

**A SMARTER SOLUTION**  
starts from inside



## Utvikling Taktisk Kommunikasjonsnode (TKN)

FD/FSI Landkonferanse - 11. nov, 2020

Mikkel Helweg, Forretningsutvikler

# TKN suksesshistorie

## AGENDA

- Om Data Respons Solutions
- Taktiske Kommunikasjonsnoder
  - *Løsningene*
  - *Utviklingsprosjektene*
- Suksesskriterier
- Oppsummering



Bilde fra [www.fma.no/anskaffelser/virksomhetsprogrammet-mime](http://www.fma.no/anskaffelser/virksomhetsprogrammet-mime)

# THIS IS DATA RESPONS SOLUTIONS



**85** Employees



**5** Countries



**7** Locations



**>50** Million €



## **NORWAY**

Data Respons Solutions AS

## **DENMARK**

Data Respons Solutions A/S

## **SWEDEN / FINLAND**

Data Respons Solutions AB

## **GERMANY**

Data Respons Solutions GmbH



“ Data Respons Solutions is a competence house delivering customised and qualified embedded solutions and lifecycle services by combining advanced system engineering, software development and hardware design based on proven technology platforms



Gateways



Communication nodes



Rugged tablets



Rugged control units



Rugged handhelds



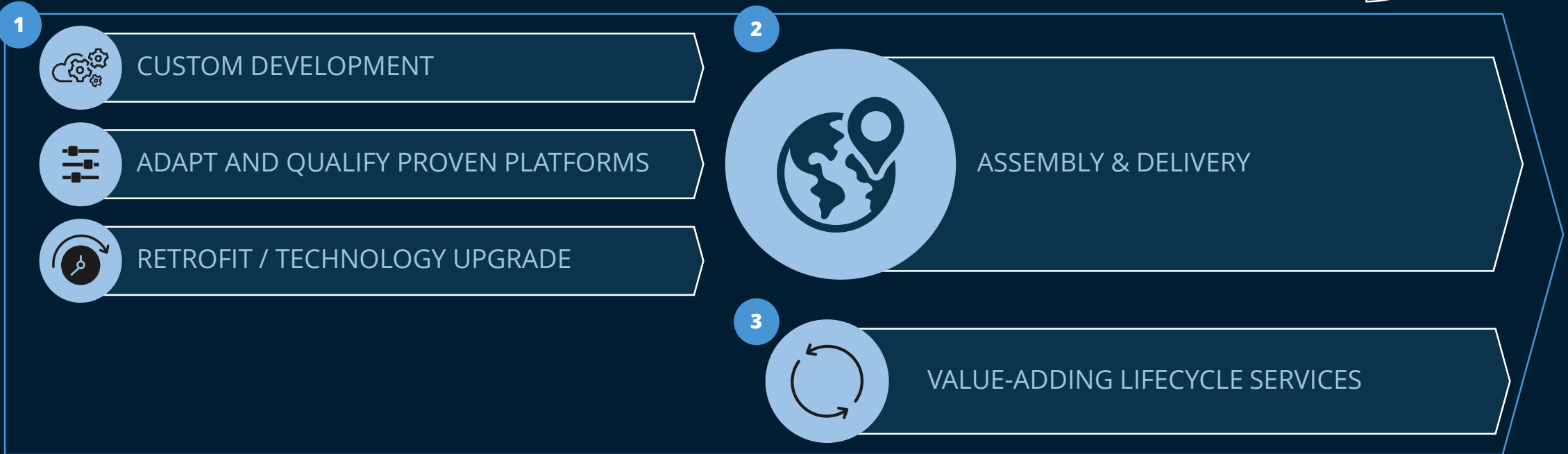
1/2 "19" computers



Fan-less computers

Rugged SFF  
computer m/u AI

# Our **CORE OFFERINGS**





# Using proven technology to create **SMARTER SOLUTIONS**

- Well-proven and ISO-certified development methodology
- Requirements definition based on in-depth industry know-how
- System architecture
- Project management

COMPLEXITY



PROVEN TECHNOLOGY

CUSTOMISATION  
*based on industry know-how*

SMARTER SOLUTIONS

COMPETENCE REQUIREMENT



# Multi-disciplinary team of **SENIOR SPECIALISTS**

*System architects with in-depth industry know-how transferring customers functional requirements to a technical specification tailored to the industry in question*

**//** *Tell us your functional requirements and we will help you specify, develop, certify and deliver a solution tailored to your operating conditions, performance requirements, and global operating field*

	Industry	Telecom	Maritime	Energy, Oil & Gas	MedTech	Transport & Automotive	Military
Environmental Requirements	✓	✓	✓	✓	✓	✓	✓
Performance / Interface Requirements	✓	✓	✓	✓	✓	✓	✓
Global Certification Standards	✓	✓	✓	✓	✓	✓	✓



# Customised LIFECYCLE SERVICES

*Safeguarding your SOLUTION throughout the lifetime*



## PRODUCT LIFECYCLE MANAGEMENT SERVICES

- Technical product support
- Monitor component availability (e.g. EOL, LTB) to safeguard product lifetime
- Maintain certificates and ensure compliance to relevant standards
- Manage value chain and product quality and take necessary actions (e.g. RCA)
- Maintain product specific documentation
- Manage and maintain production tools



## SOFTWARE MAINTENANCE AND UPGRADES

- Maintain and upgrade firmware
- Software installation in production with release management
- Adapt software to new customer applications and services
- Field recovery solutions
- Remote diagnostics and support
- Assist with new software development



## CUSTOMISED OPERATIONAL SERVICES

- Forecast management and production planning support
- Purchase order verification
- Manage safety / buffer stock
- Logistics arrangement (e.g. drop shipments)
- Extended quality inspections
- Customised RMA handling
- Softing of units with customer applications
- Customised branding of packaging and products



# Solid CUSTOMER LIST



TRANSPORT & AUTOMOTIVE



INDUSTRY AUTOMATION



TELECOM & MEDIA



SPACE/DEFENCE/SECURITY



ENERGY & MARITIME



MEDTECH



FINANCE & PUBLIC



KONGSBERG



THALES



BOMBARDIER

Raytheon



NewSonic



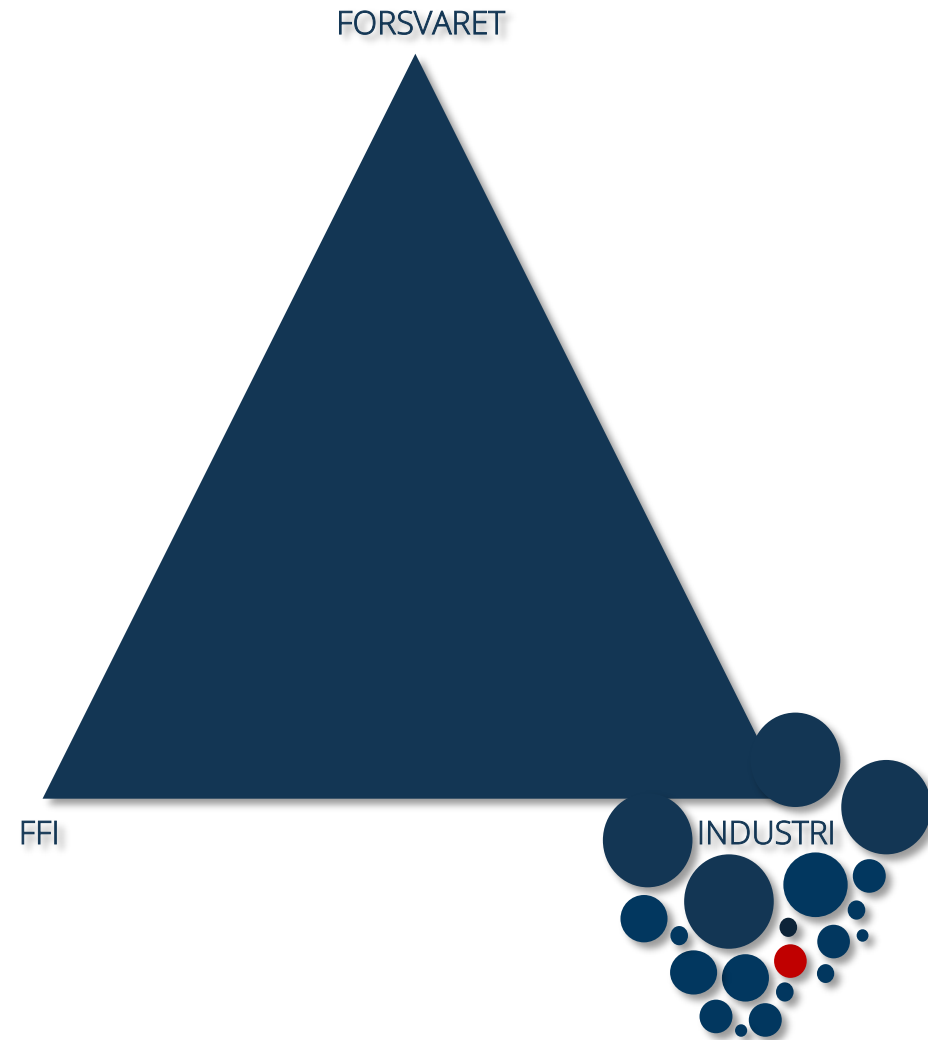
BRUNVOLL



# Data Respons' vei til **FORSVARSMARKEDET**

- Trekantsamarbeid mellom Forsvaret, forskningsmiljøer og industrien
- Forsvarets operative behov drivende for teknologi og materiellutvikling
- Data Respons Solutions posisjon:

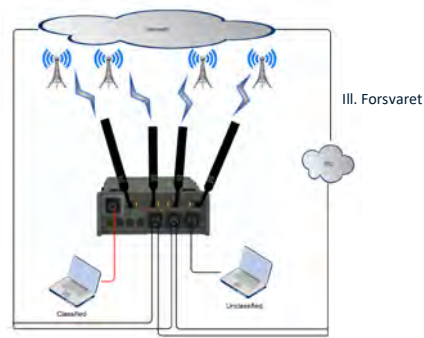
*Oppdragsstyrt leverandør av embedded HW/SW-tjenester og robustifisert IKT, IoT og Edge*



# Taktiske kommunikasjonsnoder

## TKN

- Kablet og trådløst bredbånd 
- Gradert/ugradert nettverk
- Sikker nøkkelhåndtering (PKI)
- 3. part krypto eller i FPGA ("SCC")
- Autonomitet
- Portabel / kjøretøy
- Rugged 1/2 19" formfaktor
  - MIL-810, -461, -704, -1275
  - Tempest



1/2 19" Kjøretøys TKN



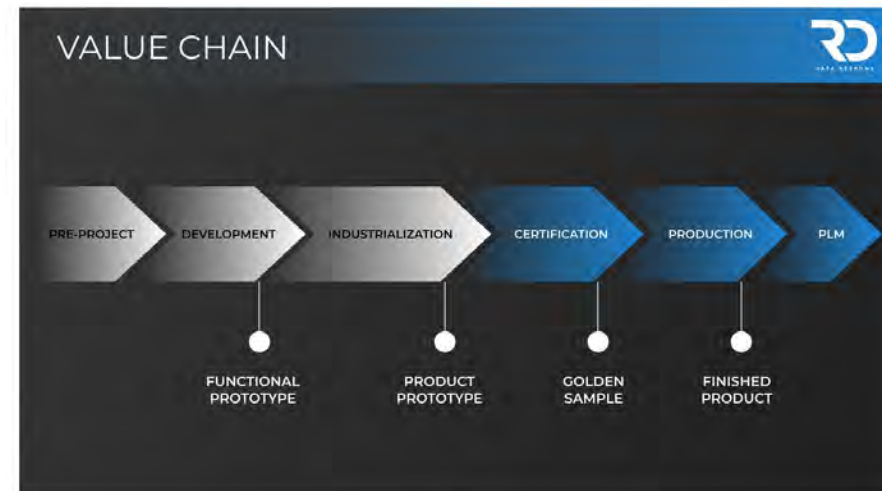
19" MOTS router/switch

## 2 utviklingsløp

### 3 løsninger

- BTKN, 18 mnd. konsept → serie
- LED-TKN og MOTS19, 15 mnd konsept → serie
- Tilbakemelding etter UAT:  
*"gjennomarbeidet og solid produkt"*

- Idé → deployering
- Kravsett basert på intervjuer
- Ompakking → utvikling
- Alle disipliner aktivert (PL, HW, SW\*, FPGA, Mech, QA, Testutvikling...)
- Dokumentasjon & tekniske håndbøker
- DevOps/Releasemanagement
- Industrialisering
- Miljøkvalifisering
- HLA produksjon, funksjon- og ESS-test
- Livssyklus håndtering

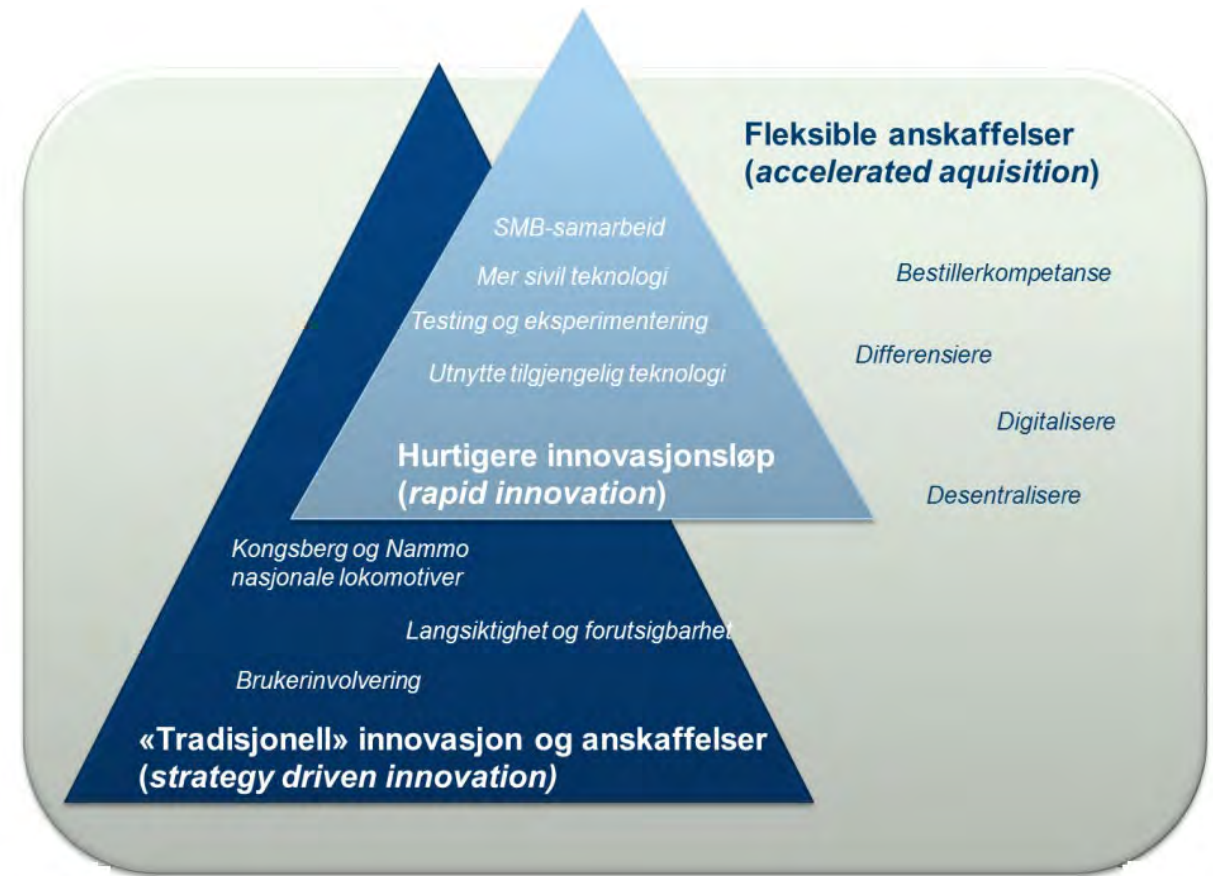




# SUKSESS

## Kriterier I

- Bestillerkompetanse ✓
- Tillitsbasert samarbeid ✓
- Rask og iterativ innovasjonsløp ✓
- Tidlig brukereksponeering ✓
- Bruk av kommersiell teknologi ✓
- Bruk av sivil kompetanse og nasjonal industri ✓

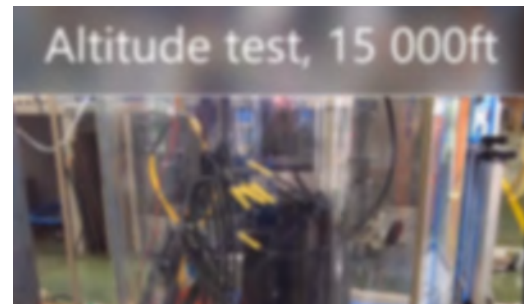
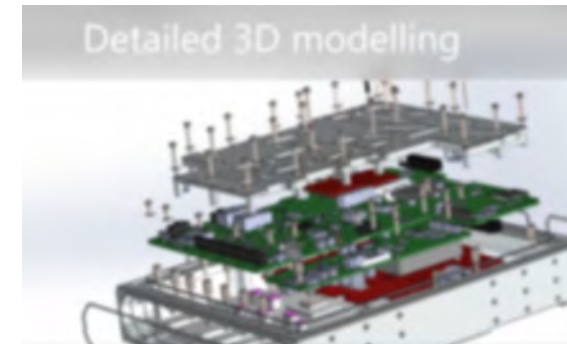
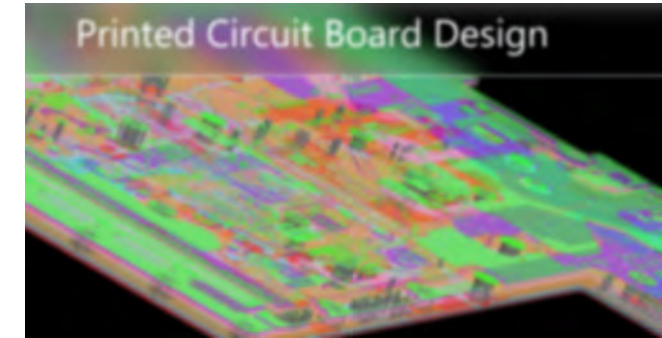
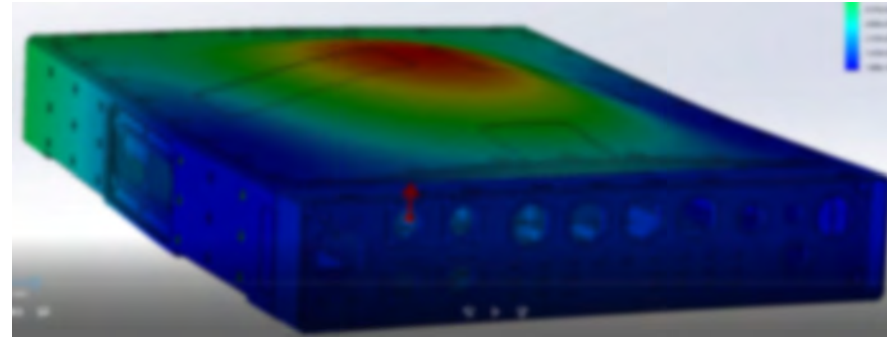


Illustrasjon: Trekantmodell 2.0 fra FFI publikasjon

# SUKSESS

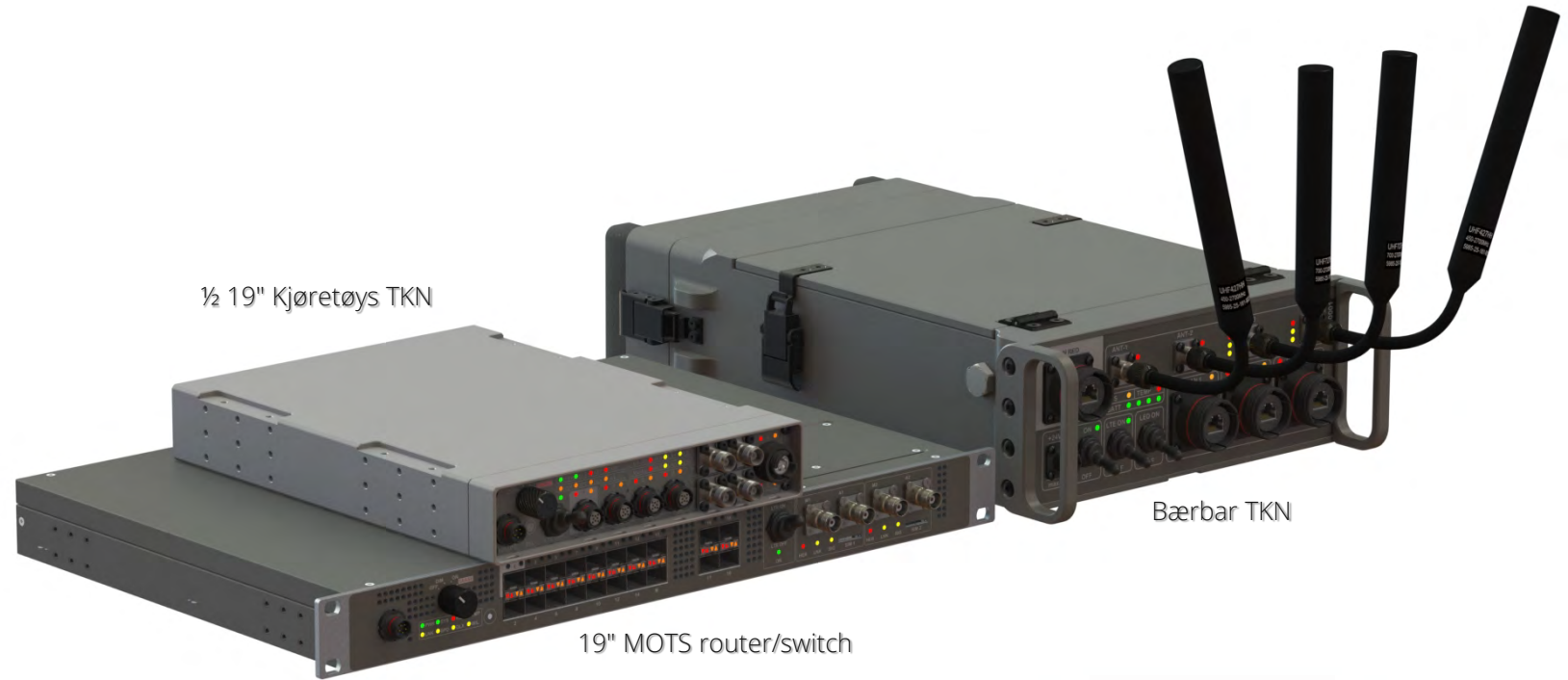
## Kriterier II

- Risikokartlegging/rapportering ✓
- Grundige reviews ✓
- Milepælfokus ✓
- Hyppige statusmøter ✓
- Digital samhandling ✓
- Testing & teardown ✓
- DevOps ✓



# Kontakt

- Eml: [mdh@datarespons.no](mailto:mdh@datarespons.no)
- Tlf: (+47) 9078 4811



1/2 19" computer/server

# Key persons and **CONTACT DETAILS**



**JØRN E. TOPPE**  
MANAGING DIRECTOR SOLUTIONS  
DATA RESPONS SOLUTIONS

mobile: +47 908 82 338  
e-mail: [jet@datarespons.no](mailto:jet@datarespons.no)

**BIRGER A. SUNDET**  
SALES DIRECTOR  
DATA RESPONS SOLUTIONS NORWAY

mobile: +47 913 90 938  
e-mail: [bas@datarespons.no](mailto:bas@datarespons.no)

**ANDERS JANSSON**  
SALES DIRECTOR  
DATA RESPONS SOLUTIONS SWEDEN

mobile: +46 317 07 1482  
e-mail: [ajan@datarespons.se](mailto:ajan@datarespons.se)

**GILAD MIZRAHI**  
SALES DIRECTOR  
DATA RESPONS SOLUTIONS DENMARK

mobile: +45 296 84 681  
e-mail: [gmi@datarespons.dk](mailto:gmi@datarespons.dk)

**ARMIN BECKER**  
SALES DIRECTOR  
DATA RESPONS SOLUTIONS GERMANY

mobile: +49 1 520 150 2444  
e-mail: [ab@datarespons.de](mailto:ab@datarespons.de)