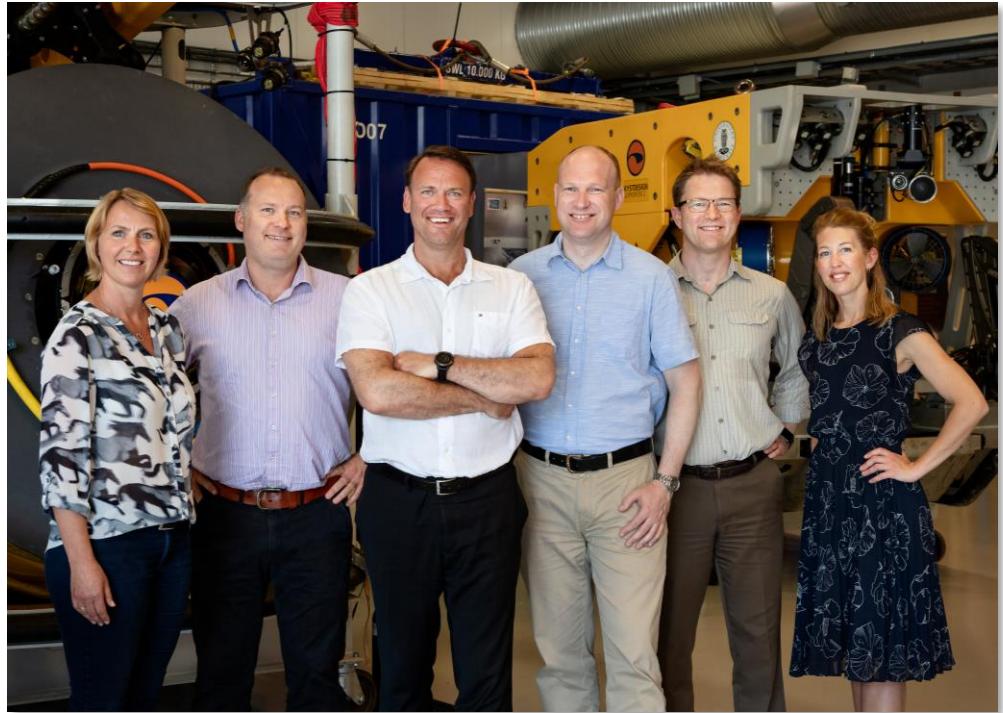
AquaCloud - Current status

- AquaCloud receives data from 7 farmers (311 locations – 2657 cages) every day.
 - ✓ Biomass (volume in cage)
 - ✓ Environmental information
 - ✓ Feeding
 - ✓ Mortalities
 - ✓ Treatments
 - ✓ Cleaner fish
 - ✓ Coastal current models
 - ✓ Resistance data
- Data are transformed and 1, 2 & 3 weeks prediction models are run automatically.
- Prediction data are available to the farmers, and can access their own data in AquaCloud.
- Prototype where lice pressure data from IMR are included in models, have been completed. Ongoing work to embed these data in automatic prediction every night.



Fast-track to innovation -new test center for Ocean Innovation Norwegian Catapult

- OIC (Ocean Innovation Catapult) will be a national test, simulation and visualisation centre where world-class expertise and infrastructure is made available for aquaculture & ocean industries
- NCE Seafood Innovation Cluster, Bergen Technology Transfer Office and GCE Subsea has been instrumental in establishing the innovation center, and is in a strong consortium together with Prototech, Stiftelsen Industrilaboratoriet (ILAB), Universitetet of Bergen (UiB), DNV GL og Marineholmen Forskningspark
- OIC will be an important infrastructure to strengthen the Cluster's work on sustainable salmon farming. The RAS facility in ILAB will support the Cluster's 55mNOK project "[Kapasitetsløftet for Bærekraftig Sjømatproduksjon](#)" providing "state of the art" test-facilities for students, industry partners and researchers
- The total OIC budget is about 84 million NOK. This funding will be used for new joint infrastructure and competence development related to:
 - Additive manufacturing (3D printing) for both metals and composites
 - Recirculation Aquaculture Systems (RAS)
 - Digitalisation



About Norwegian Catapult:

test, simulation and Norwegian Catapult is a governmental owned competence infrastructure program which aims to build and make available visualization centres for industrial based research and innovation projects. The program aims to move new ideas faster, cheaper and better from the concept stage to introduction to the market.

CO2FOOD - CO2BiO/National AlgaePark

- The Cluster is engaged in an 3 year Innovation project “CO2FOOD” at the National Algae Park. The aim of the project is to build knowledge and support innovation for the use of microalgae in fishfarming.
- In the CO2Food project, the focus is on production of phototrophic microalgae as a nutritious EPA-rich ingredient in aquaculture feed
- In October, testing of the algae together with Marine Harvest for their suitability in the production process of ‘bergylt’
- The work and facilities is also used for educational purposes:
 - Students from UiB visit the pilot facility to learn about sustainable biomass production using the CO2
 - Teachers and students from ‘videregående skole’ have been visiting Mongstad to learn about microalgae cultivation



Photo: Visit by Reuters to NAM (picture by Jeroen de Vree)

Partnership with HATCH

- the world's first start-up accelerator for aquaculture

- The Cluster partnered up with HATCH, the world's first aquaculture accelerator program, located at Marineholmen
- HATCH is like a MBA for entrepreneurs and lasts for 3 months. Eight of the world´s highest-potential aquaculture start-ups was selected by HATCH to be accelerated in Bergen spring 2018
- International participants from Thailand, India, Indonesia, Portugal, UK, USA and Norway
- Each startup team received a cash investment of €25,000 in addition to participation in the program
- The next program will be located in Cork, Ireland from 17th Sept - 14th Dec 2018, and the Hatch team are now searching new participants for the program
- Next program in Bergen will be spring 2019



AquaHack - the world's first hackaton for aquaculture

- 45 participants from several countries was given two days to solve some of the industry's problems. The winner had the opportunity to win 40,000 NOK.
- The winner was Erica McConnell and Natalie Brennan, students from the University of Bergen (UiB) for their solution "Digital Gut Interface". Digital Gut interface, is a modeling system that will collect data from breeders, which in turn can help them make better and more accurate decisions, as well as plan production better. The solution can be integrated with AquaCloud.
- Participants have, among other things, been the first to be allowed to use data from AquaCloud, and thus have been able to use real data in the concepts they have developed.
- The event is a shared collaboration between NCE Seafood, NCE Media, IBM, Deloitte, Hatch, Bergen Municipality and Grieg Seafood



Kapasitetsløftet for Bærekraftig Sjømatproduksjon (KABIS)

- The Cluster has sponsored an industry professorship on RAS/CCS systems in Aquaculture, that contributed to the 55mNOK project funding from NFR to support new education and more industry innovation for sustainable and innovative seafood production – (“KABIS”).
- KABIS aims to contribute to new education programs, new knowledge and more innovation in closed production technology for the aquaculture industry. The aim is to achieve further sustainability and cost efficient production of salmonids.
- The Cluster, represented by Tanja Hoel, has been elected Deputy Chairmen of the Steering committee.
- This enables the Cluster a long-term collaboration between education, research and business for sustainable development in Norway’s leading seafood industries



Kick-off, 29. May 2018 in Bergen. (Photo: Andreas R. Graven)



New vocational technical college in RAS/closed/semi-closed systems

- The Cluster has contributed to the Policy plan Hordaland County's [«Regional plan for kompetanse og arbeidskraft»](#)
- Based on an interview with Cluster members back in 2017, there was a need to re-design the educational programs in vocational technical colleges.
- Together with project «KABIS», Hordaland County, Austevoll and Fusa VGS, we have set an ambition to develop new and more updated educational programs for the industry, including Continuing Education and Professional Development



26 trainees graduated June 2018 from the Cluster's Seafood Trainee program



- The Seafood Trainee program increases the reputation of the seafood industry, and becomes more attractive for the best candidates. The industry is constantly becoming more knowledge-intensive, and will need new skills to increase innovation, growth and sustainability. The program establishes itself as a career portal for companies.
- In total 54 Seafood Trainee has graduated from the Cluster's Seafood Trainee program since the start in 2016.
- September 2018 is start-up of Seafood Trainee, group #3
- 29 candidates from 16 different companies meet for the first time in Bergen in September



Increasing employer branding for our members



- Future growth opportunities to our partners requires an adequately skilled and educated workforce to meet the strategic goals and operational plans of the organization – Seafood Trainee aims to support our members to get the right people with the right skills at the right time
- In August, Seafood Trainee is hosting a workshop with Visindi focusing on HR's importance in creating employer branding and high employer value proposition. HR must facilitate more team development, discussions and dialogue that stimulate motivation and innovation in the companies. HR managers must ensure that people feel psychologically safe in a work environment where people can say what they mean and thus contribute and develop the skills they are on.



Make a difference with an MBA in Seafood

- 24 participants from the first class of the Executive MBA in Global Seafood graduated June 2018.
- The programme runs over two years and gives 60 ECTS credits. The students have met face to face four times in Bergen (twice), Tokyo and Montreal. A substantial part of the MBA has taken place on-line, and the participants have worked on assignments both individually and in groups.
- "One of the goals we set for the program when we launched it was that the people taking it would develop new knowledge, gain skills and increase their general competence required to lead the seafood industry into a more sustainable future with innovative ideas across the entire value chain. I think we have succeeded in this, says Linda Nøstbakken, Programme Director"
- The second class will start in September 2018. 21 participants have already signed up.



Photo: Astri Kamsvåg

"What I really have liked about this MBA is that we all come from the same industry, says Jonas Lundberg, Chief Operating Officer in Lerøy Stockholm, Sweden

The Seafood Innovation Cluster recognised as a trusted leader for sustainable aquaculture in Europe

EU projects:

- In June 2018 the [iFISHiency](#) consortium was awarded € 6 million (60 million NOK) to provide the global aquaculture industry with smart solutions for sustainable growth



Strategic positioning:

- In May and June 2018, The Seafood Innovation Cluster was elected as a member of the Board of Directors for [JPI Oceans](#), the Joint Programming Initiative of European Research Councils and [EATIP](#), the European Aquaculture Technology and Innovation Platform for industrial innovation.



Creating awareness of a sustainable seafood and aquaculture business

- [Reuters](#) (one of the world's largest media companies) visited us to learn more about Norwegian Aquaculture and how we work to improve our environmental sustainability by collaboration and innovation.
- Delegations to support – Delegations from Canada, Bangladesh, Netherland, Korea, Chile etc. comes to learn about the Norwegian Aquaculture – Sustainability and innovation
- NCE Seafood and Norwegian Seafood Council in Italia to promote Norwegian salmon and increase cooperation
- Regulatory meetings with the Ministry of Fisheries



New members of the Cluster

- [FJORD MARITIME](#)
- [AquaByte](#)
- [AquaFarm Equipment](#)
- [Fishency Innovation](#)
- [Norges Sildesalgslag](#)
- [Quantidoc](#)
- [BioMar AS](#)
- [JET Seafood](#)
- [EIR of Norway](#)



New intern in the cluster

- Investing in our talent pool is a high priority, and this autumn Shazma Viktoria Juriks, intern from BI Norwegian School of Business, in Bergen, will join the team two days a week as a part of her bachelor degree in Marketing Management
- *“NCE Seafood gives me an opportunity to challenge myself and others in an interdisciplinary team, where all employees reach for the same goal. I have gained great confidence from the company to undertake various projects together with Benedicte Skogen. Benedicte has given me responsibility and trust in implementing a marketing plan and strategy for the Seafood Trainee-program. In addition, the company has given me a great opportunity to develop my competence and form a larger foundation, both experience wise and through networking”*



Meetings and events, Q2

April	Workshop	IBM Workshop - Aquahack
	Program	Seafood Trainee module 3, Brussels/Paris
	Meeting	Go Global - Tyskland
	Event	Seafood Expo - Brussel
	Event	HATCH Welcom Day
	Meeting	Boardmeeting NCE Seafood
	Meeting	Resource Group - Knowledge
	Event	HAVlunsj
	Meeting	GCE Subsea CEO Forum
	Meeting	Hordalandsbenken
	Meeting	IN - Klyngelopersamling
	Event	Storm i Vannglass
	May	HATCH Customer Week
May	Event	AquaHack
	Meeting	KABIS Kickoff
	Workshop	EMBRIC Workshop
	Event	Blått Hav, Grønne forretningsmuligheter
	Event	HAVlunsj
	Event	Sustainable Aquaculture, investor and media
	Meeting	Tema møte: Hurtig Teknologiutvikling
	Meeting	Generalforsamling Storby Marin
	Meeting	Ressursgruppe Marin - Bergen Næringsråd
	Meeting	Delegation from Bangladesh
	Meeting	Meeting with Rune Bjerke, DNB
	Meeting	Delegation from Canada - Super Cluster
	Meeting	FORNY Programstyretemøte
	Presentation	IBM Conference
	June	Seafood Trainee, module 4, Tromsø
June	Event	Partnermeeting
	Event	Opening Pharmaq Analytiq
	Meeting	Go Global - North America
	Event	HATCH demoday
	Event	Forskningsrådets åpen dag for næringslivet
	Presentation	Western Norway University



Upcoming events Q3 & Q4

[13-17 Aug SkatteFUNN - Projektutvikling](#)

[14 Aug GO GLOBAL - VIETNAM](#)

[23 Aug HAVLUNSJ](#)

[6 Sep PROSJEKTVERKSTED](#)

[12 Sep The AKVAculture Day](#)

[12. Sep Seafood Trainee modul 1](#)

[17 Sep INNOVASJON I HAVROMMET](#)

[18 Sep INNOVASJONSUKEN OPP](#)

[18 Oct HAVLUNSJ](#)

[6 Nov PRODUKTIVITETSKONFERANSEN "ØYET SOM SER"](#)

[7 Nov HAV MØTER LAND](#)

[22 Nov HAVLUNSJ](#)



NCE Seafood in Media

26. Februar, 2018. Hatch.blue. (*Tanja Hoel – brining aquaculture into the future*).

<https://www.hatch.blue/articles/2018/2/22/tanja-hoel-bringing-aquaculture-into-the-future>

01. Mars, 2018. Kyst.no. (*Gir en kvart million i premie*). <https://www.kyst.no/article/Gir-en-kvart-million-i-premie/>

07. Mars, 2018. (Oppdatert 13. April, 2018). Tekfisk, Fiskeribladet.no. (*Utfordringer i lakseoppdrett kan løses ved genteknologi*). <https://fiskeribladet.no/tekfisk/nyheter/?artikkel=59141>

08. Mars, 2018. Fikseribladet.no (*Skotsk selskap dro hjem innovasjonspris*.

<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=58967>

23. Mars, 2018. Tekfisk, Fiskeribladet.no. (*Bare bruk av ordet «dele» skaper bekymring*).

<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=59168>

30. Mai, 2018. Tekfisk, Fiskeribladet.no. (*Skal jobbe for mer miljøvennlig og kostnadseffektiv produksjon av laks*).

<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=60502>

26. Juni, 2018. Tekfisk, Fiskeribladet.no. (*EU-prosjekt skal levere banebrytende innovasjoner til oppdrettsnæringen*).

<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=61061>

08. Juli, 2018. Fiskeribladet.no. (*Norge kan bli sjømatnæringens Silicon Valley*).

<https://fiskeribladet.no/nyheter/?artikkel=61155>

19. Juli, 2018. Fiskeribladet.no. (*Katapulter på Vestlandet skyter havnæringen inn i fremtiden*).

<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=60996>

Gir en kvart million i premie



Tanja Hoel, administrerende direktør i NCE Seafood Innovation Cluster. Foto: NCE.

I neste uke arrangeres konkurransen "Seafood Innovation Award" i Bergen. Her vil 18 nominerte innovasjonsspirer få sjansen til å legge frem sin idé. De vil kjempe om en premie gevinst på en kvart million kroner.

Av Therese Solteit

Utdelingen av innovasjonsprisen vil skje under konferansen North Atlantic Seafood Forum (NASF), på deres "Seafood Innovation Day" torsdag 8. mars.



HATCH

17. Januar, 2018. (Oppdatert 18. Februar, 2018). Kyst.no. (*Havbruksgründere fra hele verden vil til Bergen*). <https://www.kyst.no/article/havbruksgruendere-fra-hele-verden-vil-til-bergen/>

19. Januar, 2018. (Oppdatert 30. Januar, 2018). Tekfisk, Fiskeribladet.no (*De skal lokke internasjonale oppdrettsgründere til Bergen*). <https://fiskeribladet.no/tekfisk/nyheter/?artikkel=57959>

02. April, 2018. Ilaks.no. (*De unge mennene og havet*). <https://ilaks.no/de-unge-mennene-og-havet/>

03. April, 2018. (Oppdatert 13. April, 2018). Tekfisk, Fiskeribladet.no (*Dette er selskapene som kommer til Bergen før å vokse*). <https://fiskeribladet.no/tekfisk/nyheter/?artikkel=59343>

03. April, 2018. Kyst.no. (*Havbruksakseleratoren " Hatch " er startet*).
<https://www.kyst.no/article/havbruksakseleratoren-hatch-er-startet/>

04. Mai, 2018. Tekfisk, Fiskeribladet. (*Det har vært litt av en reise*).
<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=59996>

25. Mai, 2018. Tekfisk, Fiskeribladet.no (*Nå speider han etter ny teknologi*).
<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=60337>

25. Mai, 2018. Tekfisk, Fiskeribladet. (*Planlegger «road trip» til oppdrettere over hele Norge*).
<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=60254>

28. Juni, 2018. (Oppdatert 02. Juli, 2018). Tekfisk, Fiskeribladet.no. (*Dette har gründere lært etter et par måneders intens jobbing*). <https://fiskeribladet.no/tekfisk/nyheter/?artikkel=61065>

02. Juli, 2018. (Oppdatert 04. Juli, 2018). Tekfisk, Fiskeribladet.no (*Forandrer forurensning til fiskefor*). <https://fiskeribladet.no/tekfisk/nyheter/?artikkel=61058>

03. Juli, 2018. (Oppdatert 04. Juli, 2018). Tekfisk, Fiskeribladet.no (*Etter 17 år som rekeoppdretter, så han behovet for nye verktøy*). <https://fiskeribladet.no/tekfisk/nyheter/?artikkel=61075>

04. Juli, 2018. Tekfisk, Fiskeribladet.no (*Sa opp luftfartsjobben for å drive med havteknologi*).
<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=61103>

06. Juli, 2018. Tekfisk, Fiskeribladet.no (*Fikk du med deg dette?*).
<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=61265>

AquaHack – Hackaton

17. April, 2018. Tekfisk, Fiskeribladet.no (*Samler folk som skal løse næringens problemer på to dager*). <https://fiskeribladet.no/tekfisk/nyheter/?artikkel=59635>

08. Mai, 2018. (Oppdatert 09. Mai, 2018). Kyst.no. (*Vinnere av årets Aquahack er kåret*).
<https://www.kyst.no/article/vinnerne-av-aarets-aquahack-er-kaaret/>

07. Mai, 2018. Ilaks.no (*Desse vil gjera «dumme» nøter smarte med ny teknologi*). <https://ilaks.no/desse-vil-gjera-dumme-noter-smarte-med-ny-teknologi/>

11. Mai, 2018. (Oppdatert 09. Mai, 2018). (*«AquaLens» vil auka verdien av havbruksdata*). <https://www.kyst.no/article/aqualens-vil-auka-verdien-av-havbruksdata/>

NASF – Innovation day

06. Mars, 2018. (Oppdatert 13. April, 2018). Tekfisk, Fiskeribladet.no. (*Trenden er å gjøre ting mer effektivt og på en intelligent måte*).
<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=58892>

07. Mars, 2018. Ilaks.no. (*Alibaba-topp: Slik er den kinesiske forbrukeren*). <https://ilaks.no/alibaba-topp-slik-er-den-kinesiske-forbrukeren/>

08. Mars, 2018. Tekfisk, Fiskeribladet.no. (*Kunstig intelligens er på vei inn i fiskefabrikkene*).
<https://fiskeribladet.no/tekfisk/nyheter/?artikkel=58938>

08. Mars, 2018. Ilaks.no. (*AguaChile viser seg fram for europeisk investor*). <https://ilaks.no/aquachile-viser-seg-frem-for-europeiske-investorer/>

08. Mars, 2018. Ilaks.no. (*Dette er grunnen til at chilenske Camanchaca går på børs i Norge*). <https://ilaks.no/dette-er-grunnen-til-at-chilenske-camanchaca-gar-pa-bors-i-norge/>

08. Mars, 2018. Ilaks.no. (*Sikter på 100.000 tonn innen tre år*). <https://ilaks.no/sikter-pa-100-000-tonn-innen-tre-ar/>

13. Mars, 2018. Kyst.no. (*Lakseprisen nærmer seg 70-tallet*). <https://www.kyst.no/article/lakseprisen-naermer-seg-70-tallet/>

21. Mars, 2018. Kyst.no. (- «Blockchain»-teknologi kan bedre fremtidens fiskeoppdrett).
<https://www.kyst.no/article/blockchain-teknologi-kan-bedre-fremtidens-fiskeoppdrett/>