

# One Semi Automated Forces

## *OneSAF Objective System Users Conference*

### *Environmental Database Generation Environment*

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# Overview

## Environmental Database Generation Environment (EDGE)

- What is EDGE?
- Database generation plan
- Process
- UHRB
- EDM



# EDGE – What is EDGE?

- EDGE – Environmental Database Generation Environment
- Will produce Terrain Databases (TDB) at high, very high, and ultra high resolution
- The objective of the EDGE task order is to assess the best technical approach to meet the OOS database requirements

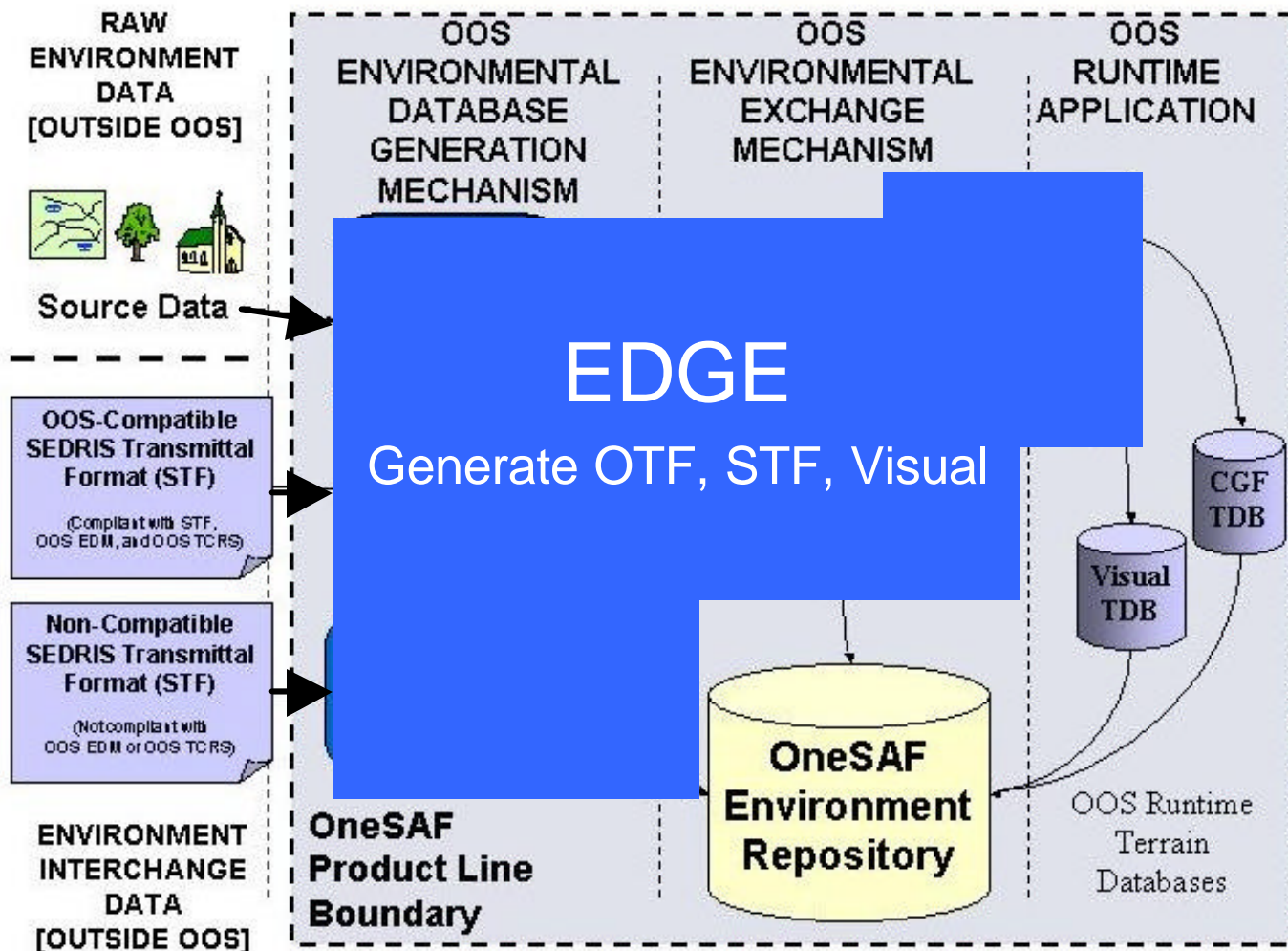


# EDGE Requirements

- EDGE must be able to use DTED, VMAP, ITD, UVMAP, RTV, SEDRIS
- EDGE must use data which conforms to EDM
- EDGE must provide databases at the following resolutions
  - 300km x 300km at 1:50k feature data with DTED 2
  - 50km x 50km at 1:12,500 feature data with DTED 3
  - Selected MOUT areas with DTED 5 and appropriate feature data
- EDGE must be able to convert from OTB, CCTT, AVCATT, WARSIM, previous OOS
- EDGE shall generate correlated databases



# EDGE Process



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# Database Generation Plan

WARSIM Reuse/Interoperability  
VMAP Level 1 (1:250,000 Scale)  
Global Availability ~2004/05

Block D  
CMTC

Block A/B  
JRTC

Block C  
NTC

Block D  
Korea

Block C  
Ft Hood

Block TBD  
Balkans

Block A  
Golden  
Database

1:50000 Area

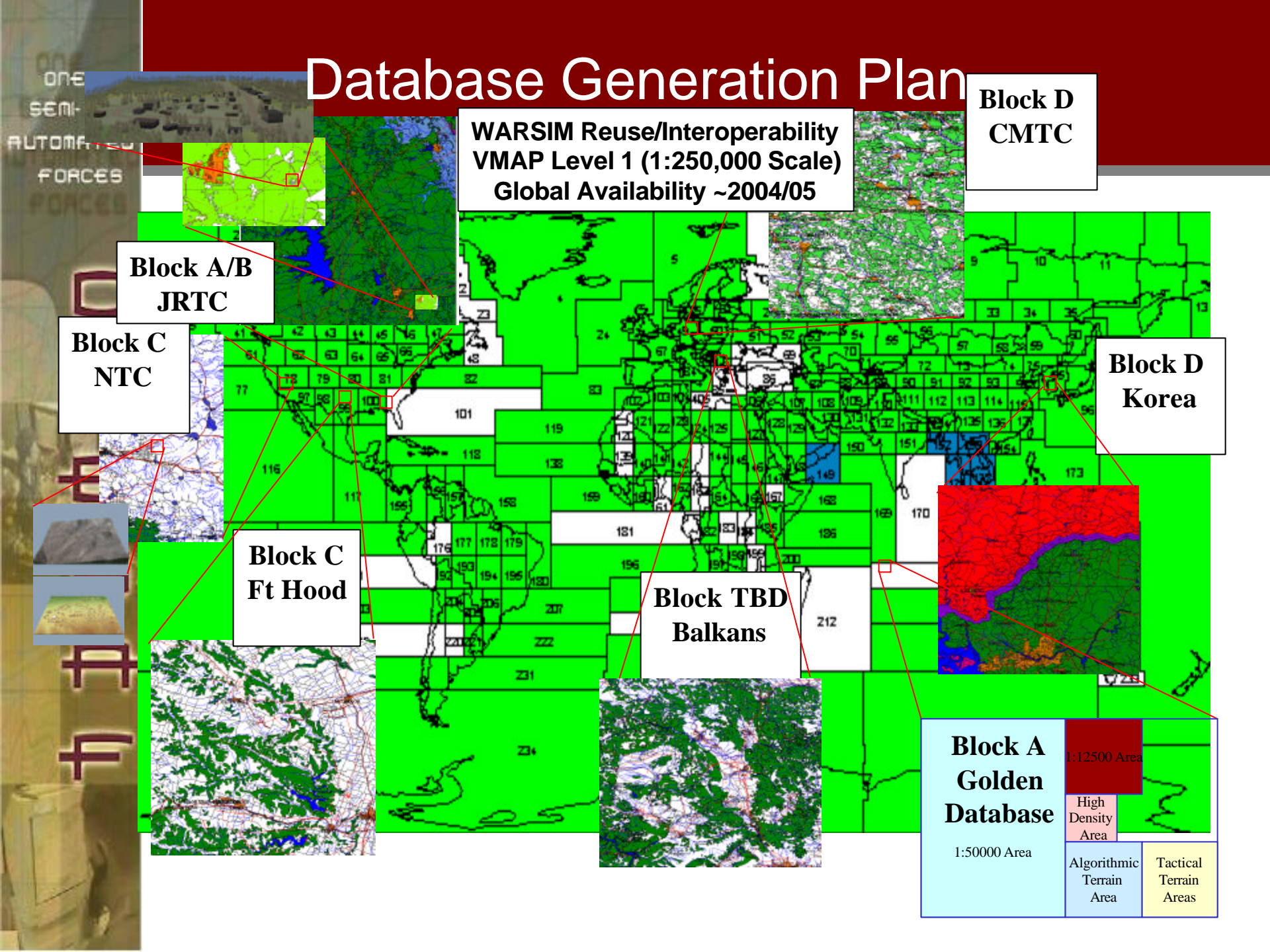
1:12500 Area

High  
Density  
Area

Algorithmic  
Terrain  
Area

Tactical  
Terrain  
Areas

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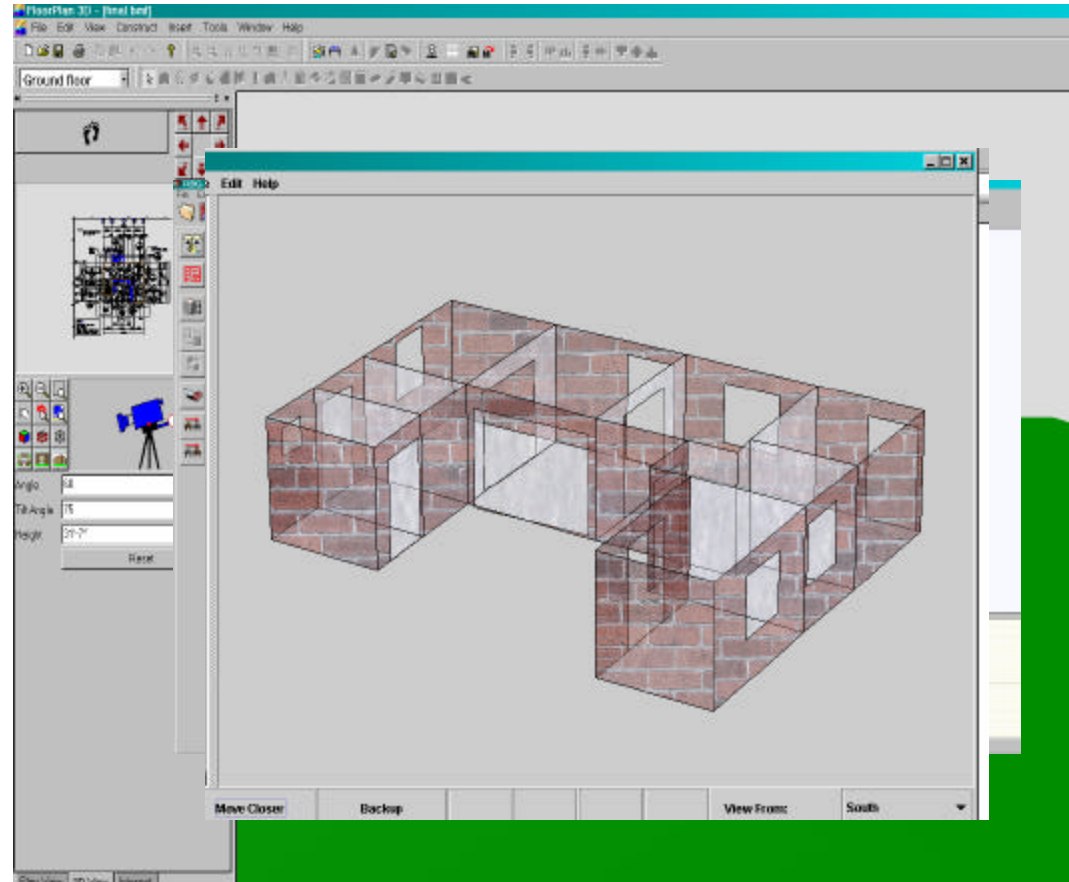
# Ultra-High Resolution Buildings (UHRB)

- A UHRB is a building with full interior representation and rich attribution. The UHRB attribution is designed to support complex behavioral models in urban settings
- Representation of floors, walls, rooms, apertures (windows, doors, breach holes, etc), stairs, ceilings, roofs



# Ultra-High Resolution Buildings (UHRB)

- Import CAD
- Generate 3D
- Import 3D
- Generate UHRB



# Buildings Generation : CAD to 3D

Funded by STRICOM SNE STO

- Objective - define next generation “data interchange” format
- Cost comparison
  - Manual Processing (TDC)
  - Automated Processing (IDE)
    - no CGF representation (yet)



# Environmental Data Model

- High-level specification of environment phenomena attempting to bound all possible environmental representations within OOS
- Covers the three domains of Terrain, UHRB, and AOS for OOS
- The EDM does not specify physical models of the environment. It does specify parameters to drive such models and the data elements produced by the models
- EDM contains environmental data elements for all OOS clients
- Utilizes Environmental Data Coding Specification (EDCS)



# EDMs

1999

2000

2001

2002

2003

WARSIM  
TCDM

**TSGA (DMSO)**

- TSGA Terrain
- 3D Static Models

**OARDM (DMSO)**

- WARSIM AOS
- EnviroFed
- JWARS

**NIMA Products (SNE STO)**

- FFD
- DNC
- SWBD
- UVMAP
- TOD
- VMAP 0
- VMAP 1
- ONC
- TLM 1:50K

**Legacy M&S (OOS, CCTT)**

- CCTT
- OTB / JSAF
- Castforem
- Janus
- BBS

**C<sup>4</sup>ISR (OOS, EDB IPT)**

- IMETS
- JCDB
- NRMM II

**New M&S (OOS)**

- OOS Terrain
- OOS UHRB
- OOS AOS

**OOS Environment**

**(SNE STO)**

- 3D Dynamic Models

**(CEDB)**

- MSDS

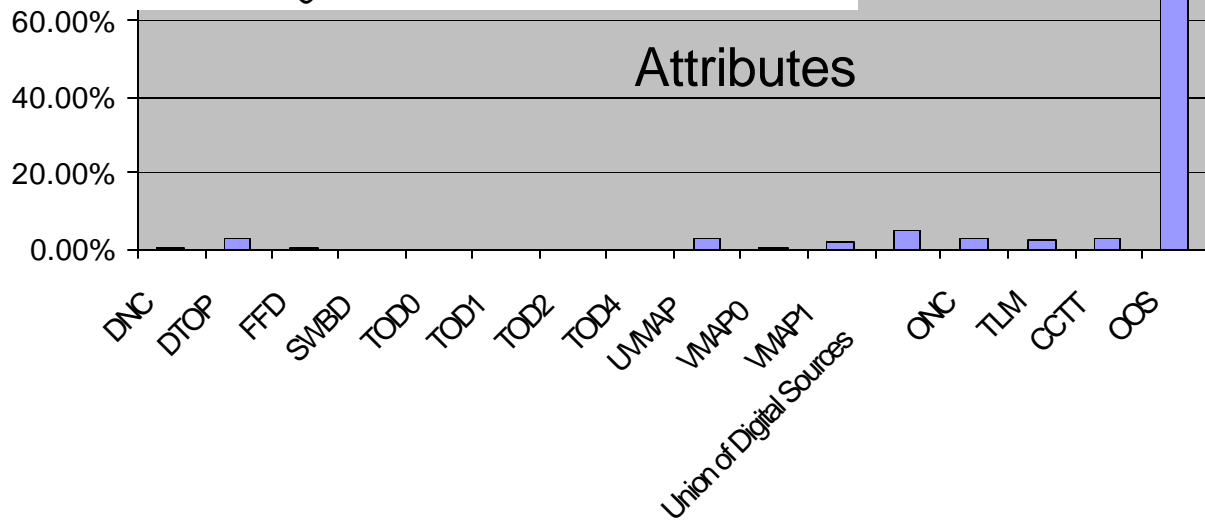
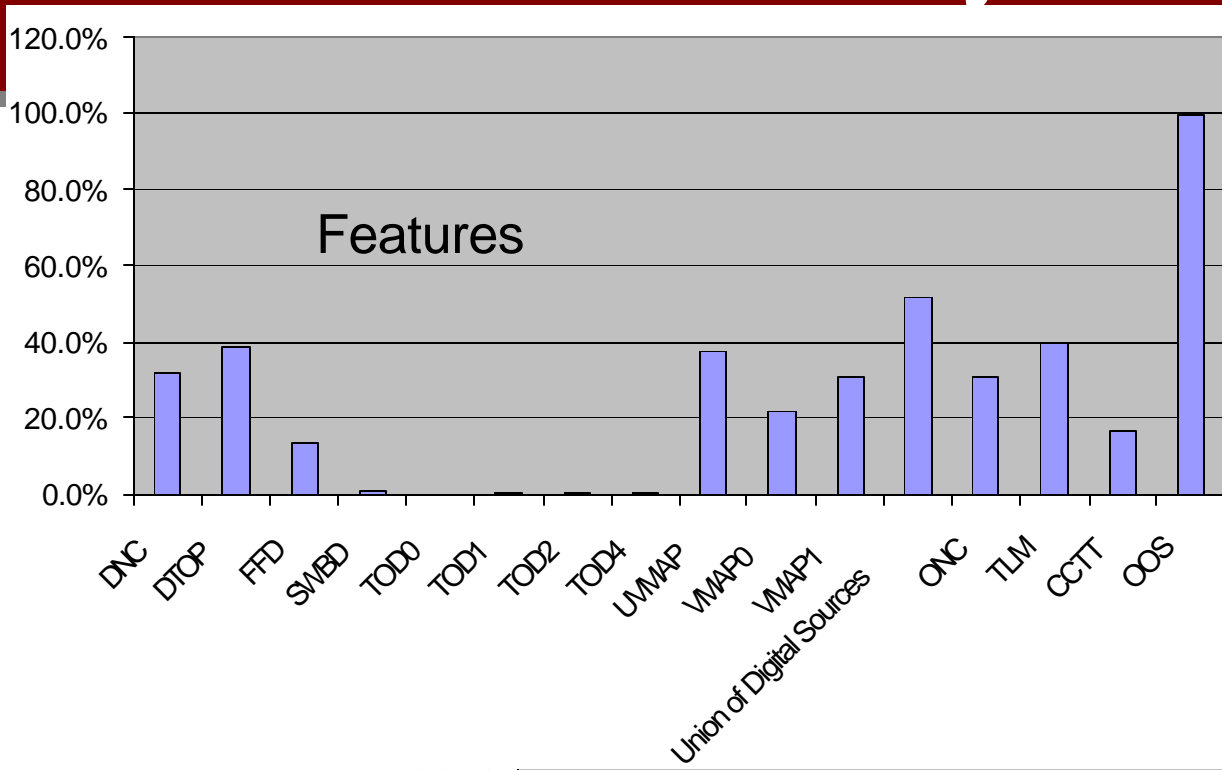
**(EDB IPT)**

- DSCRS
- DREDM
- UCDM / JMCDM

**Common Data Model Framework (CDMF)**



# Quantitative Analysis



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# Questions

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