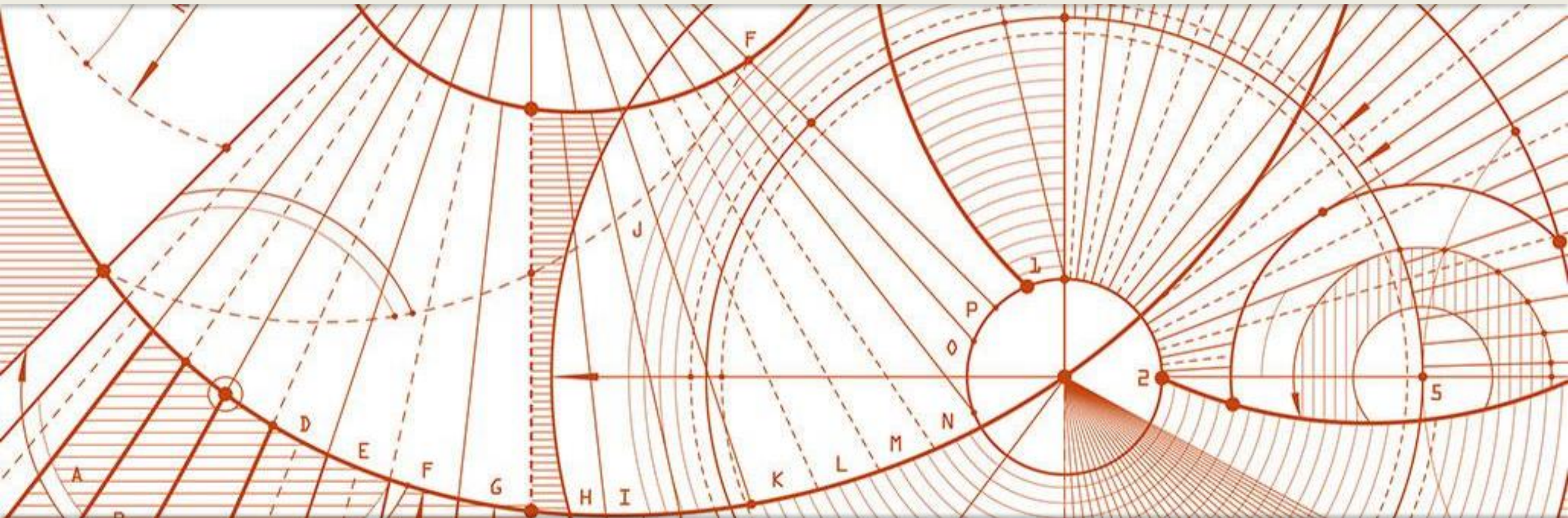


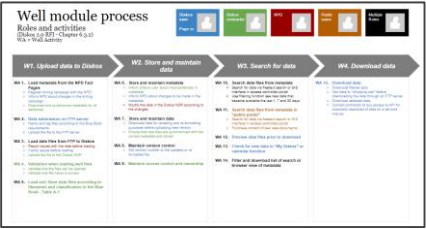
Attachment 1 to Diskos 2.0 RFP

Personas and user journeys for the **current** Diskos solution
(Trade module)

Request for Proposal (RFP) Diskos 2.0 // 30.12.19



Personas and user journeys - introduction

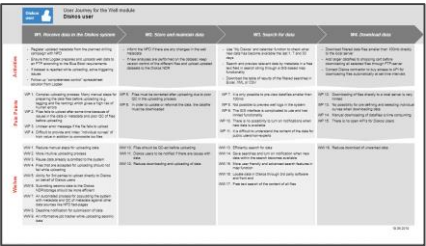


Example

Description

Emotions & Pain Points

How I use Diskos



Roles and activities

This page provides a high-level overview of roles and activities from the module-specific AS-IS process descriptions in chapter 3 of this document. The user journeys will be user-specific and include the users' pain points with the current Diskos solution and wishes for Diskos 2.0. Some headings are marked with “multiple roles” where sub activities are conducted by specific users. The roles are colour coded.

The Diskos Member role includes roles such as Data Manager and Scout (Trade) for both License Operators and License Partners.

Persona

Personas are fictional characters representing the different user types that use Diskos for various reasons. For the purpose of this document, they are designed to be “super users” who conduct all activities within a given module. Often these activities are spread across several roles within the Diskos Member’s organization. Creating personas will help understanding the users' needs, experiences, behaviours and goals.

The persona examples in the different modules do not include the Contractor or the public users.

User journey

The user journey gives an overview of one specific user’s process steps for one specific module. It includes pain points and wishes. The purpose of the user journeys is to provide insight and knowledge to designers to better be able to identify improvement areas.

Document structure

The information related to the process steps and Diskos modules comes from the process descriptions in Chapter 3 of this document and numerous workshops with Diskos Members, the NPD and NOROG GT.

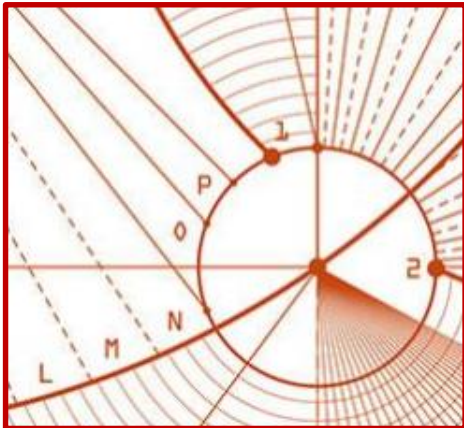
References

As a basis for the user journeys, the main activities and roles are presented in a high level overview. The headings reflect the main process steps. The pain points and wishes will be reflected in the requirements and requirement descriptions in SSA-T Appendix 1A and 1B.

In “Roles and activities” the process steps are marked with TA (Trade Activity) + an activity number (e.g. TA1). The pain points and wishes are referenced with TP (Trade Pain Point) and TW (Trade Wishes).

Additional information

The user journeys for Diskos 2.0 (to-be) will be described by the Contractor (see requirement T3 in SSA-T Appendix 1B)



1. Diskos Management



Carl
Norwegian Petroleum
Directorate
54 years old

Description

Demographic data & location:

Carl, 54 years old, Stavanger

Professional environment:

Worked for the NPD for 18 years. Has a deep understanding of the oil industry and has worked for various oil companies in the past.

Role:

Diskos Manager

Emotions & Pain Points

Carl likes?

The holistic idea of Diskos being a contributor to the value created on the NCS, continuous improvements and efficient processes as well as new technology adding value to the Diskos.

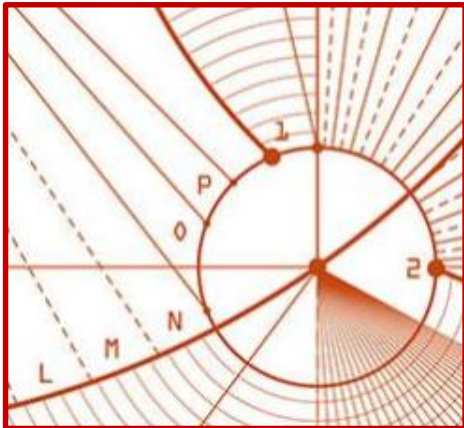
Carl dislikes?

Inflexible and static system solutions, demanding effort and time to incorporate changes. Receiving issues from Diskos Members via email, instead of issues being reported via the system and directly to the Contractor.

How Carl uses Diskos

Carl is not a direct end-user of Diskos. He is responsible for managing the Diskos environment of Diskos Members and Contractors. As Diskos Manager he is part of the Management Committee where Contractors and the Diskos management provide a status update on the operations for each respective quarter.

The Diskos Management administers the Diskos joint venture on behalf of the Diskos Members, as well as ensuring that MC/SG decisions and priorities are realized. Carl is the link between the Diskos Members and the Contractor.



2. Trade module

Trade module process

Roles and activities

TA = Trade Activity

Diskos
Member



Contractor
(Trade)



NOROG GT



T1/T2. Register and process trade request

TA 1. Submit trade request via the portal

- Create and upload shapefile if necessary (Seismic)

TA 2. Ensure that the requirements are in place and cancel, verify or request more information about the trade if necessary

- Check the Diskos NDR for ownership
- If well data is to be purchased, NOROG GT contacts the owner of the Wanted Object to obtain a price (Well)
- Check if the Wanted Object has been involved in previous trade to estimate price (Seismic)
- Check spatial data and contact the owner for verification of ownership and price (Seismic)

T3-T5. Simulate, register and re-simulate trade proposal

TA 3. Simulate potential trades for the Trade Proposer (Well)

TA 4. Set Trade-ID manually

TA 5. Provide Diskos Member with the proposed trades through the portal (Well)

TA 6. Choose and submit the desired trade object(s)

TA 7. Create trade proposal

- Create trade proposal based on correspondence between Trading Parties and information from the Trade module, Seismic module and spatial data (Seismic)
- Create trade proposal (Well)

TA 8. If trade is approved: re-simulate to ensure that the trade still provides License Partners with access to new data.

TA 9. Set trade in queue if the dataset is simultaneously part of another trade

T6/T7. Hearing/voting process

TA 10. Send trade for hearing process

TA 11. Vote to accept/reject trade

TA 12. Approve/reject trade

TA 13. Notify all parties of the outcome via email

- If rejected, generate explanation and close trade
- If approved, generate trade agreements

T8/T9. Entitlement change and storage

TA 14. Manually select the datasets based on the trade agreements (trade)

TA 15. The seller requests a PO from the buyer (purchase)

TA 16. The buyer sends a PO and notifies NOROG GT (purchase)

TA 17. Request entitlement change via the Trade module to the Diskos Seismic and Well Contractor

TA 18. Sign trade agreement

TA 19. Store trade agreement available for involved parties

TA 20. Generate reports and statistics based on user needs*



Description

Demographic data & location:

Hilde, 35 years old, Stavanger

Professional environment:

Worked at NOROG GT for 6 years

Role:

Trade Facilitator

Emotions & Pain Points

Hilde likes?

The simulation functionality in Diskos. She likes structure and accuracy but also efficient processes e.g. automation and simplifications of time-consuming processes.

Hilde dislikes?

Sending reminders about missing purchase orders, keeping track of communication outside of the Trade module, spending time on gathering information about prices on seismic datasets from license operators.

How Hilde uses Diskos

Hilde's daily tasks include managing trade requests from oil company scouts in the Trade module. Her aim is to ensure the best possible flow of data between all oil companies. This includes:

Processing trade requests

Hilde ensures that all trade requests contain the right information.

Developing trade proposals

When assisting in trades of well data, trade proposals are created through a pre-simulation in the system. For seismic trades, Hilde has to manually create a trade proposal, as this is a more complex process. Most frequently, seismic data is purchased instead of traded.

Evaluating hearing process/vote

When a trade proposal has been voted on by the involved parties, Hilde must make a decision to approve or reject the trade and inform all parties of the outcome.

Requesting entitlement changes

After an approved trade, Hilde will send a request for entitlement changes to the Diskos Seismic and Well Contractor and store the trade agreement.



T1/T2. Register and process trade request

T3-T5. Simulate, register and re-simulate trade proposal

T6/T7. Hearing/voting process

T8/T9. Entitlement change and storage

Activities

TA 2. Ensure that the requirements are in place and cancel, verify or request more information about the trade if necessary

- Check the Diskos NDR for ownership
- If well data is to be purchased, NOROG GT contacts owner of Wanted Object to obtain a price (Well)
- Check if the Wanted Object has been involved in previous trade to estimate price (Seismic)
- Check spatial data and contact owner for verification of ownership and price (Seismic)

TA 3. Simulate potential trades for the Trade Proposer based on a given set of criteria - with aim to find the best possible trade outcome (Well)

TA 4. Set Trade-ID manually

TA 5. Provide Diskos Member with the proposed trades through the portal (Well)

TA 7. Create trade proposal

- Create trade proposal based on correspondence between the Trading Parties and information from the Trade module, Seismic module and spatial data (Seismic)
- Create trade proposal (Well)

TA 8. If trade is approved: re-simulate to ensure that the trade still provides license partners with access to new data.

TA 9. Set trade in queue if the dataset is simultaneously part of another trade

TA 10. Send trade for hearing process

TA 12. Approve/reject trade

TA 13. Notify all Trading Parties of the outcome via email

- If rejected, generate explanation and close trade
- If approved, generate trade agreements

TA 15. Manually select the datasets for trade based on the trade agreements (trade)

TA 17. Request entitlement change via the Trade module to the Contractor

TA 19. Store trade agreement available for involved parties

Pain Points

T'P 1. PO is sent by email from buyer to seller (NOROG GT is cc'ed)

Wishes

TW 1. Price to be automatically estimated

TW 2. Well: If purchase, the system may estimate the price of the wellbore based on completion date

TW 3. Seismic: The system should simplify and automate the ownerships identification process

TW 4. All inquiries and correspondence regarding trades should be made inside the module

TW 5. GIS and map functionality should support simulation of seismic data

TW 6. NOROG GT should be able to return a trade to Diskos Members as a "proposed trade", in case there is a need for adjustments (e.g. if the oil company returns the proposed list without removing any objects)

TW 7. Functionality to connect the hearing deadline to external calendars (e.g. Google, Outlook)

TW 8. The list from the simulation and the following selection from Diskos Members should be carried forward (the system should store historical choices through the trade)

TW 9. Upload the PO to the Trade module

TW 10. Notifications should be sent to remind buyers to upload the PO

TW 11. Parts of the entitlement change process should be automated

TW 12. The trade agreement should be auto-generated



Arne
Liberty E&P
37 years old

Description

Demographic data & location:

Arne, 37 years old, Stavanger

Professional environment:

Worked 10 years as a geoscientist for various oil companies

Role:

Data Manager and Scout for Liberty E&P and is responsible for identifying value-generating data trades.

Emotions & Pain Points

Arne likes?

Having a trade solution which ensures that he can effectively trade data and having an automatically updated visual overview of which objects he has and has not traded.

Arne dislikes?

Having to use email to communicate outside the system, not knowing when a trade will be processed, recreating trade request from scratch after having the trade proposal rejected.

How Arne uses Diskos

Arne's main task is to provide Liberty E&P with valuable data through trades and purchases both as a company and as a License Operator.

Arne's main tasks in the Trade module include:

Identifying wanted (and given) objects for potential trades

Arne uses his knowledge of Liberty E&P's exploration plans to identify trade objects that can help Liberty E&P's exploration efforts. He uses Diskos' functionality to view which data Liberty E&P has owner rights to and which companies has user rights to his data. This helps him identify which trades that are feasible and allows him to inform his colleagues about who has traded wells owned by Liberty E&P. He will also indicate to GTO which wells his partners in an Liberty E&P operated license will need access to due to common database.

Manage trade proposals

Arne is responsible for proposing trades on behalf of Liberty E&P in the Diskos database and is notified whenever a trade involving Liberty E&P is proposed. He confers with his colleagues to decide which trades Liberty E&P will accept or reject. He will also confer with his License Partners when this is expedient.

**T1/T2. Register and process trade request****T3-T5. Simulate, register and re-simulate trade proposal****T6/T7. Hearing/voting process****T8/T9. Entitlement change and storage****Activities**

TA 1. Identify Wanted and/or Given Object for trade or purchase. Objects can be both data from the Diskos NDR and external data. Trades may be conducted cross-category: well data, seismic survey, reports, money, other or a mix.
TA 2. Create and upload a shapefile for the object if necessary (seismic)
TA 3. Send trade requests to NOROG GT for processing

- It is not unusual that the trade requests contains little information, and that Diskos Members communicates with NOROG GT via email to detail out the required information for the trade proposal

TA 5. Receive a list of proposed trades from NOROG GT
TA 6. Choose which trade proposal to go forward with

TA 10. Receive proposed trade for hearing
TA 11. Vote for acceptance or rejection of the trade together with License Partners

- Votes are required from all companies when data is being bought and not traded
- Trade Users receive a notification when the deadline for voting is approaching

TA 15. If data is purchased, the seller will normally send an email to the buyer to request a PO.
TA 16. When the buyer issues the PO, NOROG GT is notified.
TA 18. Sign trade agreement

Pain Points

TP 1. Lack of communication channel in Diskos Trade Module during the hearing process
TP 2. A rejected trade is locked for further editing, and recreating new trades is a time-consuming process for the Trade Users

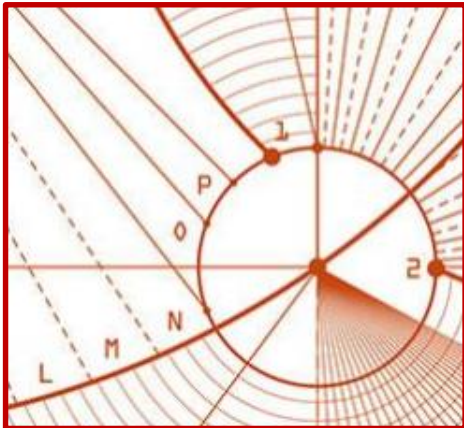
Wishes

TW 13. If Diskos Members already have access to the wanted object, the object should still appear on the trade request list, but Diskos Members should be notified (before the trade request is sent to NOROG)
TW 14. The License Operator should be able to act on behalf of the license
TW 15. All correspondence regarding trades should be made within the module

TW 16. The Scouts wish to get an overview of which trades will provide the highest data flow
TW 17. NOROG GT should be able to return a trade to Diskos Members as a "proposed trade", in case there is a need for adjustments (e.g. if the Trade Proposer returns the proposed list without removing any objects)

TW 18. Diskos 2.0 should provide the functionality to connect the hearing deadline to a calendar (both for NOROG GT and companies)
TW 19. If rejected, Diskos Members should be able to decide if they wish to attempt a new trade using information from the rejected trade (with a new given object) or end the trading process. A rejected trade should be editable/copied over with a new trade-ID instead of filling in a new form

TW 20. Trade Users want a solution that allows use of a digital signature and for this process step to be part of the module. Those without access to Diskos should be able to confirm and sign the trade agreement (e.g. receiving a mail with request for digital signature)



3. AS-IS process descriptions

Please note:

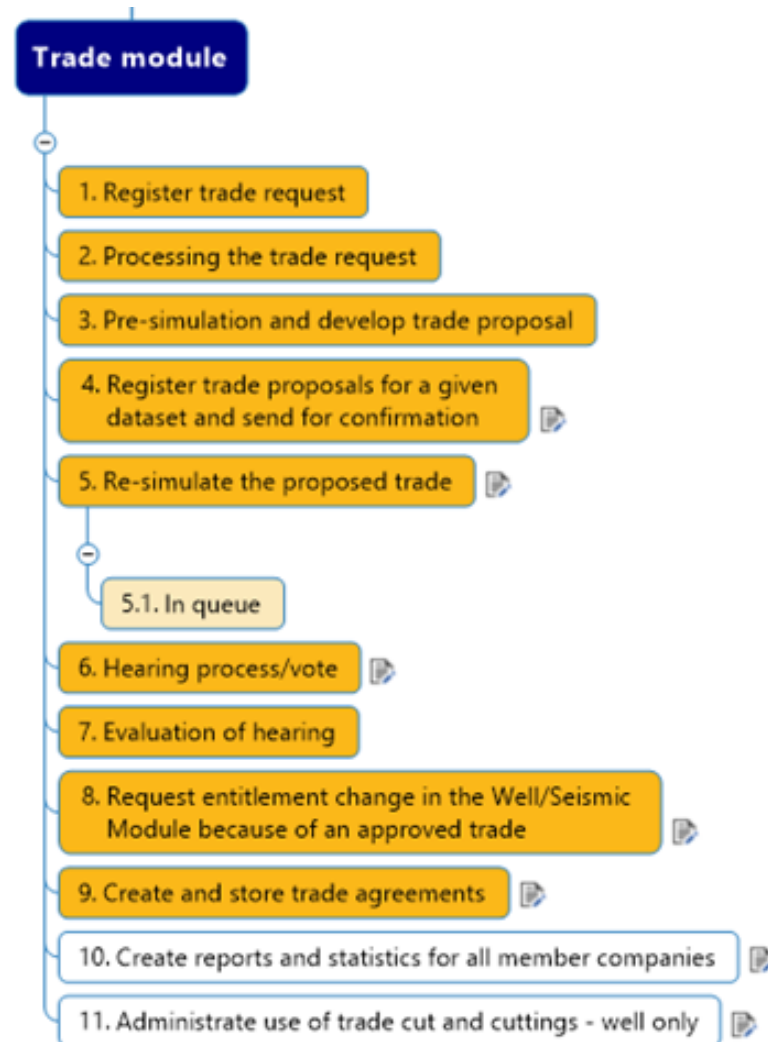
The following pages intends to describe the current process in Diskos (1.0), and should only be read as support to the user journeys.

The AS-IS process descriptions were a part of the RFI-document.



AS-IS Diskos Trade module process description

Process map for the Trade Module



AS-IS Diskos Trade module process description

The Diskos Trade module is used to manage trade of seismic and well datasets between companies, groups of companies or licenses operating on the NCS. Oil companies have designated “scouts” that can browse the Trade Module and make trade requests. NOROG GT simulates trades and create trade proposals on behalf of Trade Users.

T1 - Register trade request (Oil companies)

All requests contain the names of the Wanted and/or Given Objects. The objects can be both data from Diskos NDR and/or external data (e.g. studies, reports, and physical samples). Trades can be conducted cross category: well data, seismic surveys, reports, money, other, or a mix.

Well: A trade request is sent from the Trade Proposer via the portal. The Trade Proposer can select a given and/or Wanted Object to be traded. The Wanted Object will not appear on the trade request list if the Trade Proposer already has access to the Wanted Object. Public data is not visible on the trade request list.

Seismic: A trade request is sent from the Trade Proposer via the portal. A shape file with the area of interest can be uploaded with the trade request if necessary.

T2 - Processing the trade request (NOROG GT)

The trade request is assigned to a NOROG GT case worker and an automatic notification is sent to the Trade Proposer. NOROG GT either cancels, verifies or requests more information about the trade request. NOROG GT ensures that the requirements are in place and that the trade process will continue.

Well: The system automatically checks the Diskos NDR for ownership. If well data is purchased, NOROG GT contacts owner of Wanted Object and ask for a price.

Seismic: NOROG GT checks the Diskos NDR for ownership and if the Wanted Object has been involved in a previous trade (to estimate price). NOROG GT then checks spatial data (shape files, live trace outlines and public data), before the data owner is contacted for verification of ownership and price for Wanted Object (if purchase).

AS-IS Diskos Trade module process description

T3 - Simulation and develop a trade proposal (NOROG GT)

Well: The simulation suggests potential trades for the Trade Proposer based on a set of criteria. The simulation attempts to find the best possible trade outcomes from a selection of the Trade Proposers Given Objects. The simulation considers previously submitted trade proposals as well as declined trades.

The base algorithm for the simulation must weigh the alternatives according to the best potential outcome. The simulation proposal includes a prioritized order according to best potential outcome, reasonability and probability.

Seismic: NOROG GT manually develops a trade proposal based on:
correspondence between trading parties
information from the Trade Module, Seismic Module, and spatial data

Well and seismic: During the simulation, NOROG GT can see which objects are involved in other trades.

T4 - Register trade proposals for a given dataset and send for confirmation (NOROG GT)

A trade-ID is given to the trade manually by the NOROG GT case worker. The suggested trades from process step T3 are made available to the Trade Proposer through the portal as a list of potential trades. The Trade Proposer must choose object(s) for the trade and submit the choice to NOROG GT. The trade request is now a trade proposal.

AS-IS Diskos Trade module process description

T5 - Re-simulate the proposed trade (NOROG GT)

T5 - Re-simulate the proposed trade (NOROG GT)

If the Trade Proposer approves the trade proposal for a given dataset based on the simulation, NOROG GT conducts a re-simulation of the proposed trade to ensure that the trade still provides License Partners with access to new data. The system searches for synergy effects by cross-checking proposals that are under processing and the relevant party's involvement in other trades

T5.1 - In queue

Datasets involved in multiple trades simultaneously are added to a queue system. The time spent in the queue depends on the data flow of the trade(s) the object(s) are involved in. The queue system is manually managed by NOROG GT.

T6 - Hearing process/vote (Oil Companies)

The involved companies receive the proposal and vote for acceptance or rejection of the proposal. In case of no response from the parties within the deadline, the proposal is considered accepted*. When voting, the companies can decide if their vote should be visible for the other voters or not.

**Purchase: all involved companies must vote. A "no" vote from any involved party will cancel the purchase.*

AS-IS Diskos Trade module process description

T7 - Evaluation of the hearing (NOROG GT)

After the hearing ends, the trade is either approved or rejected by NOROG GT. The system notifies all parties of the outcome via mail.

In case of rejection there will be an explanation attached. The trade is then archived and closed for further edit.

If the trade is approved, NOROG GT generates a trade agreement (process step T9).

T8 - Request entitlement change in the Well/Seismic Module because of an approved trade (NOROG GT)

Trade: When a trade is approved, a request for entitlement change is sent to the Contractor for the Well or Seismic Module through the Trade Module. NOROG GT manually selects which datasets are to be traded based on trade agreements (guidelines)

Purchase: If data is purchased, an email with a request for a PO (purchase order) is sent to the buyer. NOROG GT is to be notified when the PO is sent. Thereafter a request for entitlement change is sent to the Contractor for the Well or Seismic Module through the Trade Module.

The system notifies all involved parties in the trade when changes in user rights are finalized. Oil companies can review a list of datasets that have been entitled after a trade is approved, allowing tracking of trades.

AS-IS Diskos Trade module process description



T9 - Create and store trade agreements (NOROG GT)

A trade agreement is created by NOROG GT and sent to the trading parties. The agreement is signed and stored (scanned PDF) in the portal and made available for parties involved in the trade. The system automatically notifies trading parties when the agreement is stored.

Recurring processes in the Trade Module

Create reports and statistics for all member companies (Contractor)

Reports and statistics are created by the respective oil companies and are made available in a table view.

Administer use of trade cut and cuttings - well only (NOROG GT)

The Well and Seismic Modules have functionality that allows data owners to see which companies have access to a well or a seismic dataset.

Weatherford currently stores all trade core cuts and cuttings. They automatically upload a report to the trade system, showing who requested sampling and viewing of the trade core cuts and cuttings. This is currently not administered in the Trade Module but is handled manually case-by-case. The report is only viewed by NOROG GT in the current system.