SNE Virtual Data Repository (SVDR)

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Overview

- Background
- SVDR Plan
- Current SVDR-Models Status
- Current SVDR-Terrain Status
- Future Architecture

Background

- Opportunity to make products from past efforts available to engineers
- Standardize model development/documentation
- Create repository of runtime databases
  - OneSAF SNE Repository as test-case

SVDR Plan

- First year build initial test-bed system and get feedback
- Second year attack critical problems uncovered in developing test-bed system and redesign
  - Metadata content standard
    - Difficult due to diverse customer/user base—has to evolve
    - Concentrated instead on search criteria
  - Coordination/integration with other similar systems
  - General improvement/redesign of test-bed system based on search criteria from study
- SVDR now consists of two distinct sites
  - SVDR-Models for 3-D models
  - SVDR-Terrain for runtime databases

Current SVDR-Models Status

- Significant effort over last year to integrate with AGMIID at TEC
  - Gained extremely valuable knowledge on problems and pitfalls of integration of a models repository with a geospatial repository
  - Unable to finish since AGMIID was halted and shut down by TEC
- Current SVDR-Models site is completely redesigned due to lessons-learned in previous efforts
  - Insufficient metadata for rigorous search mechanisms from metadata study
    - Would require either manual insertion of metadata or extensive work on automated methodologies
    - Users stated that main search should be on common name of model with sorting by other attributes

Current SVDR-Models Status

- LMIS TSGA EDCS attributed models determined to be currently the best metadata for our purposes
  - Currently only models on the site but we hope to resolve release issues to expand to other models
    - Expanding will allow us to further study the issues involved with putting various models with little-to-no metadata
- Site now based on current state-of-the-art web search mechanisms and utilizes EDCS attributes
- Soon will be “public” as test-bed with controlled set of users

Current SVDR-Models Status

- Integration with MEL as “alternate resource site” will be done as soon as we are public
  - Alternate resource site means that hits on our key words on MEL will direct users to our site rather then directly provide data to user
  - Currently necessitated by the unique nature of our models data vs. geospatial data
  - Hope to work on making direct access possible this year

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http://localhost/~wwwuser/svdr3/results.php

SNE Virtual Data Repository

SEARCH

By Keyword
building

By EDCS Code

GO

Resources
Help
Logout

Results 10 – 20 of 51 for keyword: building

bldgsft_lrg_000

bldgsft_lrg_060

bldgsft_lrg_100

bldgsft_med_000

bldgsft_med_060

bldgsft_med_100

bldgsft_res_000

Done

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http://localhost/~wwwuser/svdr3/results.php

SNE Virtual Data Repository

SEARCH

By Keyword

By EDCS Code

EDCS_CC_BUILT_UP_

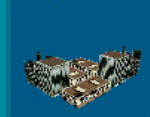
GO

Resources
Help
Logout

Model Submission
Metadata

CreateDB
PopulateDB
Parse Keywords
ShowModelTable
DeleteModelTable
DropDB

Results 10 – 15 of 15 for EDCS code: EDCS_CC_BUILT_UP_AREA

	bldgs_res_066
	bldgs_res_100
	bldgs_urban_000
	bldgs_urban_066
	bldgs_urban_100

SVDR–Models Database
Questions or comments to support@svdr.org

Done

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http://localhost/~wwwuser/svdr3/resources.php

SNE Virtual Data Repository

SEARCH
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Links

The following are links to related sites:

M&S Links

- DMSO

  Defense and Modeling Simulation Office – Focal point for information concerning DoD modeling and simulation (M&S) activities.

- TEC

  Topographic Engineering Center provides support for the Nation's civil and environmental initiatives through research, development, and the application of expertise in the topographic and related sciences.

- STRICOM

  Simulation, Training and Instrumentation Command – Provides the Army with training devices, simulations, simulators and instrumentation for both training and testing.

Data Repositories and Search Engines

- ESG

  Environment Scenario Generator – Provides an integrated, physically consistent environmental data set meeting a Modeling and Simulation (M&S) customer's requirements for an authoritative and realistic representation of atmospheric, oceanic, and/or space natural environment elements for specified regions, time frames and conditions.

- MEL

  Master Environmental Library – Source for environmental information which resides at different United States military and government sites.

- Virtual Targets

  Model repository of air defense, aerial targets, armored vehicles, artillery, effects, equipment, furniture helicopters, lifeforms, radars, railroad vehicles, ships, and space vehicles. Model data includes visual, engineering and radar analysis models in various formats including OpenFlight, Wavefront, AutoCad and XPATCH face Model.
  Access to the site is restricted. For login access, contact the site. For more infomation send e-mail to: VTCRegistrar@hwilms.rdec.redstone.army.mil

Database Tools

- SEDRIS

  Synthetic Environment Data Representation and Interchange Specification – Source of information on the infrastructure technology (data model, api, tools) that enables applications to express, understand, share, and reuse environmental data.

Done

Current SVDR-Terrain Status

- Realized the need for repositories of runtime databases
  - Allow for ease of database build, storage, and retrieval
- OneSAF SNE selected as a test-bed system
  - Small effort to uncover pitfalls and best methodologies to do future large-scale efforts
  - OneSAF selected since it was close by and is a cooperative and enthusiastic customer
  - Good communications and excellent feedback

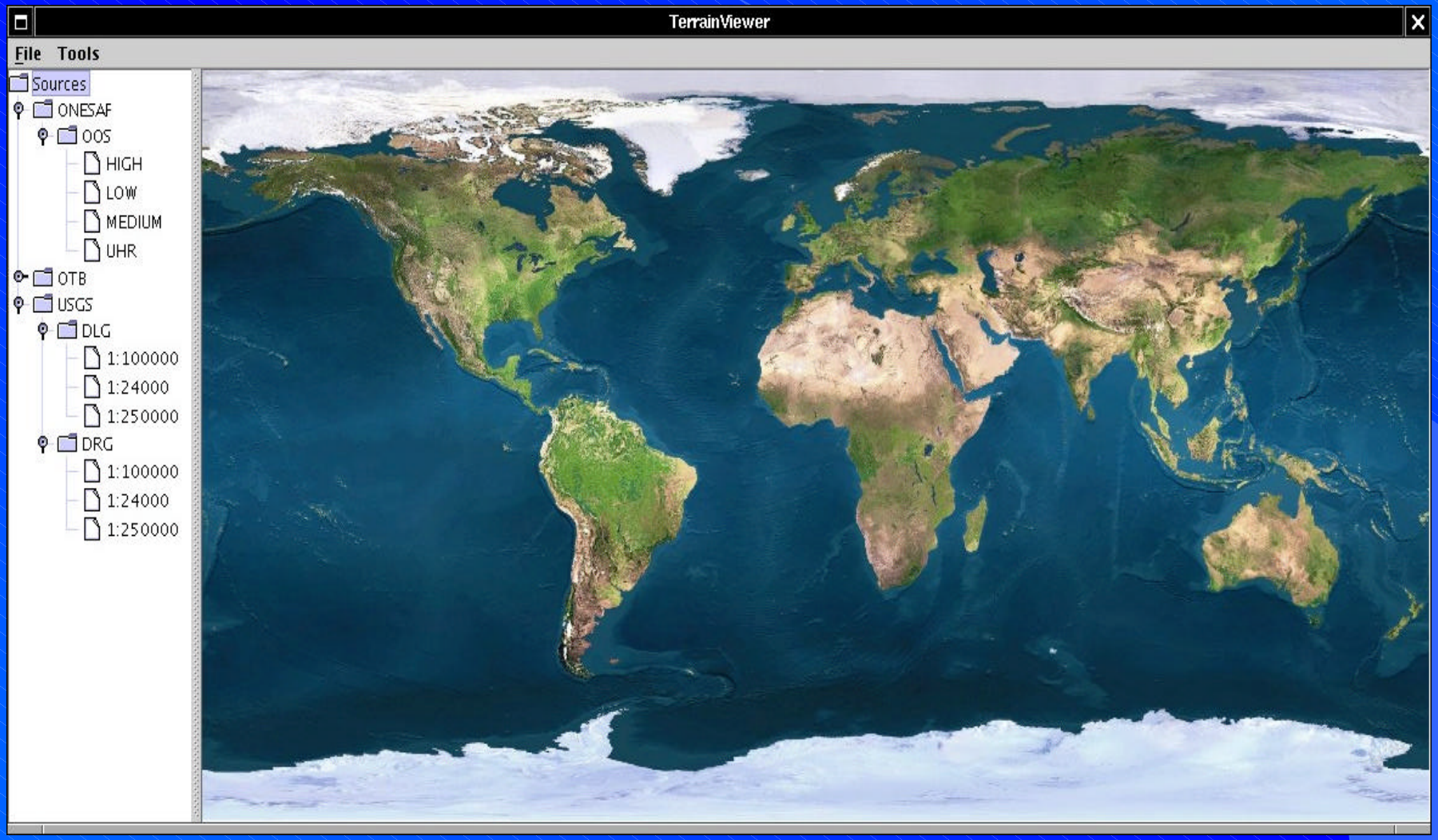
Current SVDR-Terrain Status

- Design goals
  - Highly interactive user interface, with world map for displaying existing dataset availability and query input
  - Ability to connect to database across common firewall configurations
  - Allow datasets to be inserted into database as part of batch production process
  - Utilize file space on multiple hosts for dataset storage

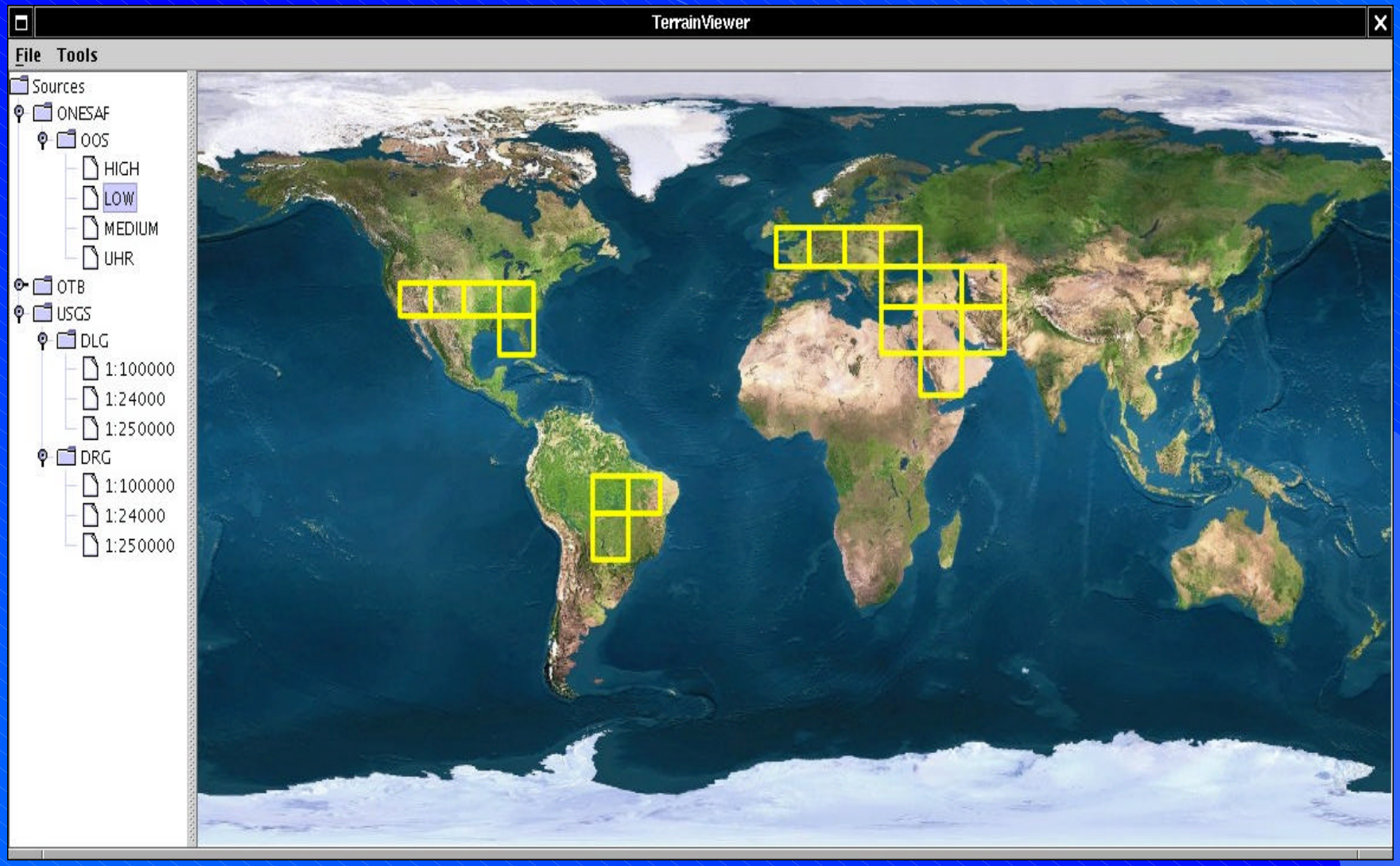
Current SVDR-Terrain Status

- Current test-bed will only consist of otf's and supporting data, but system is flexible and easily expandable
  - Also fairly easily expanded to other types of information with new GUI
- Currently working issues on releasability of data before site goes public
  - Will also be integrated with MEL as alternate resource site

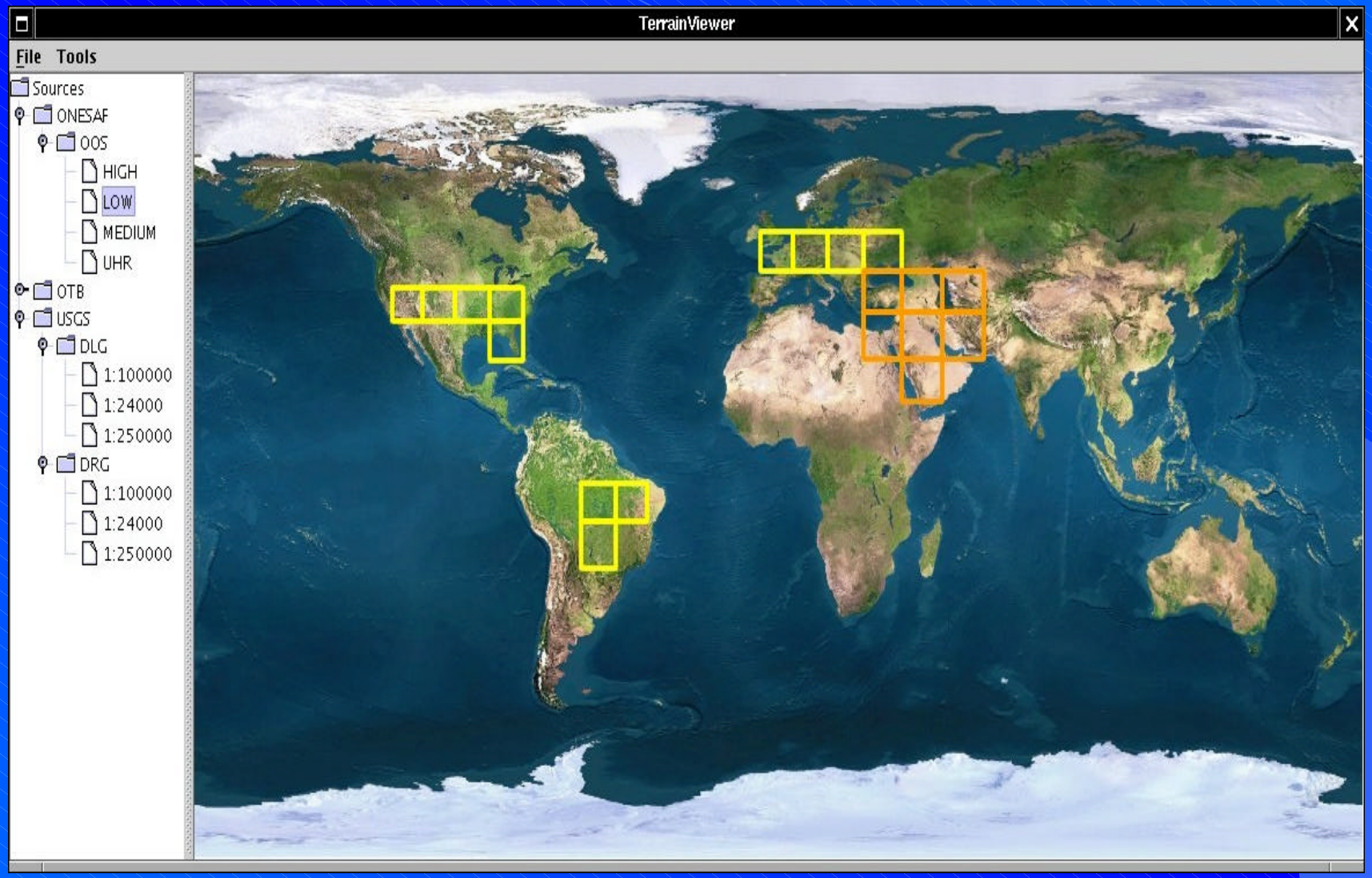
SVDR-Terrain



SVDR-Terrain



SVDR-Terrain



Future Architecture

- Since this is an R&D project, future architecture is always a work in progress but important potential items influencing design decisions
- More robust integration with other SNE repositories such as MEL, Virtual Targets, etc.
- Improved SEDRIS linkage
  - EDCS critical to SVDR
- PKI
  - Will leverage work done by TEC and MEL
    - They are strongly working the issue
    - Will still undoubtedly require SVDR architecture work to implement solution

Future Architecture

- Possible support to future systems such as FCS
  - Integration?/coordination? with "operational" systems such as DTSS
  - More automation of both deposits and withdrawals in SVDR
- Expansion beyond traditional M&S SNE data
  - FCS will blur the line between M&S and operations
    - Is mission rehearsal/planning a training M&S function or an operations function—probably both
  - There are also repository needs beyond traditional SNE datasets
    - Sensor algorithms and/or sensor models?
    - AOS features?
    - SEDRIS tools?
    - Other value-adding tools?