



# **A Quality Standard for the Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE)**

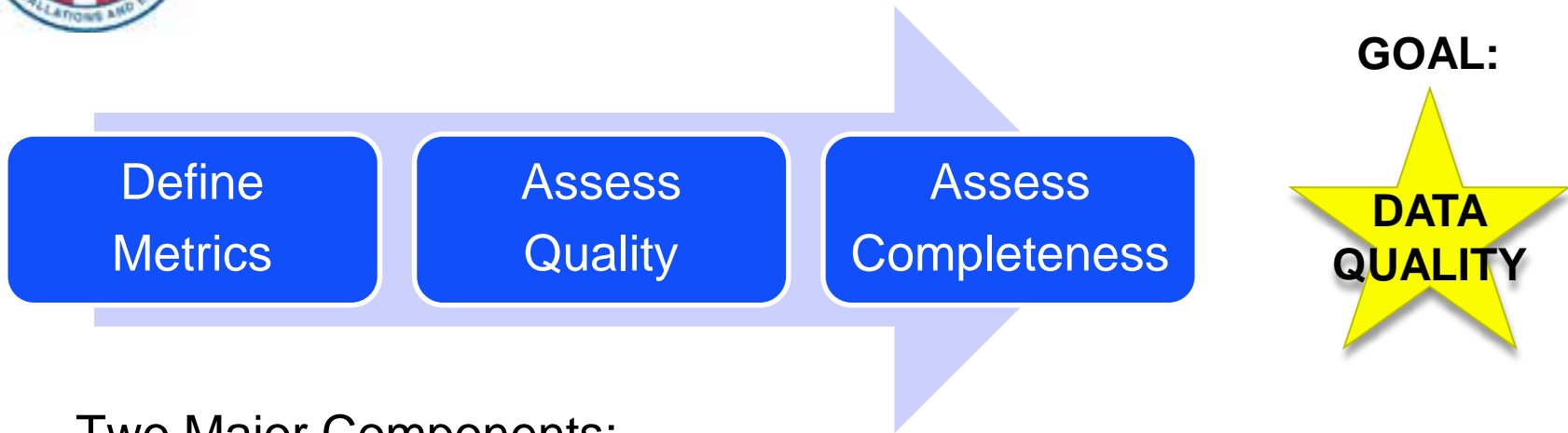
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# What is SDSFIE-Q?

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Two Major Components:

1. SDSFIE-Q establishes a formal process for defining metrics and assessing quality & completeness of IGI&S data
2. SDSFIE-Q includes high level data quality guidelines for:
  - Vector data
  - Raster data
  - Services

The focus is on Data Quality (via metadata) and not data collection procedures



# Authorities

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- DoDI 8130.01 gives authority to the IGG to establish guidelines to enable interoperability of IGI&S capabilities, ensure data quality and establish IGI&S standards
- The SDSFIE Governance Plan established SDSFIE-Q as the IGI&S standard for data quality and data quality reporting
- To meet the provisions of DoDI 8320.02, SDSFIE-Q is necessary to ensure the IGI&S community provides understandable, trusted, interoperable, and accurate geospatial data and services to the Department of Defense (DoD) for decision making
- SDSFIE-Q applies to the EI&E community, USACE Civil Works community and any other DoD organization mandated to use SDSFIE as specified in the DoD IT Standards Registry (DISR)



# The Foundation of IGI&S Quality: ISO 19157

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- SDSFIE-Q is designed to conform to ISO 19157, “Geographic information – Data Quality”
- Data Quality shall be evaluated by adherence to ISO 19157 Data Quality elements:
  - Completeness
  - Logical Consistency
  - Positional Accuracy
  - Thematic Accuracy
  - Temporal Accuracy
  - Usability

Metadata elements for Data Quality must be populated in the metadata for each layer per the SDSFIE Metadata Implementation Specification (SMIS)



# The Structure of SDSFIE-Q

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- The SDSFIE-Q document is organized into four parts:
  - Part 1: Overview of SDSFIE-Q (front section)
  - Part 2: Data Quality for SDSFIE-V
  - Part 3: Data Quality for SDSFIE-R (to be developed)
  - Part 4: Data Quality for SDSFIE-S (to be developed)
- SDSFIE-Q requires several IGI&S Program level data management guidance documents:
  - Component-level Quality Management Plans (QMP)
  - Data Content Specifications (DCS)



# Quality Management Plans (QMP)

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- Each IGI&S Program shall develop a comprehensive QMP. SDSFIE-Q specifies the format and key elements that each QMP must contain.
- Applicable to all SDSFIE parts (vector, raster and services)
- QMPs will include:
  - Guidelines for acquisition of data and services (e.g. contract specs)
  - Guidelines for ensuring quality in the processes for creating and maintaining data and services
  - Collection specifications (where applicable)
  - Policy drivers
  - Process for maintaining metadata
  - Discoverability and releasability guidelines
  - Guidelines for ensuring quality in each installation authoritative data source (ADS)



# SDSFIE-V Data Quality Guidance

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- Each IGI&S Program shall develop a data content specification (DCS) for each vector layer per Component Headquarters guidance.
- A DCS is a detailed description of a dataset or data layer, including how to collect the data with complete metadata records.
- DCSs will include:
  - Definition and description of the geospatial layer
  - Applicable policy and regulations associated with the layer
  - The description to collect and attribute the layer, addressing all 6 elements from ISO 19157
  - All valid sources and source selection criteria
- The Common Installation Picture (CIP) will also have a DCS.
  - CIP is the common set of SDSFIE-V layers required for collection at all installations and must be available via the installation authoritative data source (ADS)



# Quality Management Tool: The ADS

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- Per DoDI 8130.01, each installation shall have a trusted authoritative data source (ADS) for all geospatial data and services which fulfill installation and environment missions.
  - The ADS will provide mechanisms for the data to be made visible, accessible, understandable, trusted and interoperable for all authorized users and across the federal data sharing environment.
- Each Component will determine at which level the ADS resides (HQ, installation, MAJCOM, etc.)
- An ADS can be a quality management tool
  - Aggregated data layers facilitate cross-checking for duplicates, errors, omissions, temporal gaps, etc.
- ADS for raster data
  - Could be an imagery catalog with defined parameters (temporal, resolution)
  - Could be a source from which to download raster data





# SDSFIE-Q – Next Steps

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- Further define Data Quality guidance for raster (SDSFIE-R) and services (SDSFIE-S)
- Provide clear explanation of Data Quality metadata implementation guidance
- Draft an example DCS
- Further define specific metrics based on Component feedback that will be used to assess Data Quality