



NATO's Data Exploitation Programme

15th NATO Operations Research and Analysis (OR&A) Conference

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What we are going to cover...



Background

Data Exploitation

NATO Policy & Guidance Landscape

NATO Data Exploitation Programme and Implementation Plan

Initial Implementation Initiatives

Way Ahead

Background: Strategic Framework

NATO Military Strategy (2019): Executed through two high-level concepts



Concept for the Deterrence and Defence of the Euro-Atlantic Area (DDA)

Focus on short term threats, e.g. international terrorism

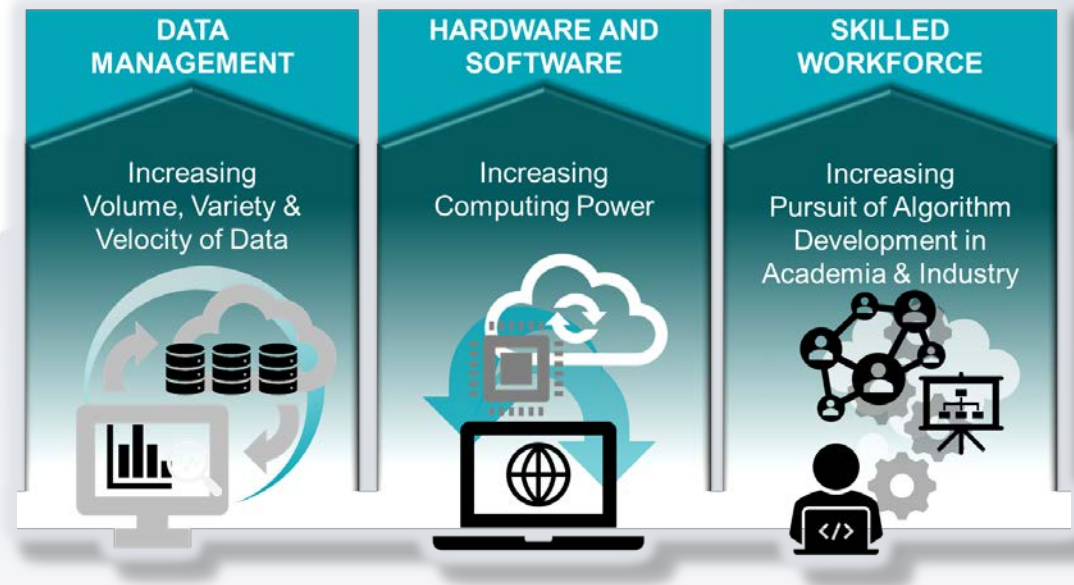
NATO Warfighting Capstone Concept (NWCC)

Focus on the longer term; recommendations to exploit emerging technologies and innovative approaches

DDA approved by Defence Ministers in Jun 2020
NWCC endorsed by Defence Ministers in Feb 2021

Background: Data as a Strategic Asset

- Take a strategic view of data
- 2018: Importance recognized by NATO
- Manage and leverage data as an enterprise resource to drive results
- Plays major role in NWCC / WDA*
(Data Exploitation Programme, Critical Enabler Data)

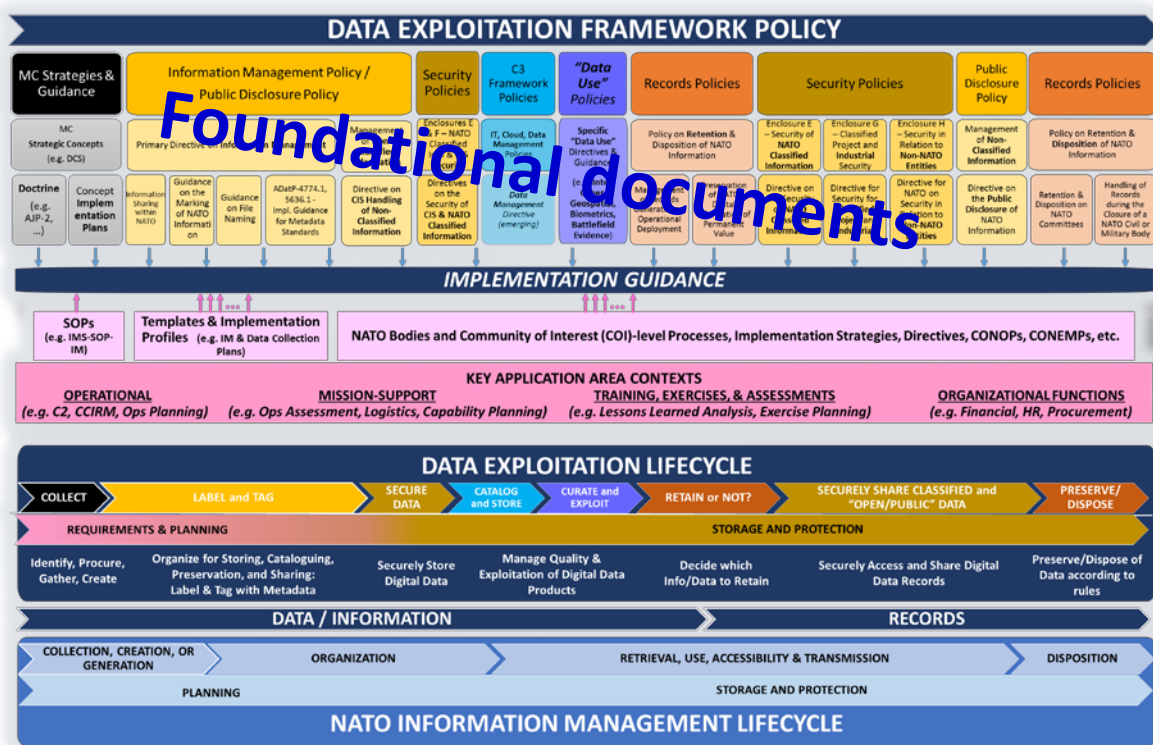


Data Exploitation

- Data Exploitation is a cross-cutting, enabling capability touching all military and political domains w/in NATO
- Covers all activities involved with enabling NATO to leverage on, gain value from, and manage data as a strategic resource
- Includes existing activities with established NATO processes
- Expands upon activities related to Data Use, Advanced Data Analytics, and the application of Data Science and AI techniques (Big Data analytics, Natural Language Processing, Machine Learning) to improve data exploitation capabilities



NATO Policy and Guidance Landscape



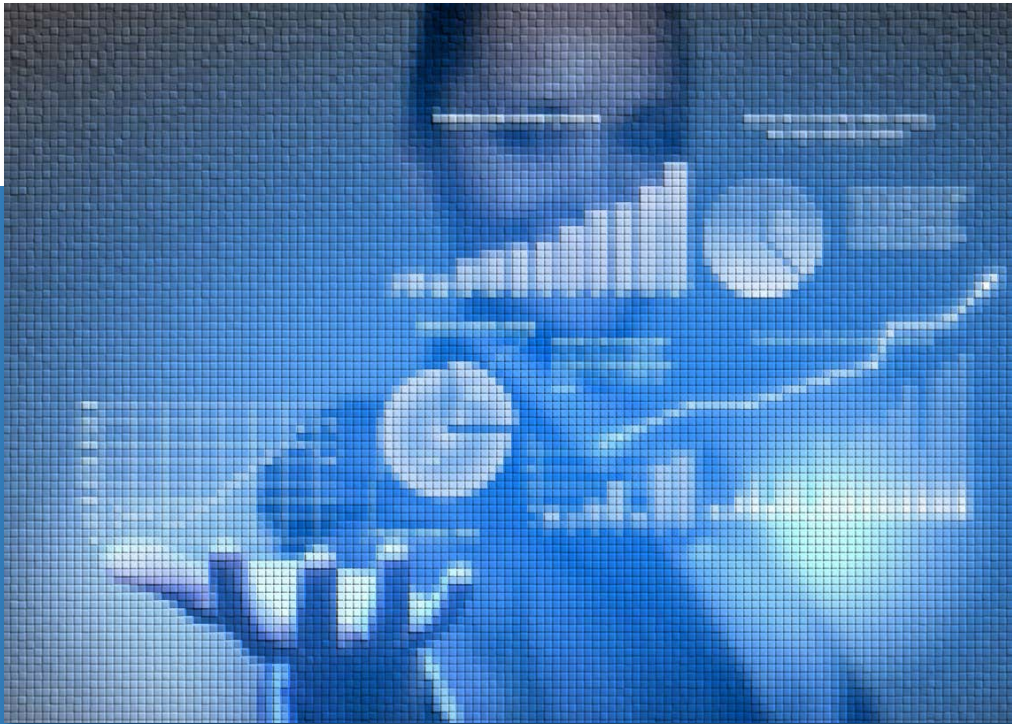
New and Upcoming

- Data Exploitation Framework (DEF) Policy*
- DEF Strategic Plan*
- Data Exploitation Programme (DEP)**
- WDA DEP Implementation Plan**
- Data as a Critical Enabler**
- Artificial Intelligence Strategy*

From: Data Exploitation Framework Policy, PO(2021 XXXX)

* Developed at NATO HQ, BEL

** Developed at HQ SACT, USA



NATO Data Exploitation Programme

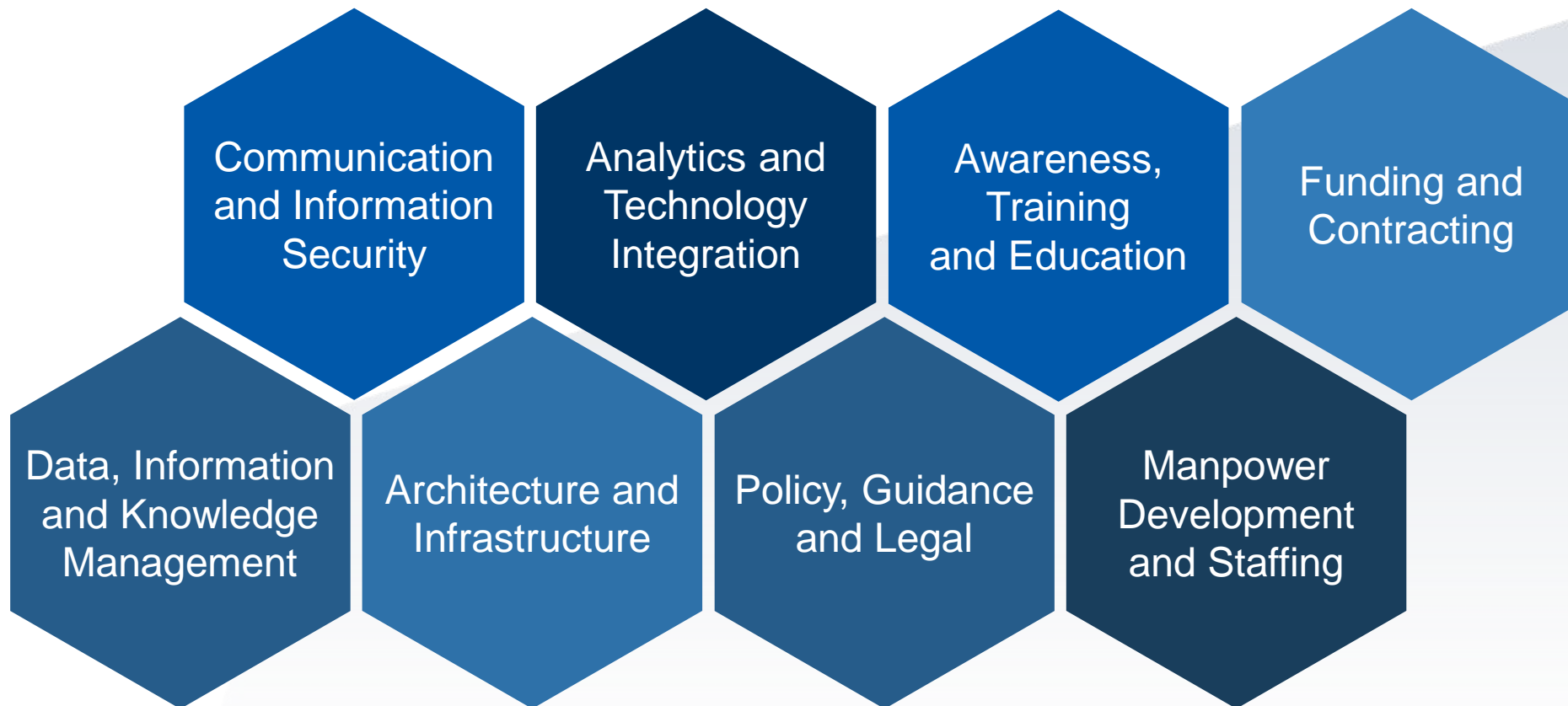
Aims at developing the skills, manpower, agile processes, tools, services, and technical prerequisites required to exploit data effectively and maintain NATO's military and technological advantages

NATO Data Exploitation Programme

Objectives

- Achieving **cognitive superiority** (and information superiority and data-enabled decision making)
- Maintaining **military and technological advantages**, supported by IT, skilled workforce
- **Single logical CIS environment** that facilitates an Alliance-wide approach for data management
- **Culture of trusted information sharing, data governance, enterprise-wide data availability**
- Data infrastructure and resources are actively employed to **support decision making at all levels**
- **Data literacy** and critical thinking are recognized as core requirements across the Alliance
- **Increasing number of data professionals** with the means to effectively exploit data

Data Exploitation Landscape



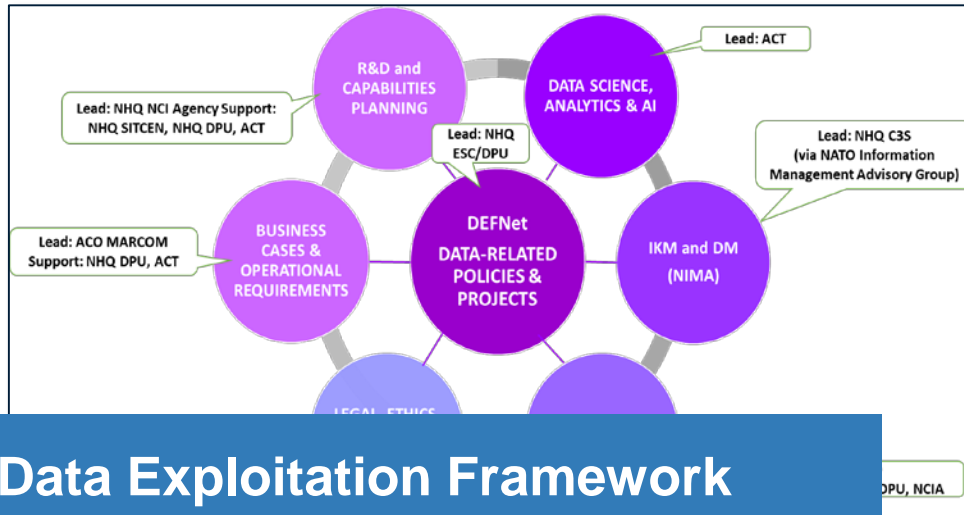
Eight Domains / Pillars of Data Exploitation

NATO DEP* Implementation Plan

- *Data Exploitation Programme Implementation Plan* due in early 2022
- Strongly linked to Data Exploitation Framework Strategic Plan (2022)
- Alliance-wide engagement and coordination and collaboration (NATO Enterprise and Nations)
- Effective delivery requires *immediate* implementation actions (next slides)

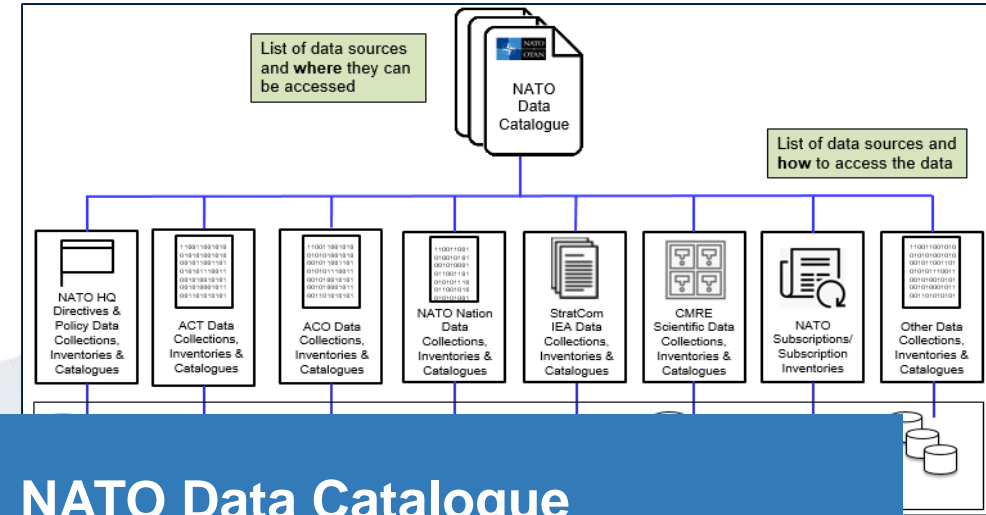


Initial Implementation Actions (1)



Data Exploitation Framework (DEFNet) Community

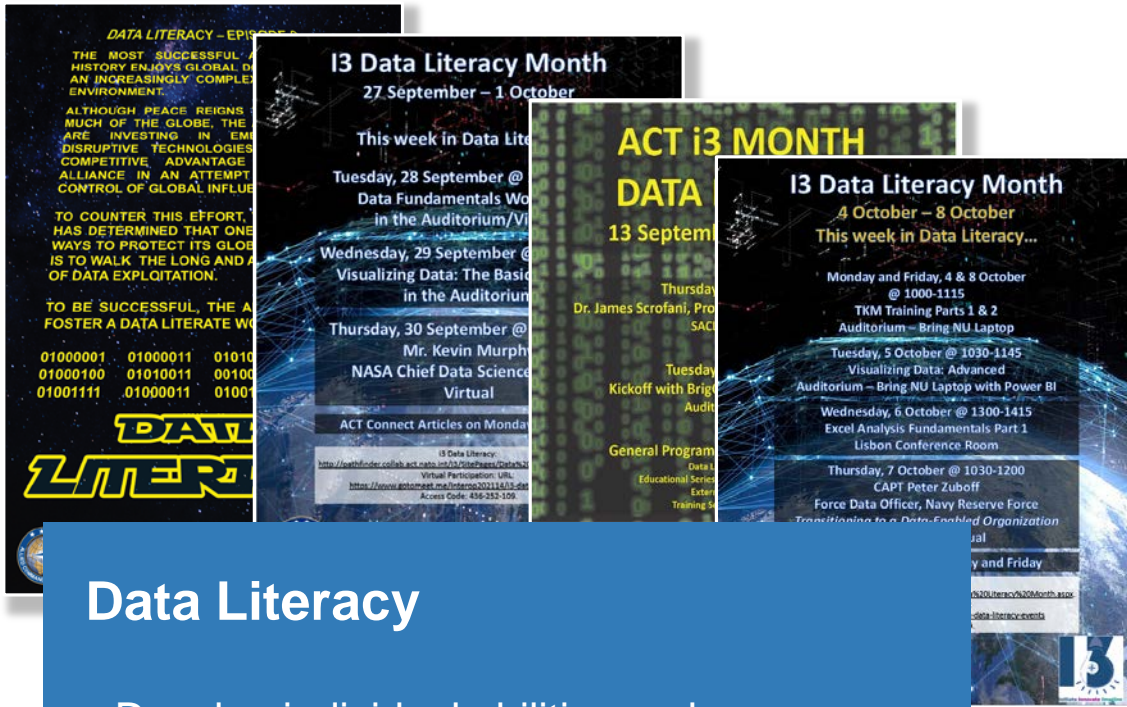
- Community and common space for those who work with Data and/or areas of relevance for Data Exploitation across the NATO Enterprise.
- Connect, Collaborate, Coordinate



NATO Data Catalogue

- Catalog of NATO data assets to help data professionals and users find the most appropriate data (initial Inventory at NATO Enterprise level)
- IOC: December 2021

Initial Implementation Actions (2)



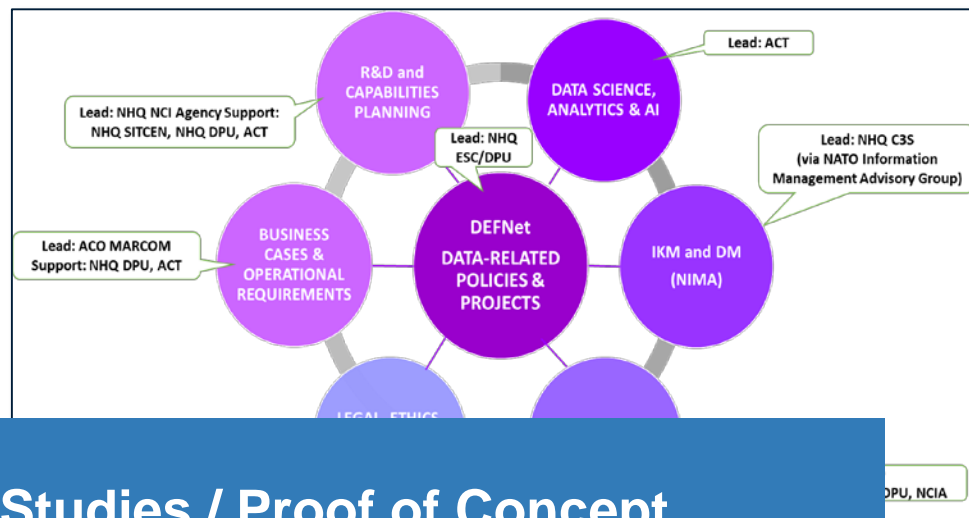
Data Literacy

- Develop individual abilities and professional skills
- Enhance data literacy at the individual level on way to becoming a data-enabled/driven/centric organization

Minimum Viable Products (MVPs)

- E.g. AWARE: Determine patterns of life by aggregating, fusing, enriching Open Source data using ML and NLP
- Use cases are disaster relief efforts, stability operations, or humanitarian missions

Initial Implementation Actions (3)



Studies / Proof of Concept

- Data quality and automated data wrangling and data cleaning
- NATO Computing Environments for Data Science & AI (classified, not classified)
- De-risking of capability requirements

TIDE Sprint Conference

- Workshops on Use Cases and data-driven situational awareness
- Briefings and discussions on data centric security, explainable AI, NATO Data Lake, ...
- Direct support to NWCC/WDA

TIDE Sprint registration: <https://cvent.me/4xREw9>

Way Ahead

- NATO is paving the way to becoming a Data-Driven Organization
 - ... through showing value of data and inference from data
 - ... through advocating understanding the value of data (training)
 - ... through support of ongoing and new initiatives
- Data Literacy Training Development
- Data Maturity Assessment
- Development of
 - Data Exploitation Programme Implementation Plan
 - Data Exploitation Framework Strategic Plan



ALLIED COMMAND TRANSFORMATION

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