LUCIAD OGC CDB STUDIO

Bridge the gap between the GIS and modeling & solutions
AGENDA

1. Company Intro
2. Capability Overview
   → Visualize OGC CDB
   → Create OGC CDB
   → Export to GeoPackage
3. Demonstration
COMPANY INTRODUCTION – LUCIAD

Unit of Hexagon US Federal – Chantilly, VA

Software Engineering Company
→ Products – backward compatible
→ Services – knowledge transfer

18 years on the market – Defense and Aviation Focus
→ Government Organizations (FAA, DARPA, US Army, AGC, USSOCOM)
→ Systems Integrators
→ Product companies

Open architecture COTS toolkit for Government customers
**MULTI-DOMAIN RELEVANCE**

**Command and Control**
- NATO Integrated Command and Control (ICC)
- NATO Air Command and Control System (ACCS)
- NATO Joint Common Operational System (JCOP)
- Thales Raytheon Systems Command View Air
- SITAWARE BMS (20 nations)

**Mission Planning/Flight Planning**
- Helicopters: NH90 NFH & TTH, Lynx, Panther, Puma
- Fighters: Rafale, Gripen, Tornado, Eurofighter
- E2C Hawkeye, A400M
- FAA AFSS (Lockheed Martin)
- Jeppesen

**Intelligence, Surveillance and Reconnaissance**
- NATO Geospatial Intelligence Tool (iGeoSIT)
- NATO AGS (Global Hawk) Ground Stations
- Multiple UAV systems and Ground Stations

**GIS**
- DARPA – TRANSAPPS Program
- NATO iGeoSIT
- UK RAF Overseer

**Air Traffic Management & Control**
- NATO MASE
- Federal Aviation Administration NextGen
- EuroControl

**Ballistic Missile Defense**
- Extended Air Defense Planning and Tasking Tool (PlaTo)
- Shared Early Warning (SEW)
- Active Layered Theatre Ballistic Missile Defense
- Singapore Missile Defense System

**Logistics/Support**
- Allied Deployment and Movement System
- NATO LogFS
- NATO XREP
- Airbus VRES

**Modeling/Simulation/Training**
- NATO Eguermin (Mine Warfare)
- NATO AWACS
- Eurocontrol
- USSOCOM

**CYBER C2**
- Joint Cyber Command
LUCIAD SOLUTIONS

ACT

DESKTOP
LuciadLightspeed

BROWSER
LuciadRIA

MOBILE
LuciadMobile

VISUALIZE • ANALYZE

SERVER
LuciadFusion

CONNECT

Multiple data sources, real-time feeds, sensors, simulations, OGC and other services. With Luciad, connect, visualize and analyze your data on any platform.
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KEY BENEFITS

1. **Reduce Processing Time**
   - Fast Tiling Engine for producing CDB
   - Leverages Luciad’s multi-threaded tiling engine

2. **Ease of Use**
   - Easy button for users in the field

3. **Extensible**
   - Extend functionality and UI to meet users needs
   - Add additional input or output data formats

4. **Retained Accuracy**
   - No loss of accuracy from original data
LUCIAD SOLUTIONS

CDB Studio built with LuciadLightspeed

ACT

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LuciadLightspeed

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LUCY

Ready-to-use LuciadLightspeed application with development framework

1. Integrated LuciadLightspeed capabilities
   → Drag’n’drop hundreds of formats
   → 2D/3D/4D
   → Graphical creation and editing
   → Vertical view, table view, comparison view,…
   → Workspace support
   → Map-centric & multi-map
   → …

2. Fully configurable and modular
3. Easy integration
4. Entirely scalable
5. Extensible using plugin or add-on framework
CAPABILITY OVERVIEW

→ **Visualize** OGC CDB data store

→ **Generate OGC CDB** data store based on imagery, elevation, and vector data

→ **Export OGC GeoPackage** data based on CDB data.
VISUALIZE OGC CDB

- Drag and Drop
- High performance
- Retained accuracy
- Any projection
- Visual Comparison tools
- Vertical View
- Metadata Visualization and Query
VISUALIZE OGC CDB

Elevation
→ Dataset 001, Elevation
→ 001, 001 Primary Terrain Elevation

Imagery
→ Dataset 004, Imagery
→ 001, 001 Yearly VSTI
→ 003, 001..012 Monthly VSTI
→ 004, 001..004 Quarterly VSTI

Vector
→ Dataset 100, GSFeatures
→ Dataset 101, GTFeatures
→ Dataset 102, Geo political features
→ Dataset 201, Road network
→ Dataset 202, Rail Road network
→ Dataset 203, Power line network
→ Dataset 204, Hydrography network
GENERATE OGC CDB

→ Create/Save/Open CDB Projects

→ Data Sources
  ▪ Imagery/Elevation/Vector
  ▪ Add
  ▪ Preview
  ▪ Assign scale ranges
  ▪ Apply clipping shape

→ CDB Definition
  ▪ Manage mapping of source to CDB layer
  ▪ Max Level of Detail
  ▪ Area of interest
EXPORT TO GEOPACKAGE

→ Choose Layers from OGC CDB
  ▪ Imagery
  ▪ Elevation
  ▪ Vector (GPKG Styling extension)
  ▪ 3D Models (GPKG 3D extension)

→ Level of Detail
→ Area of Interest
→ See Estimated size of Geopackage
→ Choose output file
DEMONSTRATION
CDB Studio

- CDB Definition
  - Imagery, Elevation, Vector
  - AOI, Max LOD
  - Automatic allocation of data sources → Type, Scale
  - Drag & drop

CDB Definition controls
- Add/remove data sources
- New definition
- Generate CDB

CDB Definition detail
- Max LOD
- Draw AOI
- Configurable output path
→ **CDB Studio**

- **CDB Creation**
  - Imagery → Tiled
  - Elevation → Tiled
  - Tiled Vector → Tiled
    - OSM (OpenStreetMap)

- **Validation of generated data**
  - View CDB Imagery
  - View CDB Elevation
  - View CDB Vector (in progress)

**Map layers**
- CDB data store
- Imagery
- Elevation
- Drag & drop
CDB to GeoPackage

- Export wizard
- CDB data set component selection
- Component configuration
  - LOD, AOI

GeoPackage export wizard - Component selection

GeoPackage export wizard
- Level of detail
- Area of interest
- Wizard: previous
THANK YOU!

Trent.Tinker@Hexagon.com