



inventas

INSPIRASJON TIL INNOVASJON

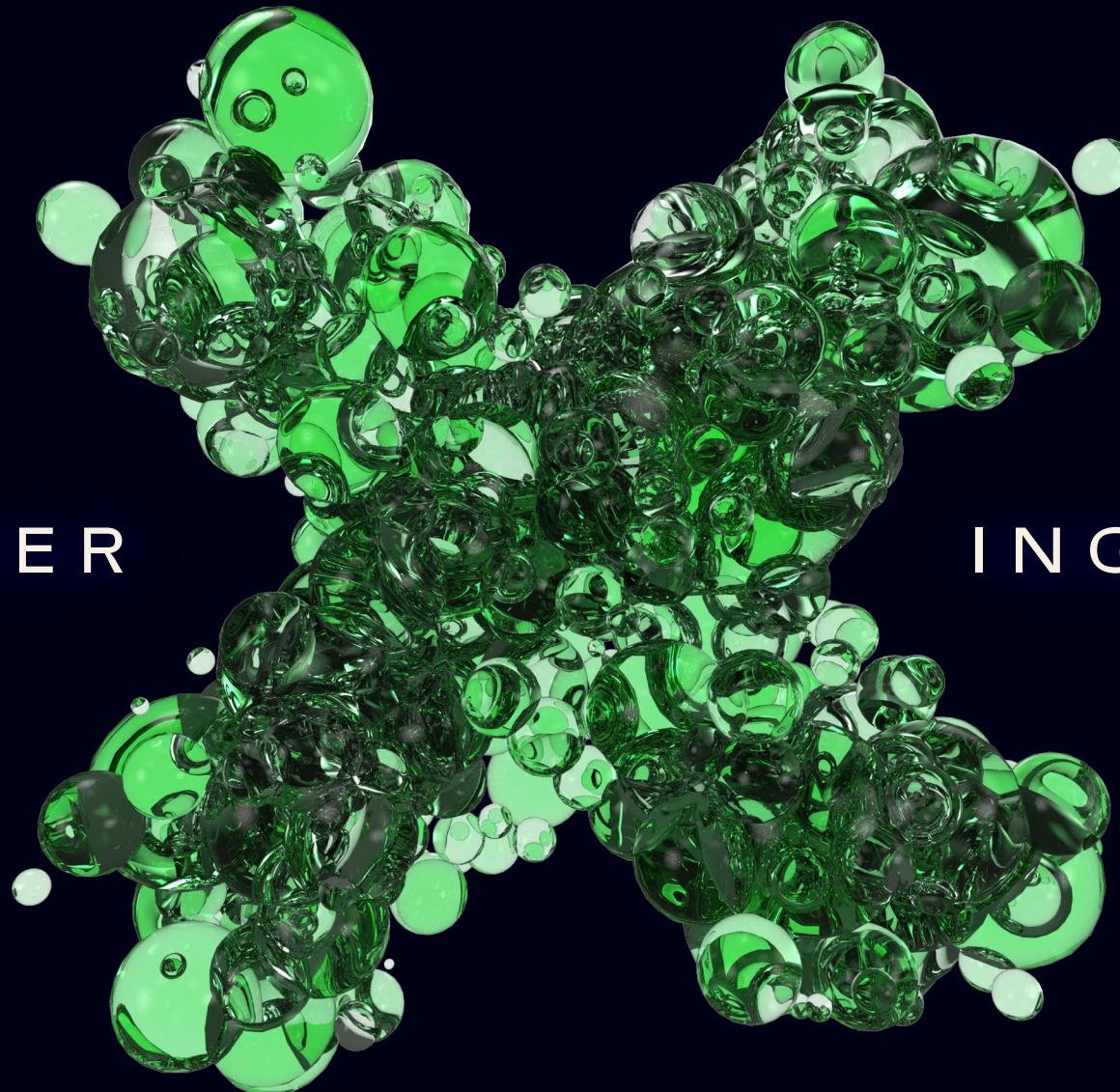
Innovasjonsprosesser og metoder

Bjørnar Vasenden
Avdelingsleder / Produktdesigner



DESIGNER

INGENIØR



7
kontorer

Trondheim - Molde - Bergen - Stavanger - Kristiansand - Asker - Oslo

130
medarbeidere

Tverrfaglige team – designere og produktutviklere

24 +
års erfaring

Etablert i 1997

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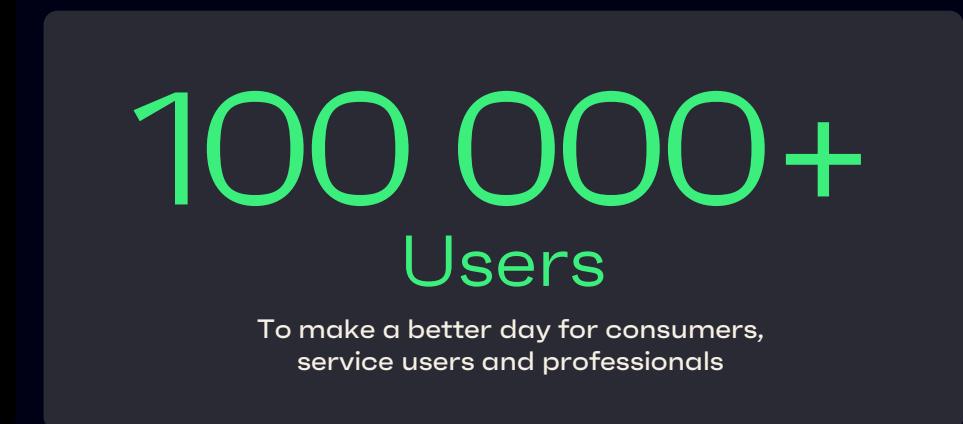




3 500+

Projects

From pre-studies and simulations to design,
development and production



Design thinking

Emphasize

Define

Generate ideas

Prototype

Test

Implement

A photograph of a man lying on an orange stretcher. He is wearing a red and white striped sweater over a blue shirt. The background is dark and appears to be the interior of a aircraft or a similar industrial setting with various pipes and equipment visible.

Design doing

A wide-angle photograph of a massive, circular industrial fish tank under construction. The tank is a vibrant turquoise color and is surrounded by a complex steel framework and a green safety net. Several workers in high-visibility vests and hard hats are visible on the deck, some carrying equipment. The water inside the tank is a deep blue. The overall scene conveys a sense of a major engineering project.

Design realisation

Definere innovasjonshøyde

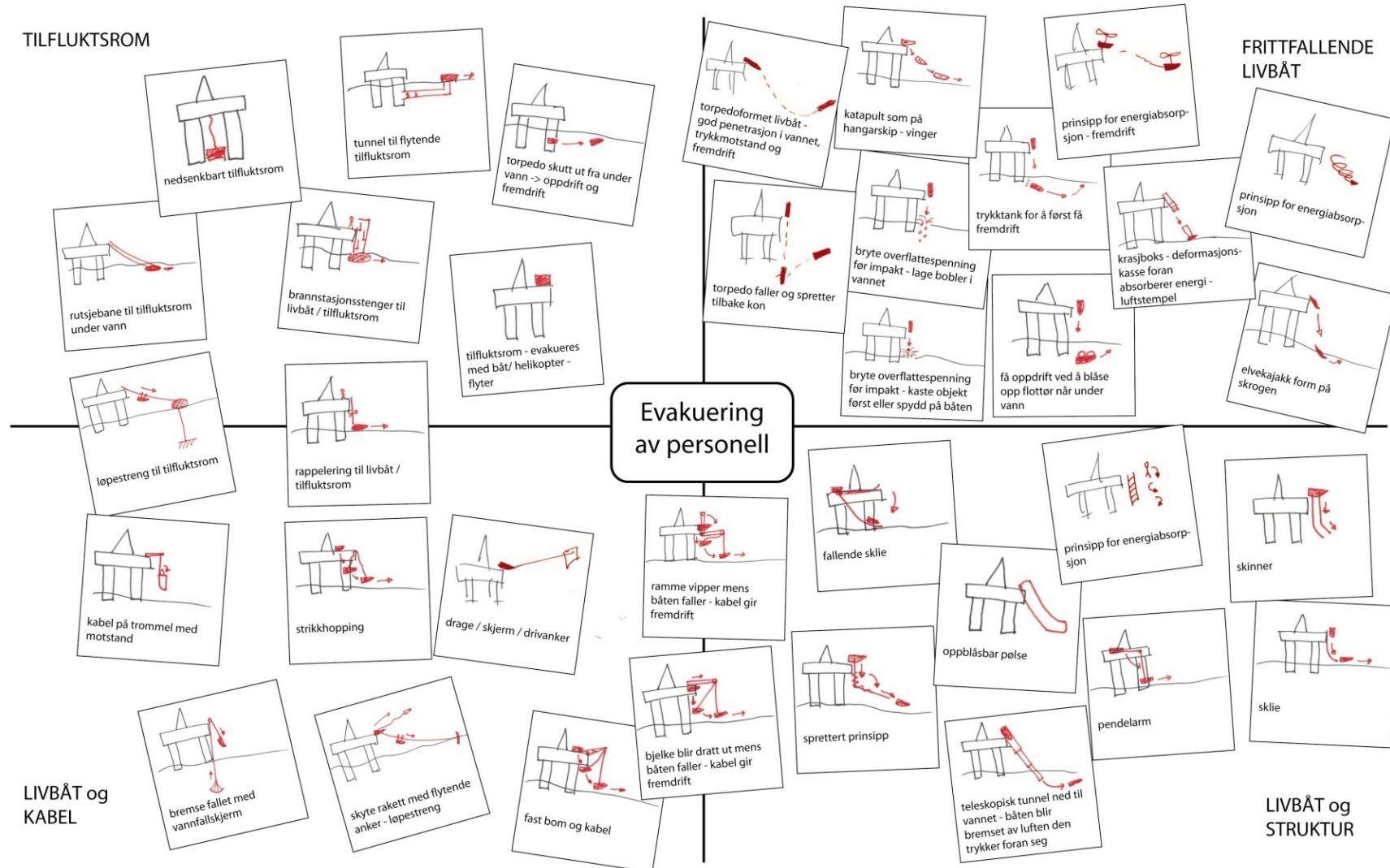
Radikal



Inkrementell



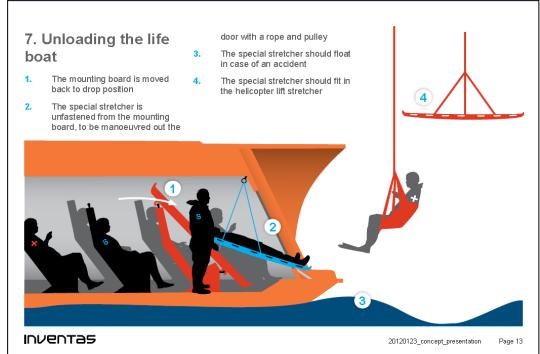
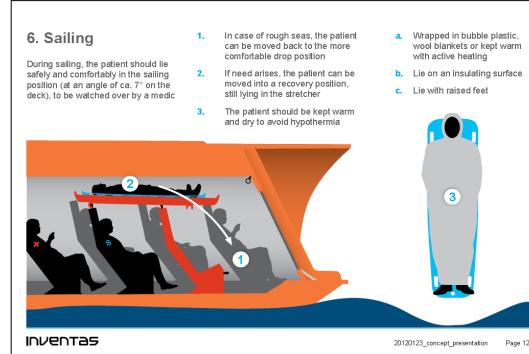
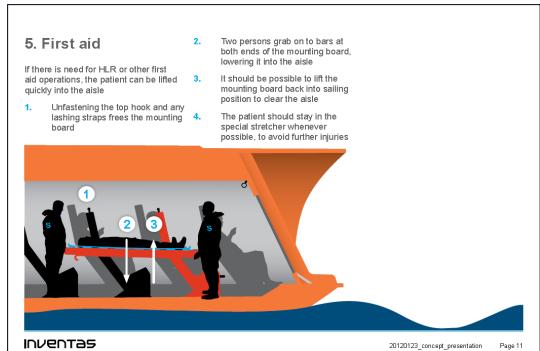
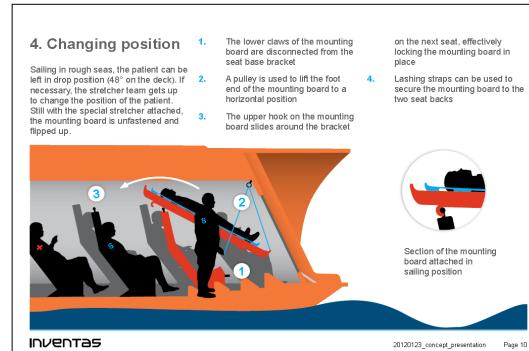
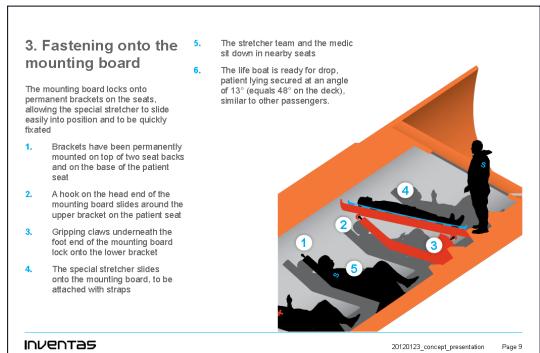
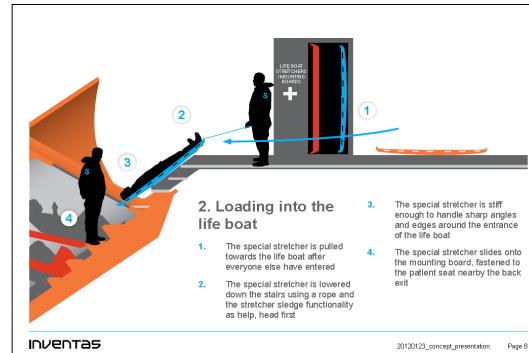
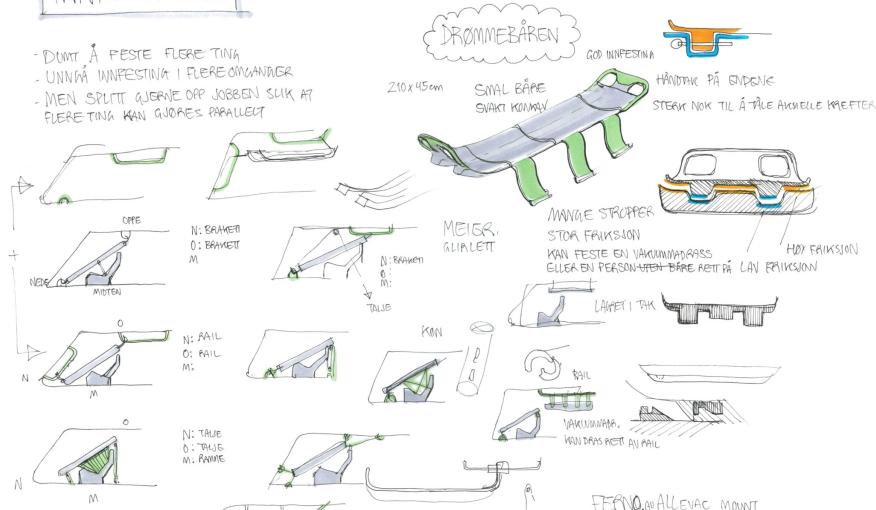
Hvordan evakuere?



Konkret

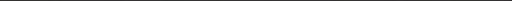
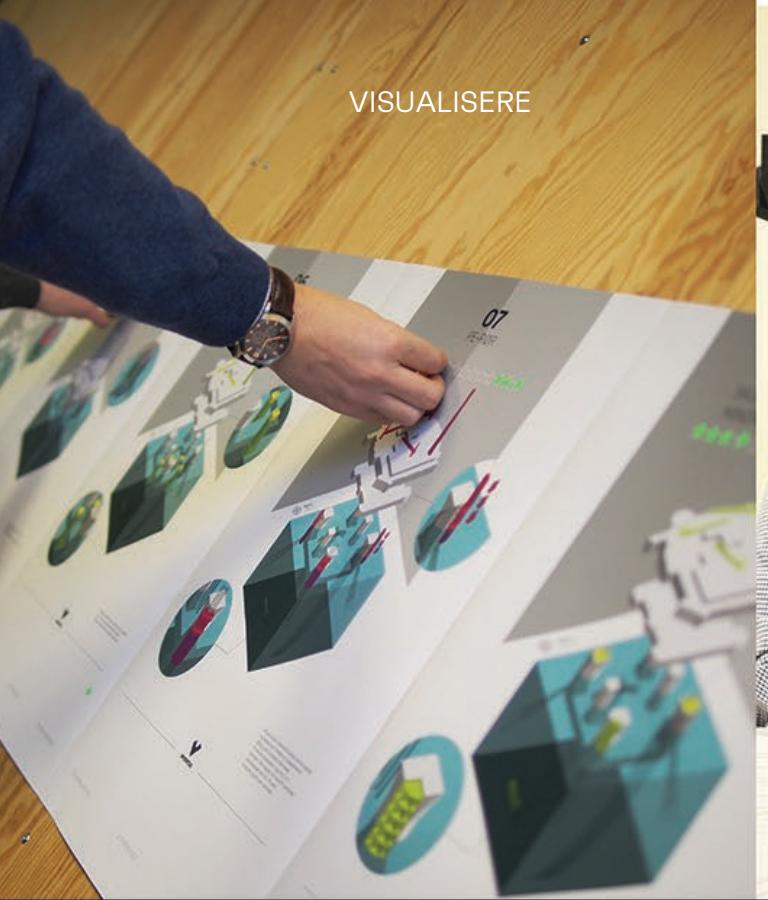
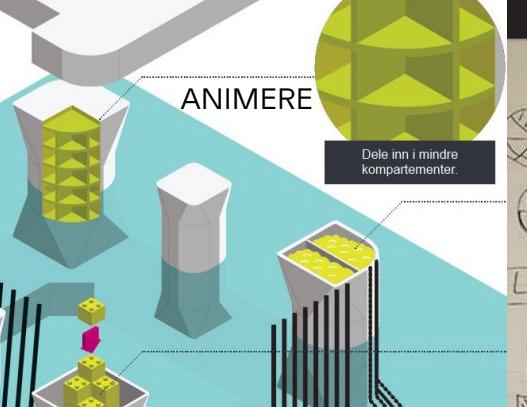
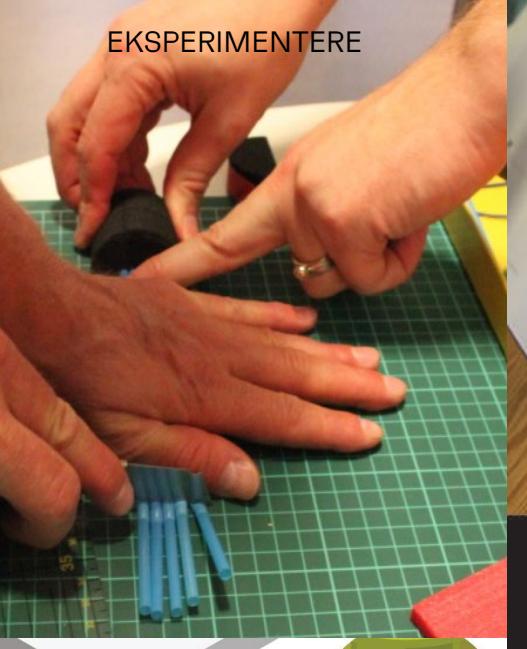
INNFESTNING

- DUMT Å FESTE FØRE TINA
- UNNVÅ INNFESTNING I FLERE OMSTÅNDER
- MEN SPLITT GJØRER OPP JOBBEN SLIK AT FØRETINA KAN GJØRES PARALLEL

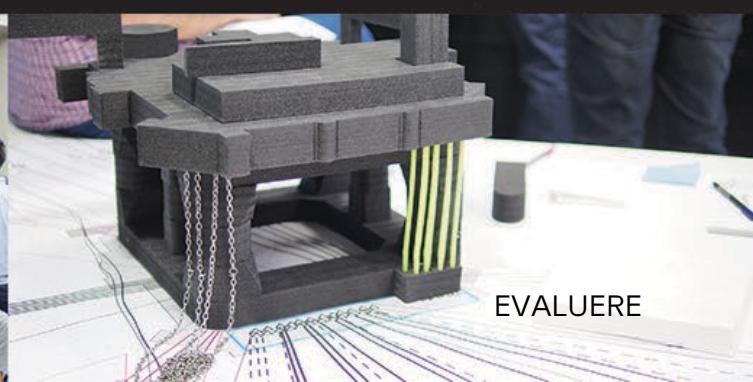


Hvordan øke vektmarginen på Åsgård B?

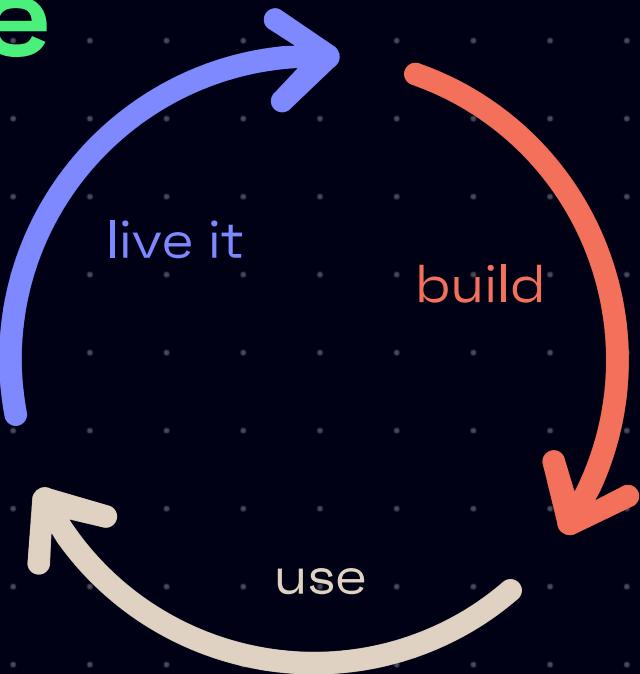


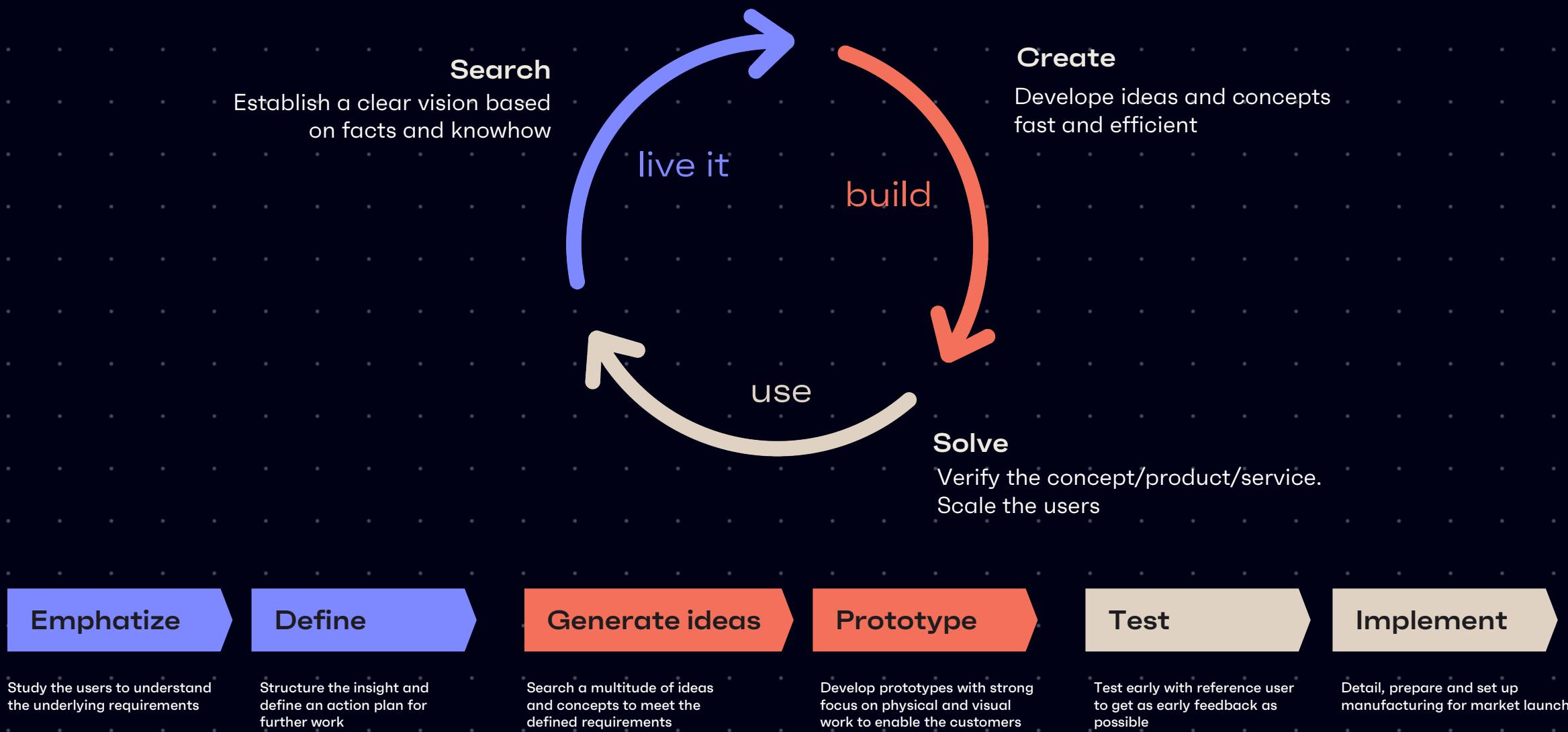


workshops og multidisiplinære team



Basismetode





Innsikt

The things you know

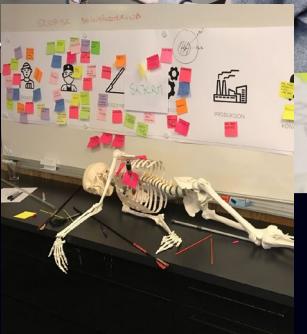
The things you know, that you don't know

The things you don't know, that you don't know

Arbeidsprosesser



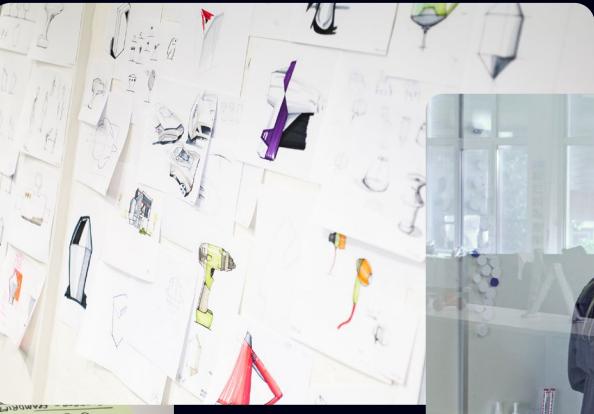
Workshop 1



Idéer



Prinsipper



Konsepter



Tekniske løsninger



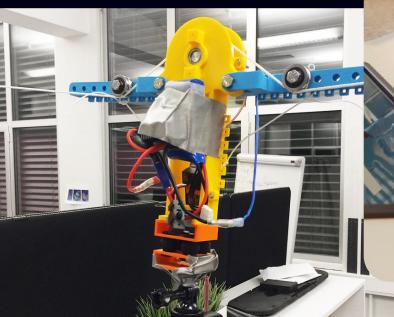
Workshop 2



3D-print / MVP



Prototyper



Brukertesting



Evaluering



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Utgangspunkt for innovasjon

Behov

Skape en ny verdikjede for bruk av fiskeslam

Problem

Samle opp fiskeslam fra åpen merd

Teknologi

Ta i bruk utviklet IoT-sensor i nytt markedsområde

XX

Case: Teknologi + Behov

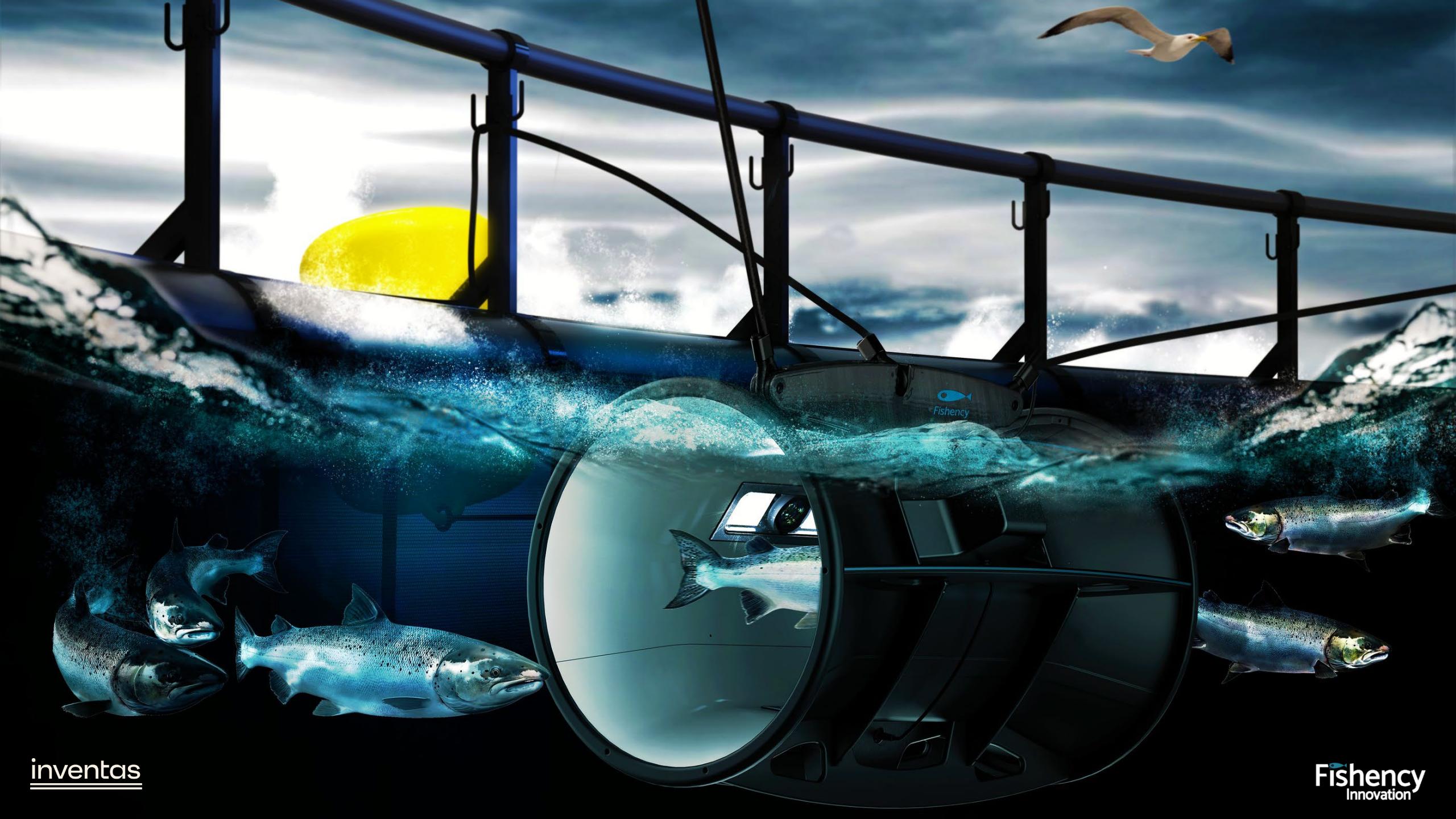
FISHENCY 360

En ny måte å overvåke fisk på

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Fishency
Innovation



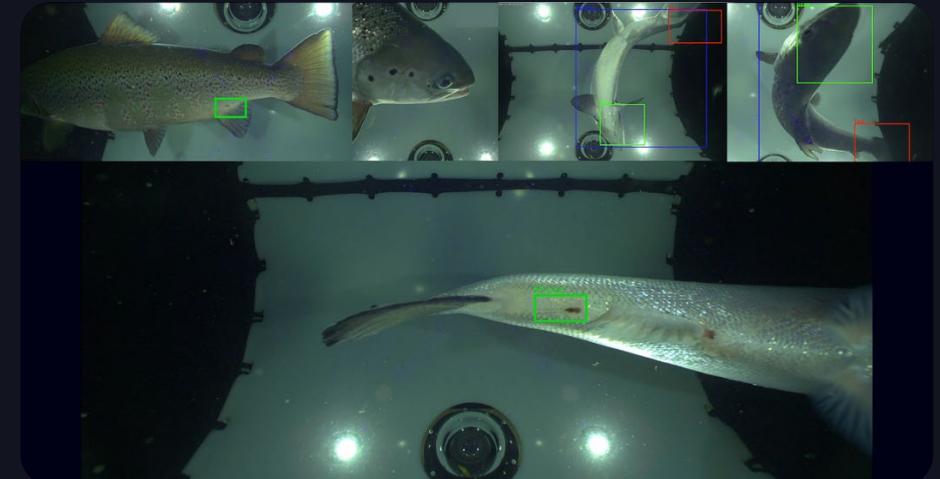
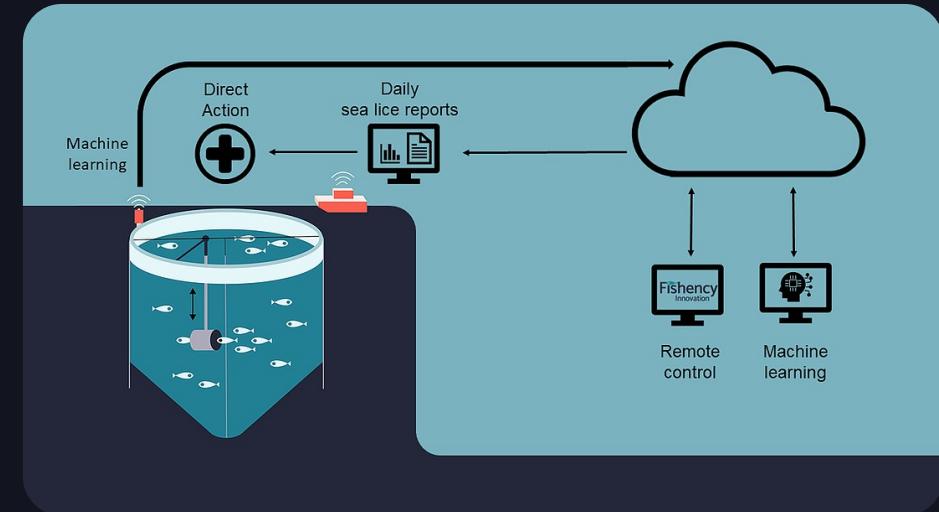
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Fishency
Innovation

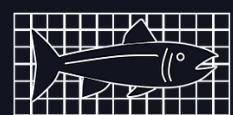
Systembeskrivelse

Funksjonalitet

- Bilder av høy kvalitet
- Analyser hele overflaten til hver fisk
- Teller faktiske lus (ikke en prediksjon)
- Nærbilder for helseovervåking og forebyggende tiltak



Lus



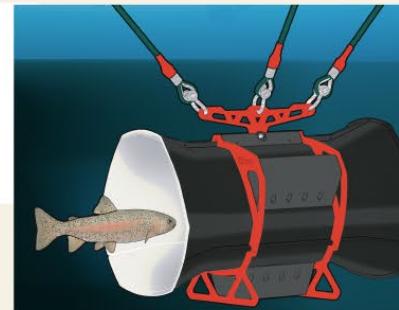
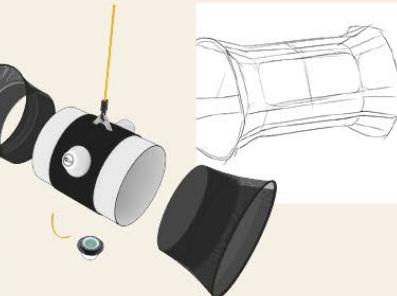
Biomasse



Velferd

Designdrevet innovasjon

Konsept- og idéutvikling
Helhetlig produktløsning
Involvering av brukergrupper
Håndtering og brukervennlighet
Visualisering av idéer og løsninger
Investorpresentasjoner
Material- og produksjonsvalg
Prototypeutvikling



Idé → MVP → Skissering → Konsept → Mock Up Håndtering → Prototype



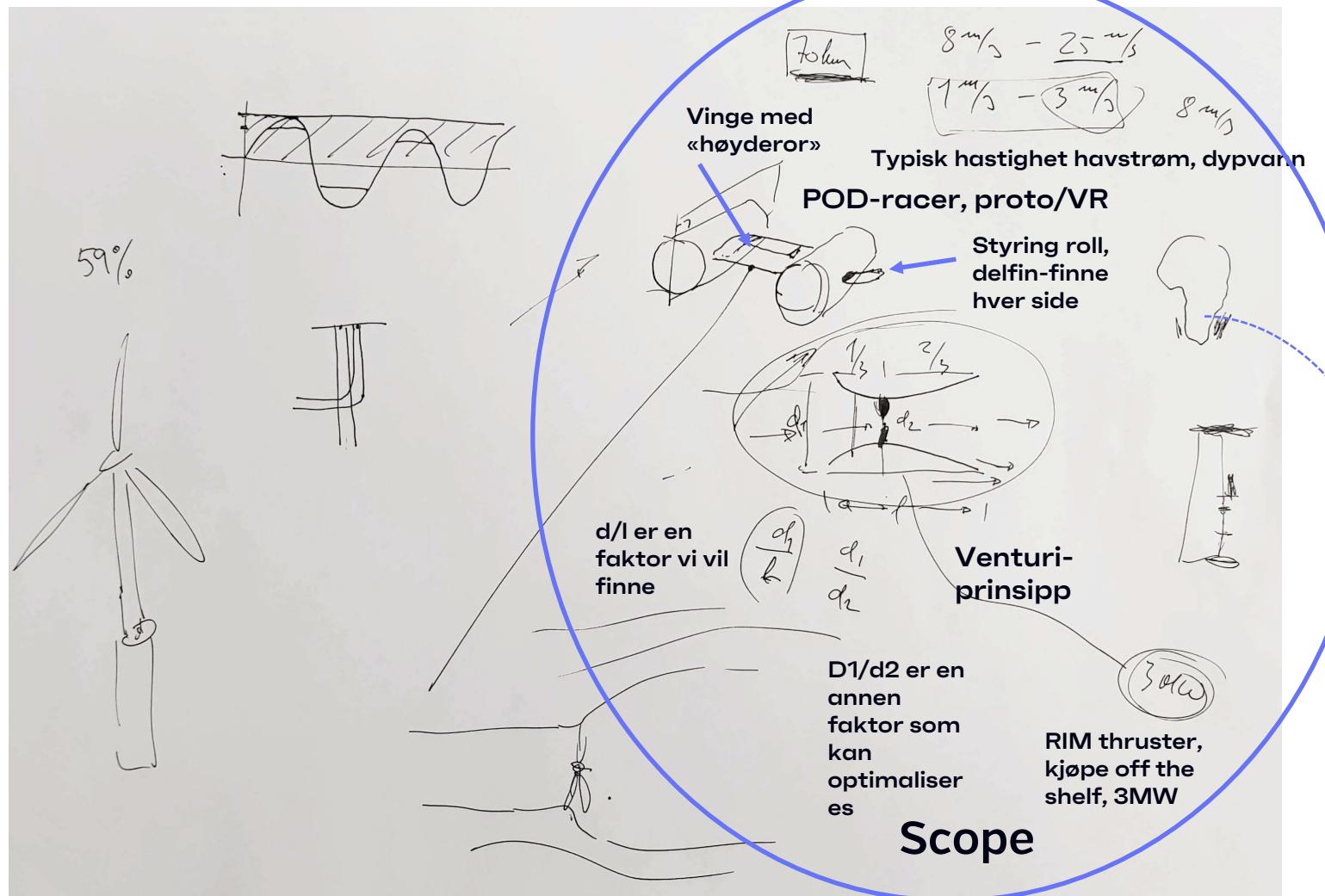


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Fishency
Innovation

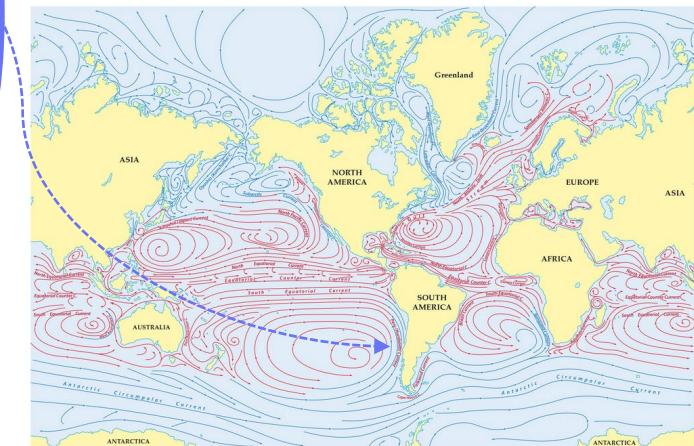
Behov: Nye energikilder



Idé: Havstrømsgeneratorer

Mulig?

Behov:
Utarbeide konsept og
vurderingsgrunnlag effekt/kost

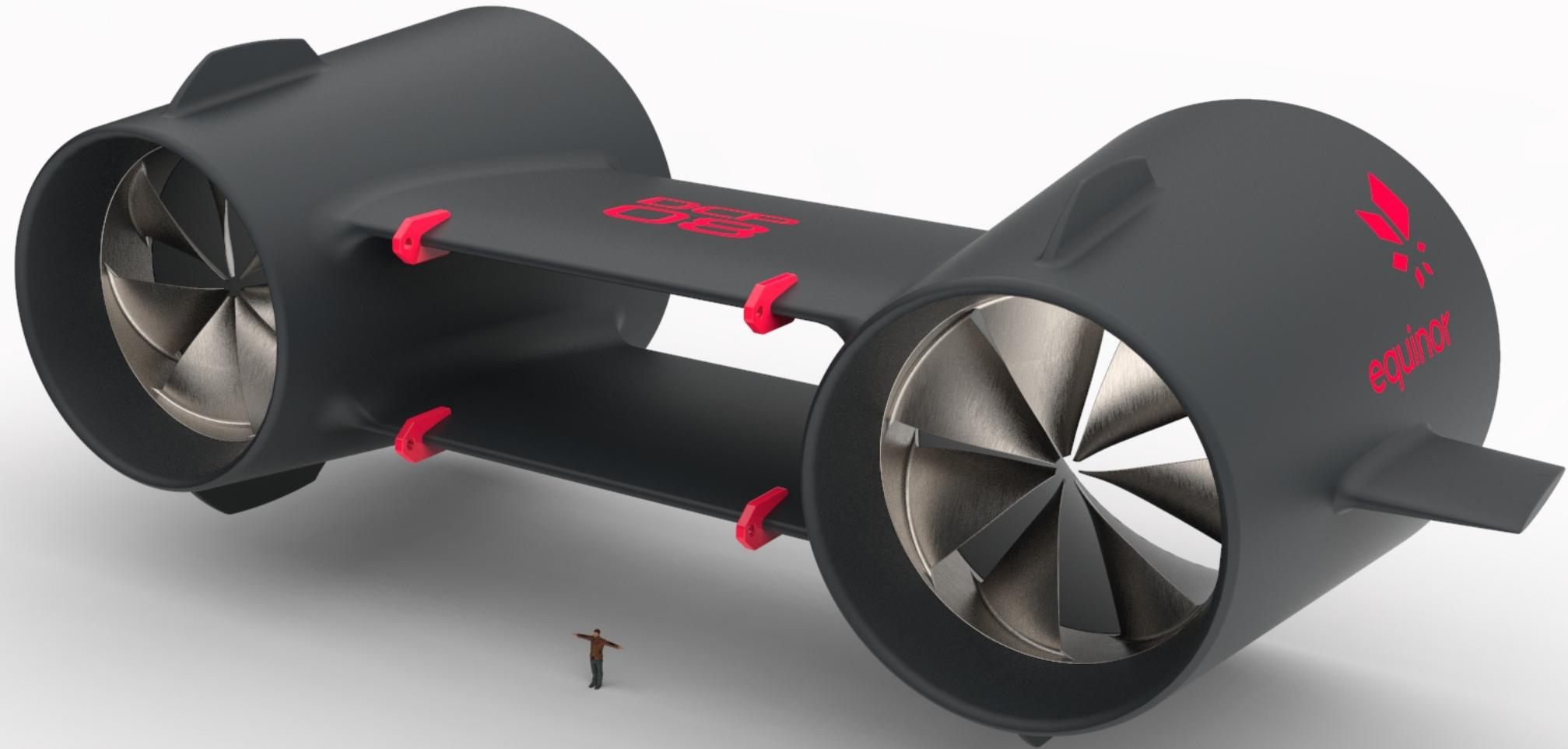


Konsept



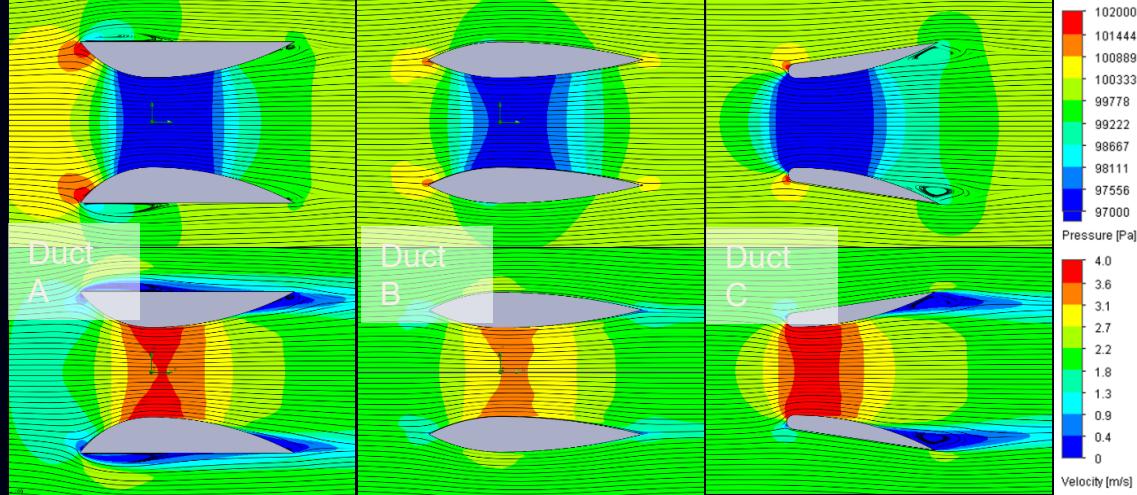
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Konsept



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Konsept – flowstudie

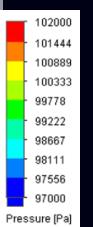


First looking at geometries without turbine disc.

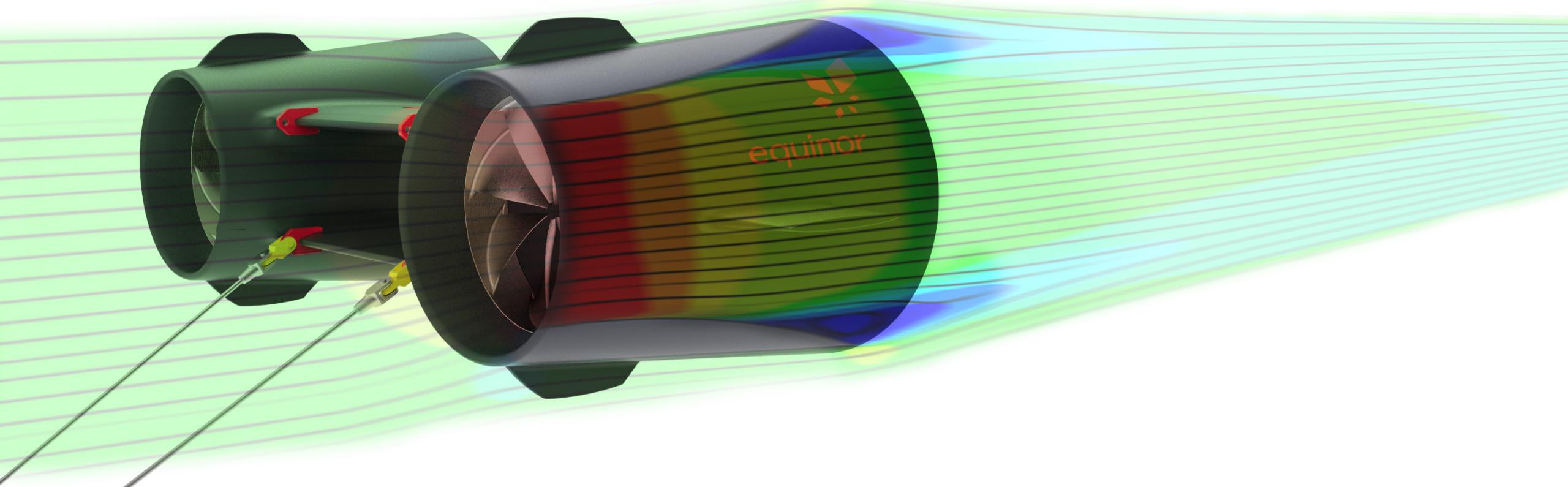
Out of the first three geometries tested, the diffuser principle seems more promising.

The pressure build-up in front of Duct C is lowest, resulting in higher velocities.

Images below are with turbine disc with high resistance. The pressure distribution when tuning the exit diameter, length and turbine placement is not very different, but Geometry F has a slightly lower static pressure build-up in front of the turbine than the others.



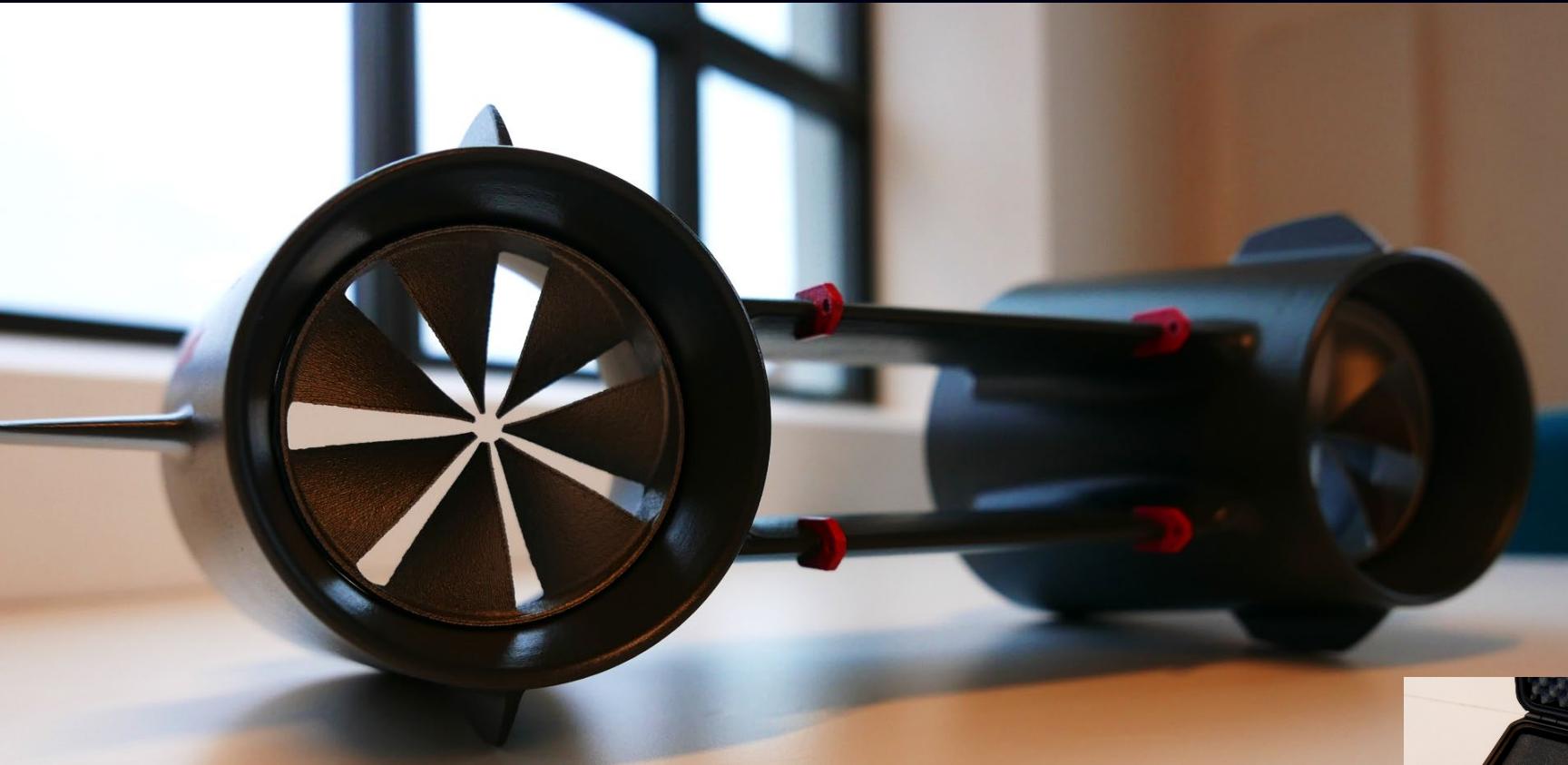
Konzept – flowstudie



Konsept – skalert «møtemodell» + VR



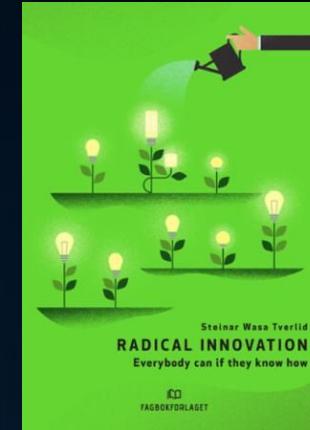
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”

Skal vi klare å skape innovasjon,
trenger vi friske tanker fra dyktige
fagfolk som ikke er låst i det
tradisjonelle



Steinar Wasa Tverlid
Innovation specialist
Leder av SpecTECHular, radikal innovasjon
Equinor





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Avdelingsleder / Produktdesigner

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