



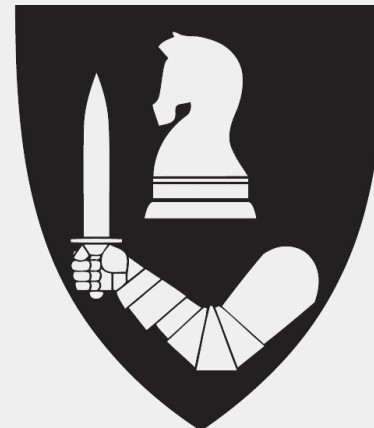
*Norwegian Army Staff & Command
Trainer (NASCT)*

Joint Conflict and Tactical Simulation

*Presentation
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FORSVARET



Army staff and command trainer

The army staff and command trainer (NASCT) is a system with multiple components, in order to facilitate for training and exercise on a mainly tactical level.

Capabilities ranges from entity level up to and including brigade with Joint Operational capabilities.

Mostly used for battalion staff training, facilitating for a single battlegroup, including adjacent units and the brigade as HICON.

NASCT are used to simulate practical all the capabilities within the brigade system on a combat, tactical and operational level.

The current capacity is for 120 operators, with another 40 in reserve for BDE exercises.



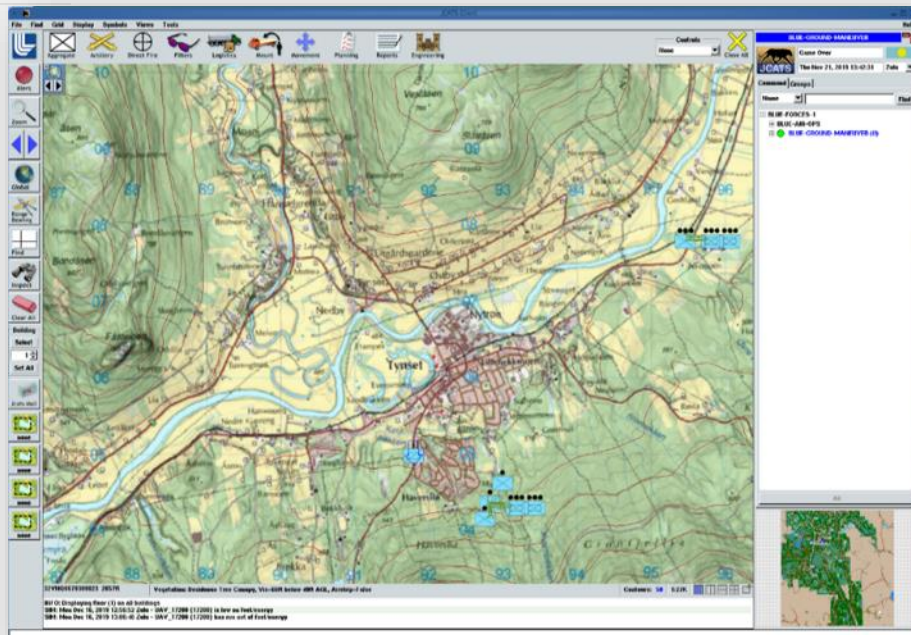
JCATS in NASCT

«Joint Conflict and Tactical Simulation» is together with the C4IS the core of NASCT.

We have developed a gateway interface between JCATS and the Norwegian Tactical Information system (NOR-TI-B) on a restricted level. This enables an automated blue force tracking in NOR-TI-B, fed from JCATS.

Due to the (tiny!) size of the Norwegian Army, we have heavily focused on single entity capabilities within all the branches (maneuver, log., eng., css, mp etc.), and modelled these as correctly as possible.

This makes it more demanding for the operators, but enables realistic simulation on combat level in BN and COY exercises.



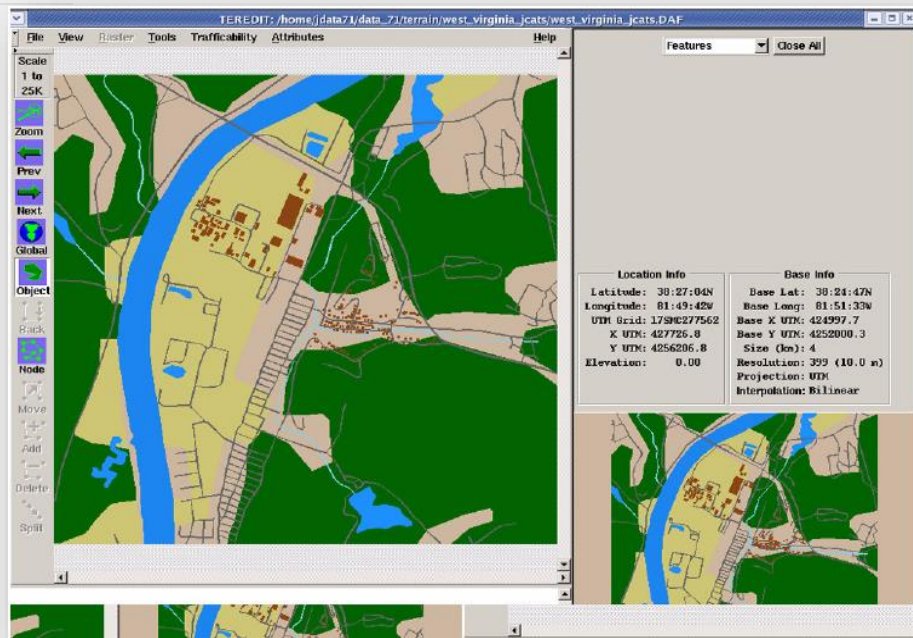
Implemented capabilities JCATS

- Comprehensive Norwegian database built from scratch, including all platforms, entities and ammunition for the army, navy, air force and the national home guard.
- Some allied/NATO capabilities built.
- The warfare center "standard" OPFOR ORBAT, loosely based on the RU 14th Army corps, with additional capabilities currently in the northern flank.
- Almost all special capabilities modelled, e.g. F35, MICLIC, missiles (JSM/NSM), bridges, AD, SEAD, EW, SOF and so on.
- A task group looking into detailed LOG modelling on all levels of the logistics chain, including civilian infrastructure and beyond (NSE).



Terrain databases

- In-house building correlated terrain databases (C2 and VBS) on demand. High quality of national GIS-data enables high fidelity insets in area of operations on a tactical and combat level.
- Performance threshold for a high fidelity terrain is approx. 500x500km, including a 1:50.000 raster overlay.
- Modelling of interactive infrastructure; MLC, bridges, buildings, airports etc.
- Winter and summer edition of databases, in order to facilitate for frozen marshes, lakes and mountain areas, i.e. anything that makes a tactical difference between frozen/snow and summer.
- Terratools as the main tool for content terrain generation.



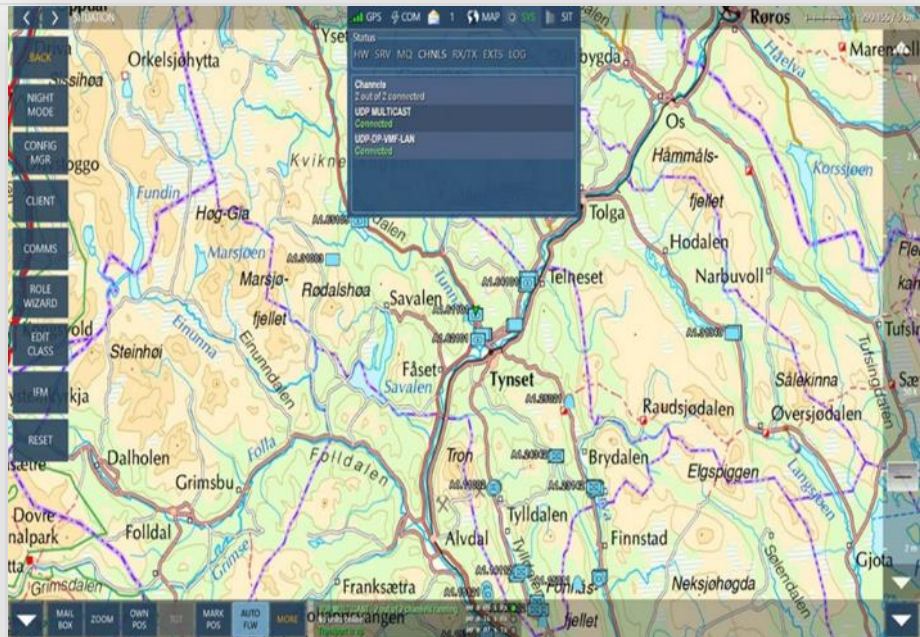
Facilitating for all systems used in the army; norBMS, norCCIS, JChat, XOMail, MS Office, common fileshares, and TVS. Training domain is separated in restricted or unclassified networks.

C4IS running in a closed network, however, future upgrade will allow feeding into operational network in a simulator-context mode.

Complete C4IS system available down to platoon level, and TVS/norBMS available for all operators.

As of now, we are currently investigating into expanding the functionality, by extending the gateway according to the NMSG C2SIM-standard.

However, due to a lacking API for JCATS, this makes the work a bit time consuming and challenging...



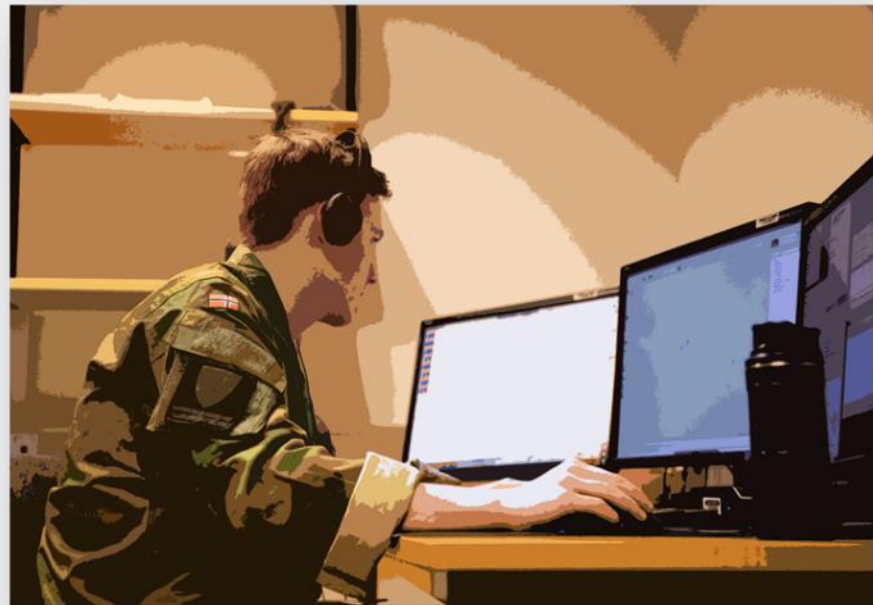
Alternate use of the NASCT

- A permanent unclassified HLA federation established for blended exercises, training and branch courses. As of now, VBS3, JCATS and the C4IS interconnected.
- In very near future, the (live) Combat Training Center (SAAB) will also be part of the federation.
- Multiple branch courses uses this setup on a regular basis throughout the year, especially in operation on FARSIDE and REAR (Recon, OP's, UAV, IF and intelligence gathering.)
- We are also in process of implementing a "Somulator" to the network, to facilitate for information warfare, and social media influence on decision makers, especially in the G2-section, but also the S2-level.
- This "Somulator" is developed by the Norwegian Defence Research Institute.



JCATS pros?

- Level of details and fidelity:
 - *From single entity capabilities (e.g. Javelin) to operational capabilities (e.g. Naval/Joint Strike Missile)*
 - *Defilade down to "centimeters" = opportunities for combat simulation on a low level.*
- Accessibility of datasets and adjustments:
 - *If it does not exist, build it!*
 - *«It's Your data!»*
- Multi-domain, the sky is the limit
 - *Modelling may be ranged from a civilian child to Carrier battle groups.*
 - *Extremely wide specter of vignettes and challenges may be simulated.*
 - *From checkpoints of a vital object to tactical nukes.*
- Gateway and Interface options
 - *HLA, DIS and OTH Gold.*



JCATS cons!?

- Slim to none «Artificial Intelligence»
 - *Reacting on somewhat limited rulesets.*
- Operator demanding (LOCON)
 - *Gets nothing free out of the simulator, this often means micromanagement.*
 - *«A bad sim.operator with excellent equipment loses every time against a good sim.operator with mediocre equipment!»*
- Missing / insufficient 3D-module and limited «Line of Sight» functionality.
 - *Difficult to «understand» the terrain.*
- Human resources demanding; in-use, development and management.
 - *Complexity, database work and «Force planning»*
- Outdated user interface.
 - *«Welcome to the nineties!».*



RFC / Improvements

- TBD

