

DATABASE USER GUIDE

Arctic and Cold Climate Solutions Database

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DATABASE USER GUIDE

PROJECT	Arctic and Cold Climate Solutions Database	SUBJECT	Database user guide
CLIENT	Norwegian Energy Partners	PREPARED BY	Petter Sundquist

SUMMARY

This is a user guide for the Arctic and Cold Climate Solutions Database, www.accs.no.

Norwegian Energy Partners' Arctic and Cold Climate Solutions project are developing an online database for a full version of an Arctic and Cold Climate Solutions database, containing arctic and cold climate technology/solutions. This website is designed as a tool to collect, process and publish the input from all participating companies. Multiconsult is contracted by Norwegian Energy Partners to quality assure the information provided by all participating companies.

The goal of the Arctic and Cold Climate Solutions project is to provide end-users/marked with a state-of-the-art solution capturing all market relevant arctic and cold climate technologies/solutions from Norwegian cluster of suppliers and present them in an online database.

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1 Introduction

Welcome to the Arctic and Cold Climate Solutions database, www.accs.no. This website is intended for companies to submit their technology/services and solutions to the database. All uploaded material should be relevant to oil and gas operations in the Arctic and cold climate regions.

1.1 Purpose

The purpose of the Arctic and Cold Climate Solutions database is to identify and highlight companies in Norway that deliver technology and services representing potential contributions to oil and gas operations in the Arctic and cold climate regions, its value proposition and its relation to different types of arctic/cold climate challenges. The aim is to facilitate Norwegian industry, delivering world class technology/solutions for arctic and cold climate capital development projects. Both offshore technology and onshore coastal facilities as LNG plants and terminals in arctic waters are included, as well as related maritime offshore activities.

This Arctic and Cold Climate Solutions database will be a live online database, hence companies will at all times be able to add, update or remove their products or services. The information companies register in the database will be controlled and approved by Norwegian Energy Partners to ensure relevance and quality of the content in the database.

1.2 Costs

Submitting information to the Arctic and Cold Climate Solutions database is free of charge for Norwegian Energy Partners members. For non-members, a fee of NOK 10.000,- will apply.

2 Home page

From the welcome screen you are able to search for solutions, filter on specific categories and subcategories and search by company name. In addition you can filter by a specific challenge.

You are also able to register, login and start registering your company products and services.

2.1 Search

2.1.1 Free word search

To do a “free word search”, type your search word in the cell “What are you looking for?” and click “Search”. You can narrow down your search by filtering on categories, subcategories and on product/service.

2.1.2 Search by company

To search for specific companies, start typing the name of the company in the cell “Company name...” and click “Search”.

2.1.3 Search by challenge

If you have a specific challenge, you can select a specific challenge in the list “What is your challenge?”. This will give you an overview of all available products and services that contributes to solve this challenge.

2.2 Get started

Register your company by clicking the "Get started" button on the top of the front page, then follow the instructions.

A company can only be registered once in the database. The person that first register a company is automatically set as "Account Supervisor" for the company account. The account supervisor is able to add/remove members to the company account, enabling multiple people in the same company to add/edit/remove information in the database. The account supervisor can at any time delegate the "Account Supervisor" responsibility to one of the other members of the company account, see chapter 3.4.

If the company name you are trying to register is taken, click "Contact" on the top of the front page to contact support. Support will be able to give you information on who is account supervisor for your company.

2.2.1 Register company

To register your company in the database, you will be asked to enter the following information:

Information to be provided	Description
Company Name	Enter the legal name of your company.
Email address	Enter your company email address. This will be your login username.
Password	Enter a password of your own choice.
Confirm password	Re-enter your password to confirm.

After entering your information, click "Create company account". You will now receive an email containing an activation link. Please open this email and click the link to activate your account. You can now login and start submitting your information.

If you encounter any problems, please see chapter 2.5 or contact support using "Contact".

2.2.2 Enter company information

Please provide some information about your company, including contact information to a "Single point of contact" person. The contact information to this person will be presented in the database.

Please see chapter 3.3 for information on how to navigate to this menu.

2.2.3 Upload company logo

Please upload your company logo. The logo will be presented in the database on each of your submission, your company page and on the "Companies registered" page.

Please see chapter 3.3 for information on how to navigate to this menu.

2.2.4 Submit your products and services

Please submit information about your products and services.

Category	Please identify your products or services that solve arctic challenges and register them under the proper categories. There are 9 main categories, each with its own subcategories. See chapter 4.1 for detailed list of categories.
Subcategory	Choose a fitting subcategory for your product. If your product/service do not fit in the given subcategories, please use the "Other" subcategories. See chapter 4.1 for detailed list of subcategories.
Title	Provide your product/service with a suitable title.
Description	Describe your product/service and its value proposition in maximum 800 characters. The following topics must all be described to have your submission approved: <ol style="list-style-type: none"> 1. Describe the product/service. 2. Describe its functionality in arctic and cold climate conditions. 3. Describe the added value it creates for the customer (value proposition).
Technology Readiness Level	If you submit a product, please state its technical readiness. For definition of technical readiness, see chapter 5.2.
References	Please provide references to your product/service. The references must be given a name/title and a web link. Typical references can be, but are not limited to, web links to the following: <ul style="list-style-type: none"> - Product description on your company website - Product sheets - Reference projects - Videos on YouTube or similar - Project pages where your product/service is used - Articles where your product/service is mentioned
Challenges	If your product/service solves a special arctic challenge, please select the specific challenges your product/service solves.

2.3 Login

If you are already registered, click "Login" in the top right corner and sign in with your login name (email address) and password.

If you are new to this site, please see chapter 0.

If you have forgot your password, please see chapter 2.4.

If you have not received your activation email, please see chapter 2.5.

2.4 Forgot password

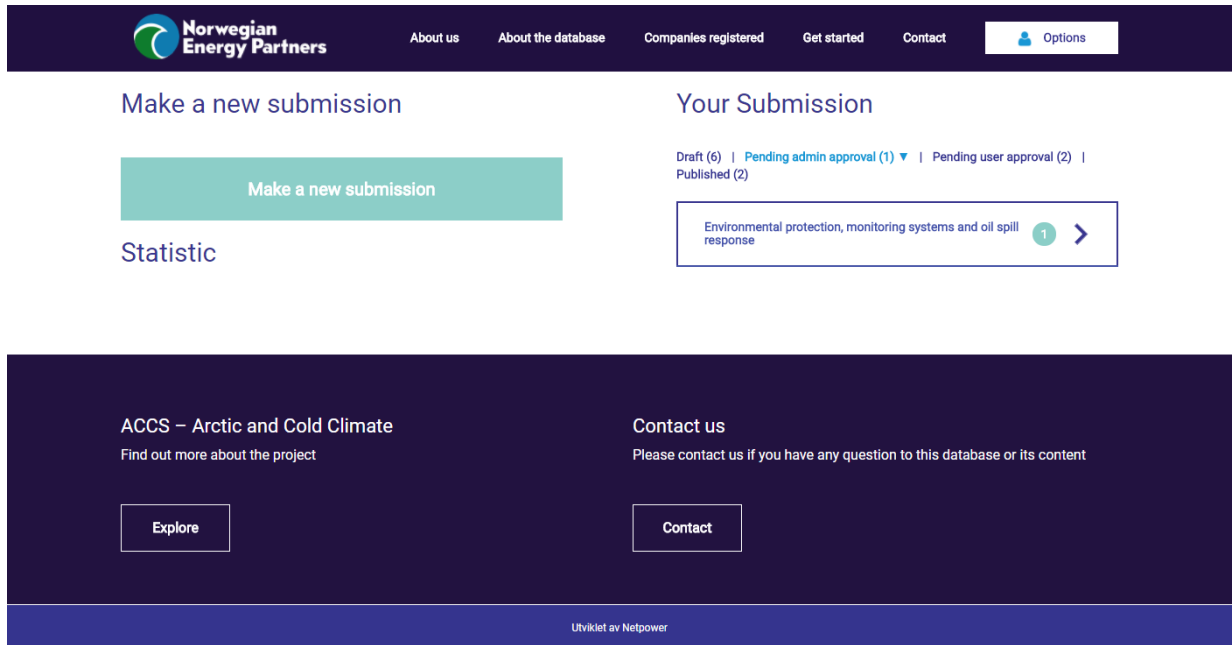
If you have forgotten your password, please click "Login" and then navigate to "Forgot password". Enter your registered email address and click "Get Password". You will now receive an email with a link to reset your password.

2.5 Resend activation

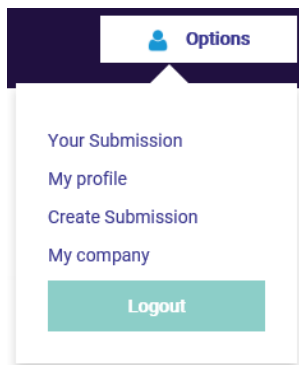
If you have not received an activation email after registering your account, please click "Get started" and navigate to "Resend activation email". Enter your registered email address and click "Resend". You will now receive a new activation email. Please remember to check your spam folder.

3 Administration panel

When logging in, you are taken directly to the administration panel.

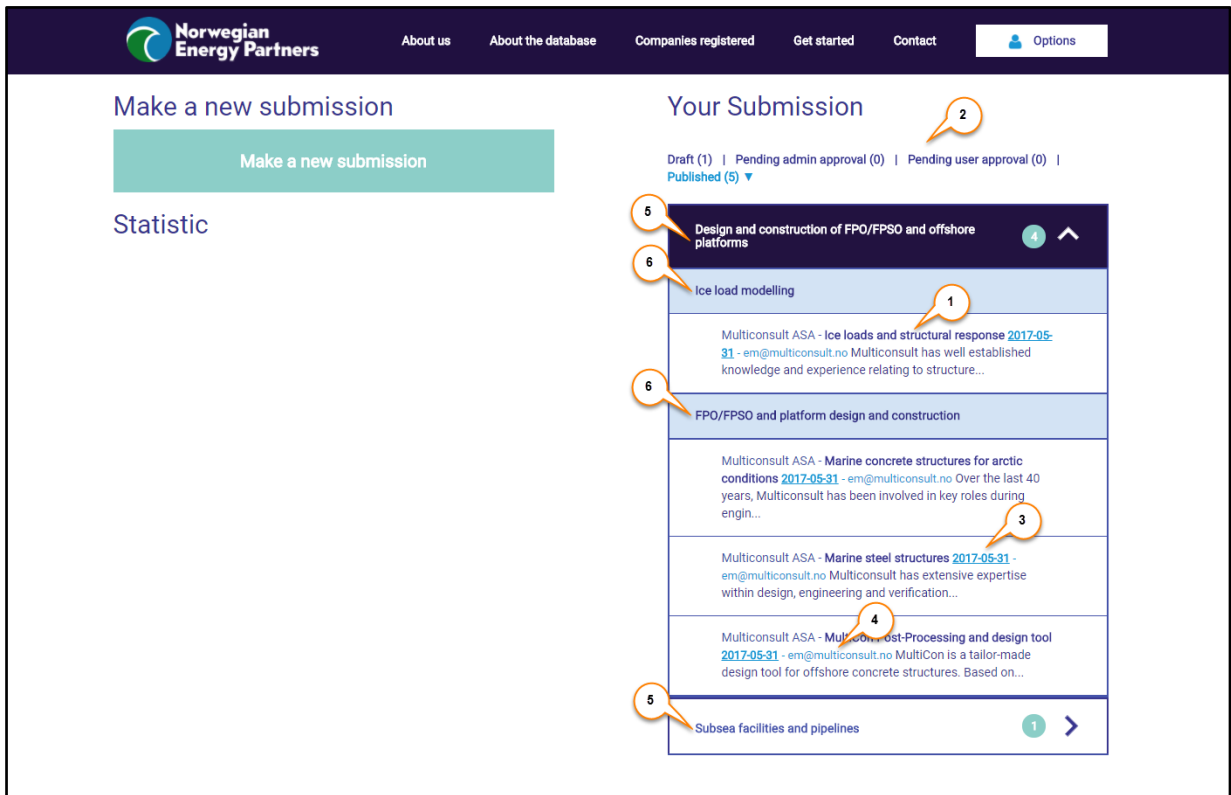


Access the menu by clicking on “Options” in the top right corner.



3.1 Your submissions

When you submit your input, all submissions are listed under “Your submissions”. Click a category to see your submissions, grouped on subcategories.

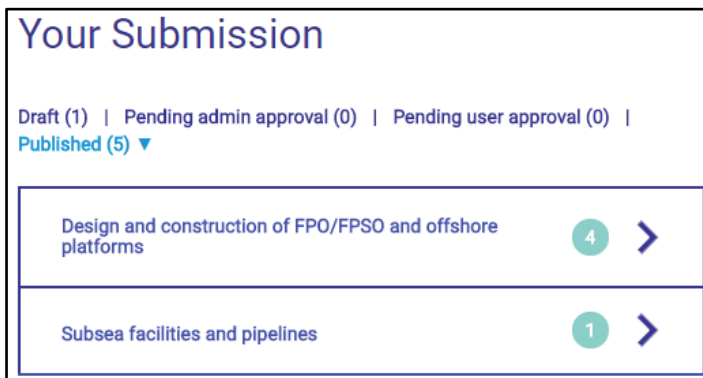


Legend:

- 1. Product/Service title
- 2. Stage (see chapter 3.1.2)
- 3. Created/Last edited date
- 4. Created/Last edited by (user email)
- 5. Category
- 6. Subcategory

3.1.1 Submission review and status

When submitting an answer, Multiconsult will on behalf of Norwegian Energy Partners quality assure your submission. Only approved submissions will be published in the online database.



When your submission has been quality assured, you will receive a feedback. Your submission is either approved or returned to draft. If your submission is **returned to draft**, feedback will be provided to you. Please evaluate the feedback, update your input and resubmit. When your submission is **approved**, it will be published in the online database.

If you want to edit/update one or more of your products/services, the submission will go back to the stage "Draft" and will need to be quality assured again.

3.1.2 Submission stages

Following are the stages for submitting a product/service.

Stage	Description
Draft	You are free to edit and update your product/service. When you are satisfied with the content, please do the following: Click "Save draft" to save and continue writing later. Click "Send for approval" to issue for quality control.
Pending admin approval	Quality assurance of your submission is ongoing.
Pending user approval	Quality assurance of your submission is done, however the administrator have suggested changes/improvements on your content. Please evaluate if you approve the changes. Click "Approve" to accept the changes. Click "Edit" to change the content. The submission will be returned to draft.
Returned to draft	Feedback is provided to you. Please evaluate the feedback, update your input and resubmit. See stage "Draft".
Published	Your product/service submission is approved and is now included in the online database.

3.2 My profile

To access "My profile", click on "Options" in the top right corner of the website, then "My profile". You are now on the "My profile" page. On this page, you can do the following:

- Change your password
- Edit email notification settings
- View company information

To change your password, follow the instructions and click "Update profile".

To edit your email notification settings, check or uncheck the boxes and click "Update profile".

3.3 My company

Only the "Account Supervisor" are able to enter this menu.

To access "My company", click on "Options" in the top right corner of the website, then "My company". You are now on the "My company" page. On this page, you can do the following:

- Upload company logo
- Edit company profile
- View and edit company members (supervisor settings), see chapter 3.4

To edit your company information, please click "Edit company profile". We kindly ask you to upload your company logo and fill out your information as detailed as possible.

3.4 Company members / Supervisor Settings

Only the "Account Supervisor" are able to enter this menu.

To access "Company members / Supervisor Settings", click on "Options" in the top right corner of the website, then "My company", then "View all company members".

If you are the user that registered your company to the database, you are the "Account Supervisor". This means you have the opportunity to:

- Edit the company name
- Add additional users
- Delegate the "Account Supervisor" rights to one of the other members of your company account

The users you add will receive an email with login information and will be able to submit information on your company site.

3.5 Help / Contact

If you have any questions or need help to make your submissions, please contact us by clicking "Contact" and fill out the form.

3.6 Logout

To logout of the website, click on "Options" in the top right corner of the website, then "Logout".

4 Categorisation of technologies/solutions

There are 9 main categories, each with its own subcategories. Please identify your products or services that solve arctic challenges and register them under the proper categories.

Choose a fitting subcategory for your products/service to start the registration. You can register as many products/services as you like.

If your product do not fit in the given subcategories, please use the "Other" subcategories.

4.1 List of categories and sub-categories

1. Design and construction of FPO/FPSO and offshore platforms

- 1.1. Ice load modelling
- 1.2. FPO/FPSO and platform design and construction
- 1.3. Topside Installations
- 1.4. Mooring, anchoring and positioning systems
- 1.5. Maintenance, modifications, operations and installations services
- 1.6. Other

2. Onshore plants, facilities and terminals

- 2.1. Design and engineering
- 2.2. Construction, installation and completion
- 2.3. Process equipment and testing
- 2.4. Maintenance, modifications and operations
- 2.5. Other

3. Asset Integrity Management

- 3.1. Design of site and equipment for safety, production and flow assurance
- 3.2. Corrosion Protection and Metallurgy
- 3.3. Analysis of root cause failure, risk and reliability, stress and hazard
- 3.4. Process optimization
- 3.5. Safety and mechanical integrity and inspection planning
- 3.6. Training and management solutions
- 3.7. Other

4. Drilling operations and well control

- 4.1. Well control, well capping and containment systems and equipment
- 4.2. Wellhead solutions, protection systems and well design
- 4.3. Waste, cuttings and discharge
- 4.4. Drilling services
- 4.5. Other

5. Environmental protection, monitoring systems and oil spill response

- 5.1. Natural resource data
- 5.2. Environmental risk assessment and oil spill contingency support
- 5.3. Oil spill monitoring and detection
- 5.4. Oil spill response
- 5.5. Monitoring systems
- 5.6. Other

6. Subsea facilities and pipelines

- 6.1. Manifolds, template and x-mas trees
- 6.2. Umbilicals and risers
- 6.3. Subsea control, intervention and workover systems
- 6.4. Subsea processing and flow assurance
- 6.5. Power supply systems
- 6.6. Pipeline design and installation
- 6.7. Other

7. Offshore installation and maritime operations

- 7.1. Topside, subsea and offloading installation and towing services
- 7.2. Ice management
- 7.3. Vessel design and shipbuilding
- 7.4. Provision of vessel support/spread
- 7.5. Other

8. Property and personnel protection, maritime training

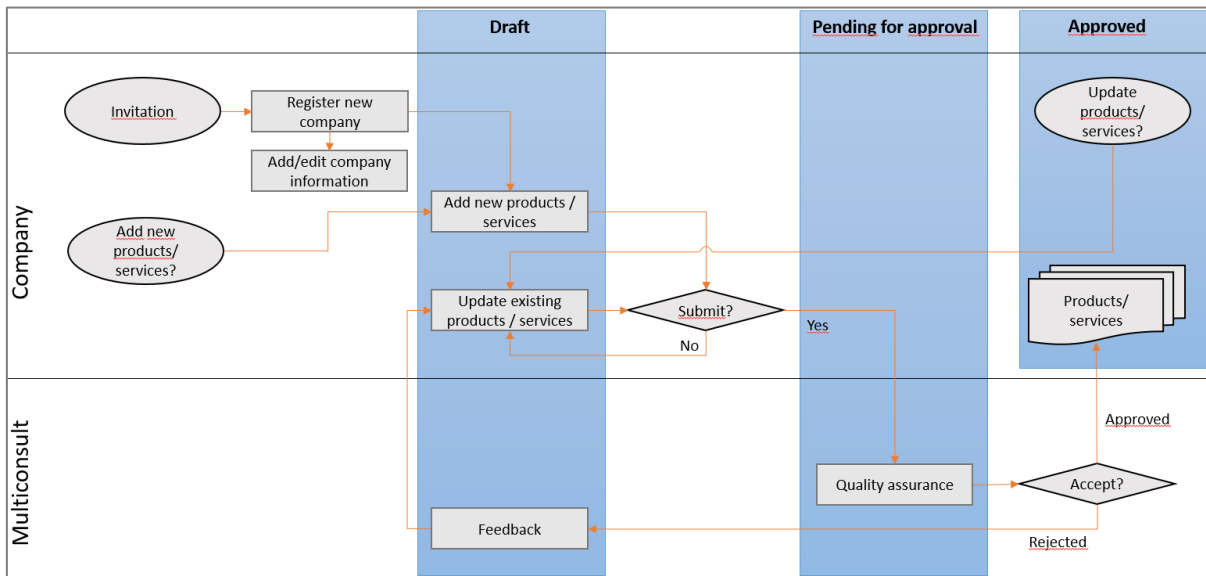
- 8.1. Fire prevention and suppression
- 8.2. Training software and hardware platforms tailor made for the realistic visualization of real-time simulation for arctic conditions
- 8.3. Escape, evacuation and rescue
- 8.4. Risk assessment
- 8.5. Personal Protective Equipment
- 8.6. Maritime training systems and equipment
- 8.7. Other

9. Weather forecasting, surveillance and communication

- 9.1. Communication and surveillance
- 9.2. Navigation and tracking
- 9.3. Wave, wind and current monitoring
- 9.4. Weather forecasting
- 9.5. Other

5 Navigation

5.1 Workflow



5.2 Technology Readiness Level (TRL)

Industry uses Technology Readiness Levels (TRL) as a measure of a technology's qualification development state. The Technology Readiness Level can be defined both for a system and for components. The scale varies from rough ideas to field proven technology, and the level is normally determined by the amount or scale of performed tests.

TRLs provide a high level measure of the qualification development state suitable for comparing similar technologies and indicate status of progress in the technology development.

Reference is made to API 17N.

TRL	Description
0	Unproven idea/proposal Paper concept. No analysis or testing has been performed.
1	Concept demonstrated. Basic functionality demonstrated by analysis, reference to features shared with existing technology or through testing on individual subcomponents/subsystems. Shall show that the technology is likely to meet specified objectives with additional testing.
2	Concept validated. Concept design or novel features of design validated through model or small scale testing in laboratory environment. Shall show that the technology can meet specified acceptance criteria with additional testing.
3	New technology tested Prototype built and functionality demonstrated through testing over a limited range of operating conditions. These tests can be done on a scaled version if scalable.
4	Technology qualified for first use Full-scale prototype built and technology qualified through testing in intended environment, simulated or actual. The new hardware is now ready for first use.
5	Technology integration tested Full-scale prototype built and integrated into intended operating system with full interface and functionality tests.
6	Technology installed Full-scale prototype built and integrated into intended operating system with full interface and functionality test program in intended environment. The technology has shown acceptable performance and reliability over a period of time.
7	Proven technology integrated into intended operating system. The technology has successfully operated with acceptable performance and reliability within the predefined criteria.