



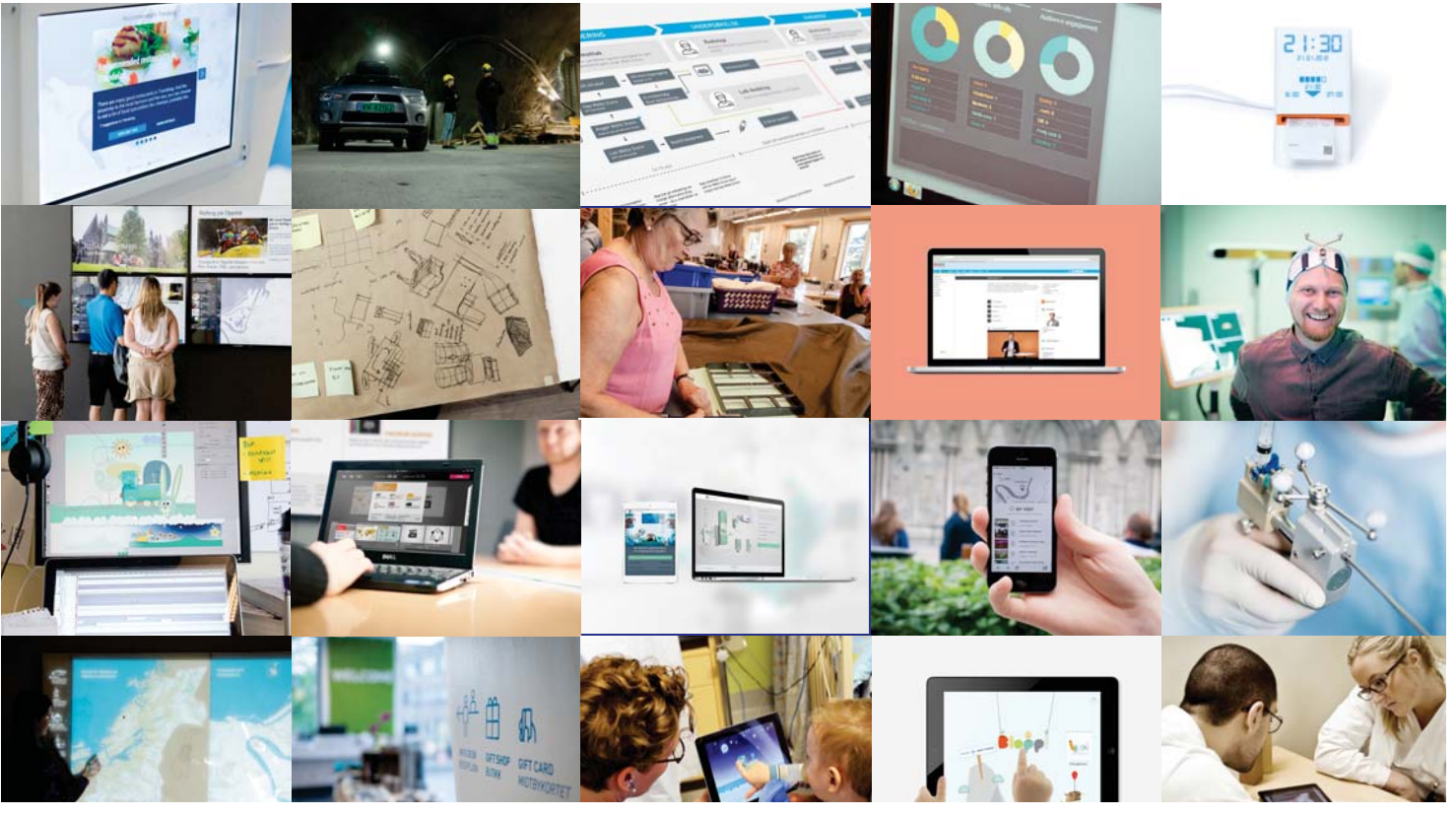
nice



Ragnhild Ask Torvik

Master of industrial design engineering
Social anthropology

nice



Methods and magic

How user centred design and sci-fi movies shaped an advanced digital tool

It was a little hard to grasp the concept of the exhibition hall stage area and use varied que sometimes too crowded for everyone to join, other times almost empty.

Food was definitely not the highlight of the festival. With only a small cafeteria inside and a couple of food tents outside, there were few options and lot of wasting.

Participants were informed in advance to bring their own lunch, but not all received the message. Free coffee/tea and buns was a small bonus, but not exactly "brain food" or in line with the overall quality of the festival.

There were several changes to the programme before and during the festival, combined with multiple programme sources, this created some confusion.

However, as there were few parallel events, participants did not "miss out" much. What efforts could be made to keep participants well informed and prepared? And, what tools could help prioritizing events to attend?

nice

User insight



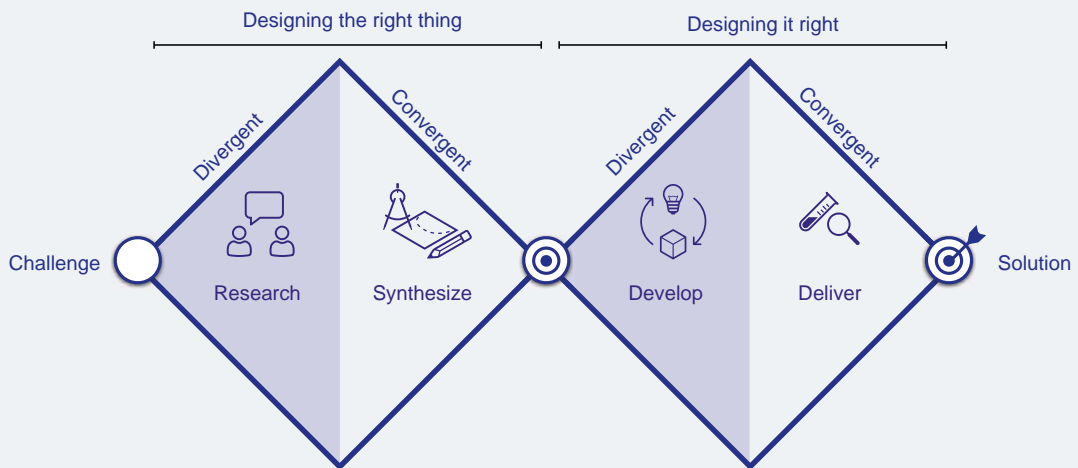
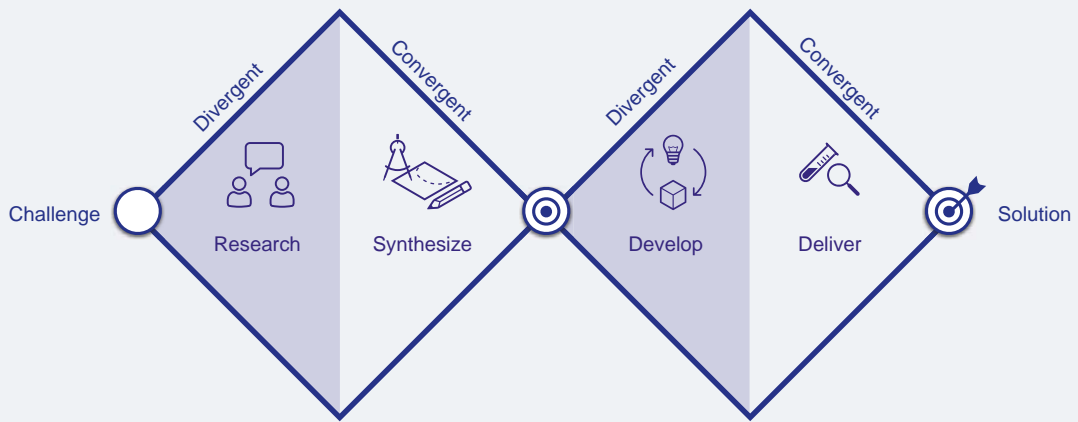
nice

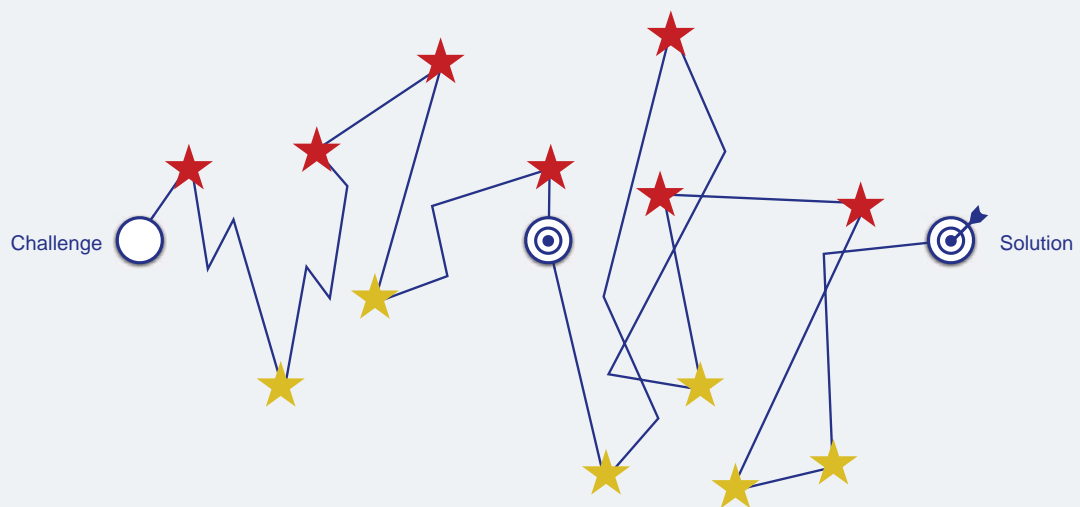
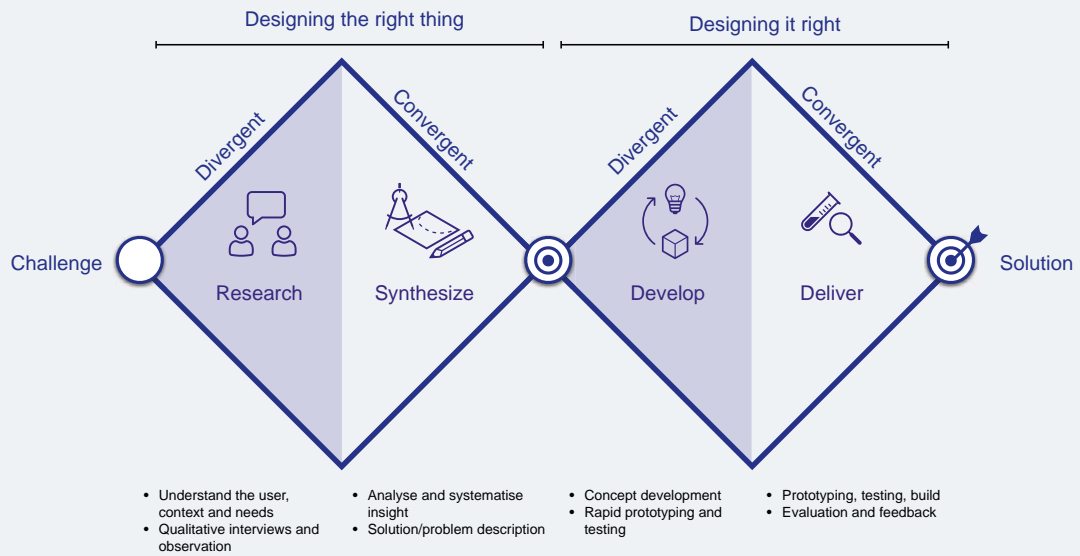
User insight



Digital design

nice





Offshore wind parks

Kongsberg Digital (KDI)

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nice

OutSmart BV og KONGSBERG inngår samarbeid om å tilby effektive løsninger for drift av vindparker

TI, APR 17, 2016 10:00 CET

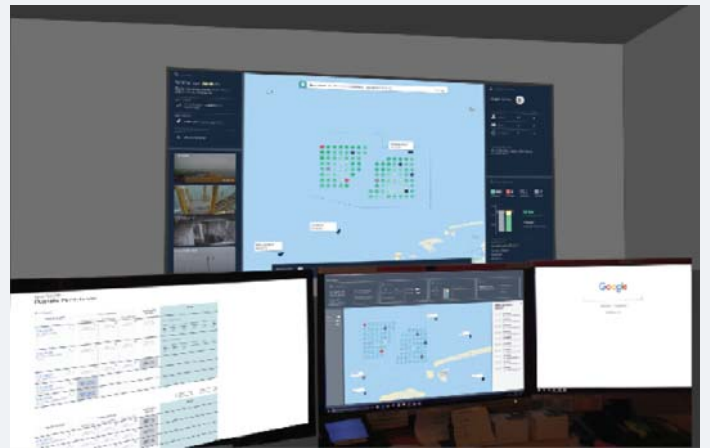


Integrerte operasjonsløsninger på den digitale plattformen Kognifai blir implementert for mer enn 400 onshore og offshore vindturbiner.

OutSmart BV, en uavhengig spesialist og operatør av vindparker, har valgt Kongsberg Digital som leverandør av et integrert operasjonssystem drevet på den digitale plattformen Kognifai. Løsningen vil brukes for å administrere OutSmarts omfattende portefølje av onshore og offshore vindparker.

OutSmart optimerer administrasjon og drift for vindparkeriere, fondsforvaltere og virksomheter som er involvert i vindprosjekter. OutSmart er en del av Deutsche Windtechnik Offshore og Consulting GmbH og driver onshore og offshore vind- og solcelleparker (1,8 GW totalt) i Tyskland, Nederland og Storbritannia.

nice



After
One integrated system with consistent design

Before
Software from several vendors and many spreadsheets

nice



Ida Eriksdatter Brobakke

nice



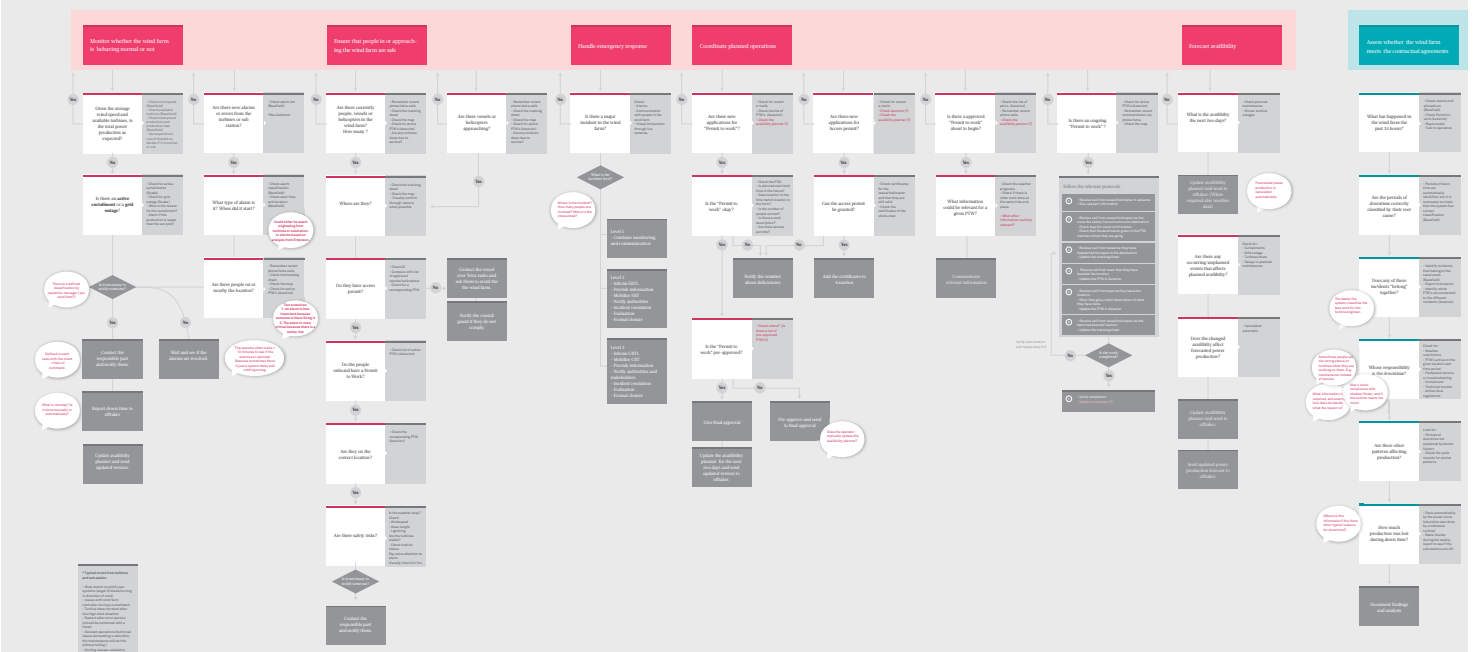
User tasks *Wind farm operations*



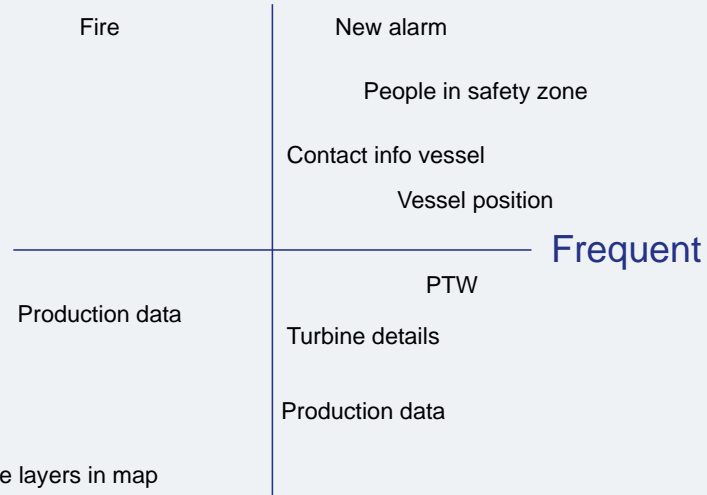
Turbine eng



Operator



Critical



Critical

High visual salience

Always visible

Frequent

Quickly available

28

people in windfarm

How many are there right now?

12

Map

Team Albatross
8 people [see out]
Current location
Vessel A [see in map]
Work order
FP-123-79
Contact
1441 123 45 678
Planned point
08:00 → 09:00

Work order FP-123-79
Team A - Albatross
Status In transit
Delayed

Work order FP-123-79
Team A 8 people
Current location Windmill B-B

Enter 14:10
 Dropoff 14:20
 On location 14:55
 off location
 Pick up

Planned timeline

Actual
14:00 14:10 14:20 14:30
Planned
14:00 14:10 14:20 14:30 14:40 14:50 15:00 15:10

> 5 scenarios

Automatically register "plant timestamps"

Overview Details MAP view

My job overview New overview Working screen Details

People tracking Map

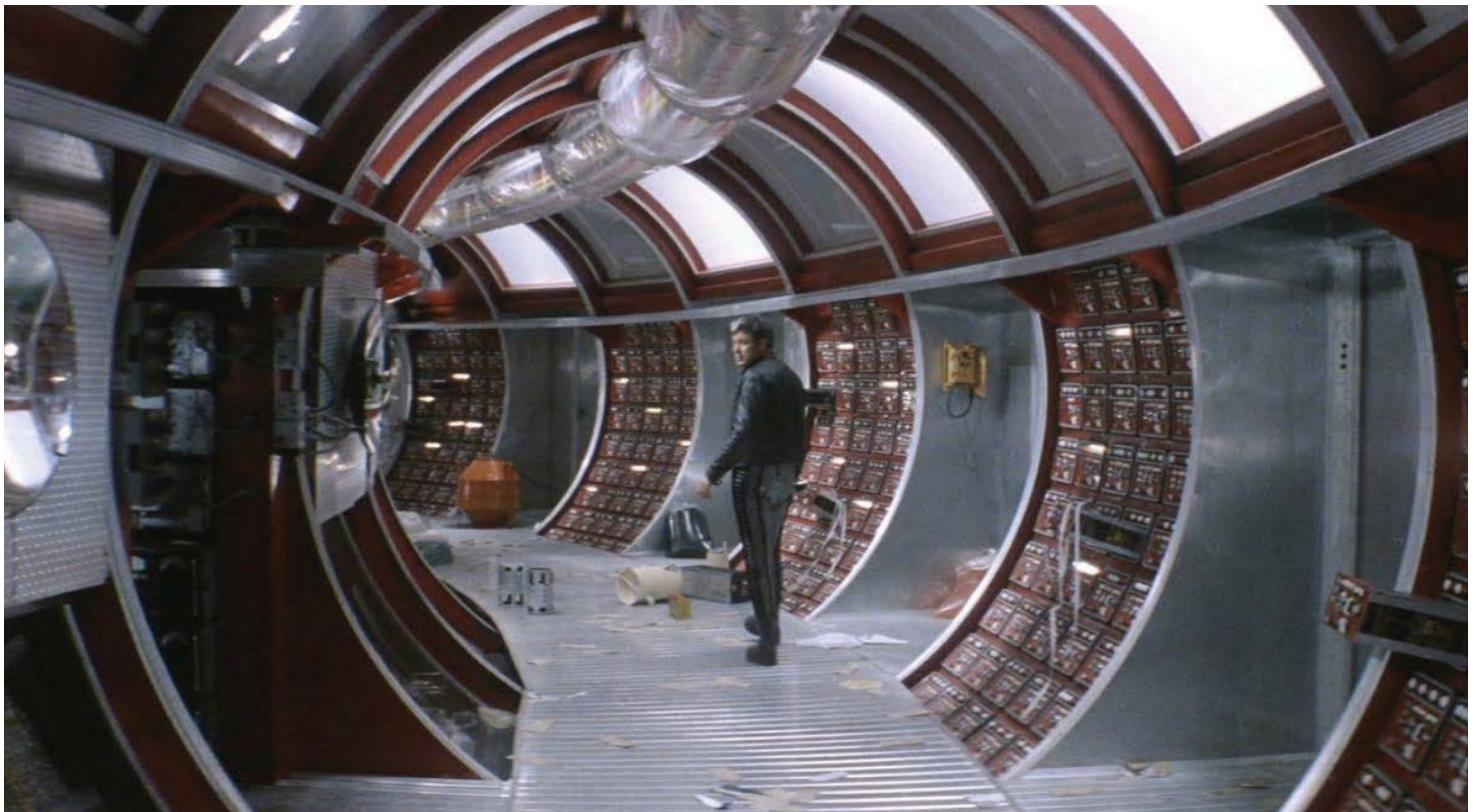
Team A Transit
de van
Tom Tomson
Jerry Johnson
Bobby Lake
Dini's Day
Location: In park
Vessel A2
Work order FT 123-47
Planned 08:00 → 09:00

Team B Working
Pat Robinson
Jack Johnson
[...]
[...]
[...]
[...]
Location: In park
Windmill B4
Work order RT-123-78
Planned

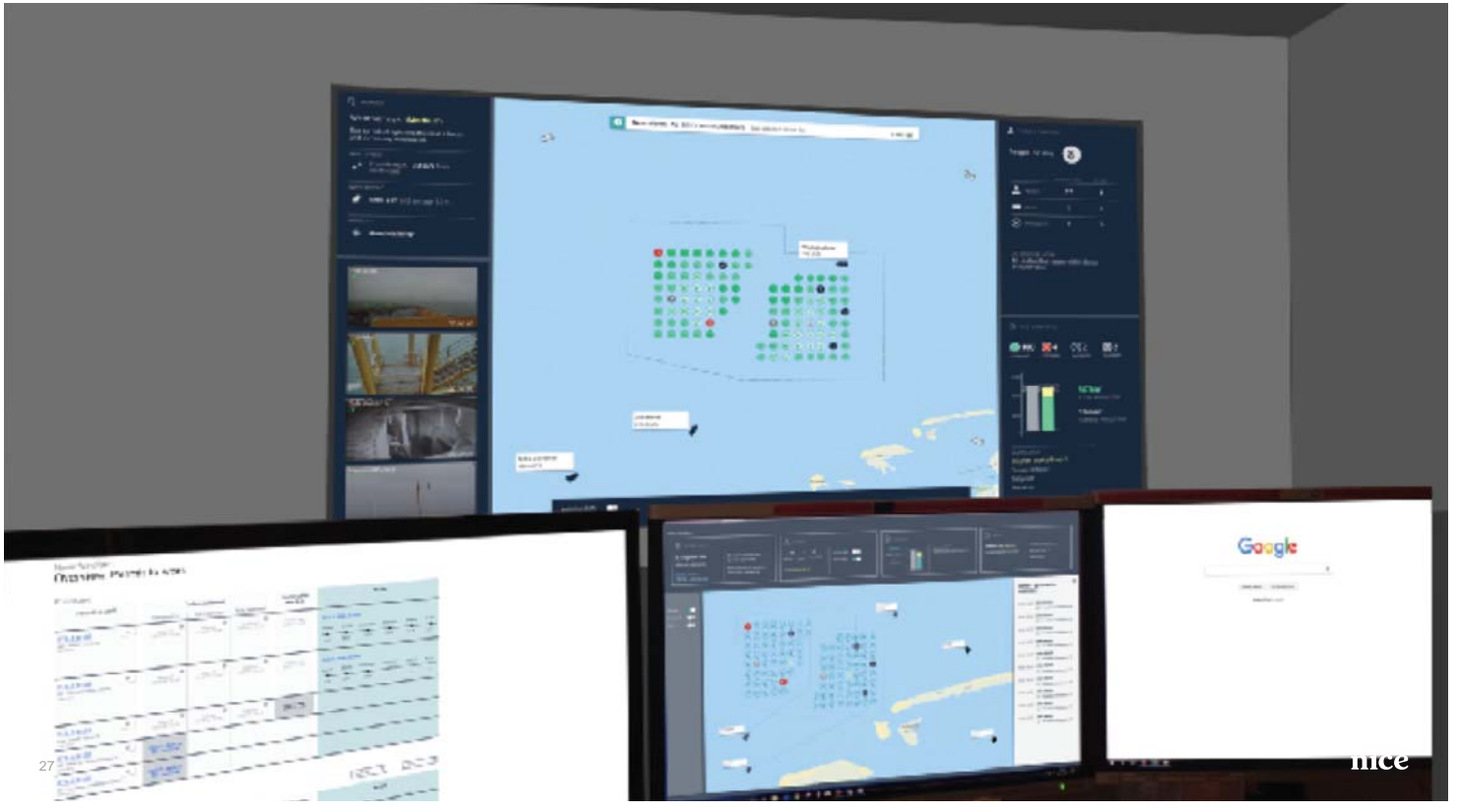
Team C All states
[...]
[...]
[...]
John Johnson
Qualification missing
Location: Entrance
Work order FP-143-90
Planned 08:00 → 09:00
Delayed

New work order
Based on procedure
PR-123-47
Time
08.01.2018
08.00 - 16.00
Qualification welding HSE
SAVE
add work order to same team and date

nice



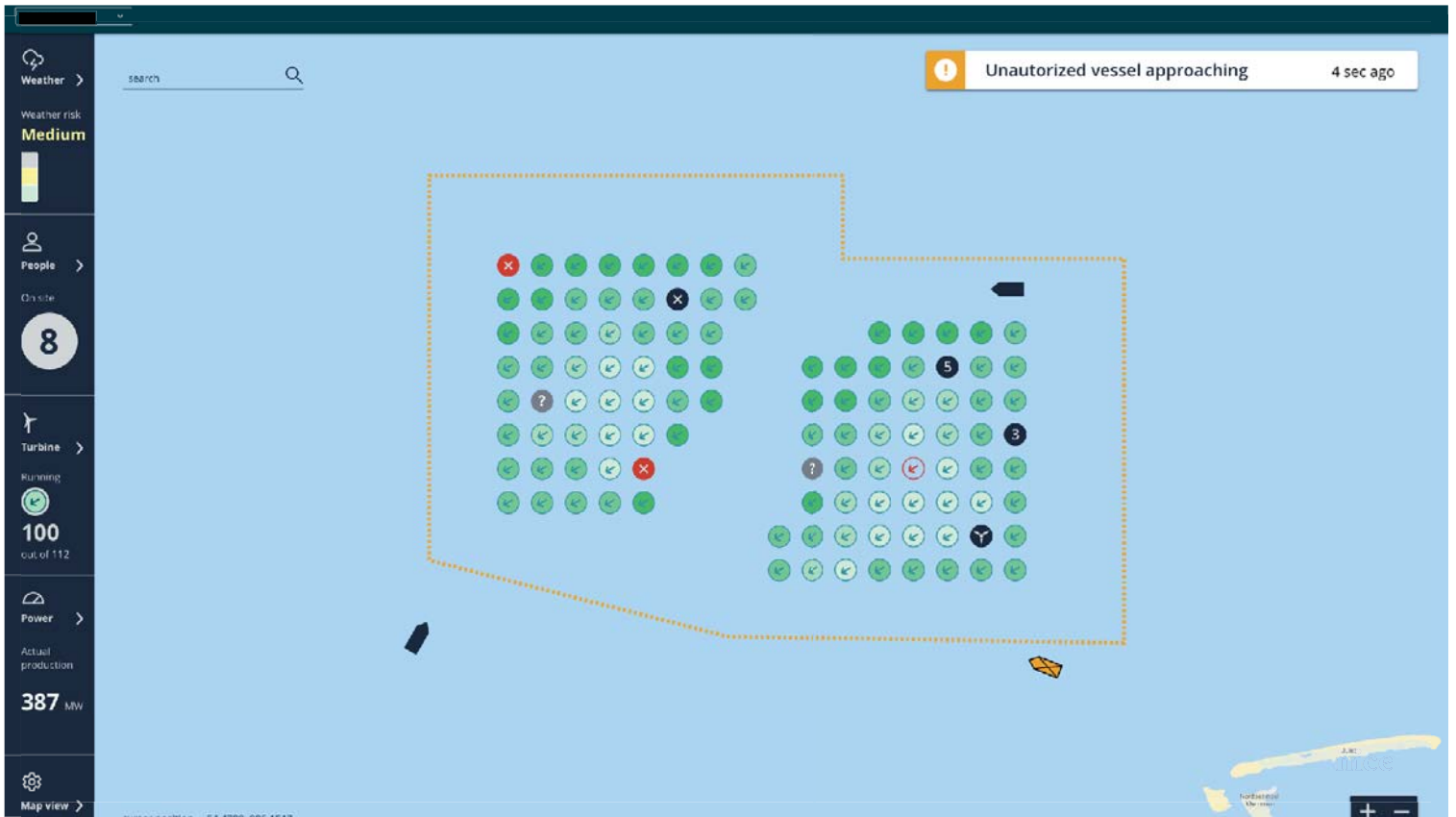




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nice





Information acquisition



Maximum information load

Researcher Analyst Pilot Fire-fighter

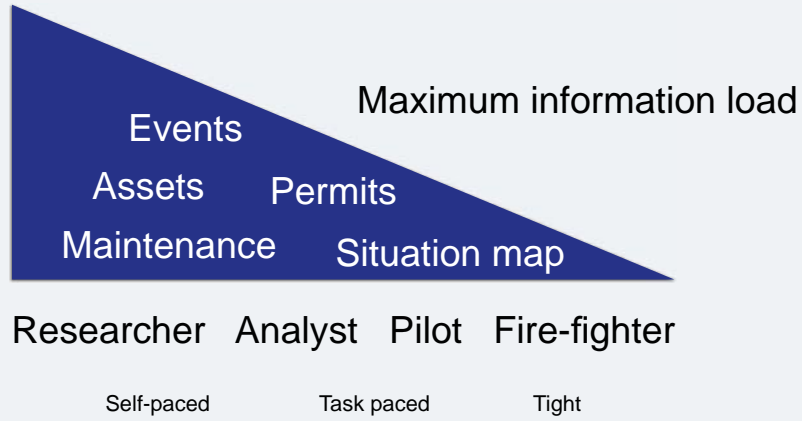
Self-paced

Task paced

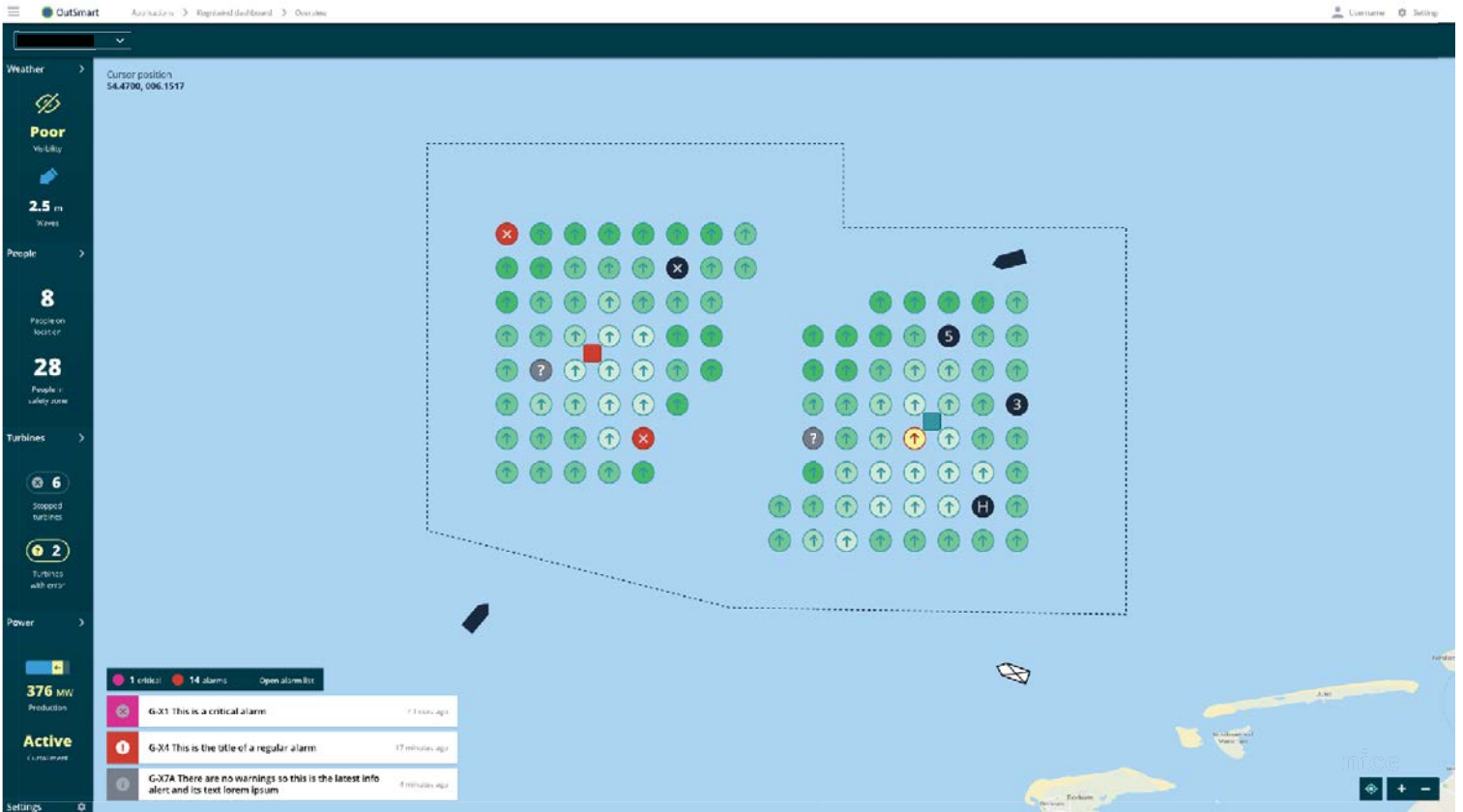
Tight

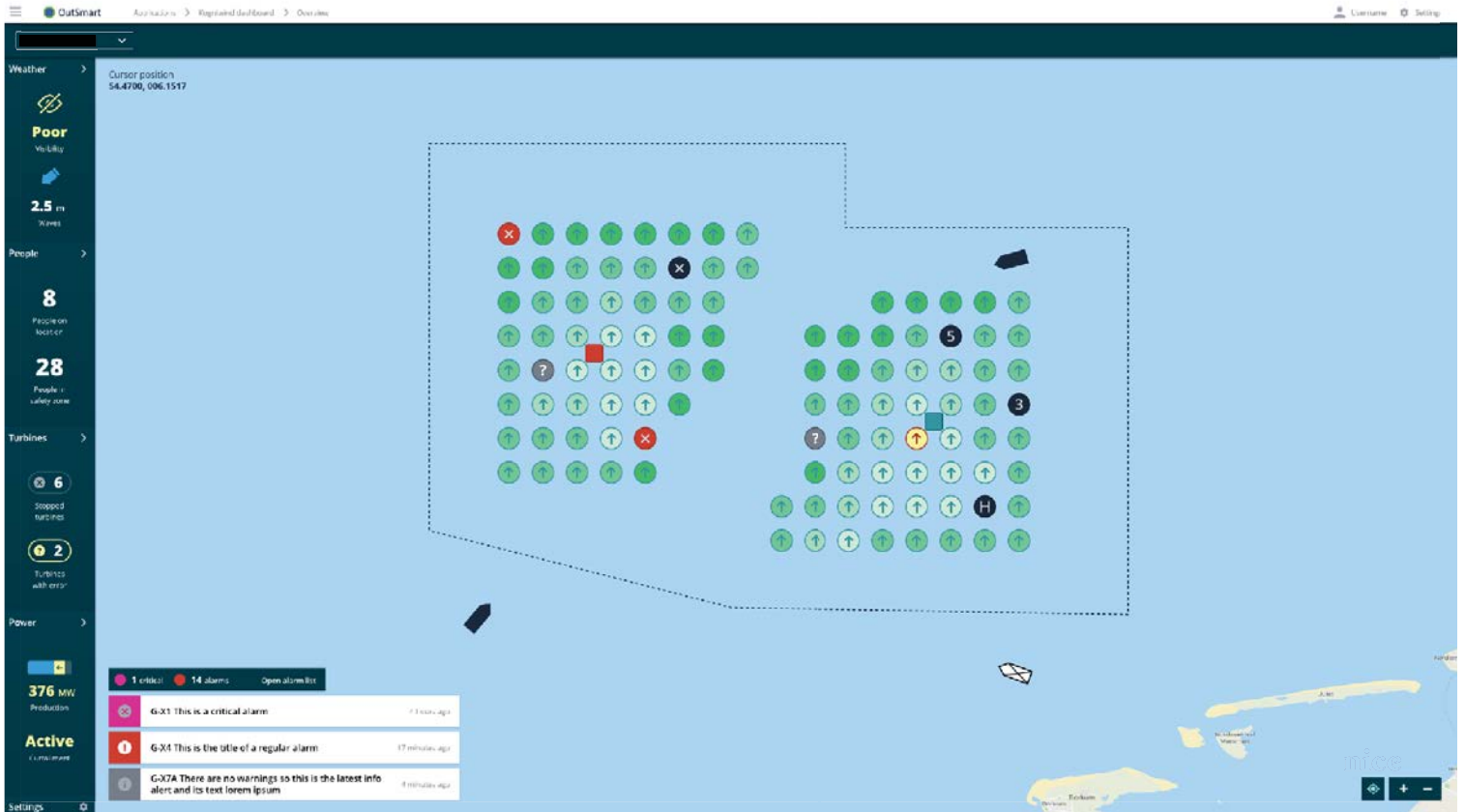
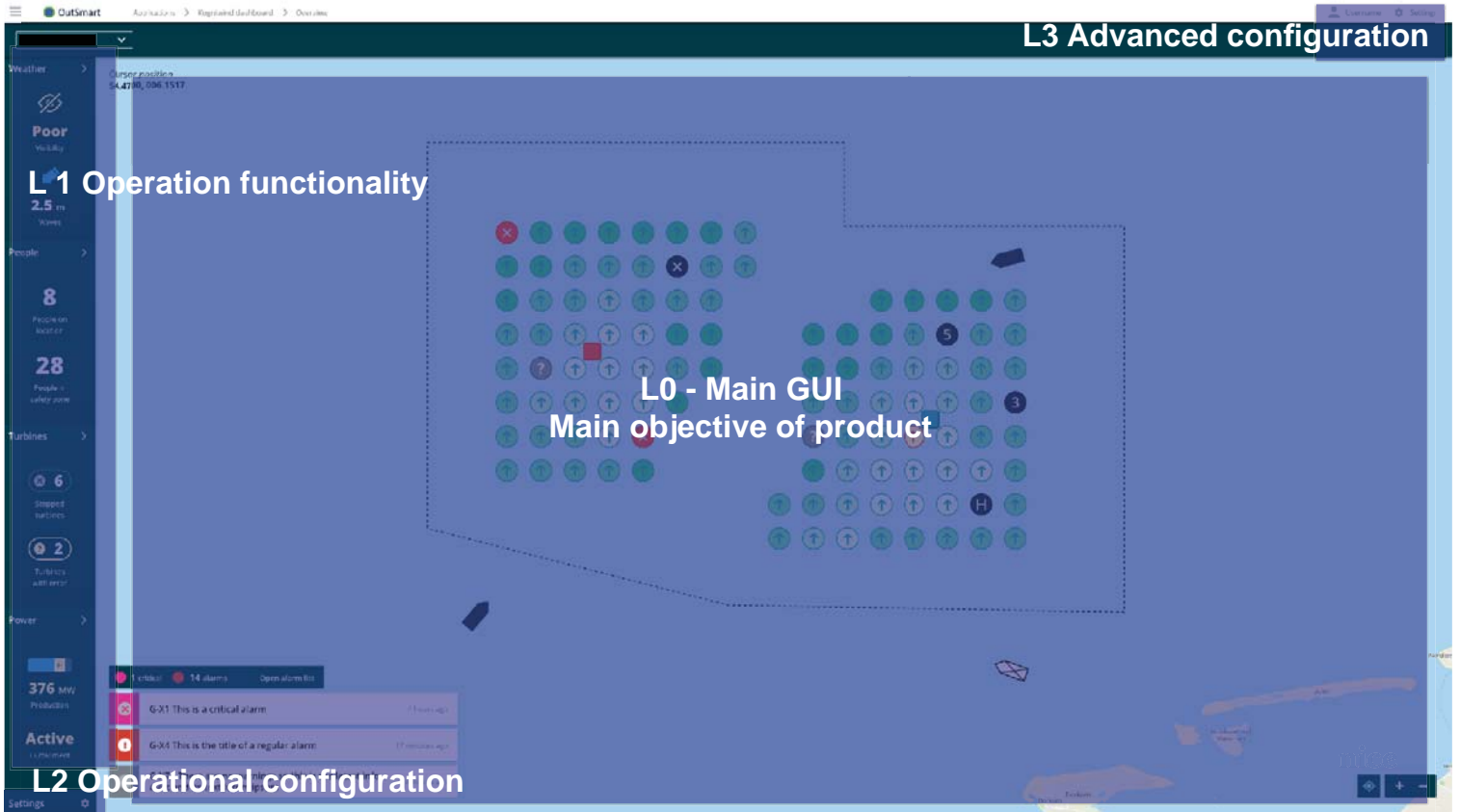
Information Rich Displays - The different roles of an operator

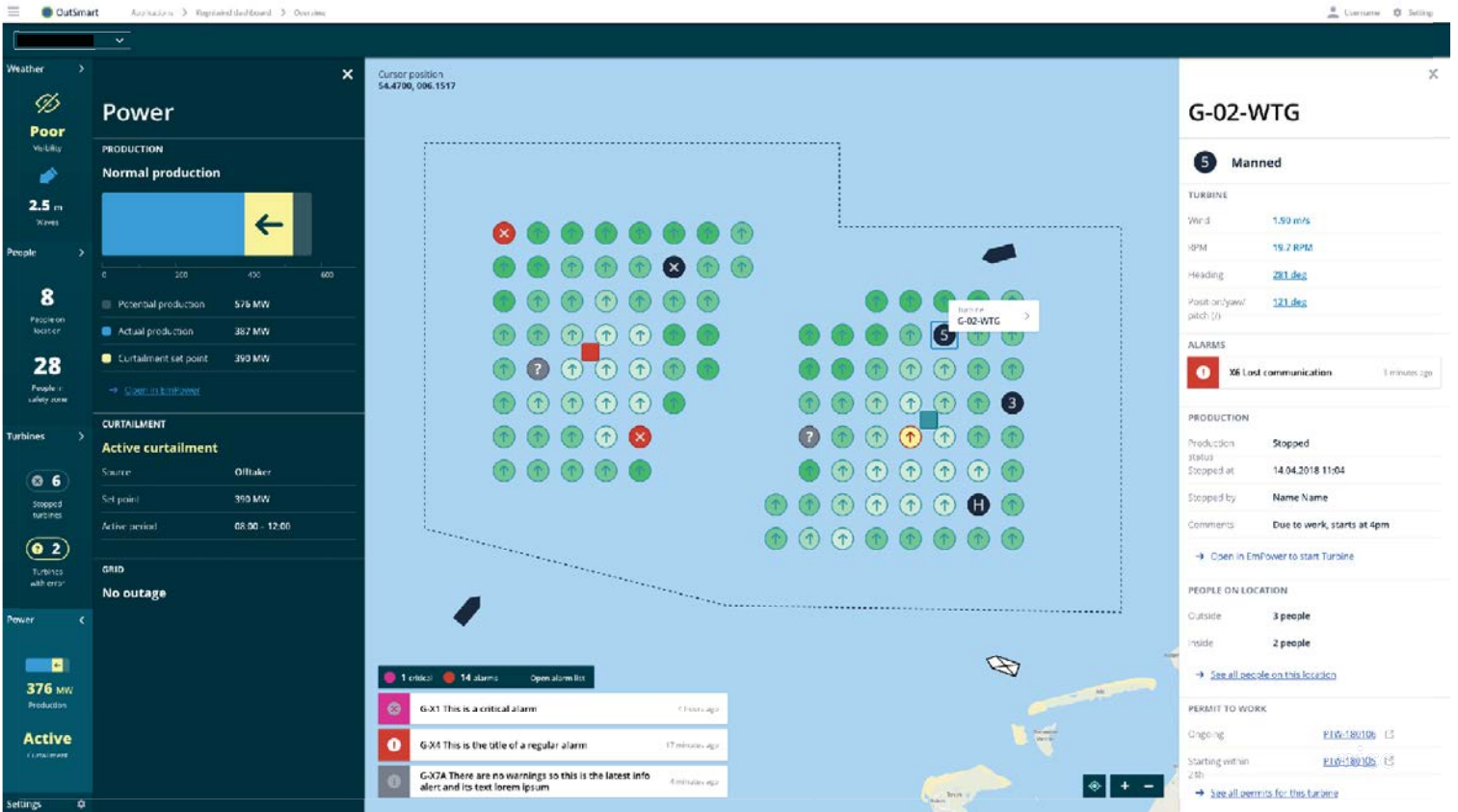
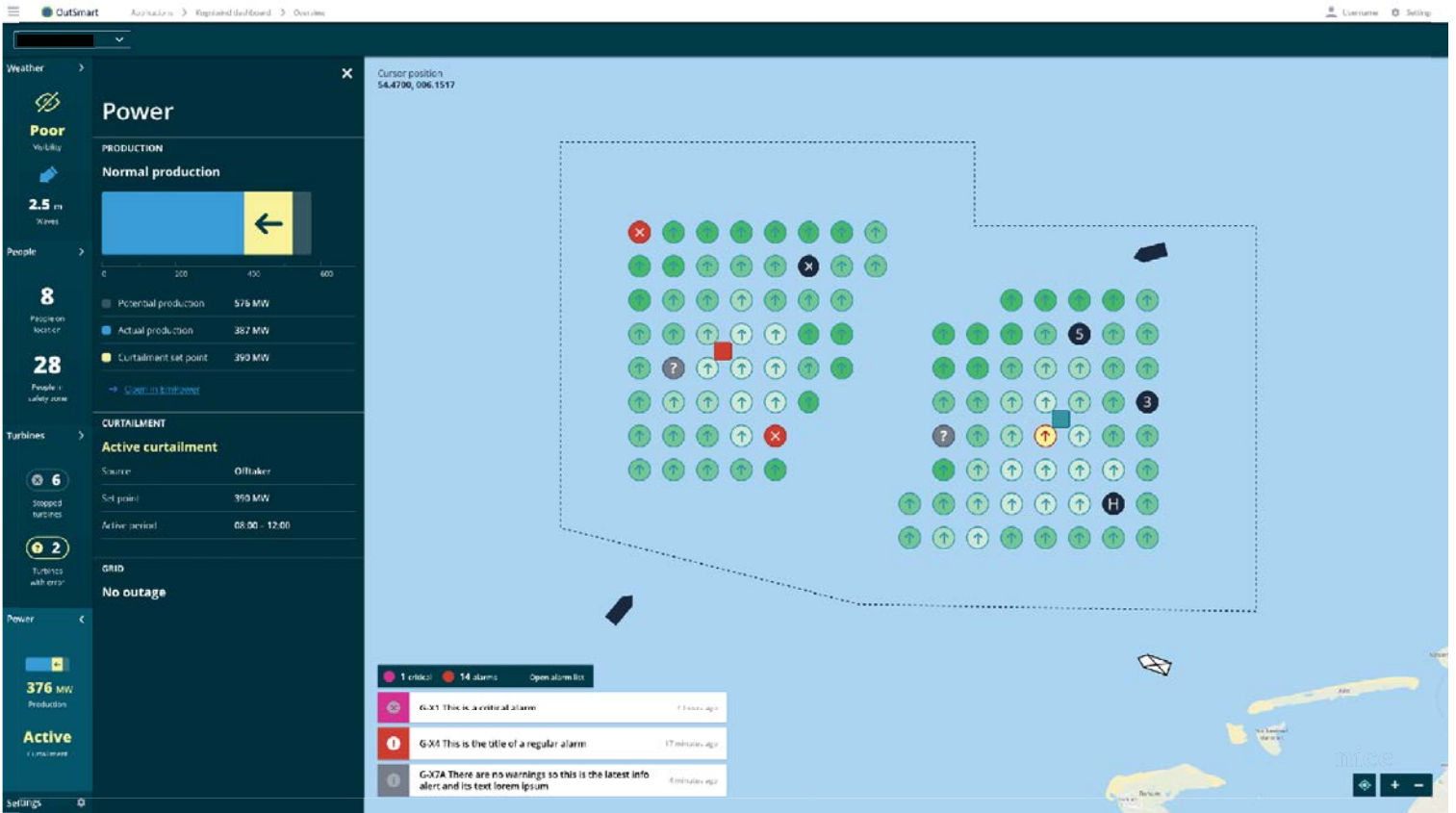
Information acquisition

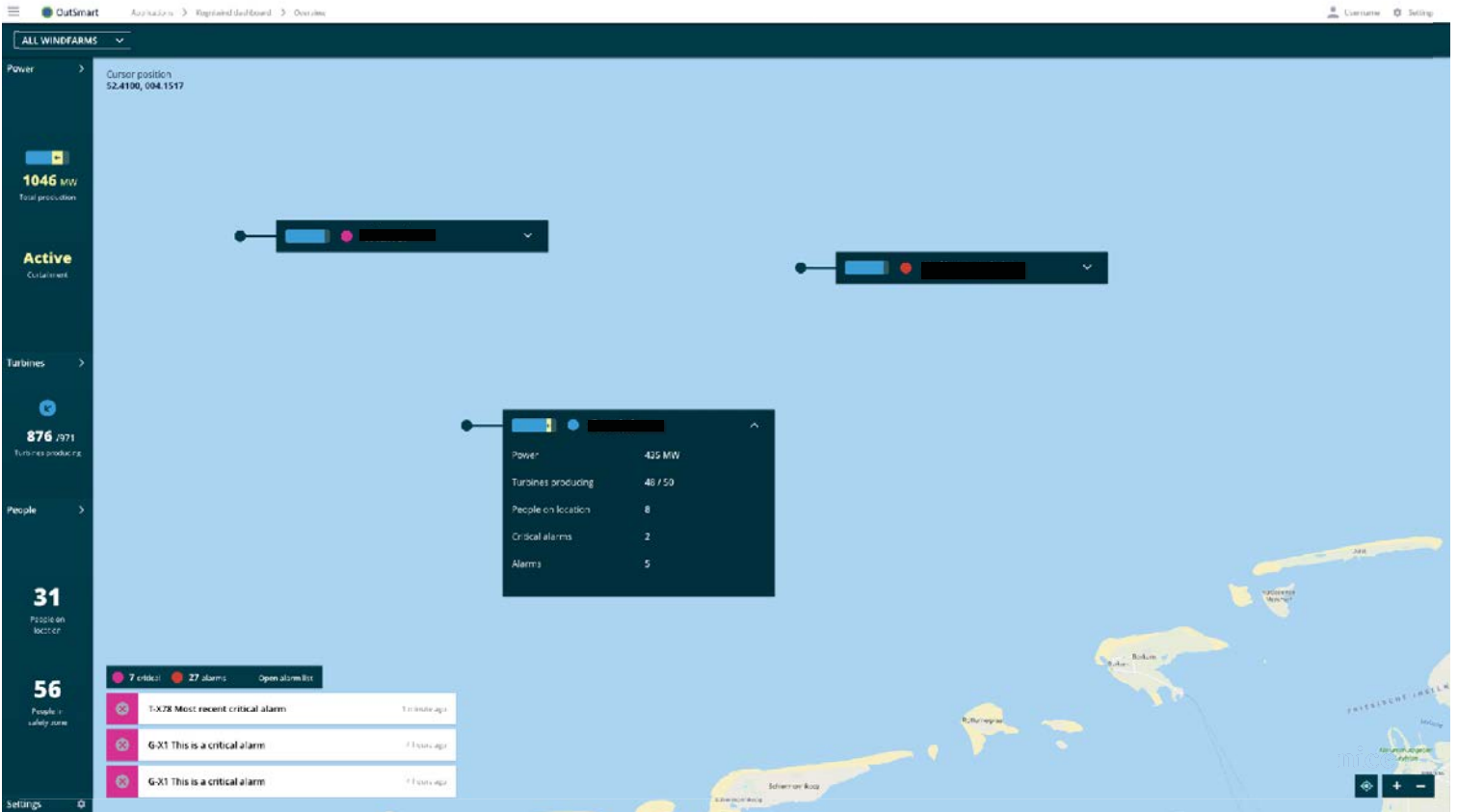
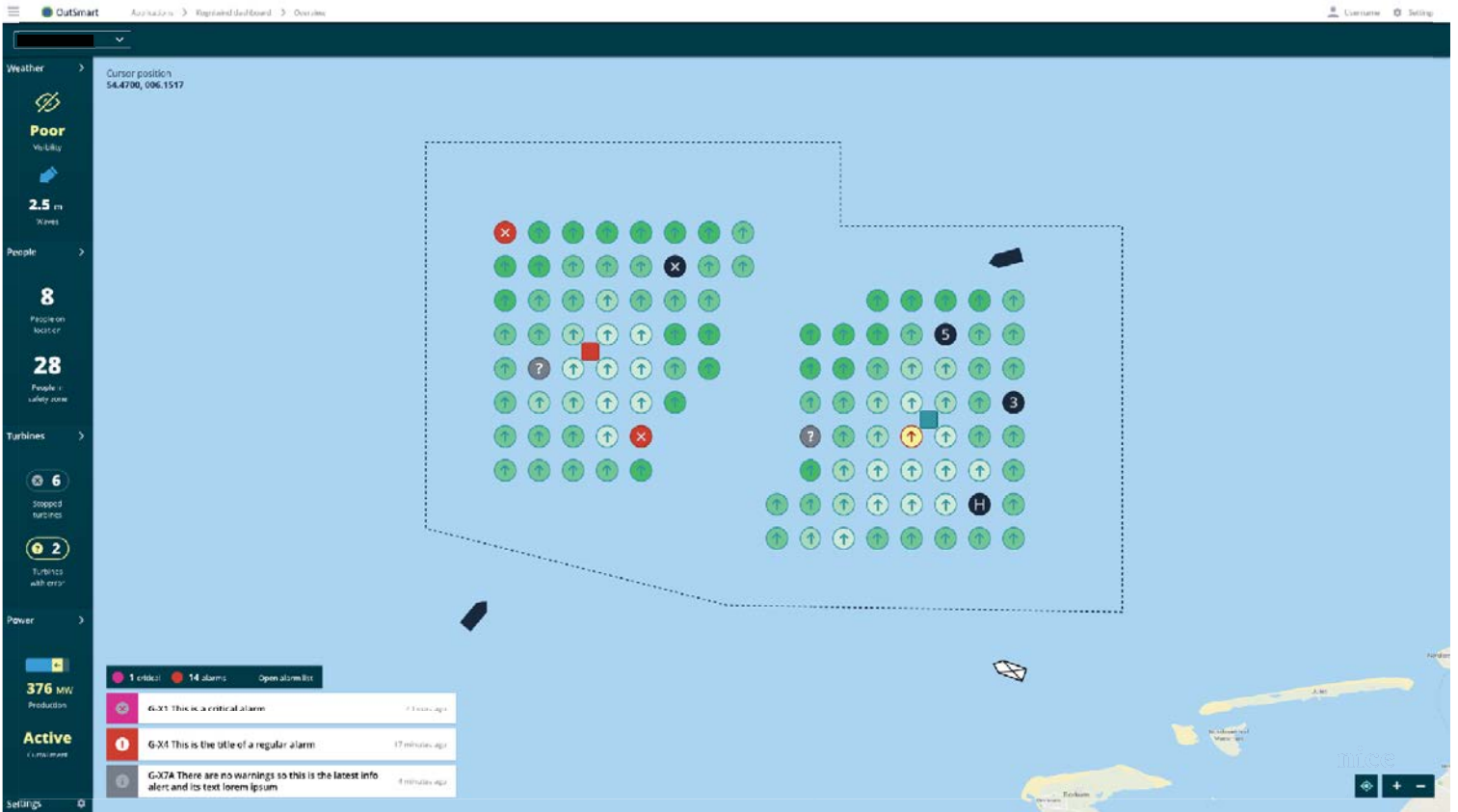


Information Rich Displays - The different roles of an operator









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people in windfarm

nice

***"This is the most important view.
I feel I have a total overview"***

nice

OutSmart Applications > People and transport > Permit overview

People and transport

Permit archive

Next 24 hours

ID and description	Requestor	Location	Planned start/end	Submitted	Handled	Approved	Accepted	Entered	Left	Information
PTW-180107 Q03 - Preventive maintenance HV year 2	Siemens	GE-Q3	15.06.18 10:00 - 14:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Waiting for operator
PTW-180107 Q07 - team1 - Greasing	Siemens	GE-Q7	15.06.18 10:00 - 14:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	14:13	18:42	Closed
PTW-180108 Q07 - team1 - Greasing	Siemens	GE-Q3	13.06.18 12:00 - 18:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	15:13	<input type="checkbox"/>	Work in progress
APT-180107 WindaLaCour	Siemens	Gemini	13.06.18 10:00 - 18:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	12:08	<input type="checkbox"/>	Work in progress
PTW-180113 Q6 - High voltage switching	Siemens	GE-Q6	25.06.18 12:00 - 18:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High voltage switching Waiting for approval
PTW-180156 Q07 - Preventive maintenance HV year 2	Siemens	GE-Q7	14.06.18 10:00 - 14:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Waiting for operator

All

ID and description	Requestor	Location	Planned start/end	Submitted	Handled	Approved	Accepted	Entered	Left	Information
PTW-180107 Q03 - Preventive maintenance HV year 2	Siemens	GE-Q3	15.06.18 10:00 - 14:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Waiting for operator
PTW-180107 Q07 - team1 - Greasing	Siemens	GE-Q7	15.06.18 10:00 - 14:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	14:13	18:42	Closed
PTW-180108 Q07 - team1 - Greasing	Siemens	GE-Q3	13.06.18 12:00 - 18:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	15:13	<input type="checkbox"/>	Work in progress

OutSmart Applications > People and transport > Permit

PTW-180273

Work request

Contact information

Schedule

Work permit information

Approva

People

Documents

Transport

Location

Simultaneous operations

Affected locations

Notes

Tasks

ID and description	Requestor	Location	Planned start/end	Submitted	Handled	Approved	Accepted	Entered	Left	Information
Q03 - Frevestative maintenance HV year 2	Siemens	GE-Q3	15.06.18 10:00 - 14:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Waiting for operator

Work Request

Reference number: PTW-180273

Status: Submitted

Reques. date: 26.01.18 16:00

Domain: -

Requestor: [Redacted]

Provisional approval: 20.02.18

Contact Information

Permit holder: [Redacted]

Tiers nr.: 0X 0X

Telephone nr.: 0X XXXXXX

Work Permit Information

Plant: [Redacted]

Scope of work: Re-energizing ANH10/ANH30. De-energizing ANH20/ANH40.

Reques. date: Re-energizing ANH10/ANH30 after Maintenance work. De-energizing ANH20/ANH40 for Maintenance work.

SELECTED ACTIVITIES

- Electrical HV switching (ask)
- Electrical works

COMPLETE ACTIVITIES LIST

Template: Lorem ipsum

Procedure: Lorem ipsum

Schedule

	Planned	Actual
Start	05.03.18 12:00	-
End	05.03.18 - 18:00	-
Total duration	6 h	-
Total downtime	5 h	-

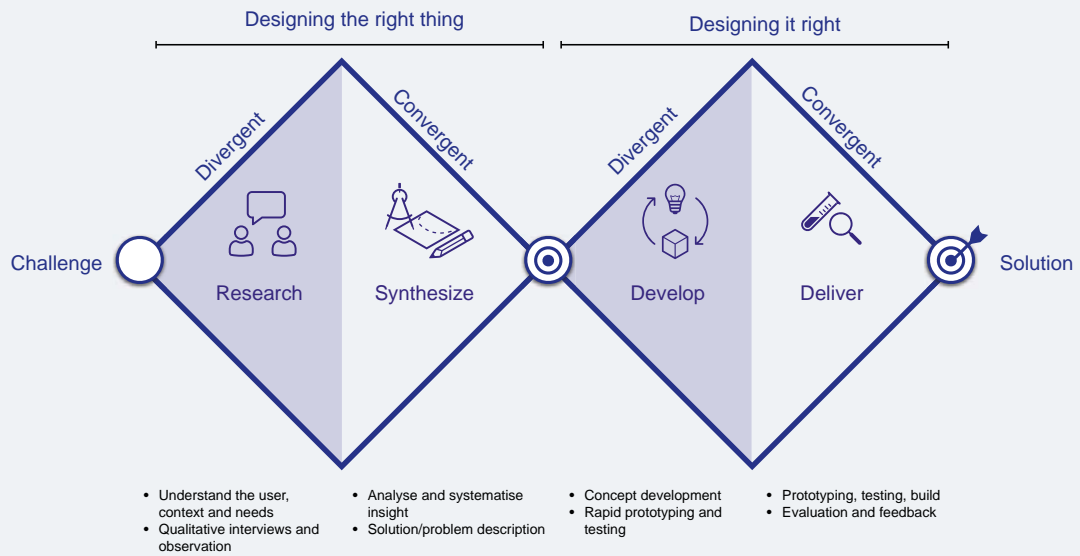
Approval

SELECTED APPROVERS

- Electrical Manager
- Senior Authorized Person/IV

COMPLETE LIST OF APPROVERS

- RnP Engineer
- Electrical Engineer
- HSE Manager



1. Listen

2. Prioritize

3. Visualize

★. Explore



nice