



FFI Norwegian Defence
Research Establishment

Arctic Strike 2024

– an operational live fire experiment in an arctic environment

in collaboration with the Norwegian Army, the Norwegian Special Forces and the Swedish Army

Sven Bjerke, Lieutenant Colonel (Army)
Defence Systems – Land Combat Systems

Arctic Strike 2024 – what



- Live fire experiment
under
- Arctic conditions
to execute
- Seamless digital target acquisition
with
- Fielded & experimental sensors
across
- Multiple security domains
through
- Multiple levels of command
to provide
- Bi-lateral indirect live fire support

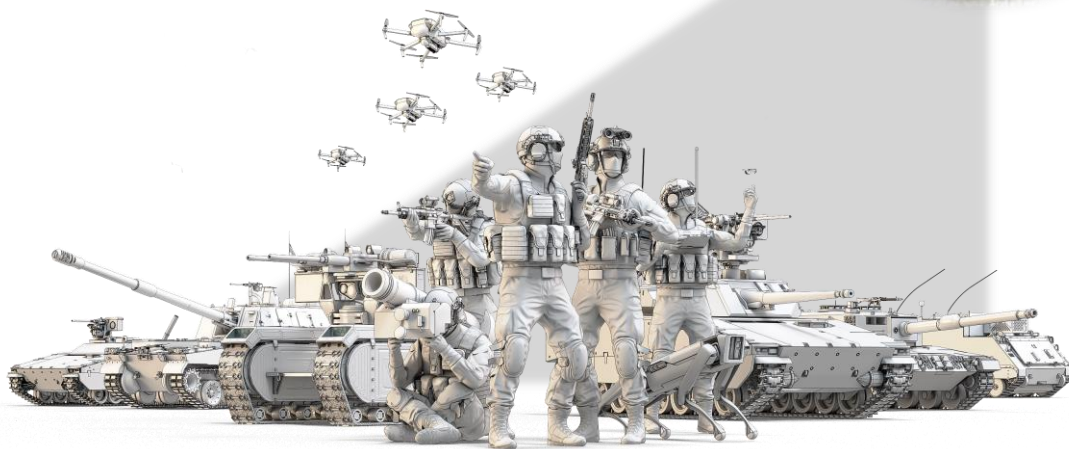
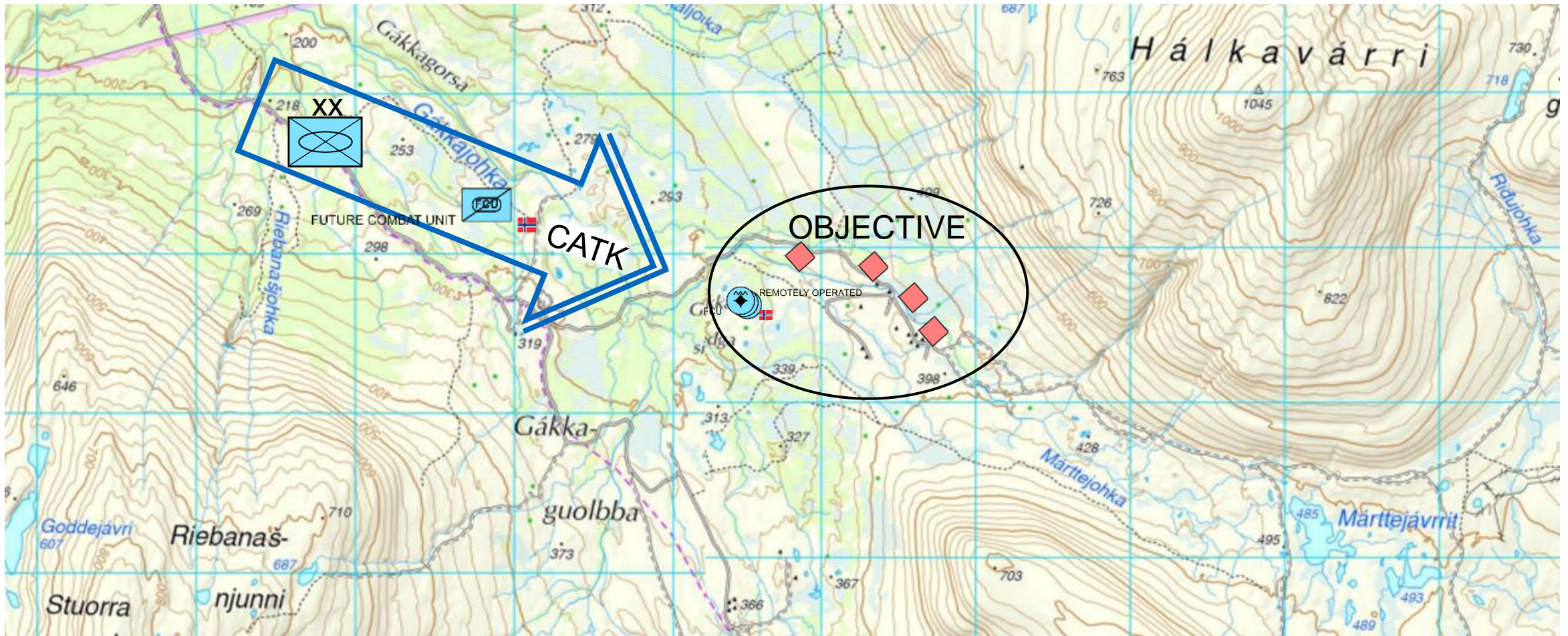
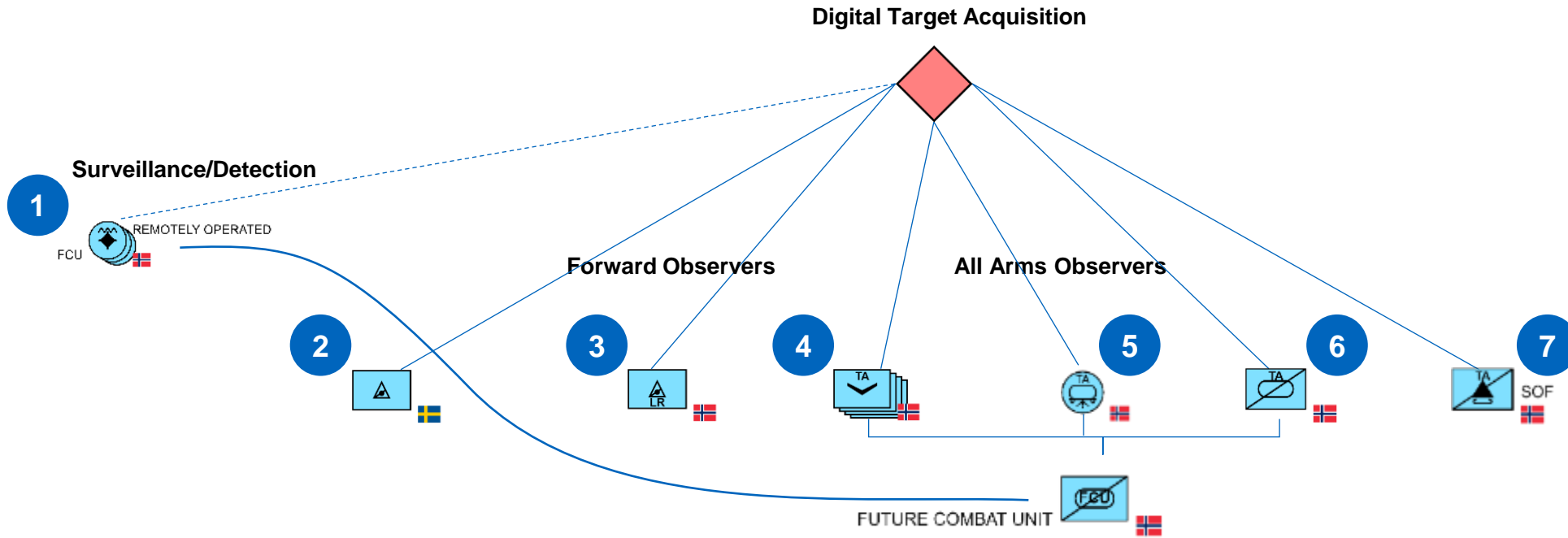


Illustration: Norwegian Army Land Warfare Centre

Arctic Strike 2024



Arctic Strike 2024 – how



1 Remotely operated distributed networked sensors "FJERNSYN"

2, 3 SWE & NOR FA Forward Observer

4 Valkyrie UAS swarm

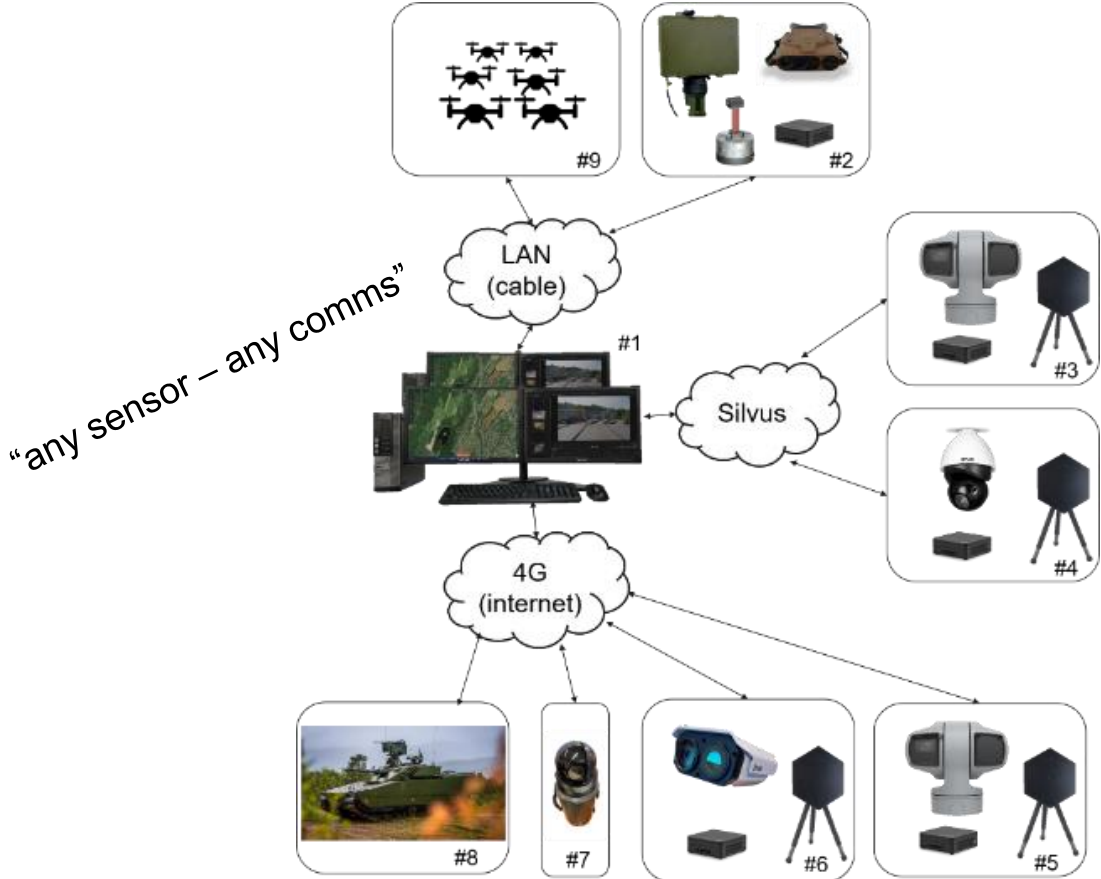
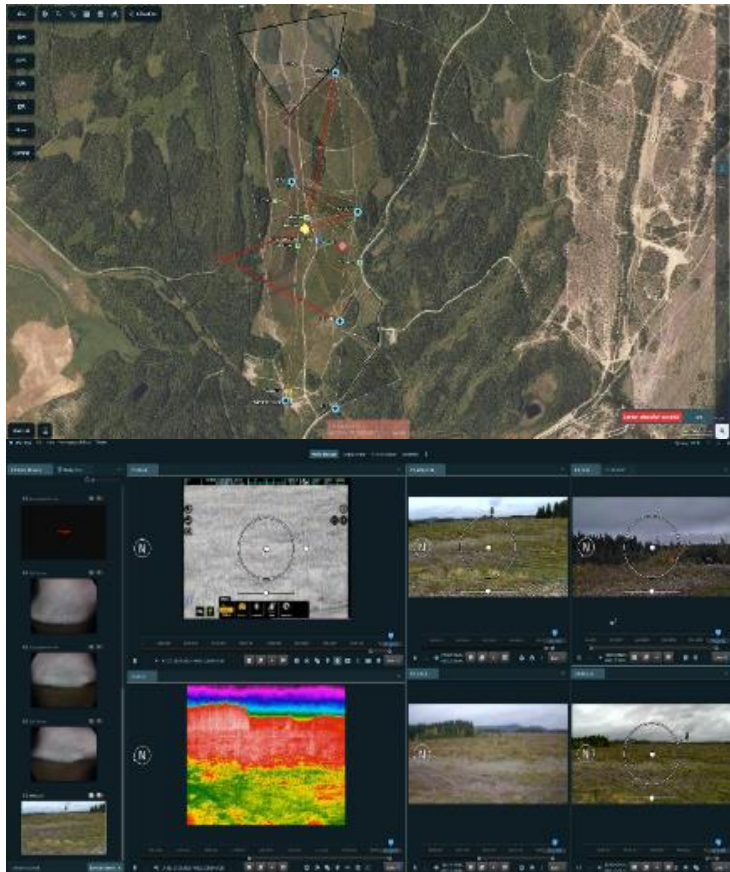
5 Mission Master XT UGV

6 CV 90 OPV Armoured Recce Vehicle

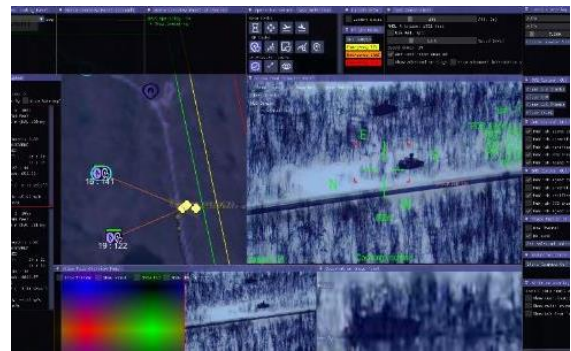
7 NORSOF

Remotely Operated Distributed Networked Sensors – “FJERNSYN” 1

– currently being fielded as part of the NOR Area Access Control System



UAS swarm – *Valkyrie* 4



UGV – Mission Master XT w/ EO sensor 5

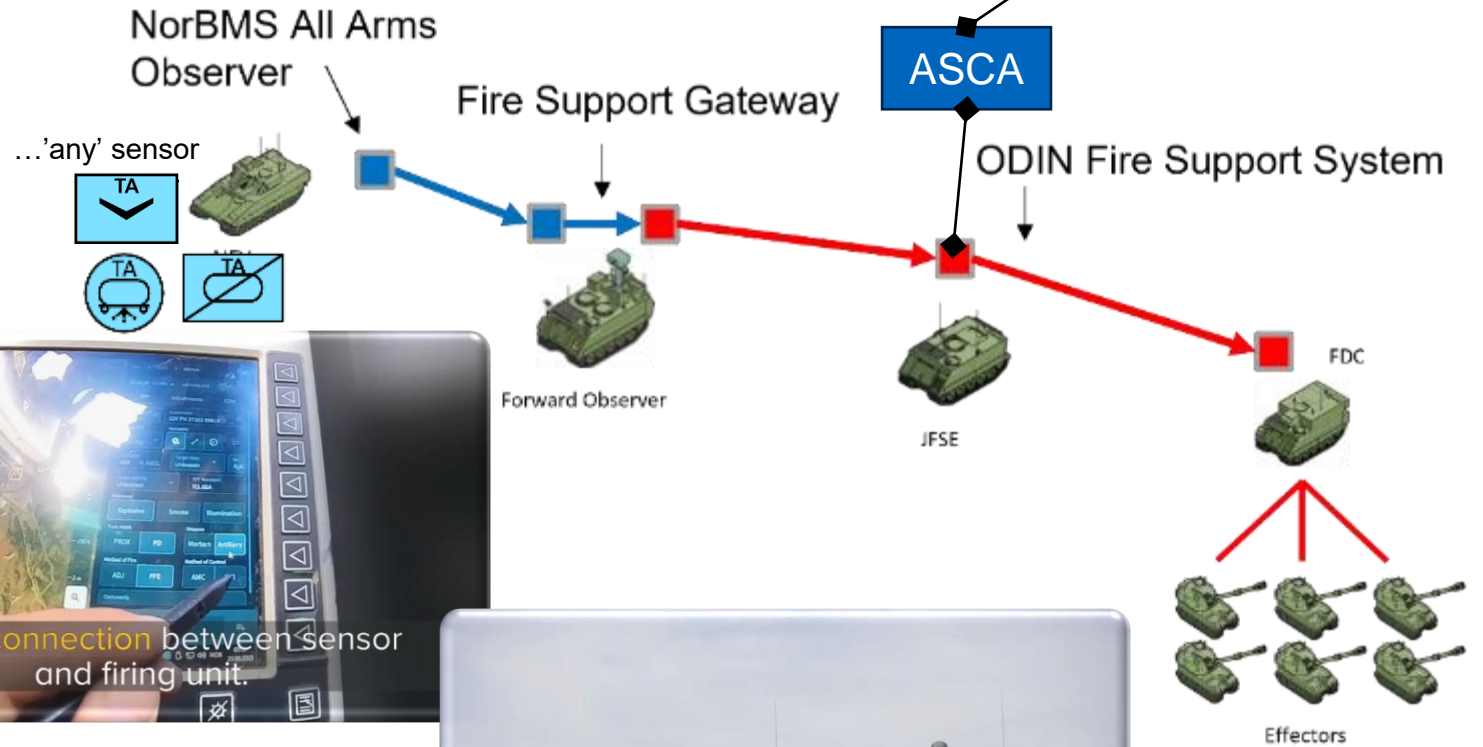


Digital fire support 6

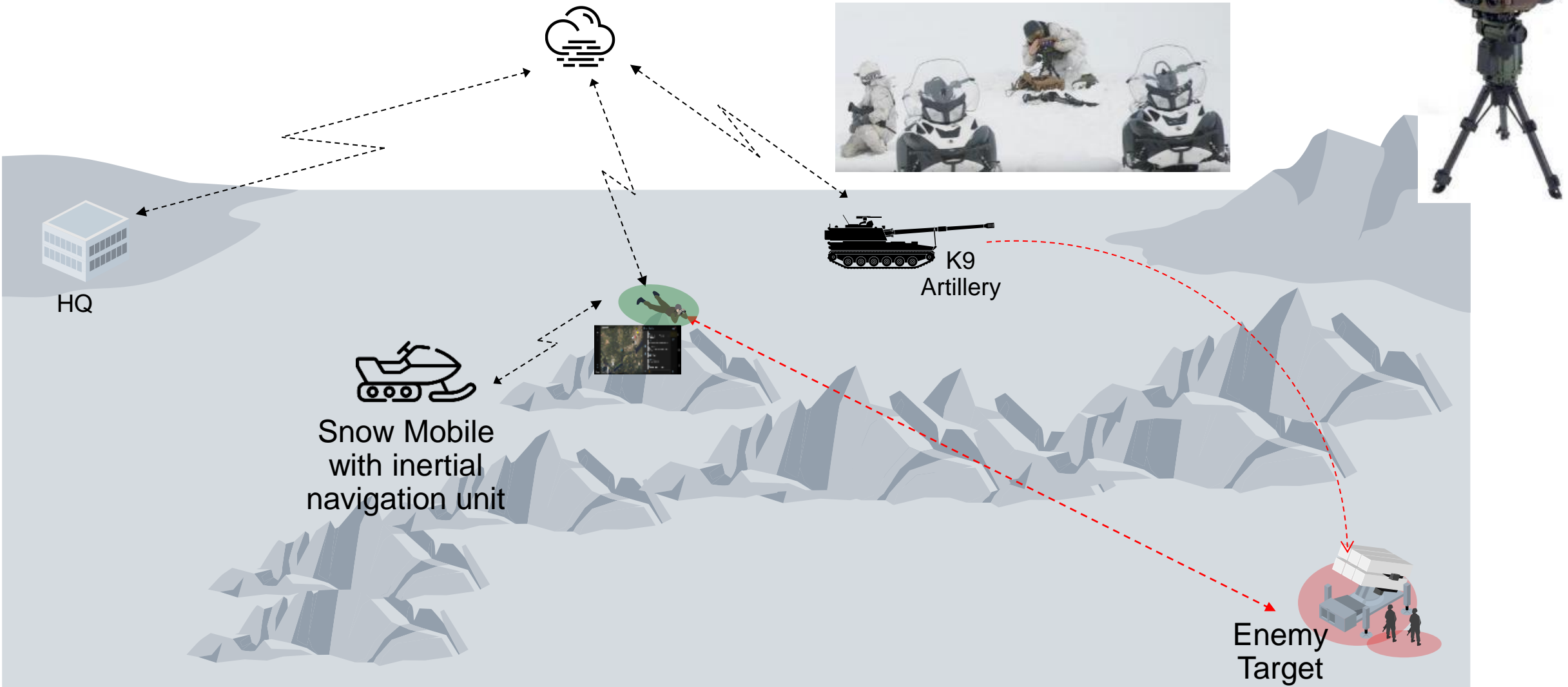
[Operational]



Digital connection between sensor and firing unit.



GNSS-denied precision target acquisition 7



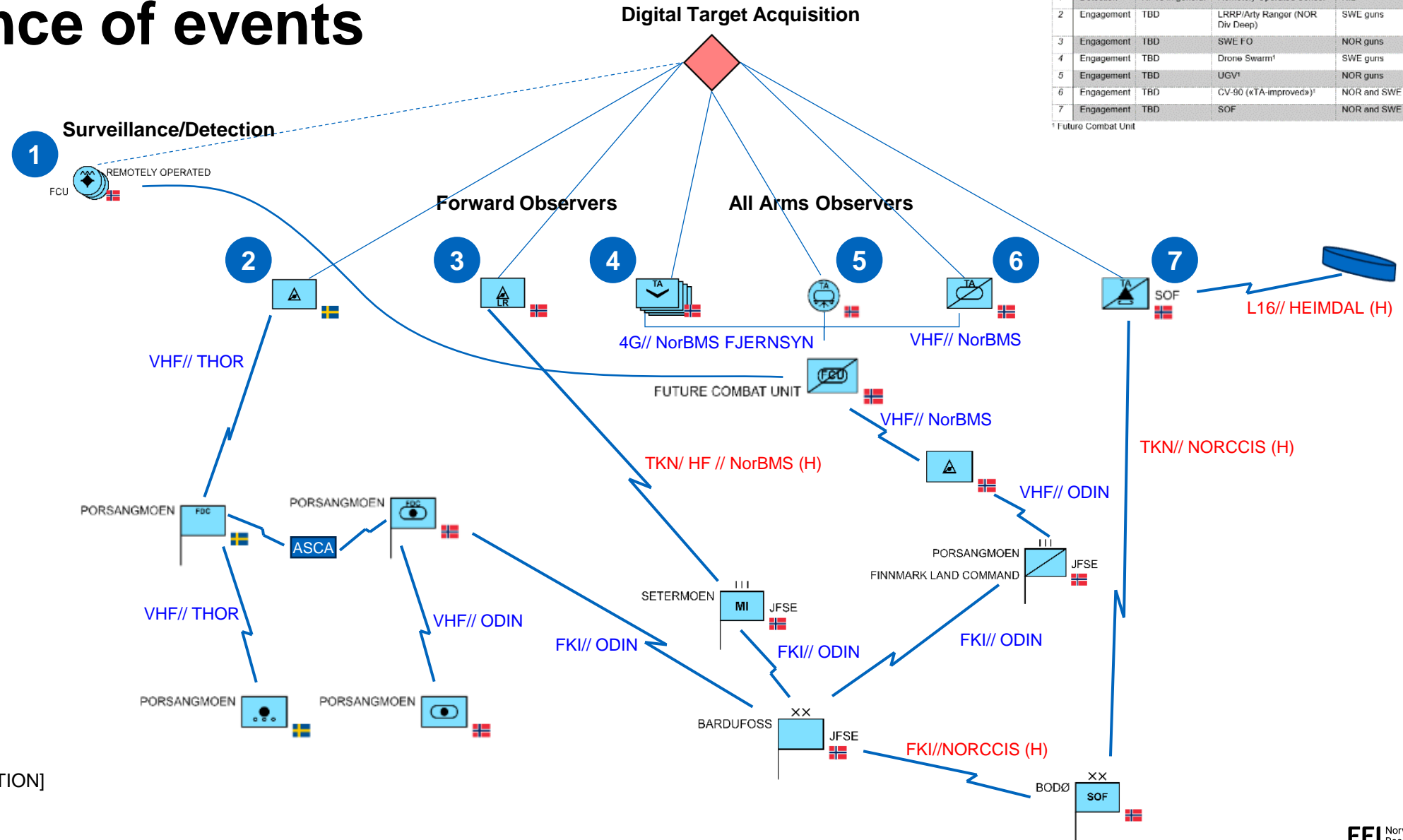
Arctic Strike 2024 – C2/C4IS overview and sequence of events

Order of TA and engagements with effectors:

Nr	Activity	Target	Sensor	Effector	Tactical (T)/ Experimental (E)
1	Detection	HPTs in general	Remotely Operated Sensor ¹	NIL	(E)
2	Engagement	TBD	LRRP/Arty Ranger (NOR Div Deep)	SWE guns	(T)
3	Engagement	TBD	SWE FO	NOR guns	(E)
4	Engagement	TBD	Drone Swarm ¹	SWE guns	(E)
5	Engagement	TBD	UGV ¹	NOR guns	(E)
6	Engagement	TBD	CV-90 («TA-improved») ¹	NOR and SWE guns	(E/T)
7	Engagement	TBD	SOF	NOR and SWE guns	(T)

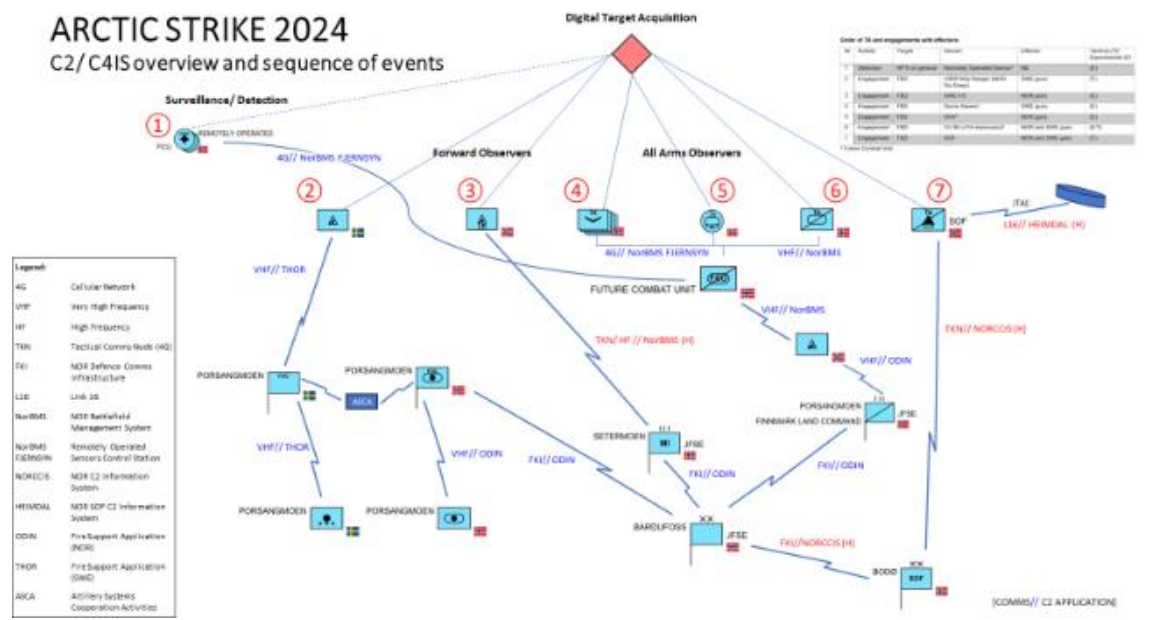
¹ Future Combat Unit

- Legend:**
- 4G Cellular Network
 - VHF Very High Frequency
 - HF High Frequency
 - TKN Tactical Comms Node (4G)
 - FKI NOR Defence Comms Infrastructure
 - L16 Link 16
 - NorBMS NOR Battlefield Management System
 - NorBMS FJERNESYN Remotely Operated Sensors Control Station
 - NORCCIS NOR C2 Information System
 - HEIMDAL NOR SOF C2 Information System
 - ODIN Fire Support Application (NOR)
 - THOR Fire Support Application (SWE)
 - ASCA Artillery Systems Cooperation Activities



[COMMS/C2 APPLICATION]

Arctic Strike 2024 – “Battlefield Geometry”



Arctic Strike

– an operational live fire experiment



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into an effective defence**