

Petroleum Safety Authority Norway (PSA)

2023-11-08 International Diving Seminar,
Øyvind Loennechen



What is the PSA?

- Government supervisory agency with regulatory authority for safety, the working environment, emergency preparedness and security
- Our areas of responsibility
 - petroleum operations offshore and at land plants
 - renewable energy production offshore (typ. offshore wind power)
 - CO₂ transport and storage
 - mineral recovery from the seabed
- About 180 employees



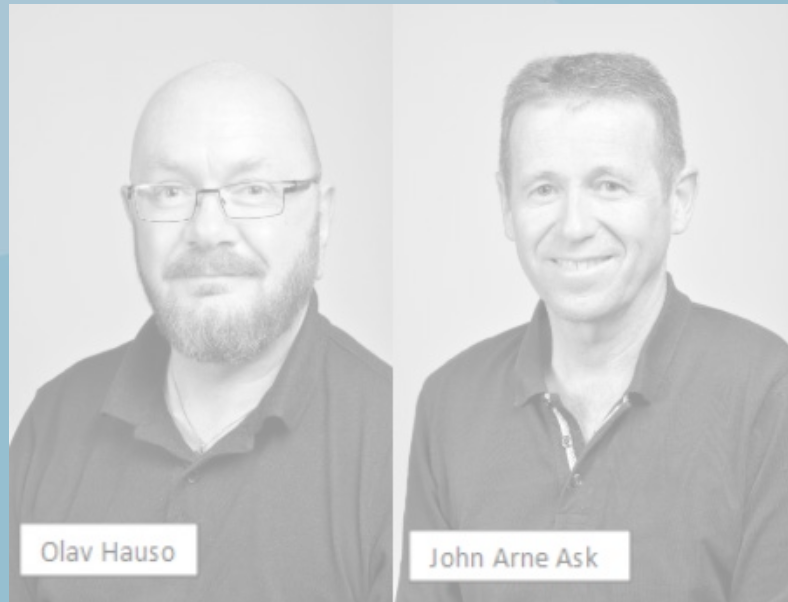
PSA in transition

- The government has transferred responsibility for the PSA from the *Ministry of Labour and Social Inclusion* to the **Ministry of Petroleum and Energy (MPE)**.
- The Petroleum Safety Authority Norway (PSA) is changing its name with effect from 1 January 2024 to the **Norwegian Ocean Industry Authority** / *Havindustritilsynet (Havtil)*.



Diving related contacts in PSA – current situation (2021)

Gracefully retired 2021



Will retire 2022



New arrival 2021...



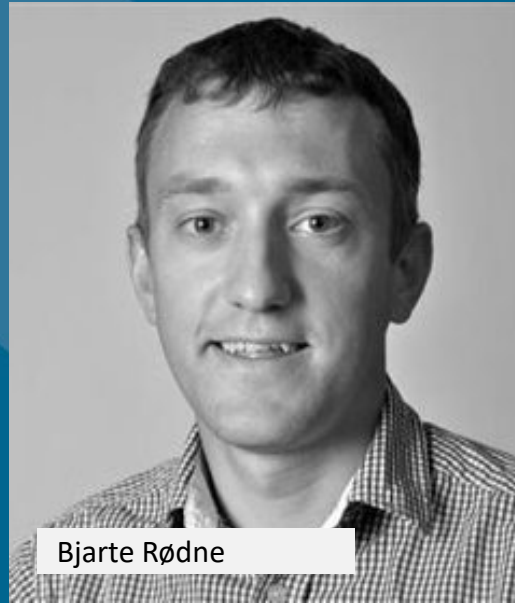
Diving related contacts in PSA – current situation (2023)

Diving specialist



Ulrik Junge

**Offshore crane specialist
& diving**



Bjarte Rødne

**Subject matter expert
& Diving Doctor**



Bård Humborstad

Diving specialist



Øyvind Loennechen

**County Governor of Rogaland
Statsforvalteren i Rogaland (SFRO)**

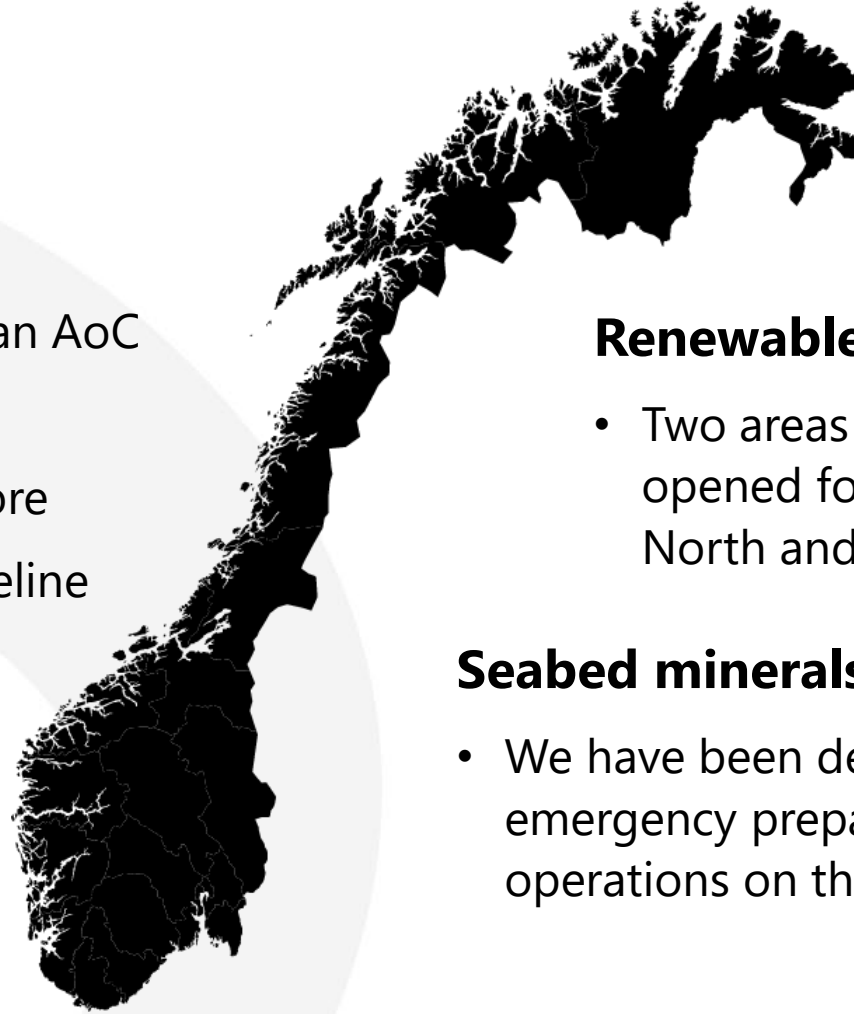


Our area of responsibility

Petroleum activities

- 93 fields on stream
- 62 fixed facilities
- 45 mobile facilities with an AoC
- 351 subsea facilities
- 25 000 employees offshore
- 17 750 kilometres of pipeline
- 7 onshore facilities

Updated 1 January 2023



CO2 transport and injection

- Value chain for transport and injection under construction (Northern Lights). Part of Longship, the government's demonstration project for full-scale CO₂ management

Renewable energy production offshore

- Two areas of the Norwegian continental shelf opened for offshore wind development: Utsira North and Southern North Sea II.

Seabed minerals

- We have been delegated responsibility for safety and emergency preparedness in future mineral recovery operations on the Norwegian continental shelf.



The regulations

- **The petroleum sector regulations are common with the health and environmental authorities**
- **They are developed through dialogue with the parties in the industry (the Regulatory Forum)**

Petroleum operations

- Framework regulations
- Management regulations
- Activities regulations
- Facilities regulations
- Technical and operational regulations
- Regulations pursuant to the Working Environment Act (set by the AID)

Renewable energy production offshore

- *Regulations under development*

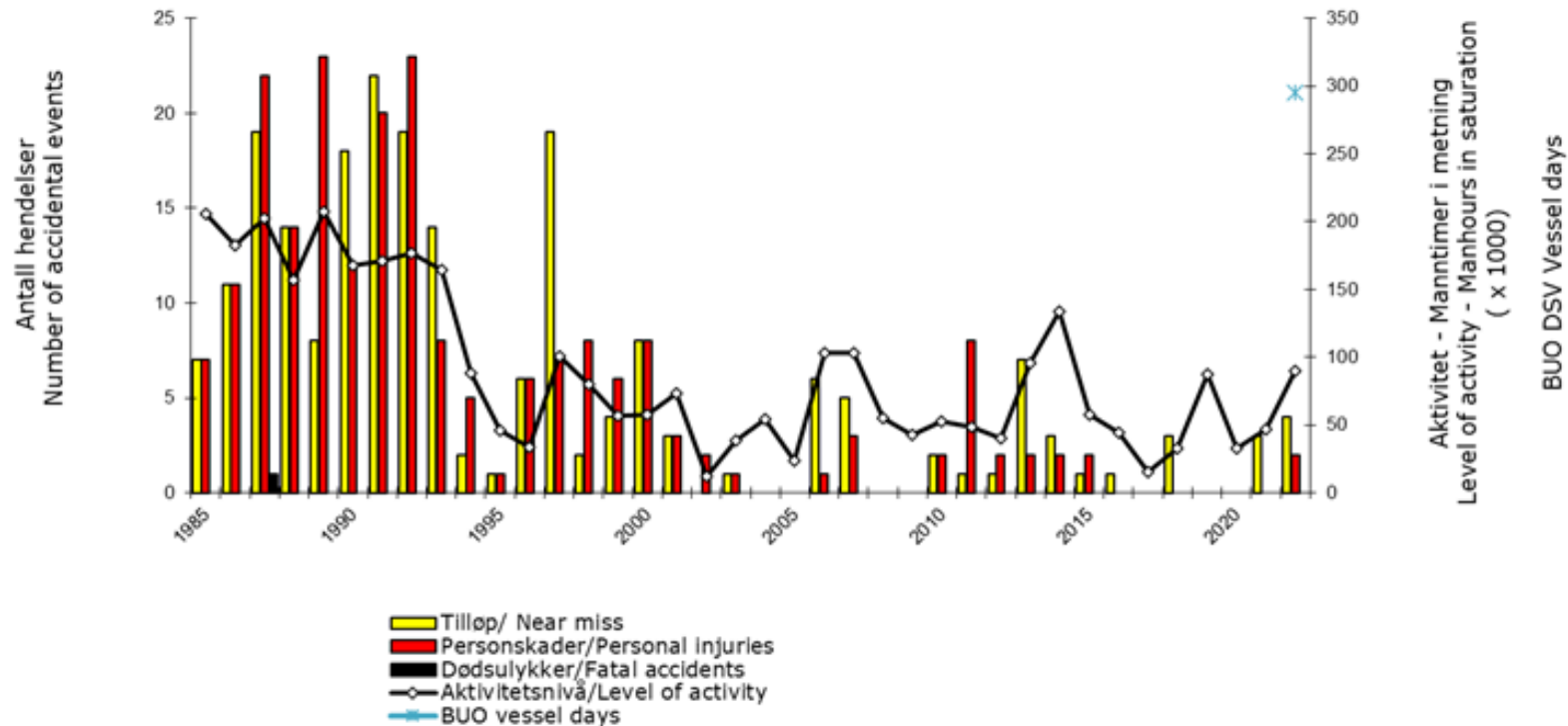
CO₂ transport and injection

- CO₂ safety regulations



DSYS report for 2022

UØNSKEDE HENDELSER VED METNINGSDYKKING UNDESIED EVENTS IN SATURATION DIVING



2022:

89.960 man-hours in sat on the NCS and under Norwegian jurisdiction.

This corresponds to 295 MUO DSV-days and is nearly a doubling of the diving activity compared to 2021.

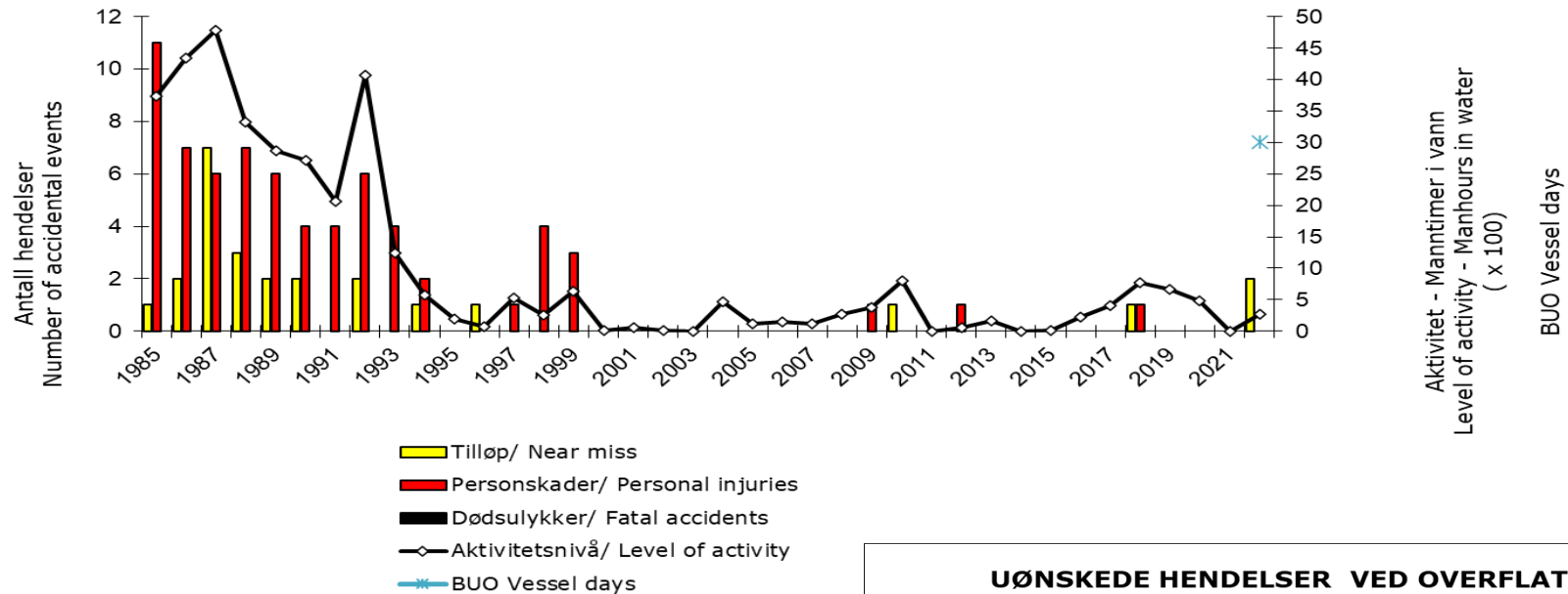
A total of four near misses, two first aid cases and two suspected ear infections during sat diving in 2022.

No cases of Covid-19 in saturation was reported.



DSYS report for 2022

UØNSKEDE HENDELSER VED OVERFLATEORIENTERT DYKKING OFFSHORE UNDESIED EVENTS IN SURFACE ORIENTED DIVING OFFSHORE

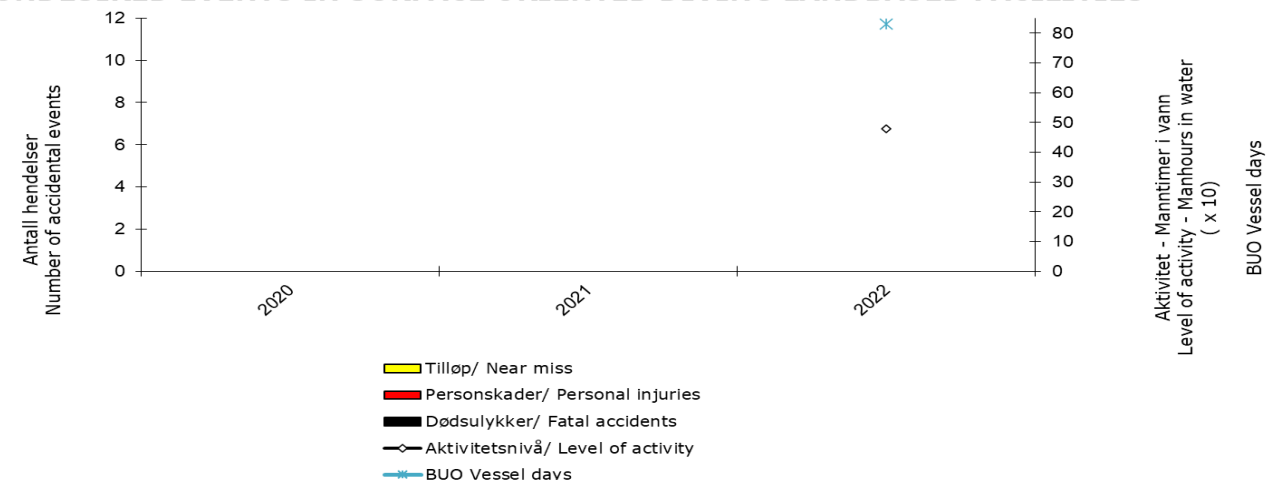


Surface oriented diving:

A total of 30 MUO vessel days including 266 man-hours in water was reported for 2022.

Two near misses was reported.

UØNSKEDE HENDELSER VED OVERFLATEORIENTERT DYKKING LANDANLEGG UNDESIED EVENTS IN SURFACE ORIENTED DIVING LANDBASED FACILITIES



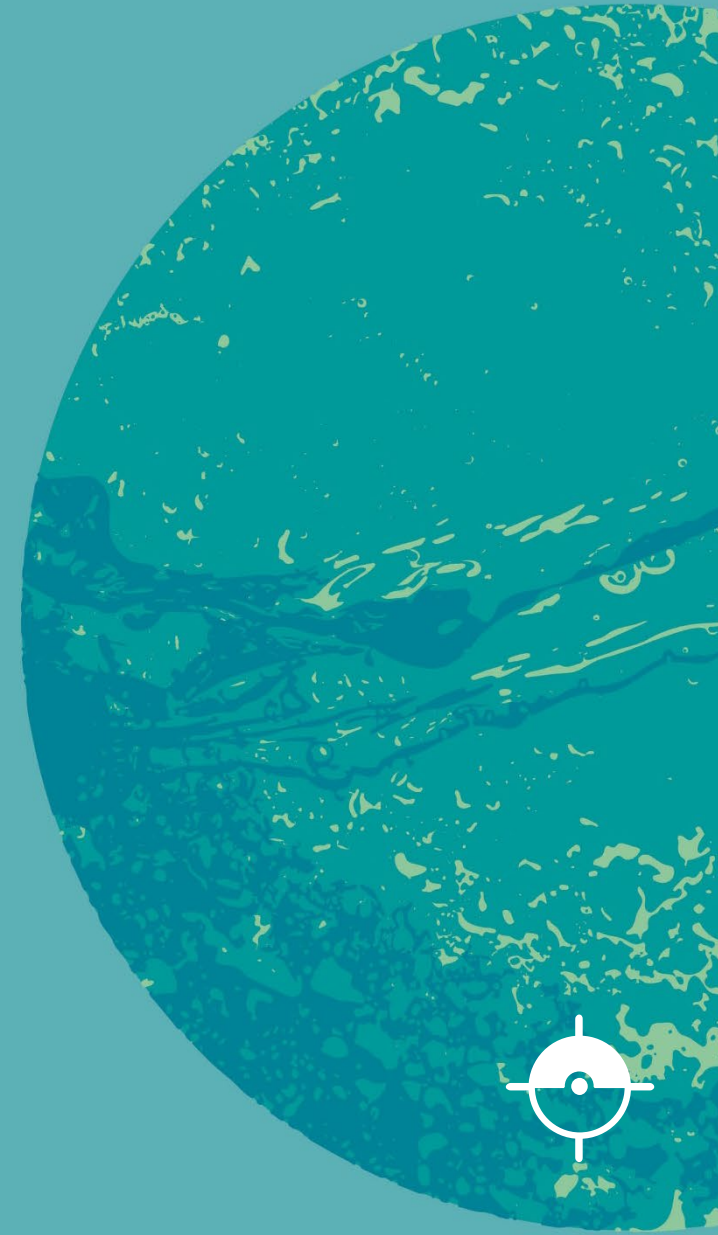
Reporting of diving activity from land based facilities is new from 2022.

A total of 83 MUO vessel days including 480 man-hours in water has been reported.

No incidents or accidents.

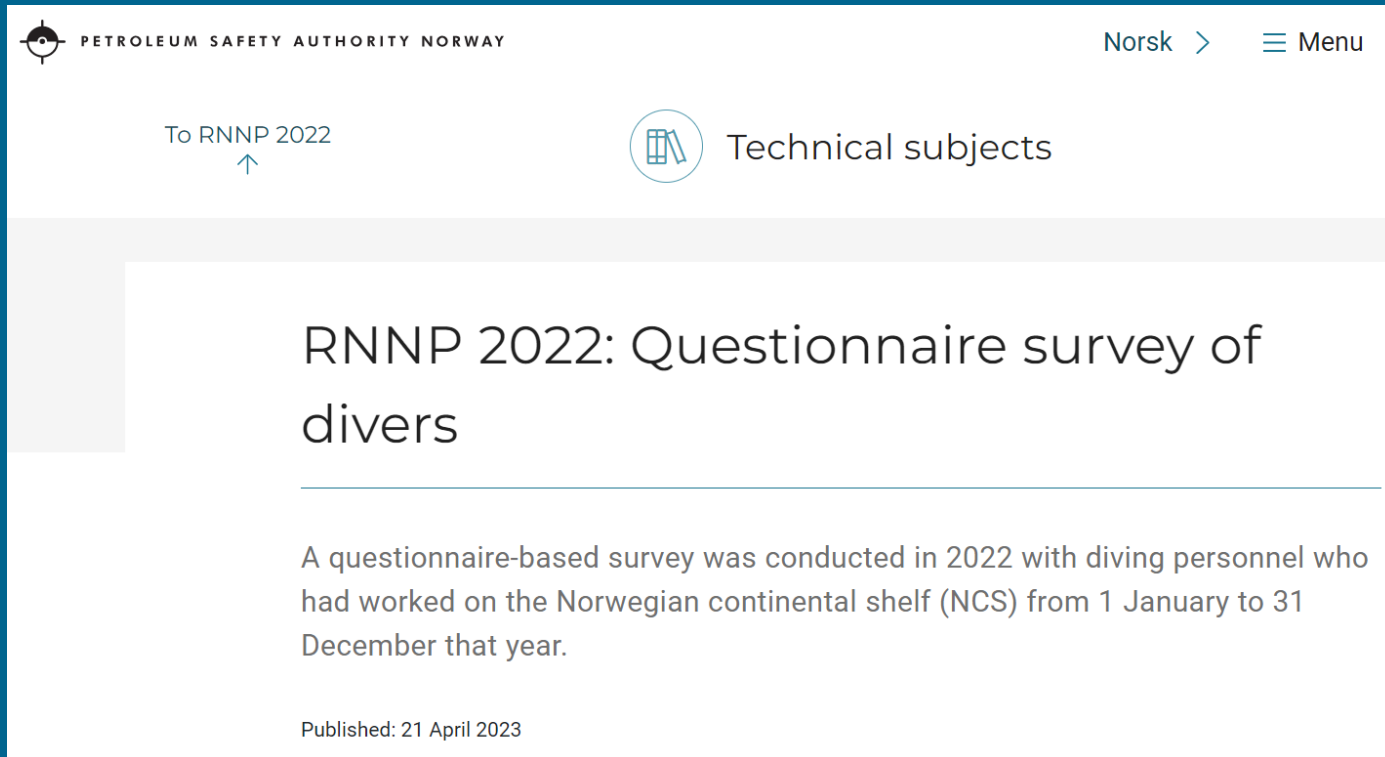
RNNP

Diving questionnaire survey 2022



Risk Levels on the NCS (RNNP) Results for 2022

- Population
- Results for Norway specific regulation
- Risk Perception
- Leader Specific questions
- Diver specific questions
- Exposure
- HSE Positive / Negative
- Work Environment

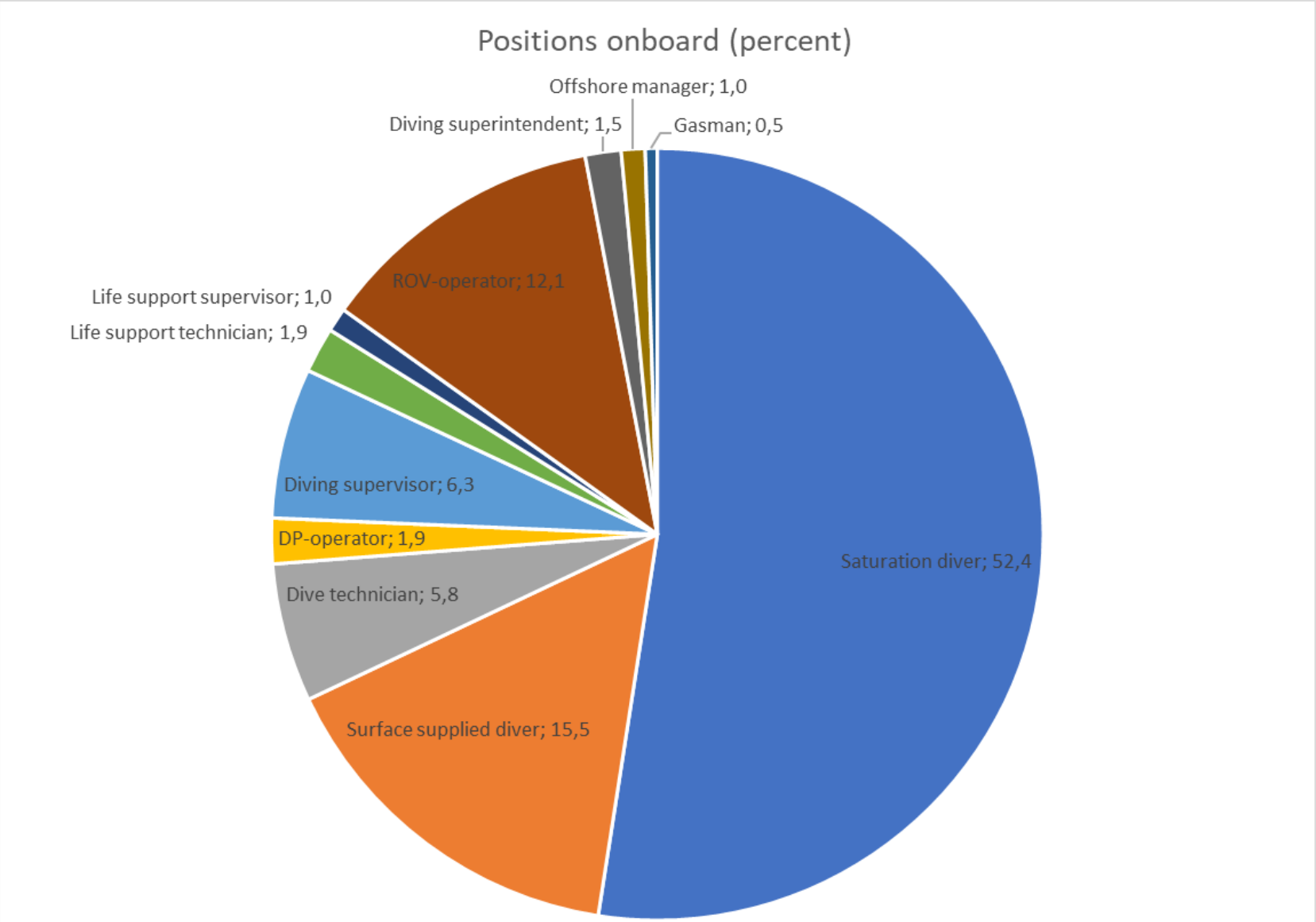


The screenshot shows the website of the Petroleum Safety Authority Norway. The header includes the logo and name 'PETROLEUM SAFETY AUTHORITY NORWAY', the language 'Norsk', and a 'Menu' button. Below the header, there is a navigation bar with 'To RNNP 2022' and an upward arrow, and a 'Technical subjects' link with a book icon. The main content area features the title 'RNNP 2022: Questionnaire survey of divers' and a paragraph: 'A questionnaire-based survey was conducted in 2022 with diving personnel who had worked on the Norwegian continental shelf (NCS) from 1 January to 31 December that year.' The publication date is 'Published: 21 April 2023'.

<https://www.ptil.no/en/technical-competence/rnnp/rnnp-2022/rnnp-2022-questionnaire-survey-of-divers/>

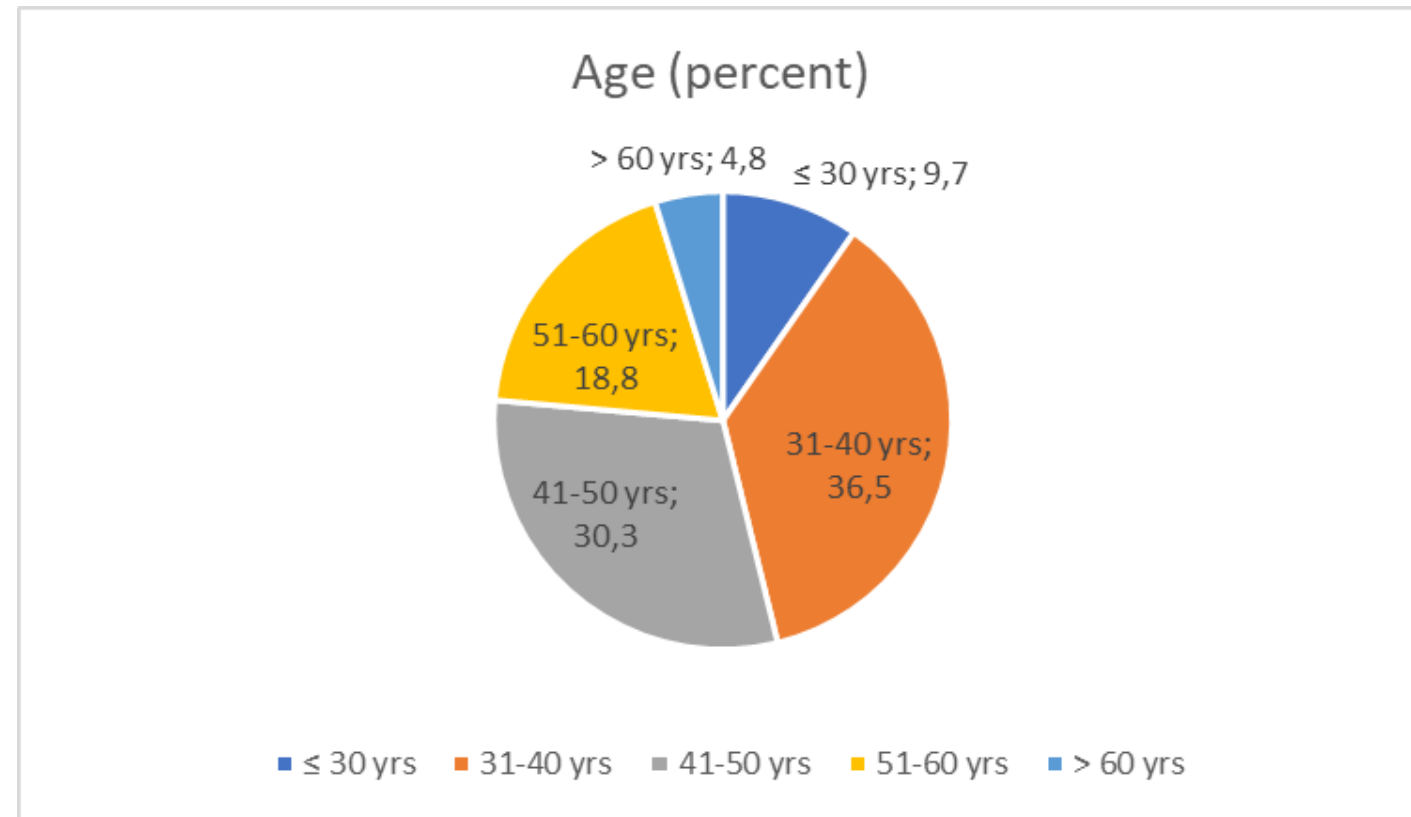
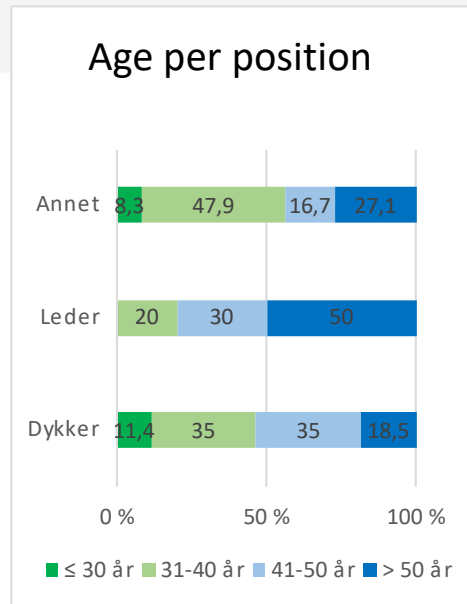


RNNP Results – Population, n = 208

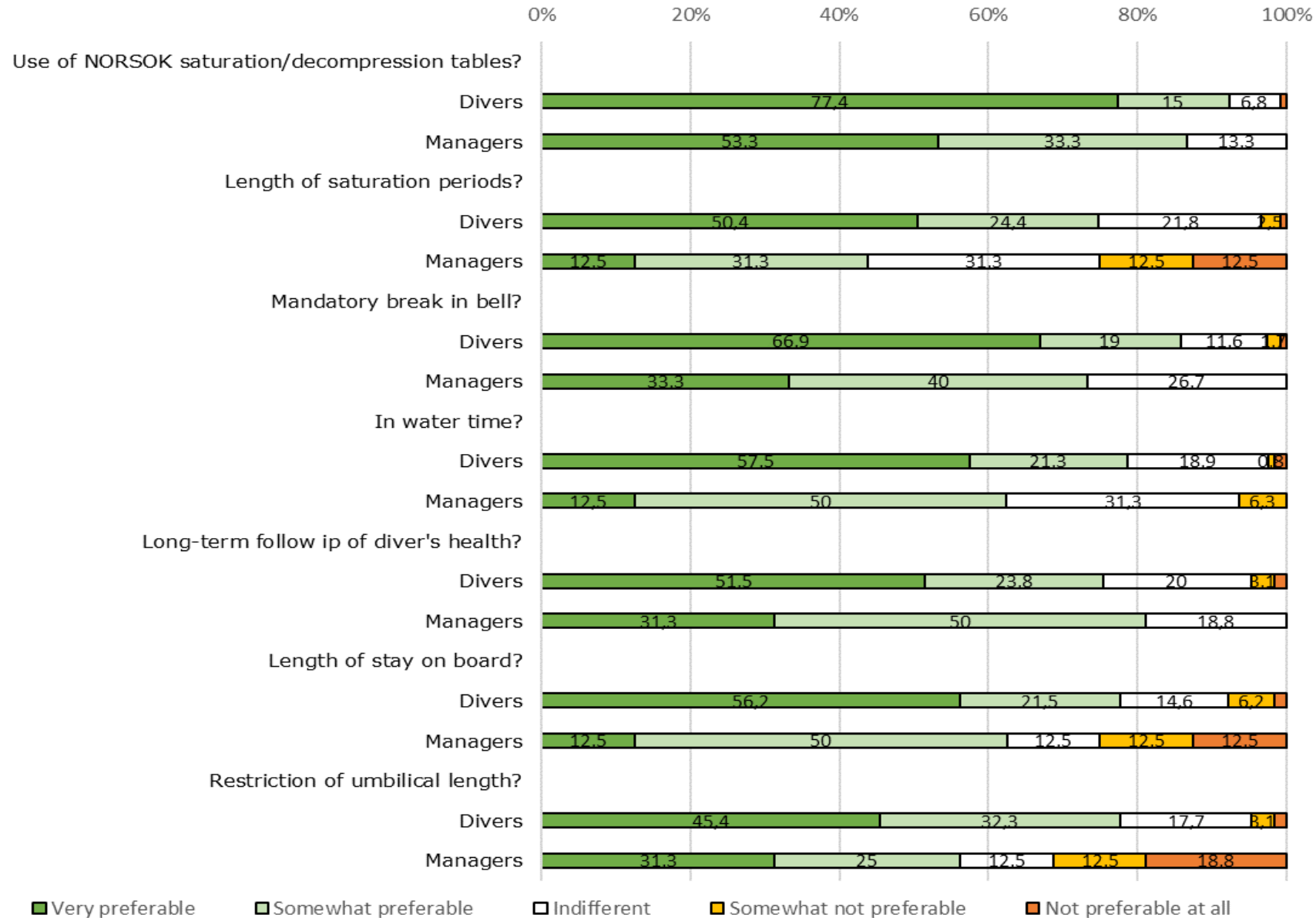


RNNP Results – Population

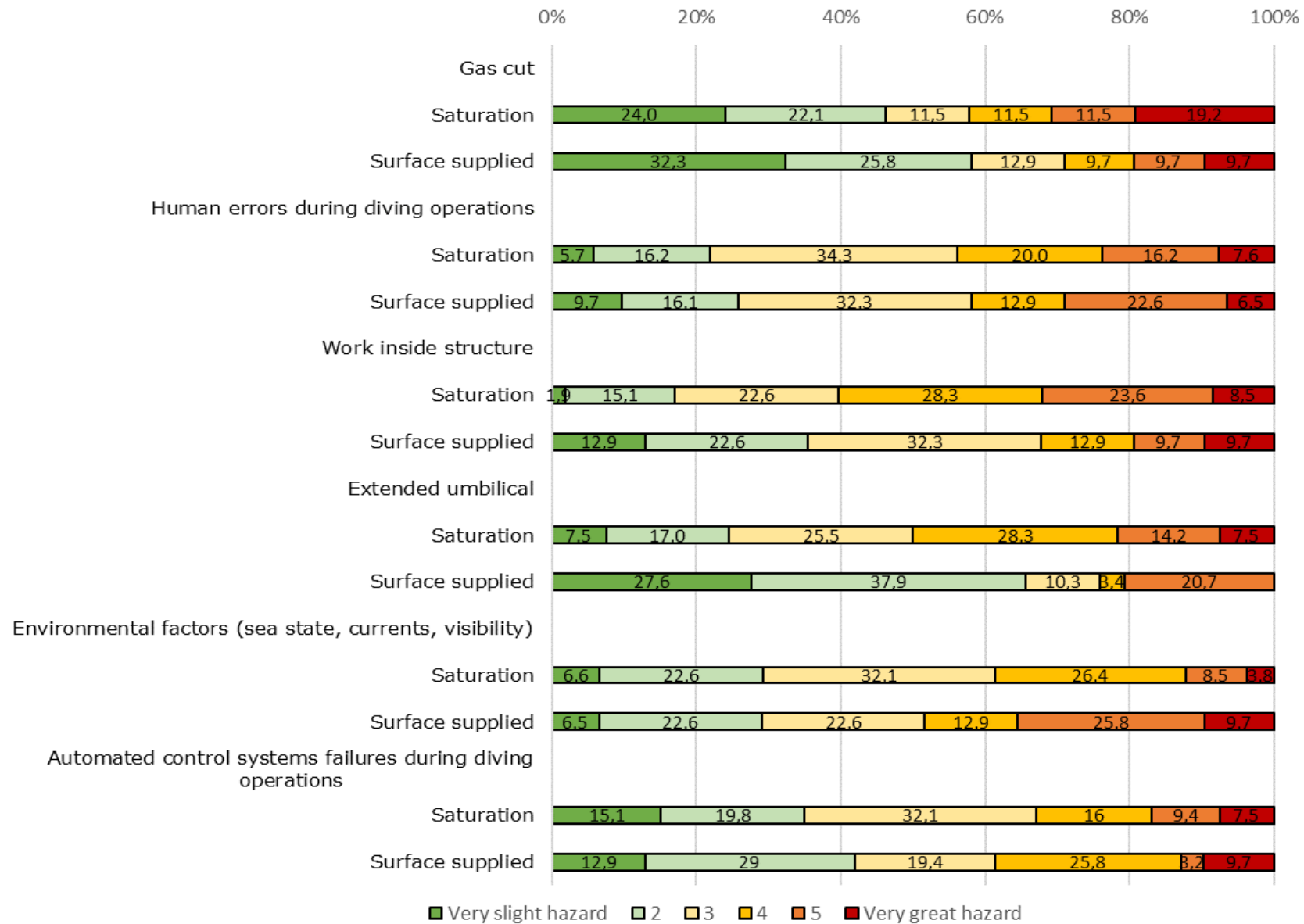
| Year | 2018 | 2020 | 2022 |
|---------------------|-------|------|-------|
| Responses | n=115 | n=70 | n=208 |
| 20 years or younger | - | - | 0,5 |
| 21-24 years | 0,9 | - | 0,5 |
| 25-30 years | 9,6 | 8,6 | 8,7 |
| 31-40 years | 35,1 | 24,3 | 36,5 |
| 41-50 years | 27,2 | 35,7 | 30,3 |
| 51-60 years | 19,3 | 31,4 | 18,8 |
| 61 years or older | 7,9 | - | 4,8 |



RNNP Results – Norway specific regulations



RNNP Results – Risk perception

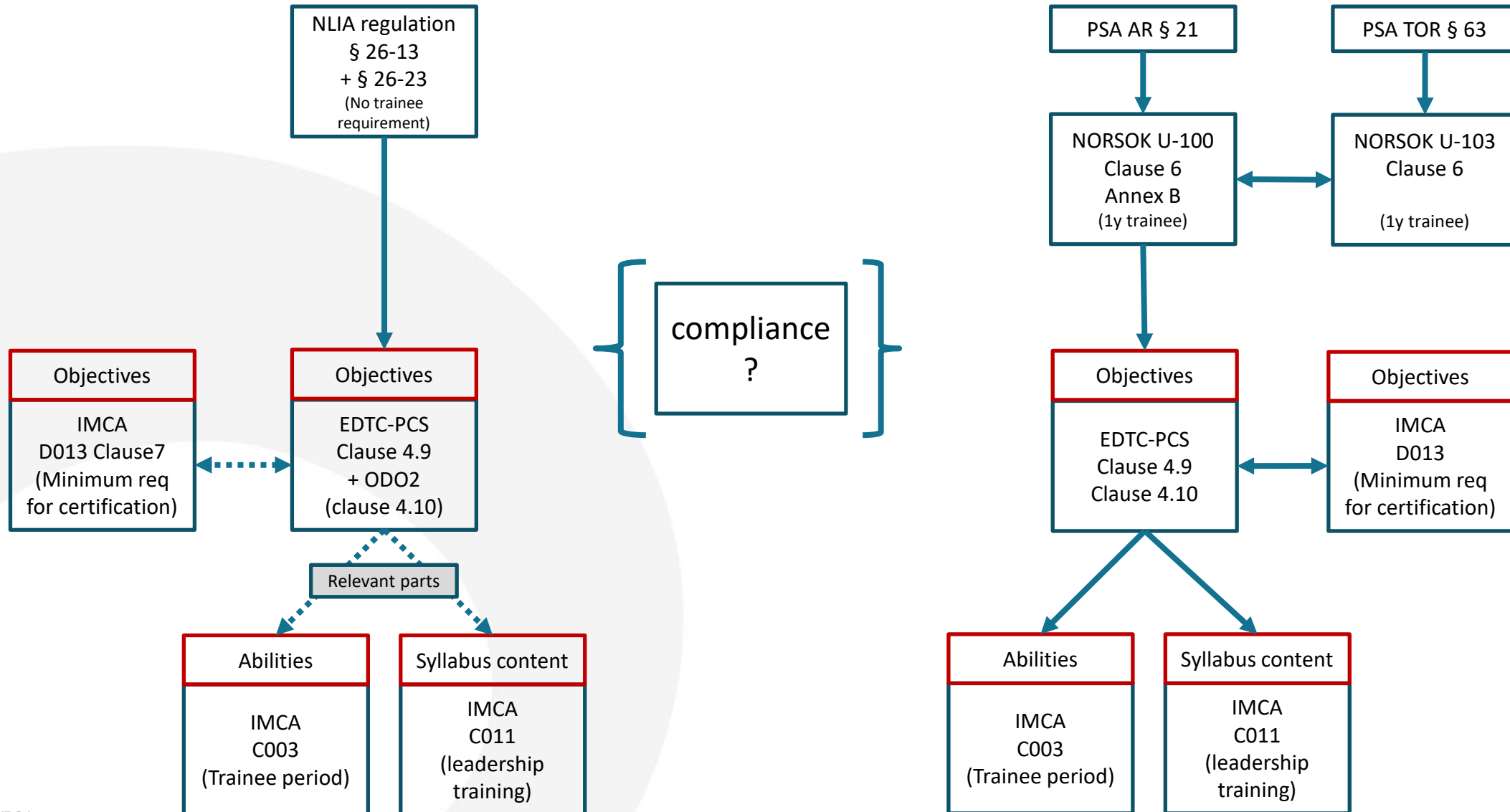


Projects

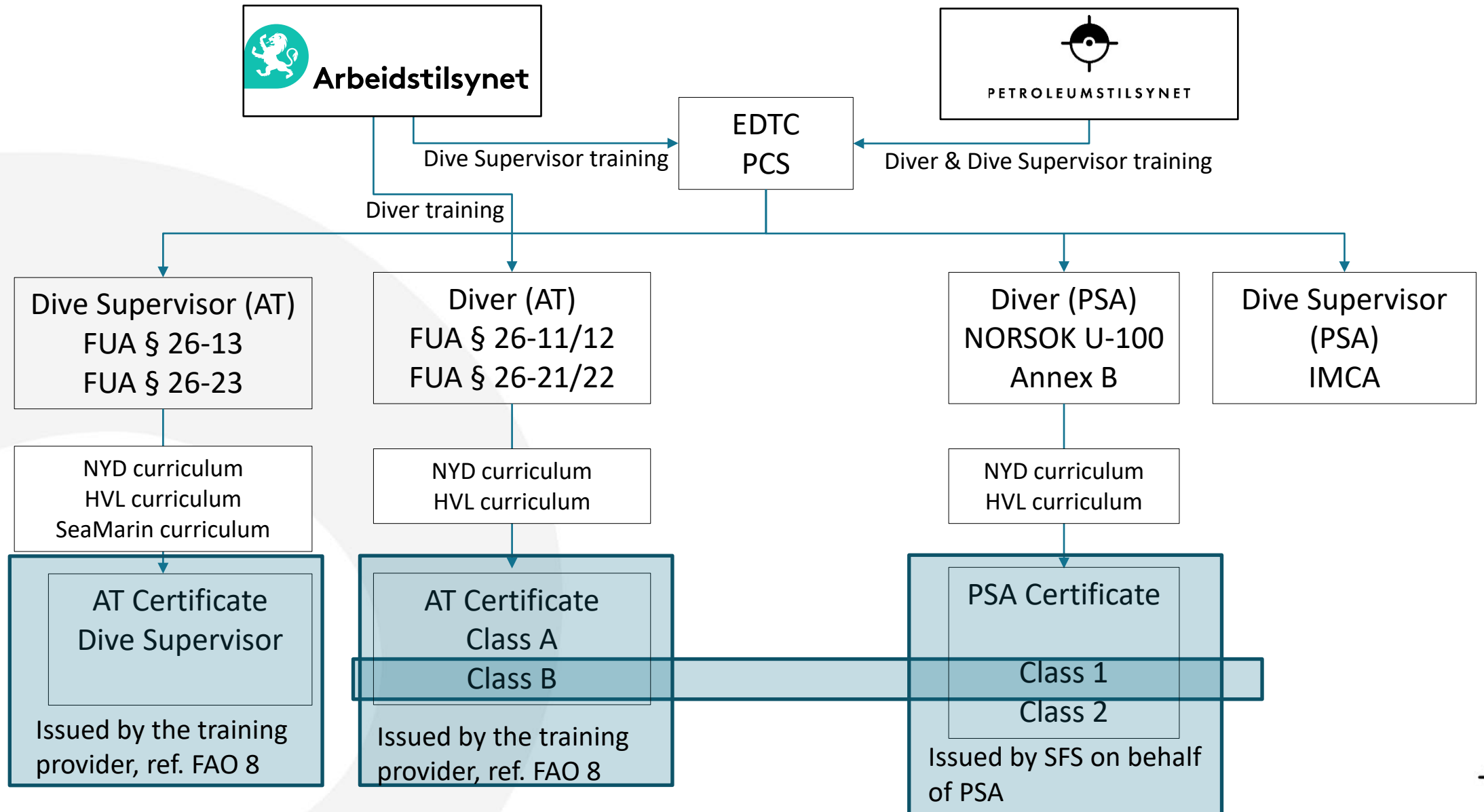
Dive Supervisor education



Dive Supervisor education requirements



Norwegian diver certificates – 2 regulators



Projects

Surface oriented TUP (Transfer under pressure)

Part of the Expert-Group's work in NORSOK U-100



Transfer under Pressure, TUP diving – national knowledge sharing with NL

Goal

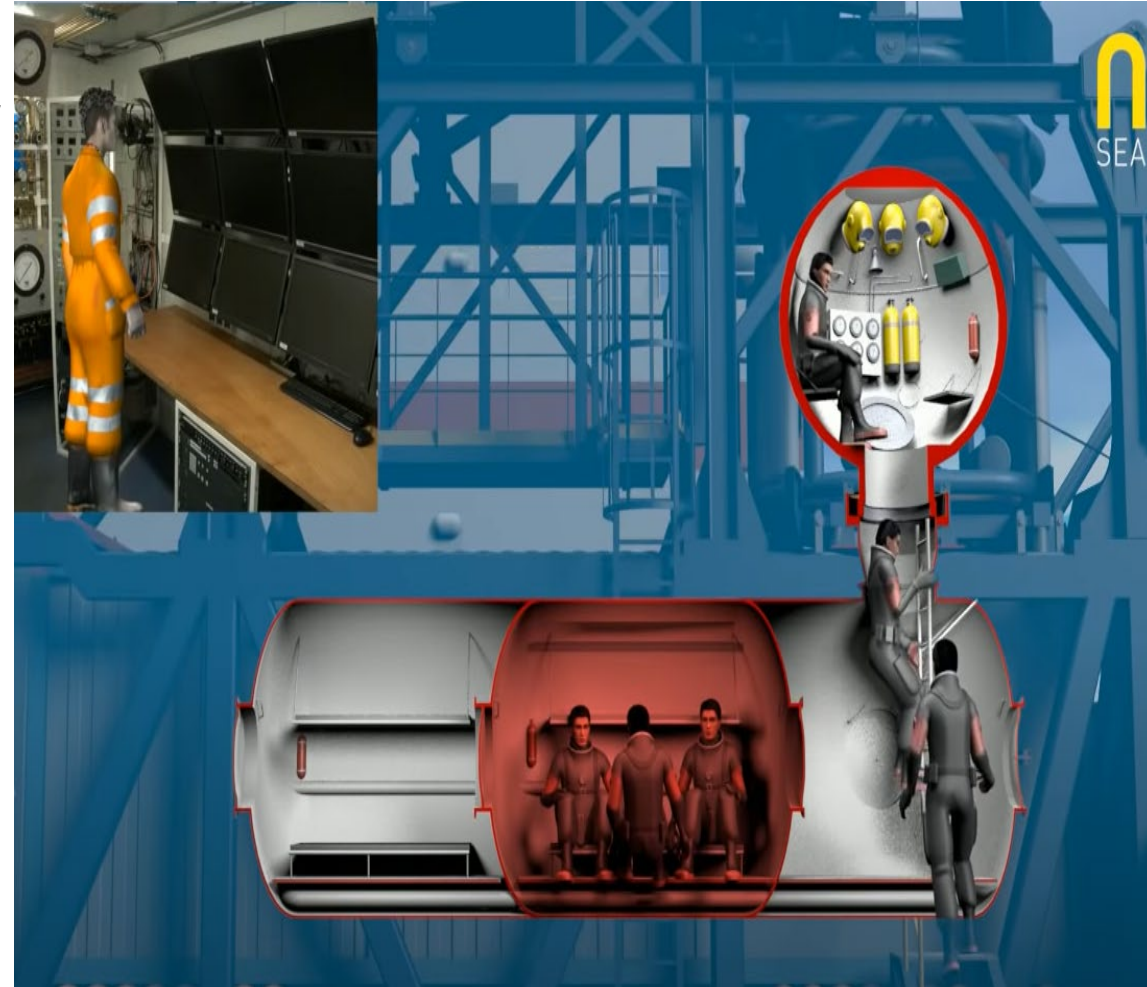
Gather knowledge of surface oriented TUP diving with regards to educational, technical and operational experiences and frameworks, including development of tables and medical knowledge.

Background

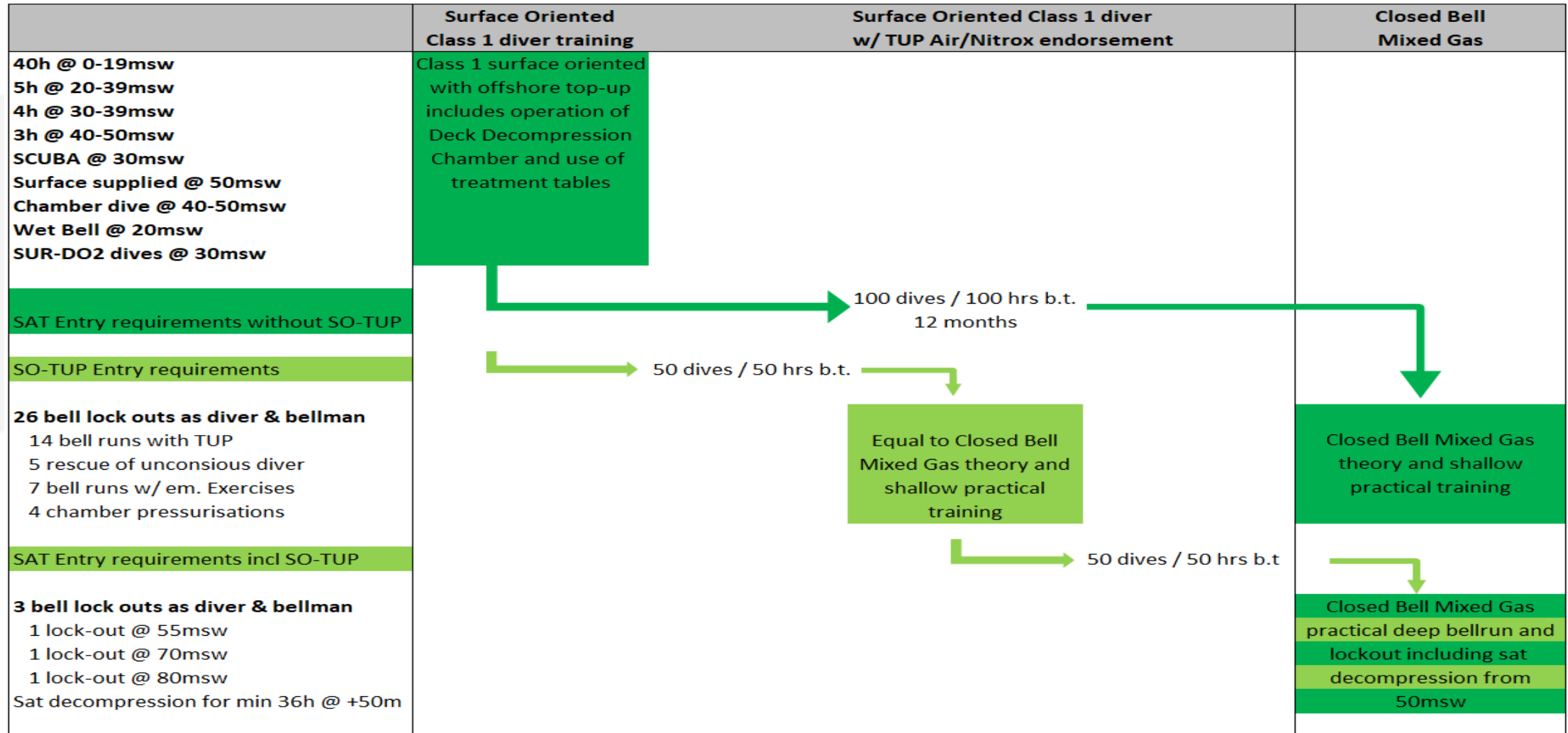
- We believe that the collective national level of knowledge needs to be increased
- Surface oriented TUP diving competency is relevant for diving within new industries offshore such as renewable energies and aquaculture in addition to traditional offshore oil & gas and inshore diving
- Seen as a possible substitute for surface decompression diving (SUR-DO2) limited to 50msw with air or nitrox as breathing medium

Effect:

- Surface oriented TUP diving considered a safer method than SUR-DO2 diving and shallow saturation diving
- Surface oriented TUP diving is less resource demanding than shallow saturation diving
- Positive follow on effects for inshore surface oriented diving and closed bell diver education



Closed Bell Mixed Gas - Saturation diver via surface oriented TUP endorsement



Projects

National diving activity- & exposure register
a pilot project



National diving activity- & exposure register; pilotproject

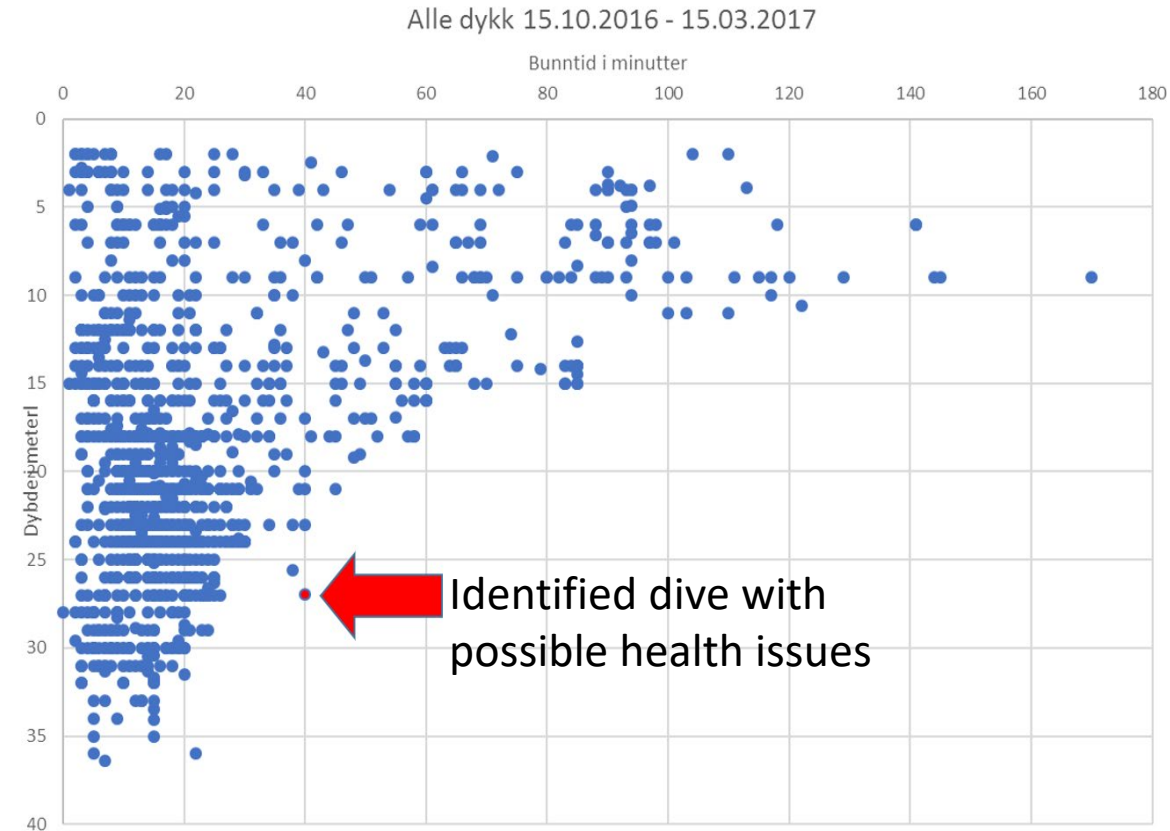
We have an ongoing pilot project setting up small scale "National diving activity- and exposure register" with our two dive schools through 2022-2024.

Purpose

Provide detailed activity- and exposure data as basis for evaluation and regulation of todays diving tables and saturation exposure frameworks **before** divers develop illness or injury.

Establish a broad and quality controlled knowledge base for evaluation and change of national standards and regulations.

DIVE MONNITORING – CENTRALISED DATA REPOSITORY - EXPOSURE ANALYSIS - IMPROVEMENT

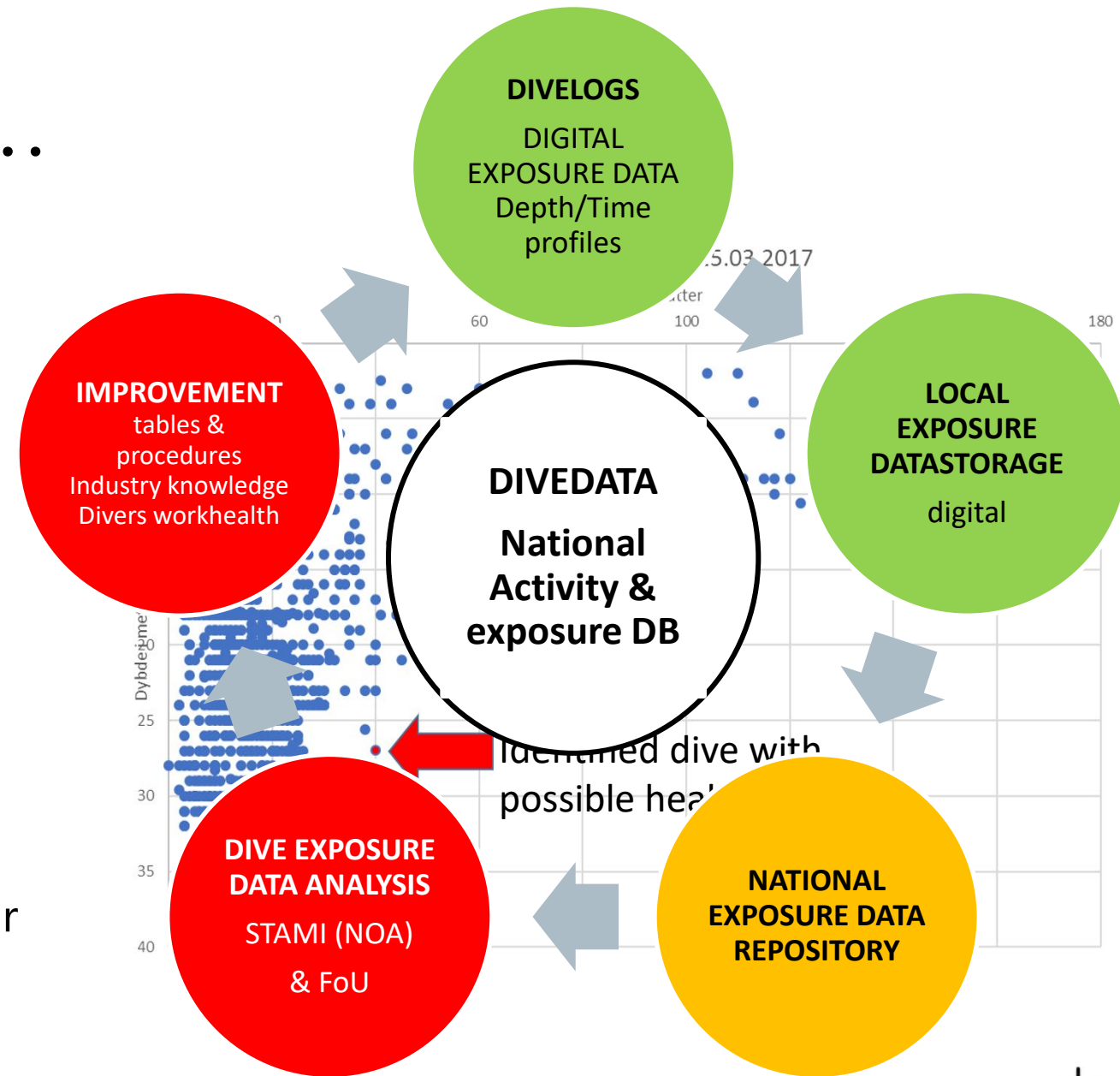


The issue at hand...

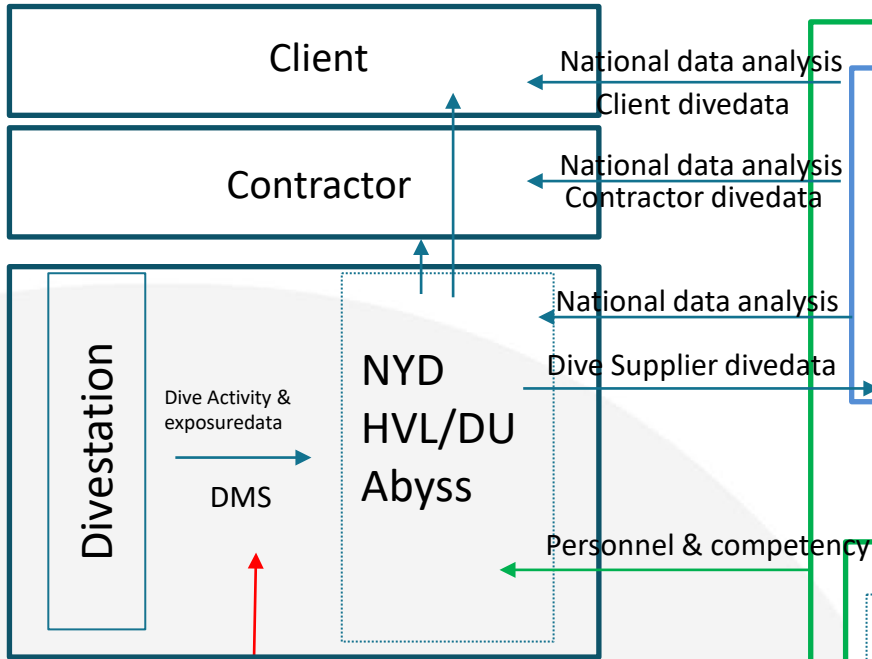
We do not have factbased and consistent registers with **empirical data from executed dives** on a national scale. This is a hindrance for evaluating our collective dive experience and the efficiency of established diving tables under the remit of both the Norwegian Authorities.

It is not known to us that any other international Regulator have up to date dive exposure registers either.

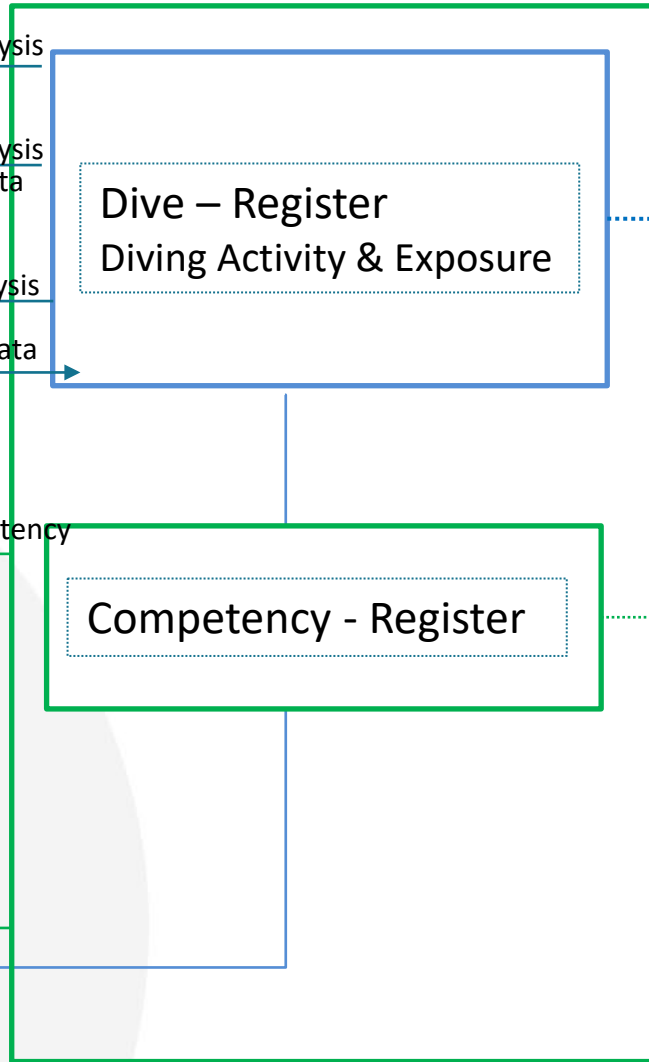
Development of our dive tables is only managed based on mathematical probability for illness, injury or death – typically the risk for contracting DCI.



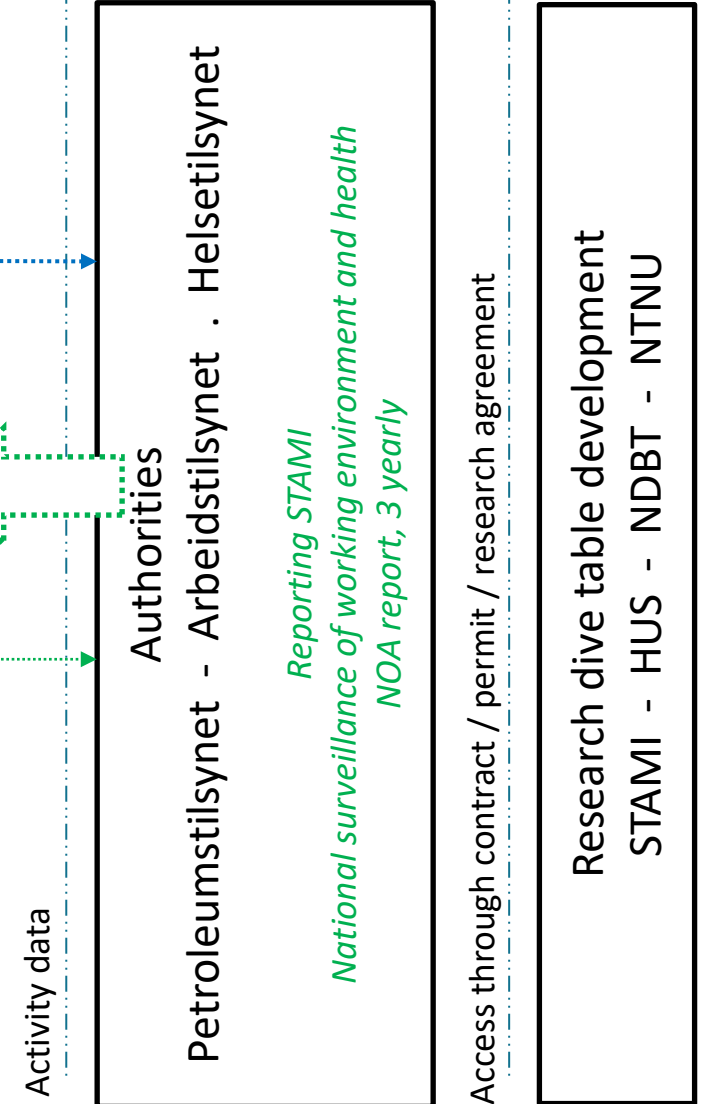
1. Supplier of dive data



2. National register



3. 3rd parties



4. Data owners / end users



Projects

Other initiatives we support



Joint Diving Regulator meeting

Arranging our first joint diving regulator meeting between NOPSEMA, HSE UK, C-NLOPB, NLIA and PSA



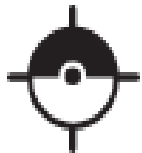
Health and Safety Executive



Arbeidstilsynet



NOPSEMA
Australia's offshore energy regulator



PETROLEUM SAFETY AUTHORITY NORWAY



Identifying best Virtual Reality (VR) equipment for use in saturation – HPNS, fatigue, boredom & familiarisation and training...



Female network in diving

Established in Norway on International Women's day 2023. Open for all women participating in the Norwegian diving industry

Established contact with sister organisation in Australia

Wish to participate in arena's where the future of the Diving Industry is formed





Ikke glem arbeids- miljøet!

MAIN ISSUE 2024

Hovedtema 2024

Openness and trust

- Openness is a precondition for the exercise of our supervisory authority.
- Tripartite collaboration (companies, unions, government)
- We publish audit reports, consents, investigation reports, etc, on psa.no. The aim is to spread knowledge and share experience.

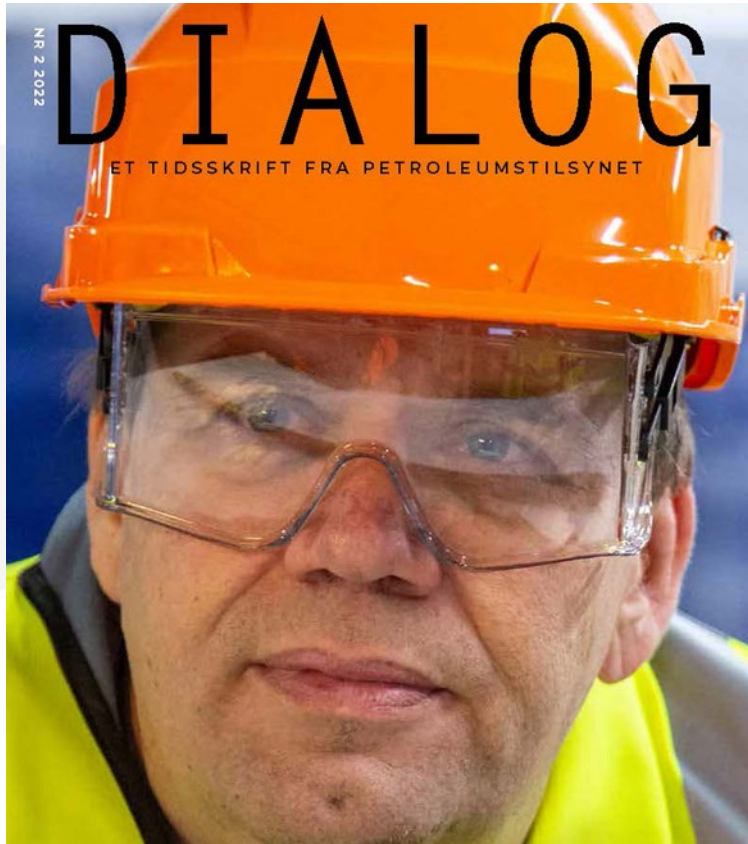


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Useful films

[Main issue 2023: for safe and stable energy development – collectively and concurrently](#)
[RNNP explained](#)
[How is supervision conducted?](#)

Order our publications
margrethe.hervik@ptil.no



Our main issue

Every year, we highlight a subject and a single headline and ask the companies to devote particularly close attention to it at a general level. We call this our main issue.

2017: **Reversing the trend**

2018: **Valuing safety choices**

2019: **Safe, strong and clear**

2020: **Never another major accident**

2021: **Side by side with the suppliers**

2022: **Capacity and competence – the key to safety**

2023: **For safe and stable energy development – collectively and concurrently**

