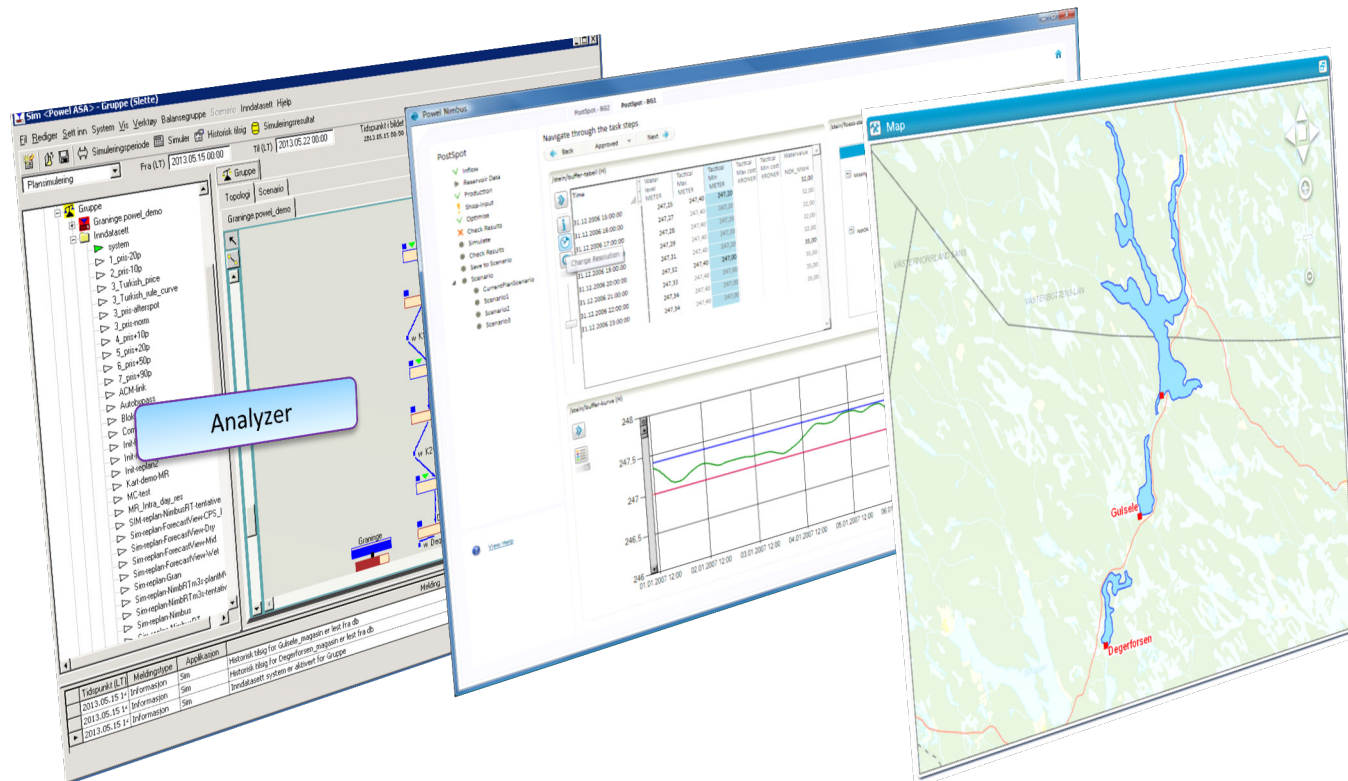


Intra day decision support

Map and Analyzer in Nimbus

Morten Ramberg | May 2013

Intra day operation



Intra day decision support = If, what and where?

Requirements defined by user group in 2011

Overall priority

2. Quick

Nimbus should aid the user in detecting the need for action as early as possible; preferably before it becomes an urgent problem. Nimbus should also support the user by providing the necessary information to find the right solution. It is more important to avoid losses and penalties than finding the optimal solution.

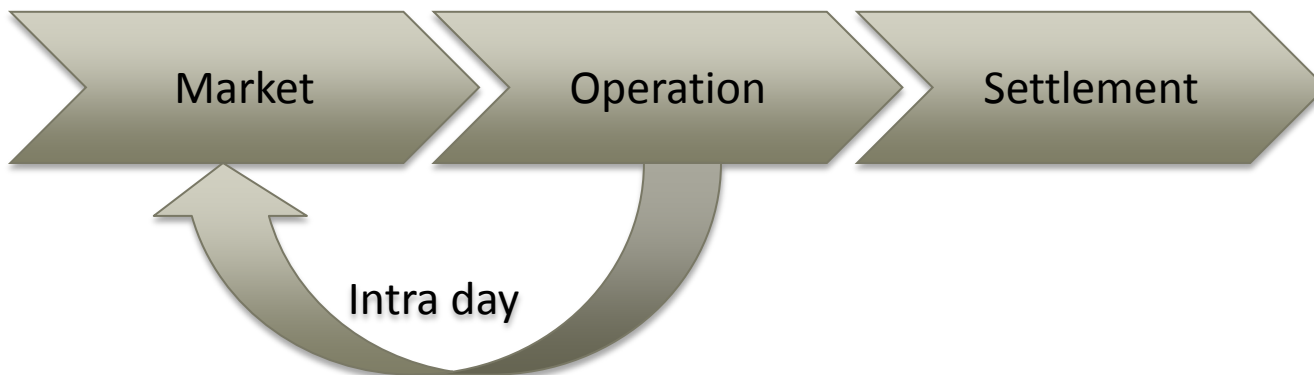
the optimal solution.

3. Correct

Nimbus should help the user in choosing the best alternative regarding replanning. This decision should be based on the economic consequences of the available alternatives.

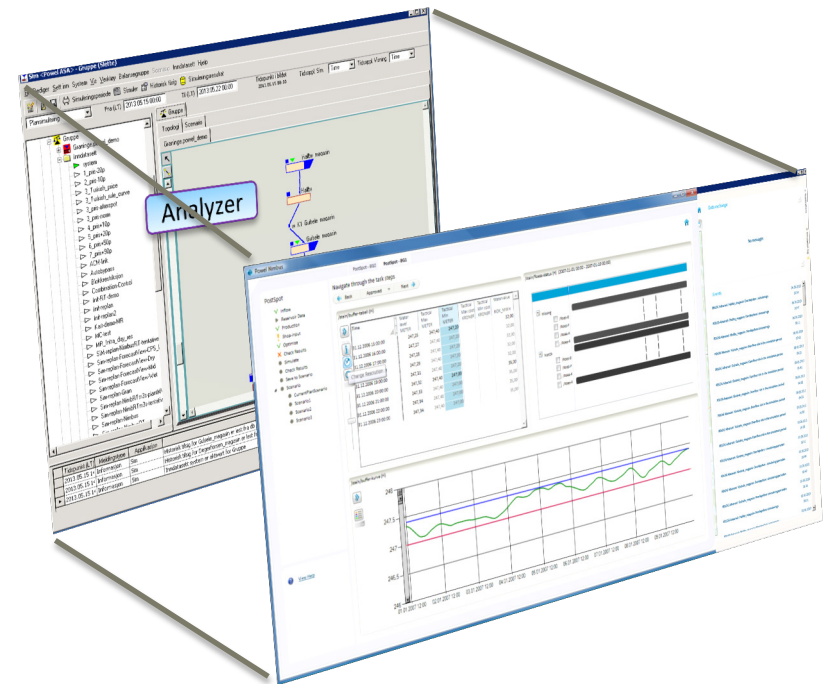
Background

- > Intra day focus
- > More markets – more obligations
- > Opportunities – Penalties
- > Closer connection between market and operation
- > Deviations must be detected quickly

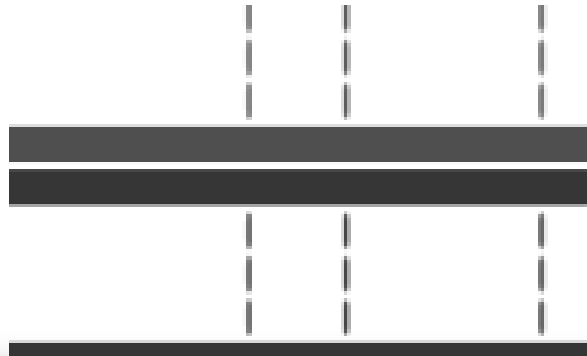


Analyzer

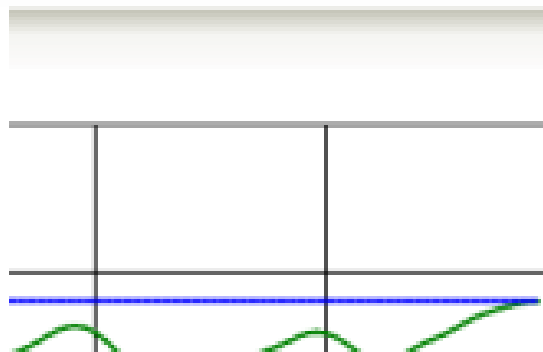
- Run simulations and calculations automatically
- Event based
- New values in time series
 - New inflow forecast
 - Changed availability
 - Market actions
- User is informed by Nimbus tasks and Alarm
- Alarms can be defined in Calculator



Analyzer – Alarm in Calculator

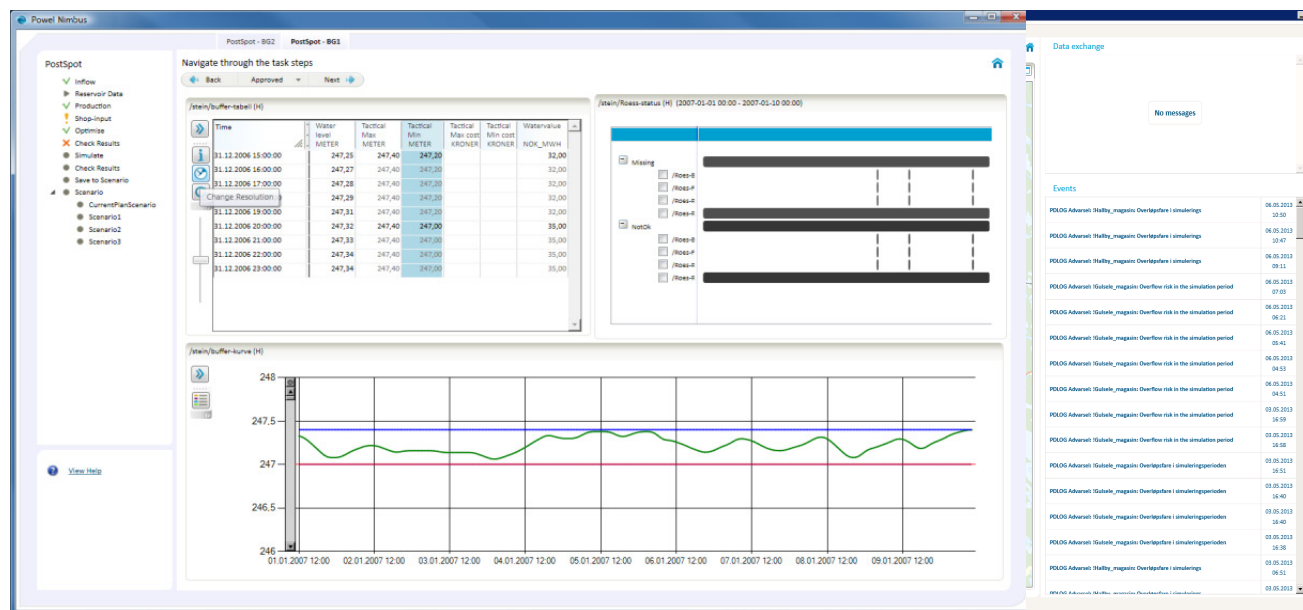


```
Gulsele_overlop = (Gulsele_magasin_sim_result_m-Gulsele_magasin_soft_max)>0 ? 1 : 0
if Gulsele_overlop == 1 then
@PDLOG(2,"!Gulsele_magasin: Overflow risk in the simulation period")
endif
```



Events

PDLOG Advarsel: !Hallby_magasin: Overløpsfare i simulerings	06.05.2013 10:50
PDLOG Advarsel: !Hallby_magasin: Overløpsfare i simulerings	06.05.2013 10:47
PDLOG Advarsel: !Hallby_magasin: Overløpsfare i simulerings	06.05.2013 09:11
PDLOG Advarsel: !Gulsele_magasin: Overflow risk in the simulation period	06.05.2013 07:03
PDLOG Advarsel: !Gulsele_magasin: Overflow risk in the simulation period	06.05.2013 06:21
PDLOG Advarsel: !Gulsele_magasin: Overflow risk in the simulation period	06.05.2013 05:41
PDLOG Advarsel: !Gulsele_magasin: Overflow risk in the simulation period	06.05.2013 04:53
PDLOG Advarsel: !Gulsele_magasin: Overflow risk in the simulation period	06.05.2013 04:51
PDLOG Advarsel: !Gulsele_magasin: Overflow risk in the simulation period	03.05.2013 16:59
PDLOG Advarsel: !Gulsele_magasin: Overflow risk in the simulation period	03.05.2013 16:58



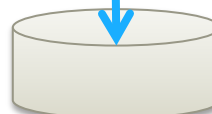
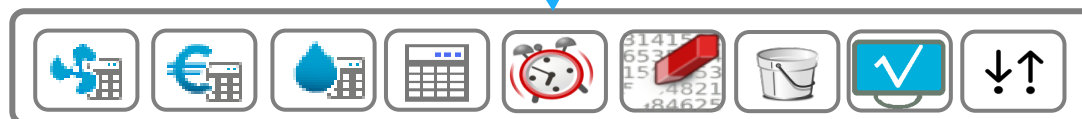
- Alarm list

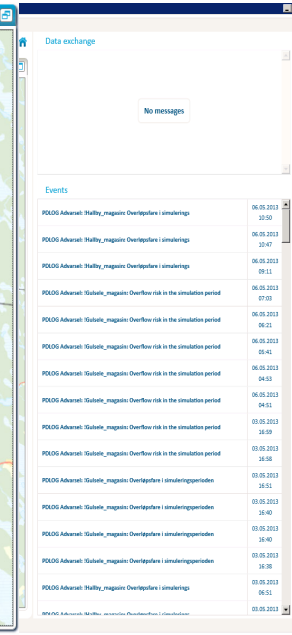
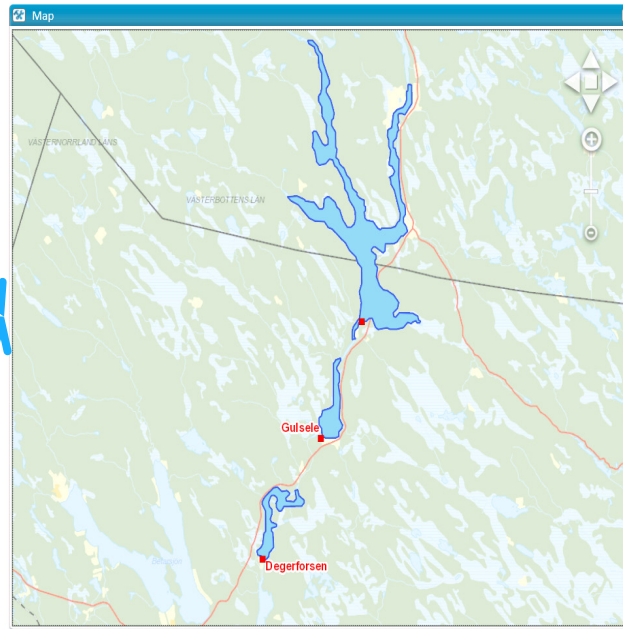
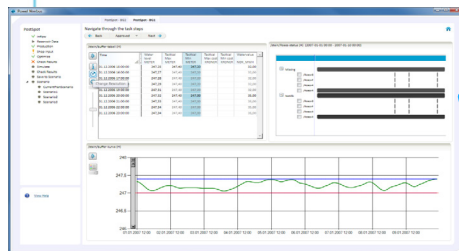
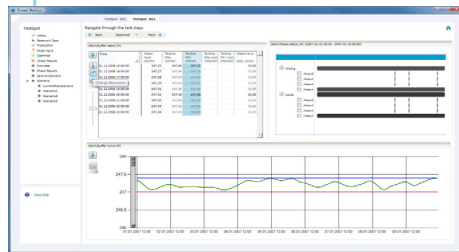
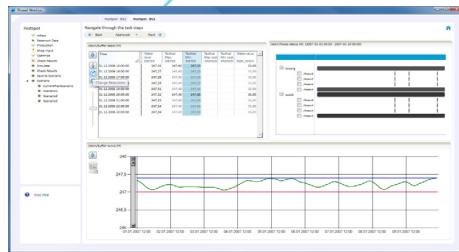
- Dashboard

Analyzer

- Monitor events
- Automatic simulation and calculations
- Inform operator

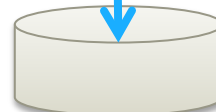
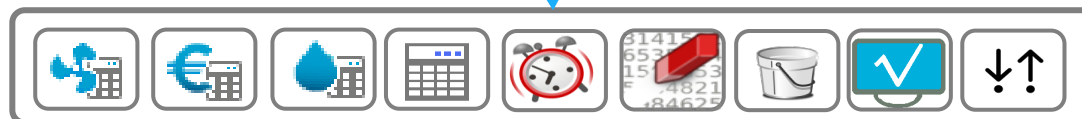
- Demo [Analysemotoren.wmv](#)



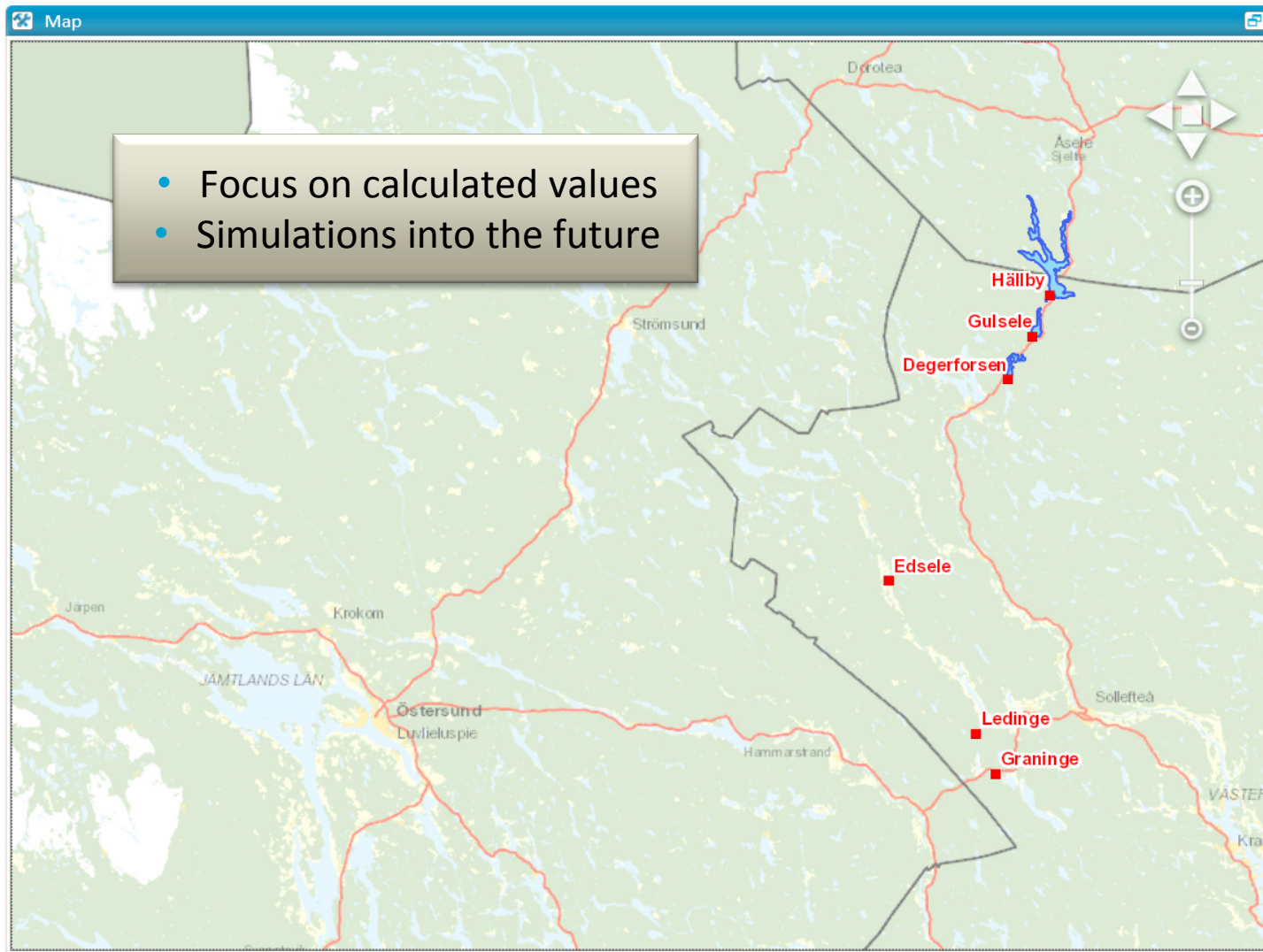


Analyzer

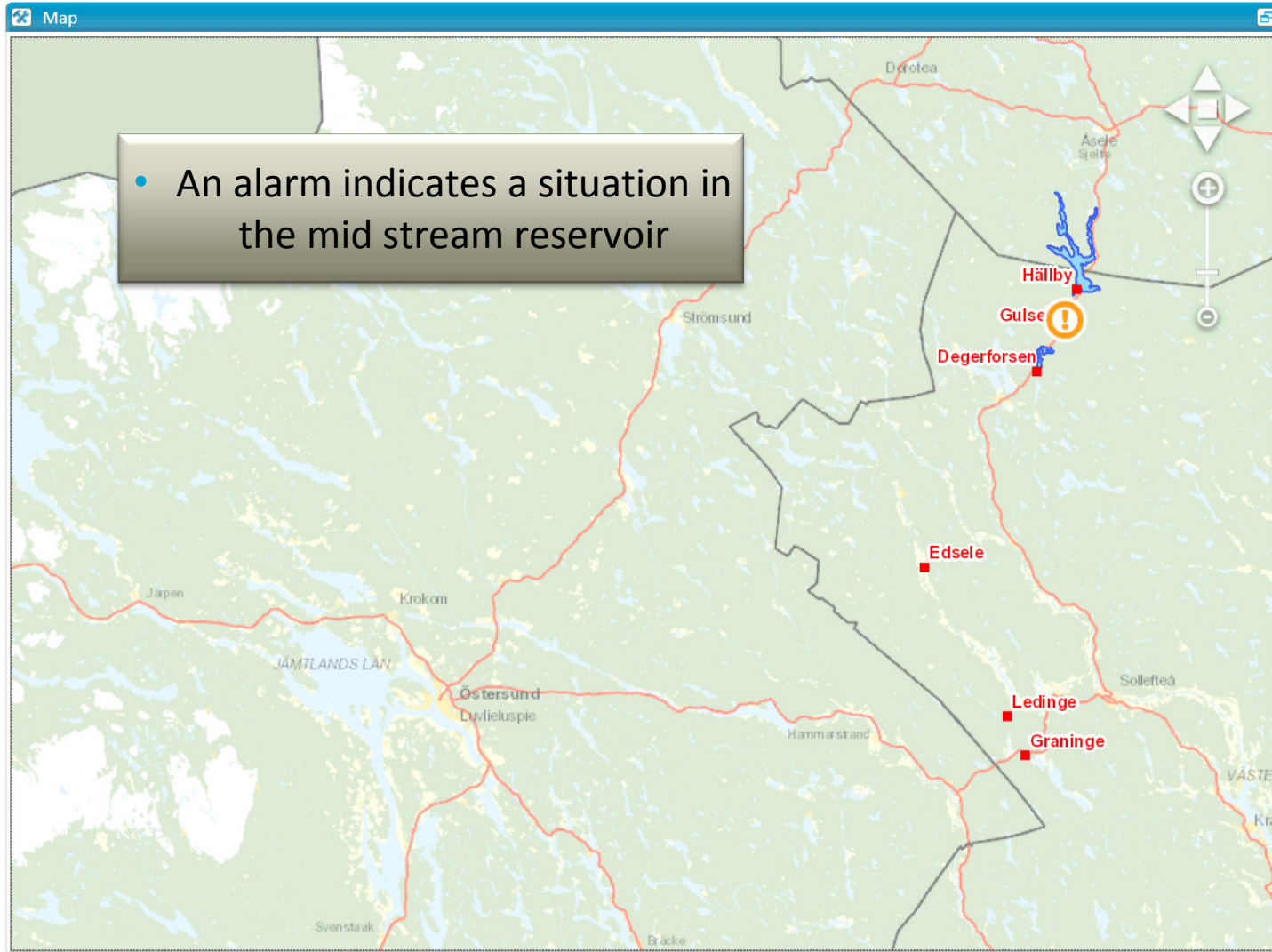
- Monitor events
- Automatic simulation and calculations
- Inform operator



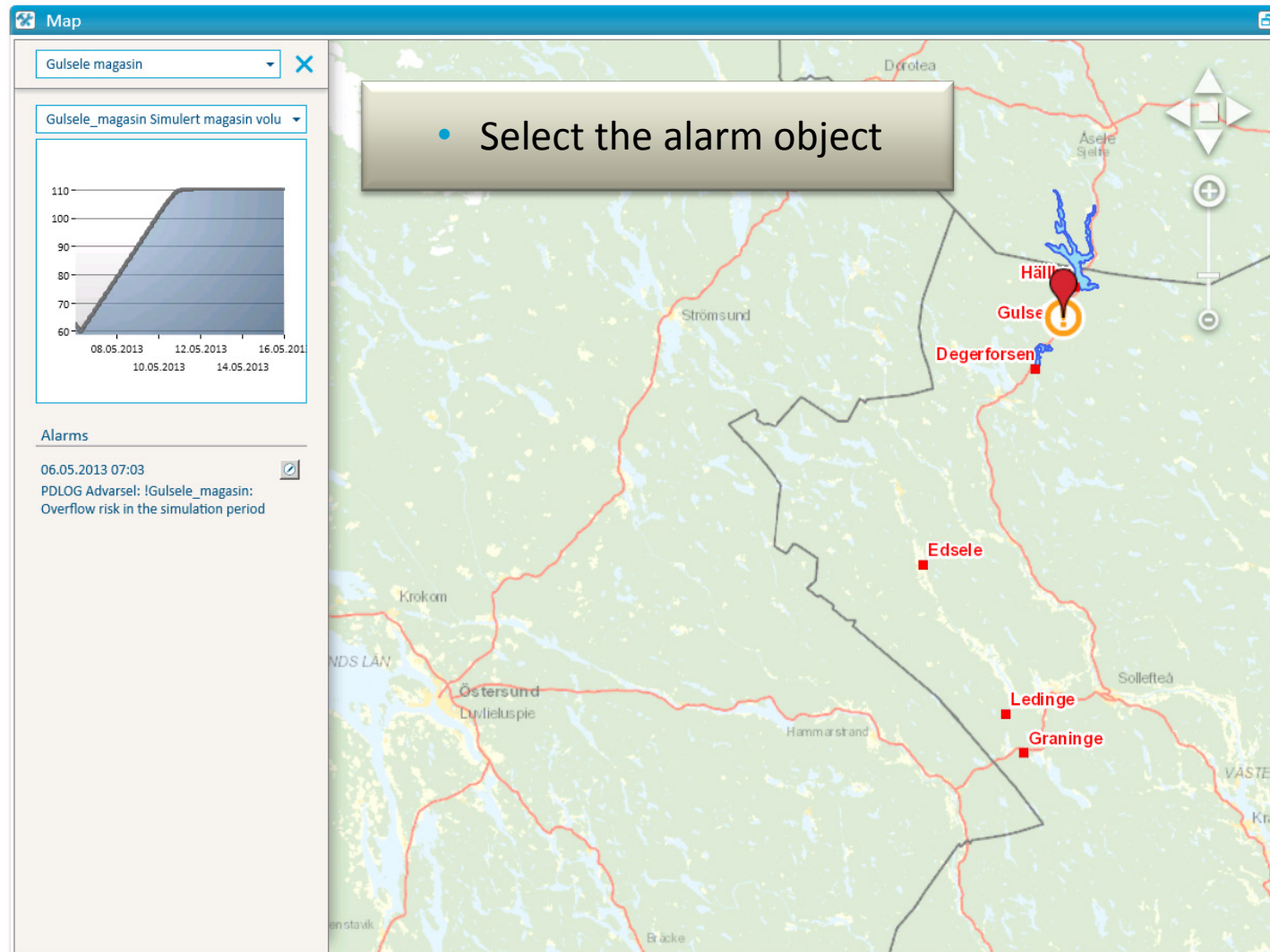
Dashboard for Control Center



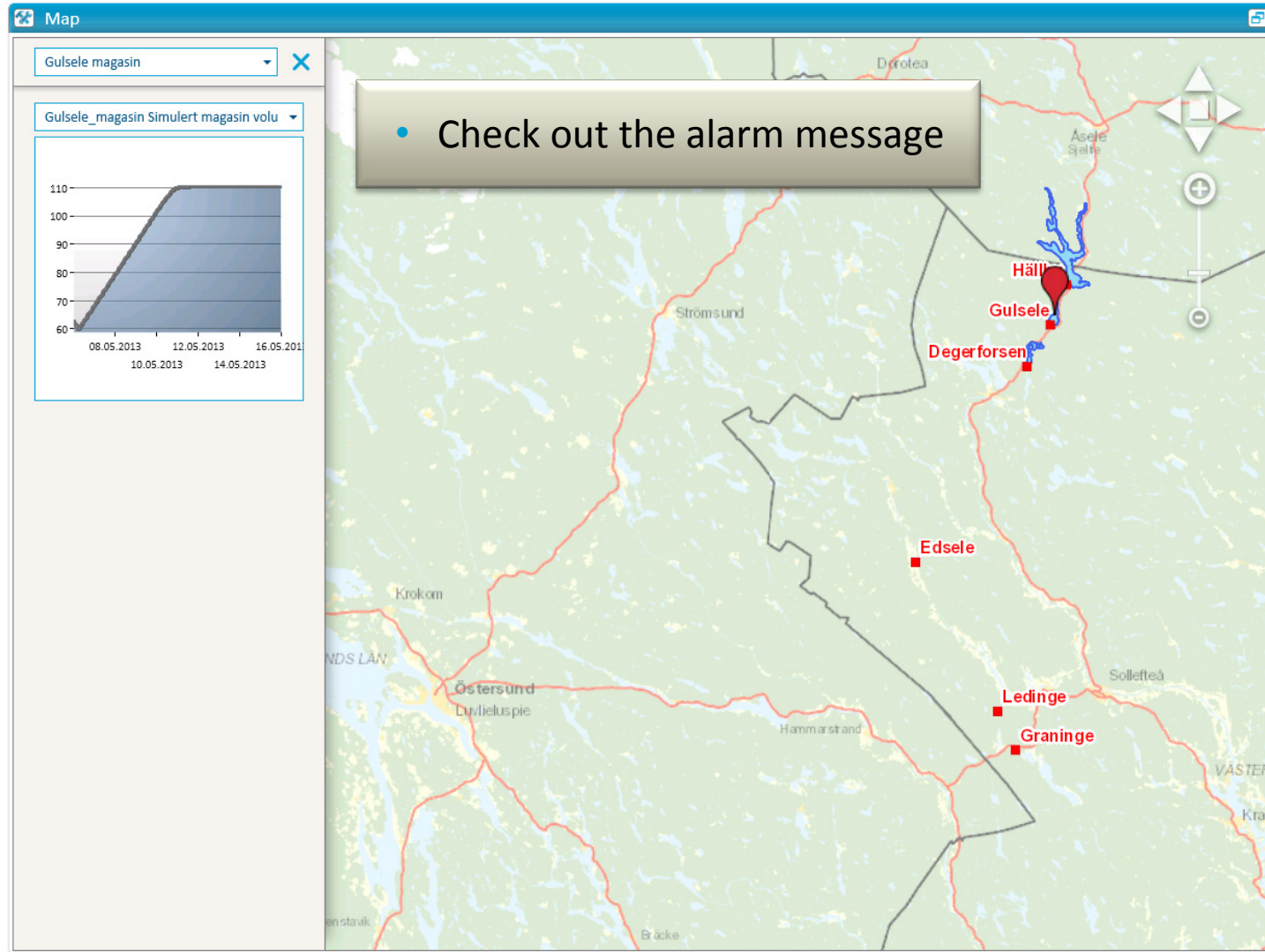
Dashboard for Control Center



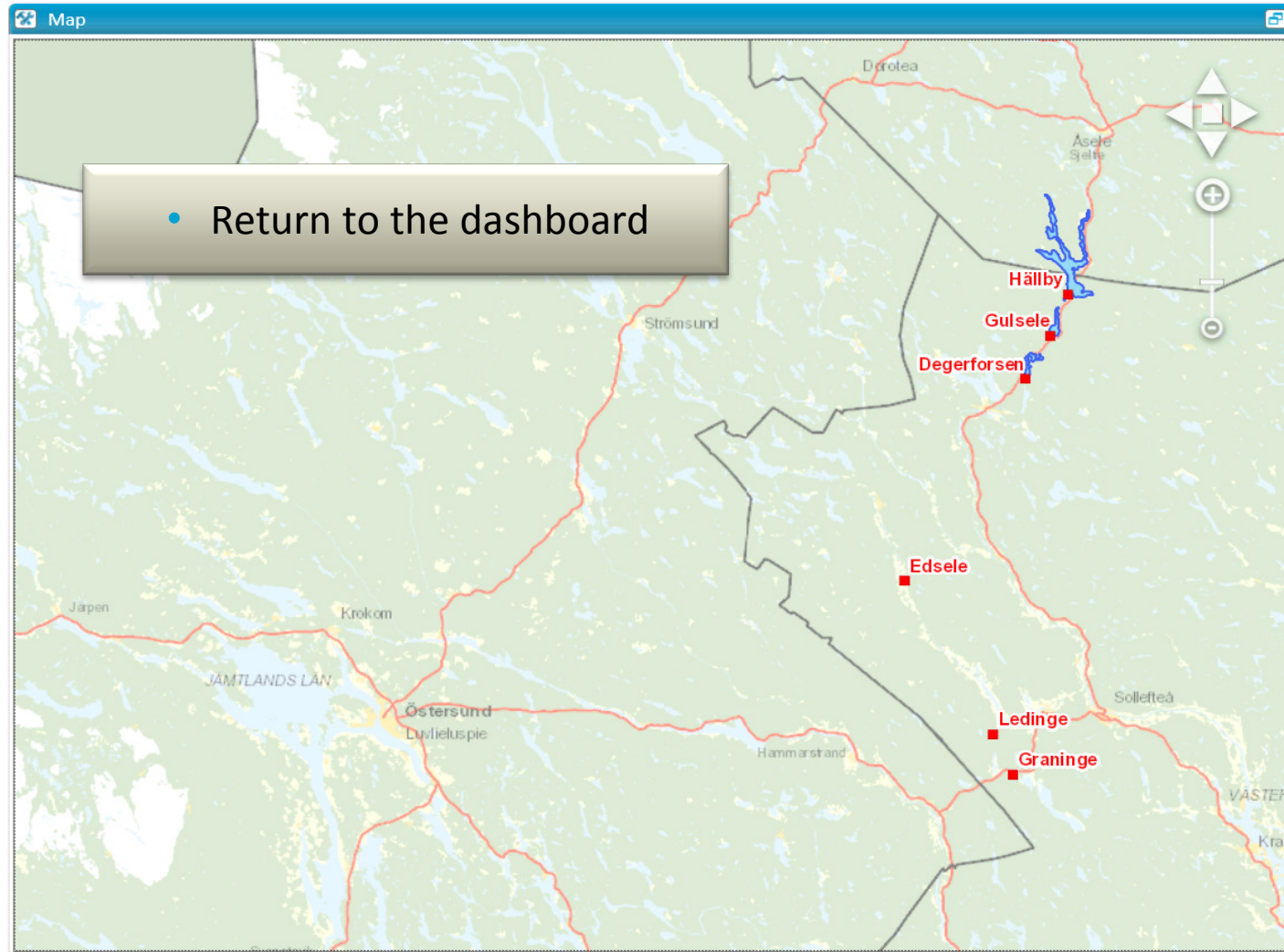
Dashboard for Control Center



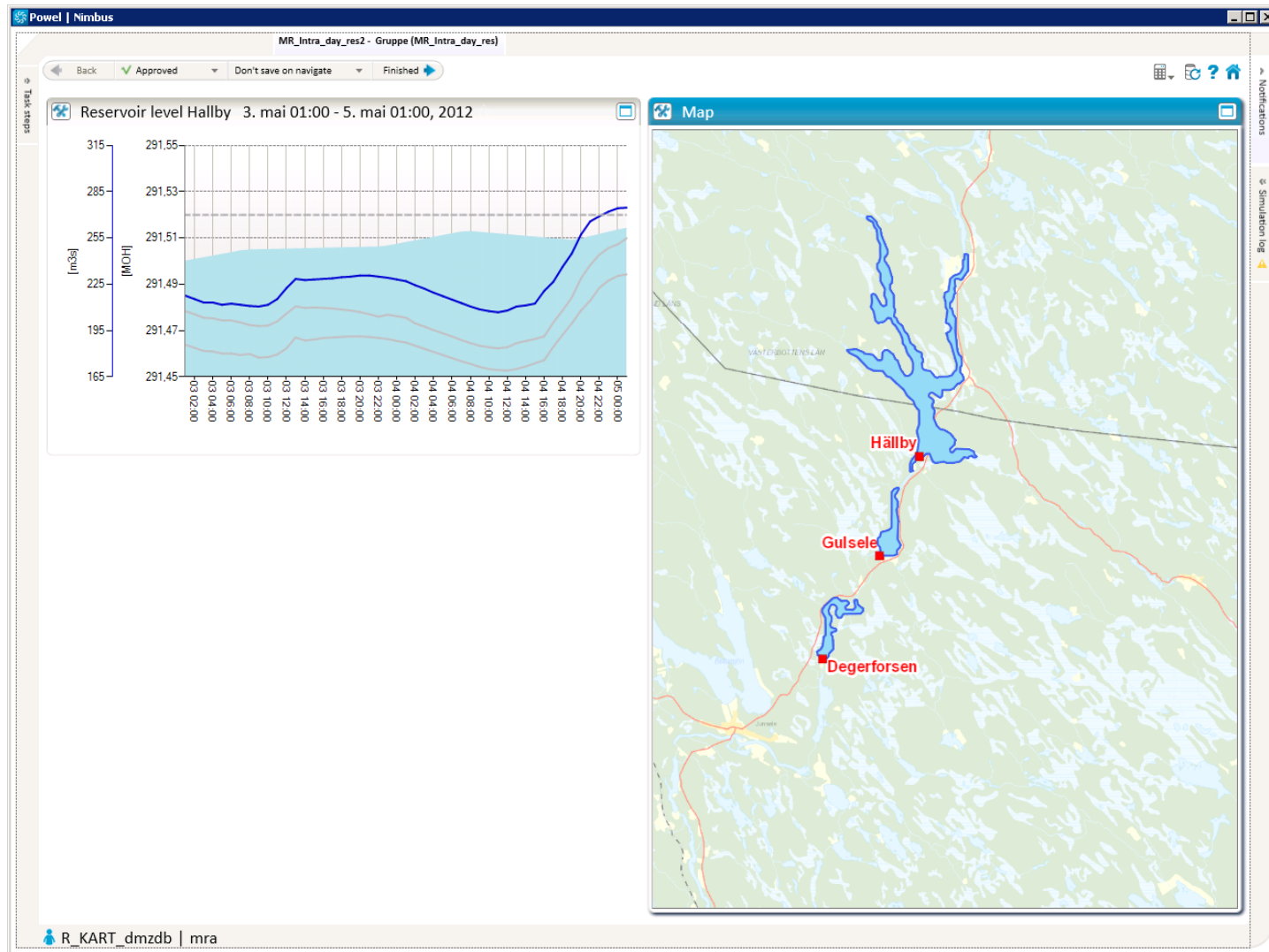
Dashboard for Control Center



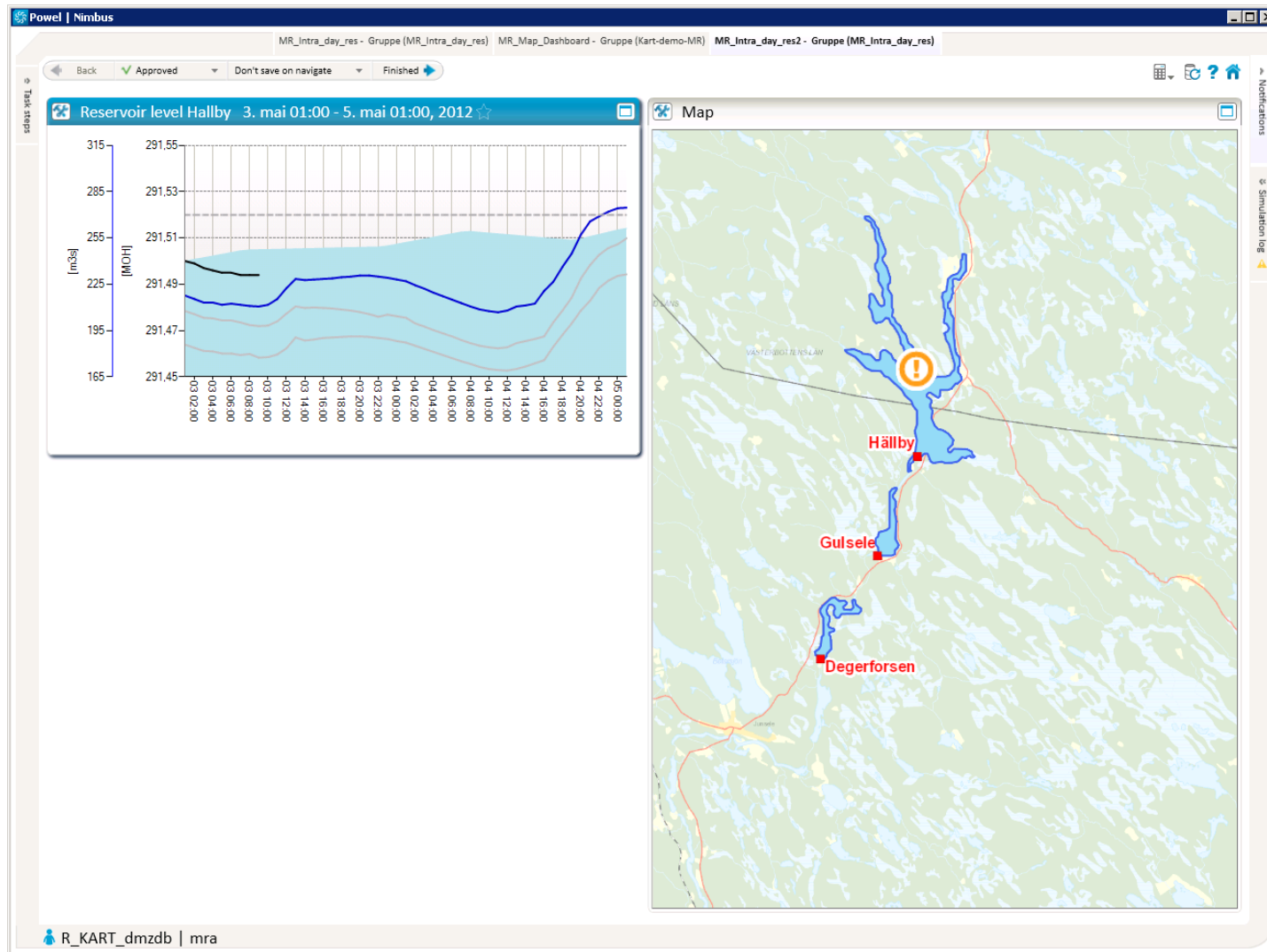
Dashboard for Control Center



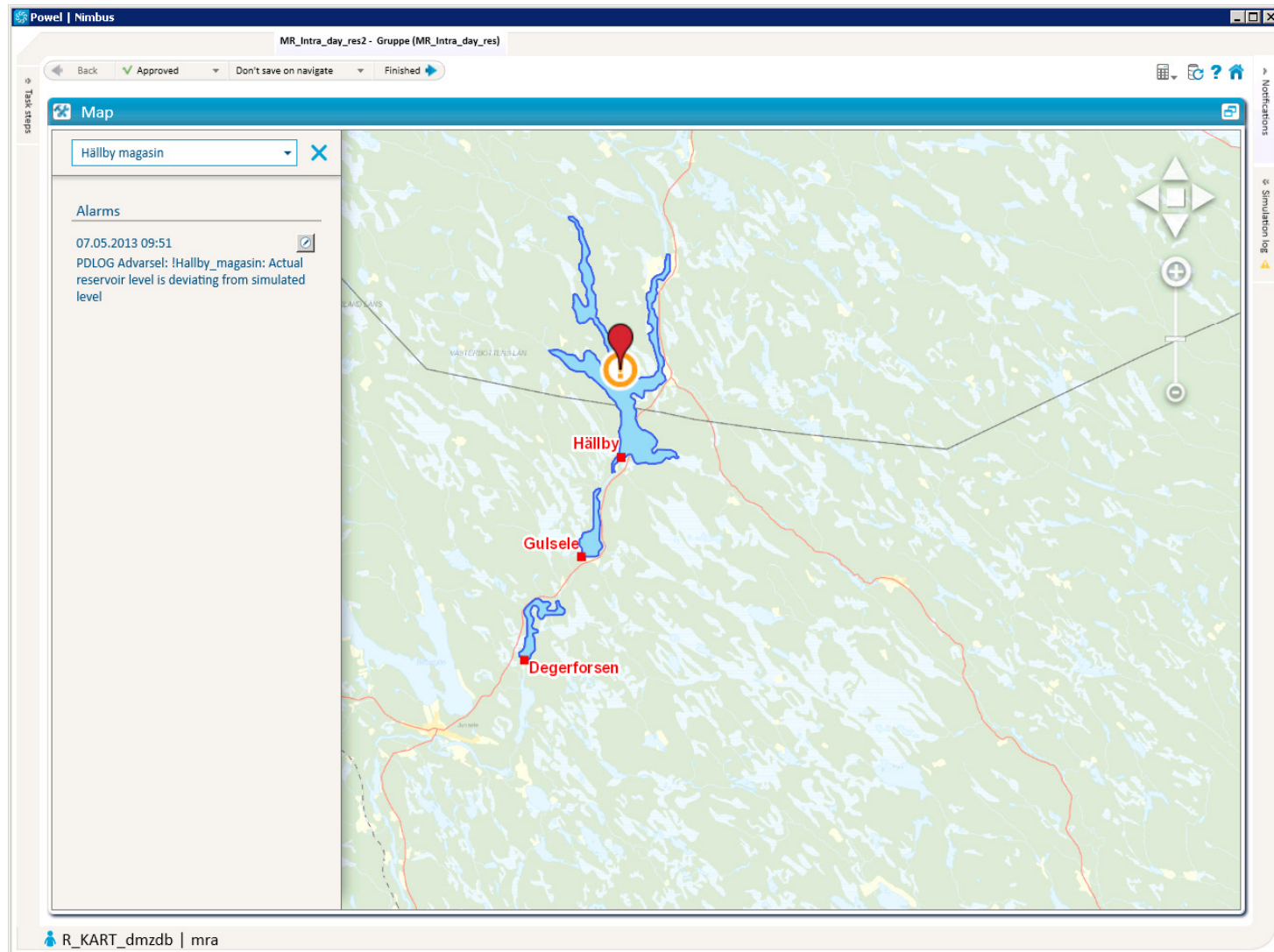
Dashboard for Control Center



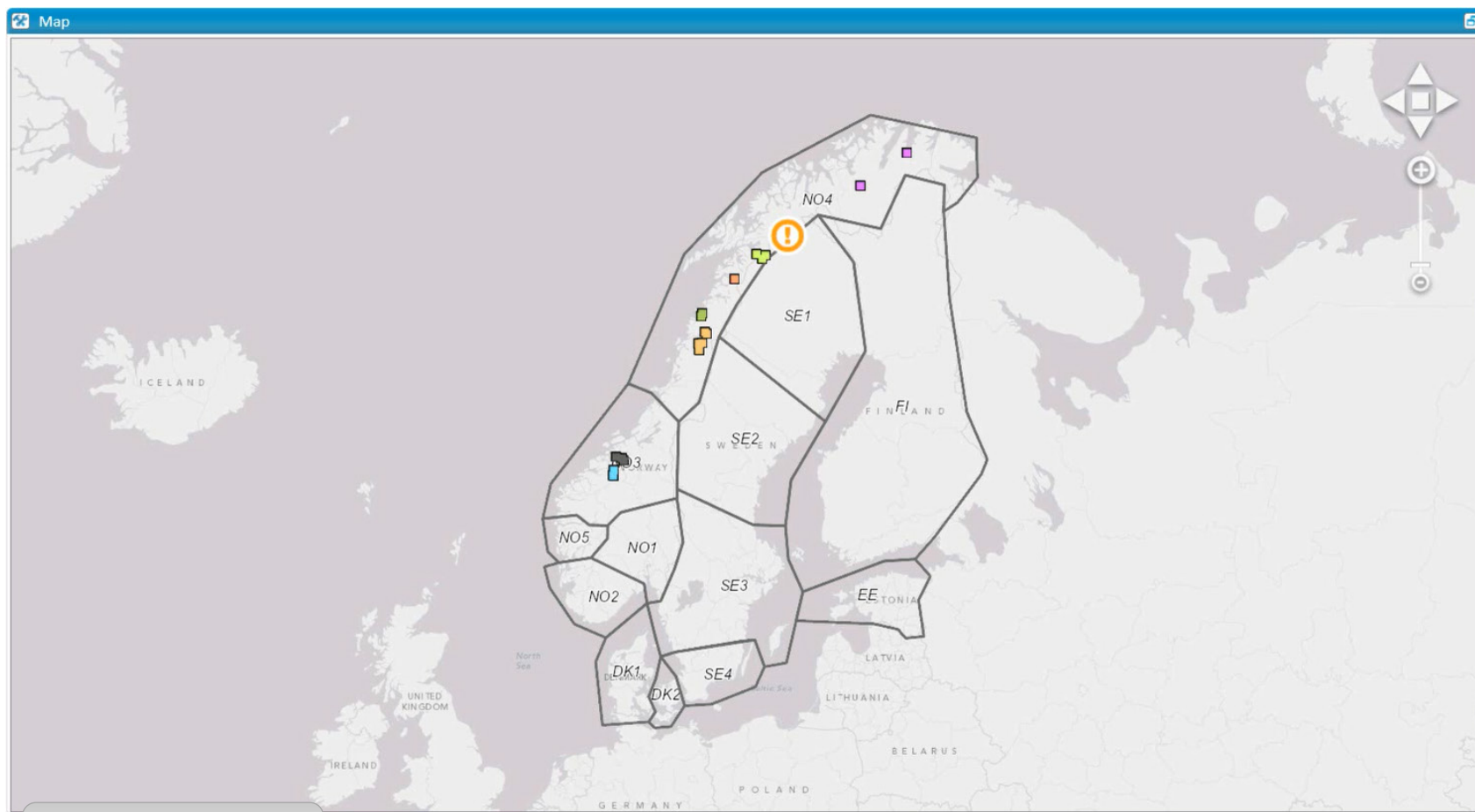
Dashboard for Control Center



Dashboard for Control Center



Prisområdet – Overvåkning av FNR forpliktelse



- DemoFNRbalance.wmv

Oppsummering



Overall priority

To develop decision support based on these principles:

1. **Safe**
Nimbus should continuously provide the user with information about; **when** operative changes are made, **what** these changes are and reveal the future **consequences** of them.
2. **Quick**
Nimbus should aid the user in detecting the need for action as early as possible; preferably before it becomes an urgent problem. Nimbus should also support the user by providing the necessary information to find the right solution. It is more important to avoid losses and penalties than finding the optimal solution.
3. **Correct**
Nimbus should help the user in choosing the best alternative regarding replanning. This decision should be based on the economic consequences of the available alternatives.

Oppsummering

- > Analysemotoren
 - > 10.4.0 (sluppet før påske)
- > Dashboard for Driftsentralen (Kart i Nimbus)
 - > 10.5.0 (7. juni)

Spørsmål?

