

Data policy for NHS



Beslutning på siste arktiske sjøkartverksmøte (Sep 2018)

Action item ARHC8-13	Agenda item D2	MS to review their Data policy for use in hydrographic services in order to support crowd sourced bathymetry and report at ARHC9.	
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Nåværende praksis

- Vi har ikke en helhetlig data policy
- Våre krav er tilpasset teknologi utvikling
- Vi har avvist data som er bedre enn det vi har
- Besluttet å være brukerbehov styrt (2015?) men fortsatte å definere brukerbehov selv
- Vi klassifiserer datagrunnlag strengere enn IHO CATZOC definisjon, begrenser evne til automatisering (eks. 5m grid)
- Vi legger inn en ekstra sikkerhetsmargin mens den allerede finnes i CATZOC (dobbelt)
- Pålegger vi oss selv ansvar vi ikke har?
- Meta data forvaltnings politikk mangler
- Databerg



Zone of Confidence (ECDIS Symbol)	Position Accuracy	Depth Accuracy
A1	5 Meters	0.5 Meters + 1% of Depth
A2	20 Meters	1.0 Meters + 2% of Depth
B	50 Meters	1.0 Meters + 2% of Depth
C	500 Meters	2.0 Meters + 5% of Depth
D	More than 500 Meters	More Than 2.0 Meters + 5% of Depth
U	Not Assessed	Not Assessed

CATZOC, extract IHO S-67

MARINERS' GUIDE TO ACCURACY OF ENC

It is only in ZOC areas A1 and A2 where full seafloor feature detection has been achieved. It is therefore only in these areas that the accuracy of the charted depths directly defines where a ship can go, and how deep the draft of that ship can be.

Even then, according to the ZOC system, there is a very small possibility that a significant feature may remain undetected (less than a maximum size of 2 cubic metres for depths less than 40 metres).

CATZOC Assessment Criteria

Individual assessment criteria are:

- typical survey characteristics
- seafloor coverage (this relates to the possibility that something may have been missed and is therefore not on the chart)
- position accuracy
- depth accuracy (this relates to what has been detected and is therefore charted, not what might or might not remain undetected)

Of these, the most important is the assessment of feature detection (seafloor coverage), as this determines the minimum clearance that should be maintained between a ship's keel and the seabed in most areas, and where any additional precautions may need to be taken.

The next most important factor is position, at least for ZOC categories C and D. As there is a risk of undetected 'surprises' in these areas, the sensible approach is to avoid these areas wherever possible, and particularly in coastal waters. The position accuracy for these categories gives some idea of how far away from these areas a ship should remain.

It is only in areas where full seafloor coverage has been achieved that depth accuracy is relevant. In areas where this has not been achieved, the safety margin a mariner should leave for the possibility of an uncharted 'surprise' is much larger than the allowance for the charted depths.

CATZOC table

IHO S-67

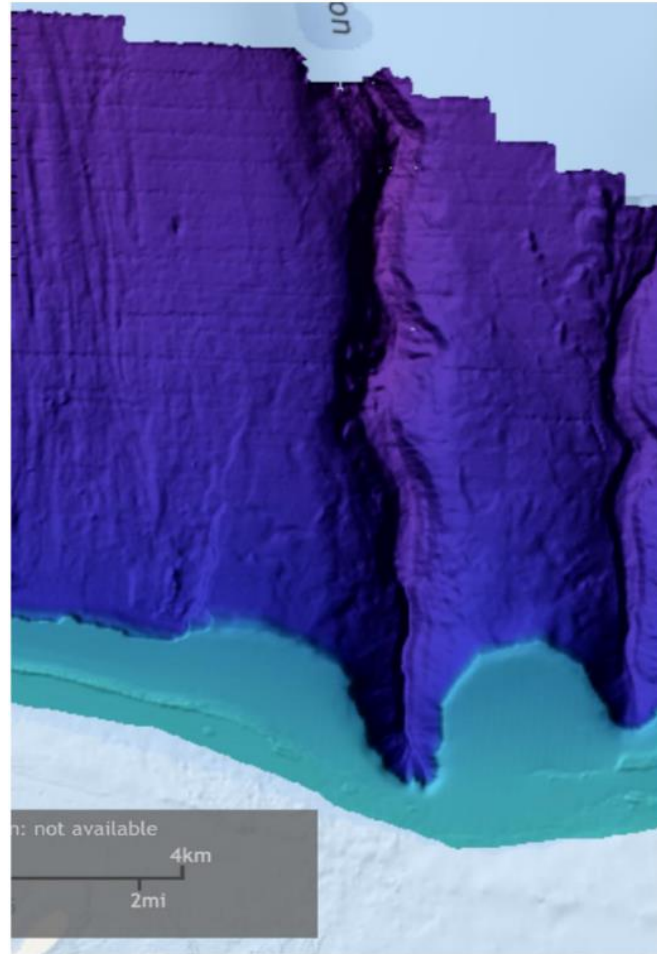
7. Zones Of Confidence Categories

ZOC Category (note 1)	Position Accuracy (note 2)	Depth Accuracy (note 3)		Seafloor Coverage	Typical Survey Characteristics (note 5)
A1	± 5 m + 5% depth	=0.50 + 1%d		Full area search undertaken. Significant seafloor features detected (note 4) and depths measured.	Controlled, systematic survey (note 6) high position and depth accuracy achieved using DGPS and a multi-beam, channel or mechanical sweep system.
		Depth (m)	Accuracy (m)		
		10	± 0.6		
		30	± 0.8		
		100	± 1.5		
		1000	± 10.5		
A2	± 20 m	= 1.00 + 2%d		Full area search undertaken. Significant seafloor features detected (note 4) and depths measured.	Controlled, systematic survey (note 6) achieving position and depth accuracy less than ZOC A1 and using a modern survey echo-sounder (note 7) and a sonar or mechanical sweep system.
		Depth (m)	Accuracy (m)		
		10	± 1.2		
		30	± 1.6		
		100	± 3.0		
		1000	± 21.0		
B	± 50 m	= 1.00 + 2%d		Full area search not achieved; uncharted features, hazardous to surface navigation are not expected but may exist.	Controlled, systematic survey (note 6) achieving similar depth but lesser position accuracies than ZOCA2, using a modern survey echo-sounder (note 5), but no sonar or mechanical sweep system.
		Depth (m)	Accuracy (m)		
		10	± 1.2		
		30	± 1.6		
		100	± 3.0		
		1000	± 21.0		
C	± 500 m	= 2.00 + 5%d		Full area search not achieved, depth anomalies may be expected.	Low accuracy survey or data collected on an opportunity basis such as soundings on passage.
		Depth (m)	Accuracy (m)		
		10	± 2.5		
		30	± 3.5		
		100	± 7.0		
		1000	± 52.0		
D	worse than ZOC C	Worse Than ZOC C		Full area search not achieved, large depth anomalies may be expected.	Poor quality data or data that cannot be quality assessed due to lack of information.
U	Unassessed - The quality of the bathymetric data has yet to be assessed				
Column: 1	2	3		4	5
Source: IHO S-57 Ed3.1 Supp 3 (Jun 2014), pp 13-14					

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NOAA data policy

External Source Data (2017)



- NOAA uses the “best available data” to update its charts.
- We will proactively seek out available data to meet our needs.
- Data need not be “applied to the chart” to be useful – can help with prioritizing surveys, confirming other data, etc.
- Data need not meet NOAA or IHO standards to be used for charting. It just needs to be the **best available**.
- The CATZOC and source diagram will reflect NOAA’s assessment of data quality.
- There is more data available than we can handle. Priority will be given to data which improves navigation safety and is most easily accessible and assessable.



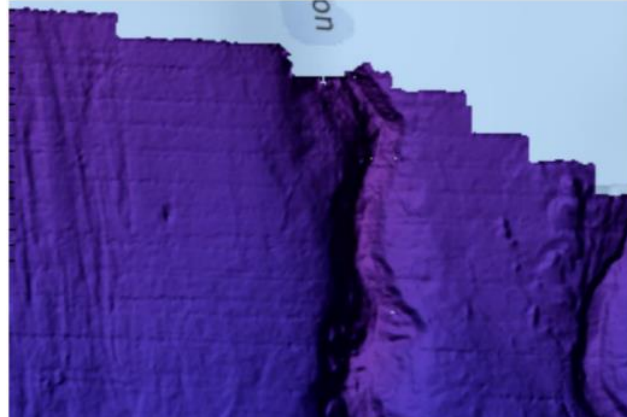
Office of Coast Survey

National Oceanic and Atmospheric Administration

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NOAA data policy

External Source Data Workflow

DISCOVERY

Active: NOAA hunts for data to meet specific charting needs, locations
Passive: NOAA receives donated data

PRIORITIZATION

Assess: Suitable for queue? Data near planned/acquired survey areas?
Stakeholder need? Chart discrepancy? Unsurveyed? Supersedes? Or
notify owner why data not used

INGESTION

Register: Gather metadata, forward to Hydro Branch queue for review

REVIEW

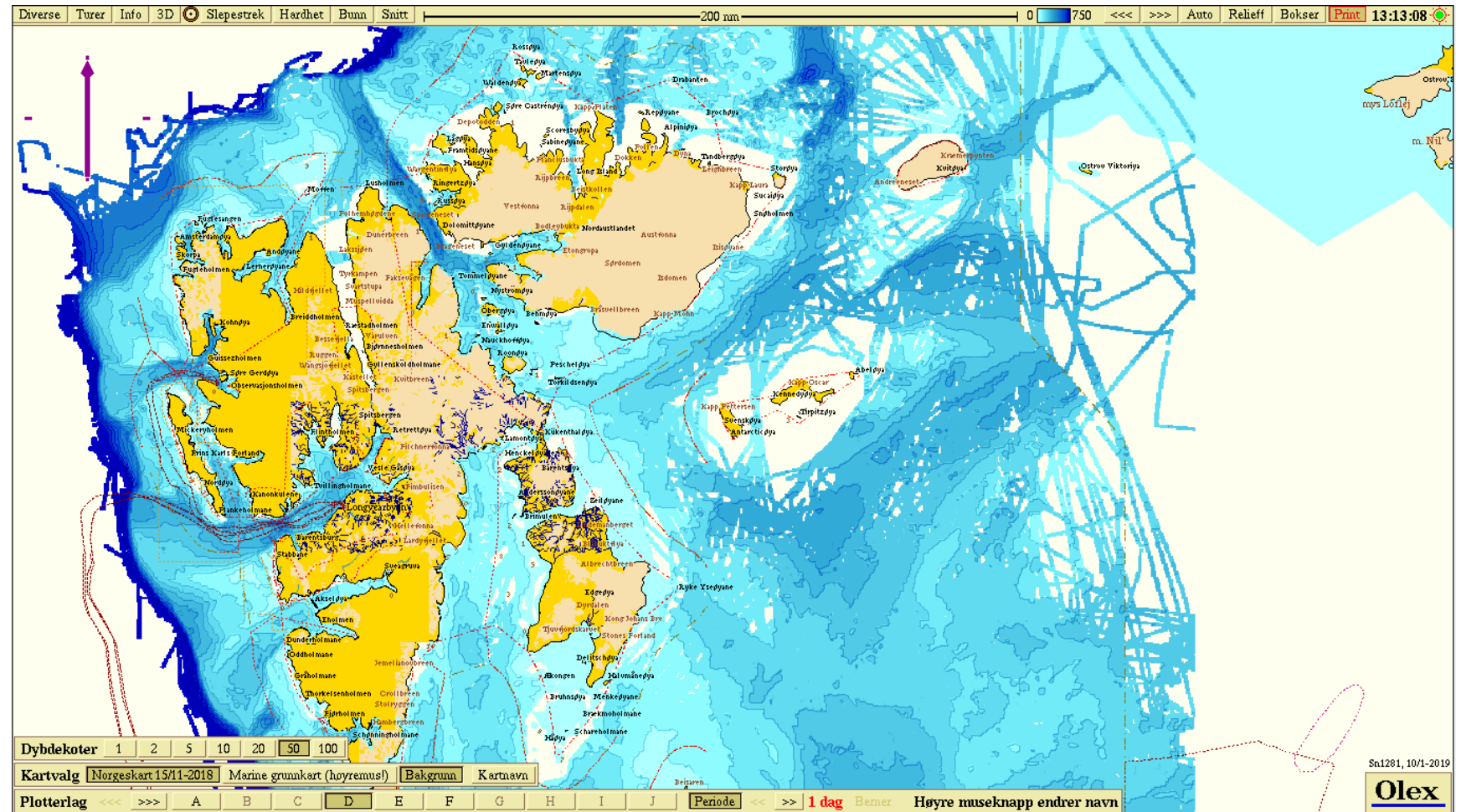
Process: Assess data quality, determine whether data is best available
Provide feedback to data provider on whether data used for charting

APPLICATION

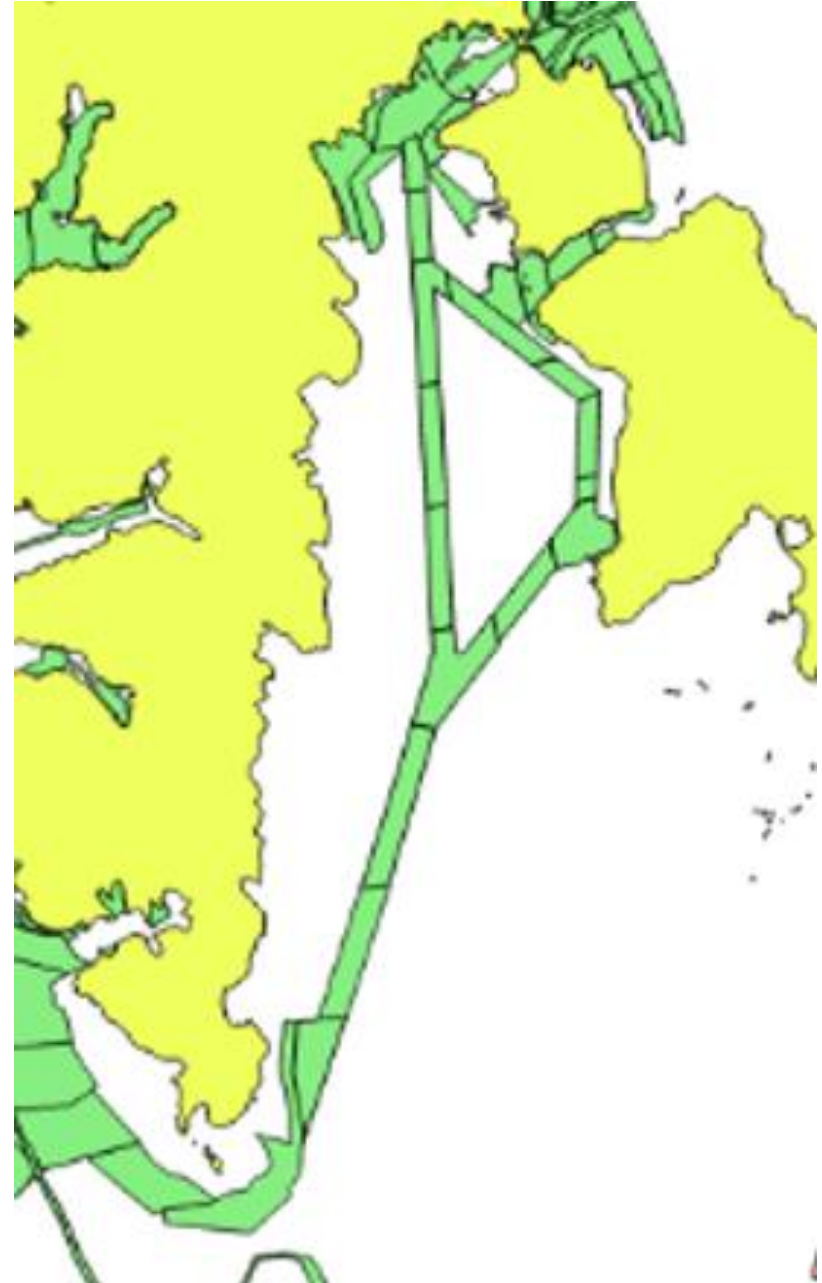
Submit: Processed data to charting division, surfaces and metadata to
National Bathymetric Source AND to NCEI for archive/accessibility

Olex data på Svalbard

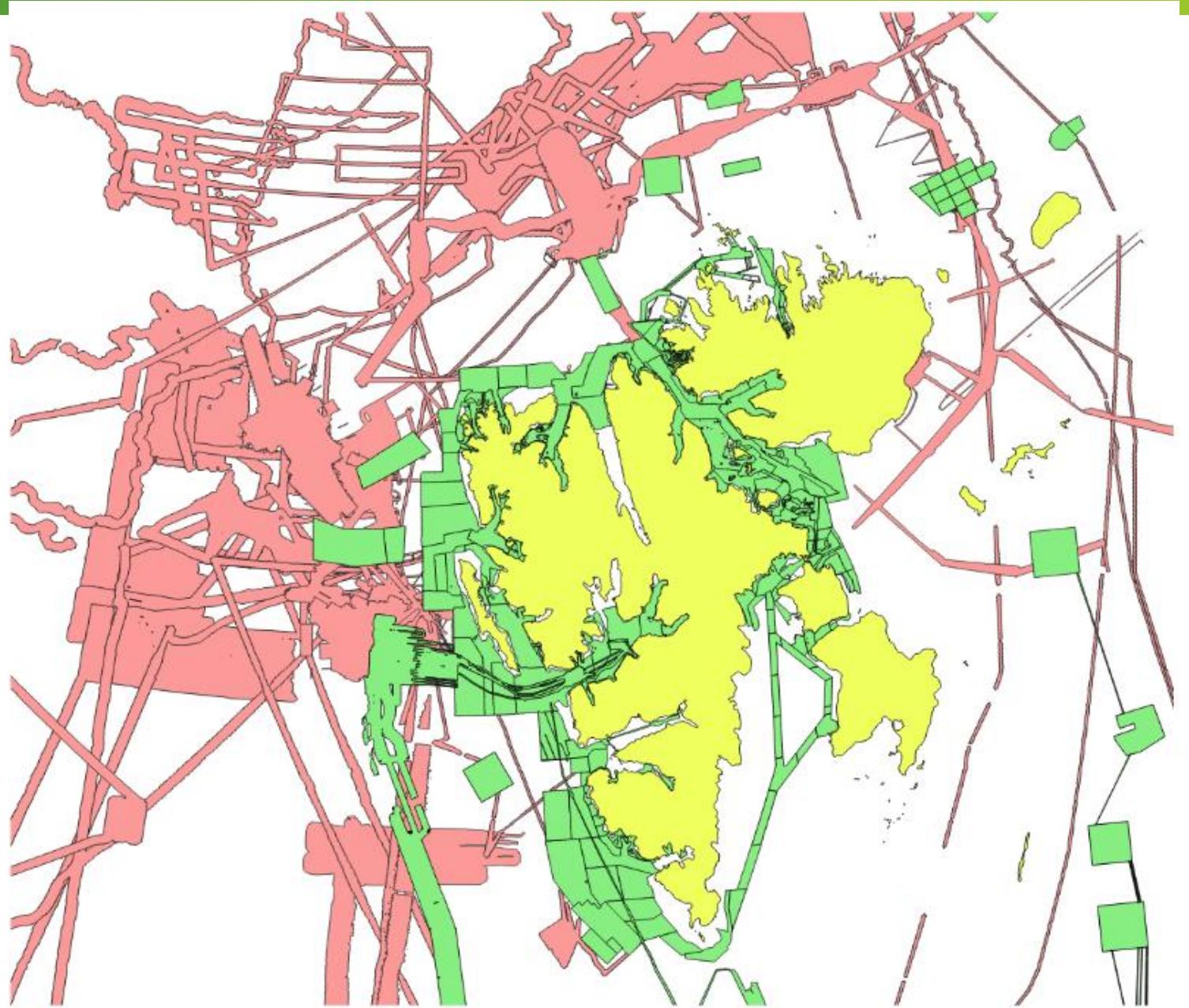
Olex data er
passage
sounding data
(CATZOC C)
med
posisjonering
nøyaktighet til
CATZOC B



Tilgjengelig data for navigatører som seiler på ECDIS i Storfjorden



**In pink:
Available
MBES
data but
not
accessible**



Anbefaling

Sette sammen en arbeidsgruppe som skal utvikle sjødivisjon sin data policy for hydrografiske produkter og tjenester før 1 juli 2019.

En data policy som:

- **Sikrer at kvaliteten er kjent (metadata)**
- **Sikrer at våre tjenester og produkter møter brukeres behov, krav og forventninger og bidrar til sikker og effektiv sjøtransport.**
- **Bidrar til å nå våre strategiske mål**
- **Støtter vår rolle som sjøkartmyndighet og NDDEF**
- **Tilrettelegger for effektiv og mest mulig automatisert produksjon**