



Coalition **W**arrior **I**nteroperability **eX**ercise *interoperability in practice*

Continuous Improvement Working Group (CIWG) 5th / 6th November 2025

Asger P. (ASP) & Per JK (PJK)

CONTENT

ASP The Issue

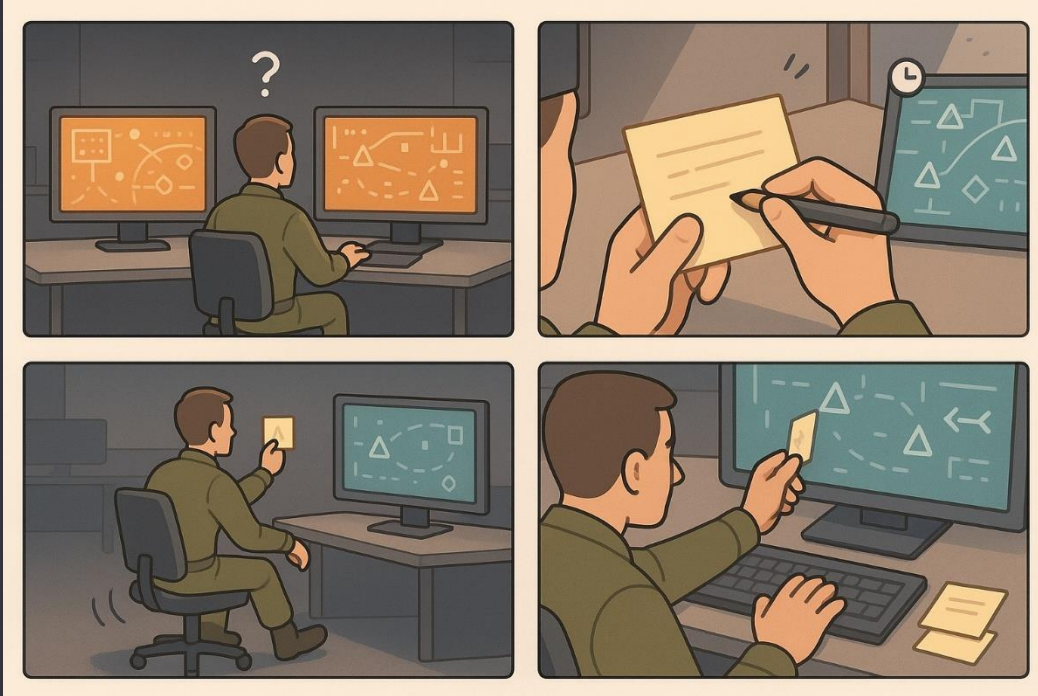
ASP What CWIX is & BNT Objectives

PJK From FMN Requirements to CWIX OBJ

PJK What did we do & Lessons Learnt

ASP CWIX 2026 ambitions

The problem in a nutshell





From exercise to execution

Coalition Warrior Interoperability Exercise



- ACT @ JFTC | 4,000+ participants (nations + industry)
- Motto: Exploration · Experimentation · Examination · Exercise
- Goal: fix gaps early via FMN-aligned, real-systems testing
- *Main goal: evaluate CBRN-Analysis and CBRN-Analysis NG ability to exchange CBRN information with NATO and national CBRN systems and provide information for the COP, ensuring interoperability with the latest NATO standards*
 - *Evaluate deployment on the Danish Army Federated Mission Network (FMN) compliant OneCis platform*
 - *Evaluate CBRN-Analysis NG performance and stability in operational like environment*

Federated Mission Network and CWIX

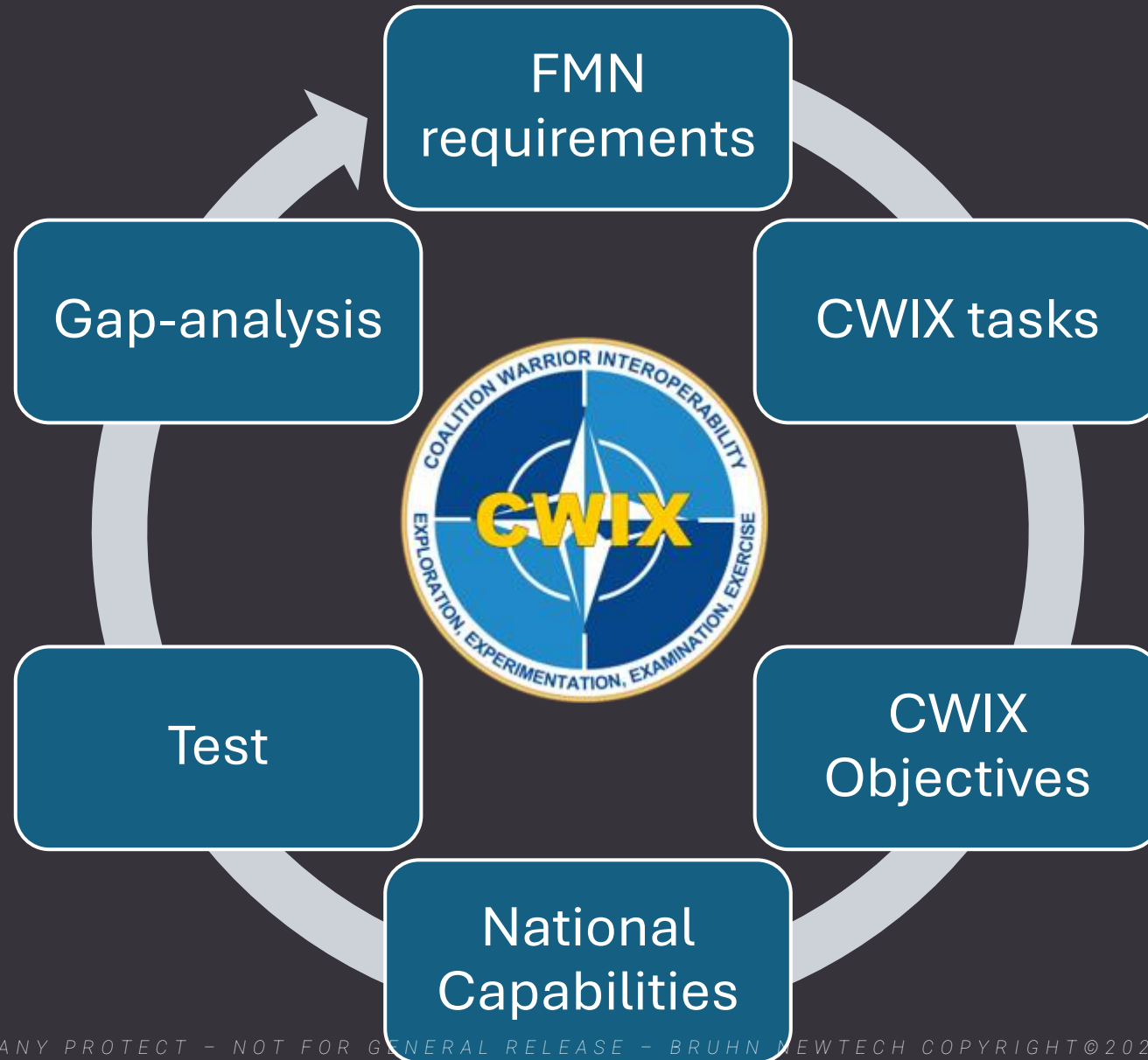
FMN is NATO's initiative to enhance interoperability and collaboration among NATO member states and partner nations during multinational operations.

- Vision - Day Zero Interoperable Forces
- Iterative – FMN spirals

CWIX is a venue for FMN testing, validation and verification, and experimentation



FMN and CWIX



Objective 096

- eXperiment and eXamine CBRN information exchange between National CBRN systems and with C2 systems

OBJ-096	
Title	eXperiment and eXamine CBRN information exchange between National CBRN systems and with C2 systems
Status	Final
Result	
Focus Areas	
Main Focus Area	
Nations	
Primary Subtask	Provision of national ICT Community-of-Interest services - Explore and experiment best practices and approaches for federating Data Lakes and/or Combat Clouds to optimize data integration and analysis capabilities.
Secondary Subtasks	Contribute to de-risk missions, exercises and experimentation - Conformance Testing Contribute to de-risk missions, exercises and experimentation - Standards Validation
Details	
Description	Experimentation and Examination on CBRN data exchange between partner systems in the multidomain command & control environment. Point to point data exchange among CBRN-specific systems will aid in validating conformance of CBRN report format and content adherence to established ADaP-03 standards. Promulgation from CBRN systems into C2 systems will validate the functionality of the CBRN information. Promulgation from CBRN systems into NCDF Data Lake will enable broader applicability and socialization of the CBRN information beyond the Land FA and among multiple capability sets and information systems in multidomain operations.

- FMN 5 - Situational Awareness
- FMN 7 - Force protection

NATO UNCLASSIFIED Releasable to AUS/AUT/CHE/GEO/MOL/NZL/TUN/UKR/EU EEAS Only			
CWIX - NU			
REFERENCE			
Spiral 5			
CWIX Standards			
Repository			
Participants			
CWIX - 2025			
Planning			
Objectives			
Test Plans			
Execution			
Statistics			
eXperiment and eXamine CBRN information exchange between National CBRN systems and with C2 systems			
+ Add Test Plan			
☐	☐	☐	☐
	Key	Name	Description
☐	TPA-CWIX-000257	CBRN via NCDF to COPs	The purpose of this Test Plan is to eXperiment and eXamine CBRN data messages (3; 5 and 6) via NCDF to COPs
☐	TPA-CWIX-000584	[PINK] CBRN 1 RAD message exchange	APP-11 Ed E Ver 1, CBRN 1 RAD message exchange between National CBRN systems
☐	TPA-CWIX-000586	[PINK] CBRN 1 CHEM message exchange	APP-11 Ed E Ver 1, CBRN 1 CHEM message exchange between National CBRN systems
☐	TPA-CWIX-000595	[PINK] CBRN 1 BIO message exchange	APP-11 Ed E Ver 1, CBRN 1 BIO message exchange between National CBRN systems
☐	TPA-CWIX-000597	[PINK] CBRN 1 NUC message exchange	APP-11 Ed E Ver 1, CBRN 1 NUC message exchange between National CBRN systems
☐	TPA-CWIX-000598	[PINK] CBRN 2 CHEM message exchange	APP-11 Ed E Ver 1, CBRN 2 CHEM message exchange between National CBRN systems
☐	TPA-CWIX-000599	[PINK] CBRN 2 BIO message exchange	APP-11 Ed E Ver 1, CBRN 2 BIO message exchange between National CBRN systems
☐	TPA-CWIX-000600	[PINK] CBRN 2 RAD message exchange	APP-11 Ed E Ver 1, CBRN 2 RAD message exchange between National CBRN systems
☐	TPA-CWIX-000601	[PINK] CBRN 2 NUC message exchange	APP-11 Ed E Ver 1, CBRN 2 NUC message exchange between National CBRN systems
☐	TPA-CWIX-000602	[PINK] CBRN 3 CHEM message exchange	APP-11 Ed E Ver 1, CBRN 3 CHEM message exchange between National CBRN systems

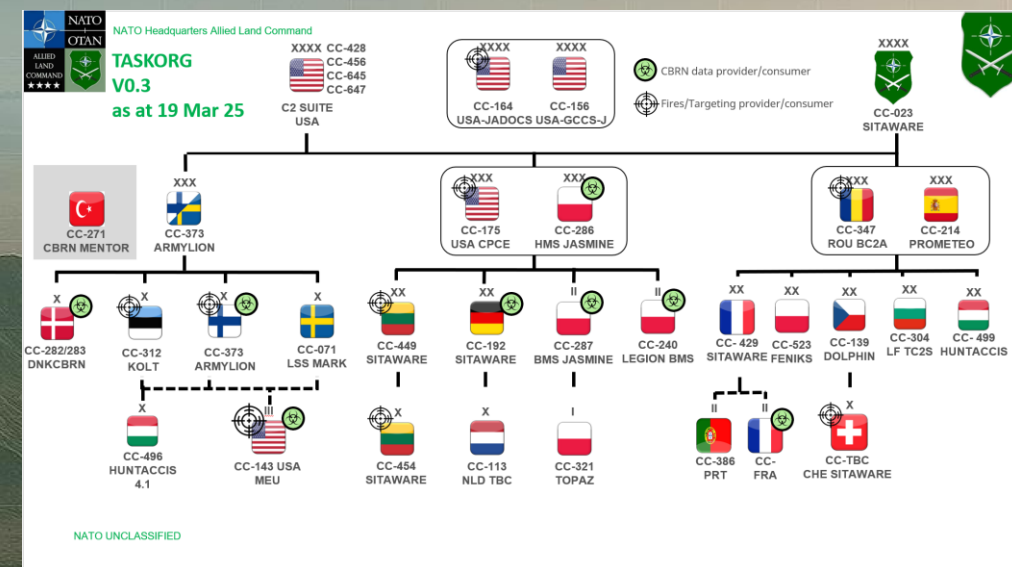
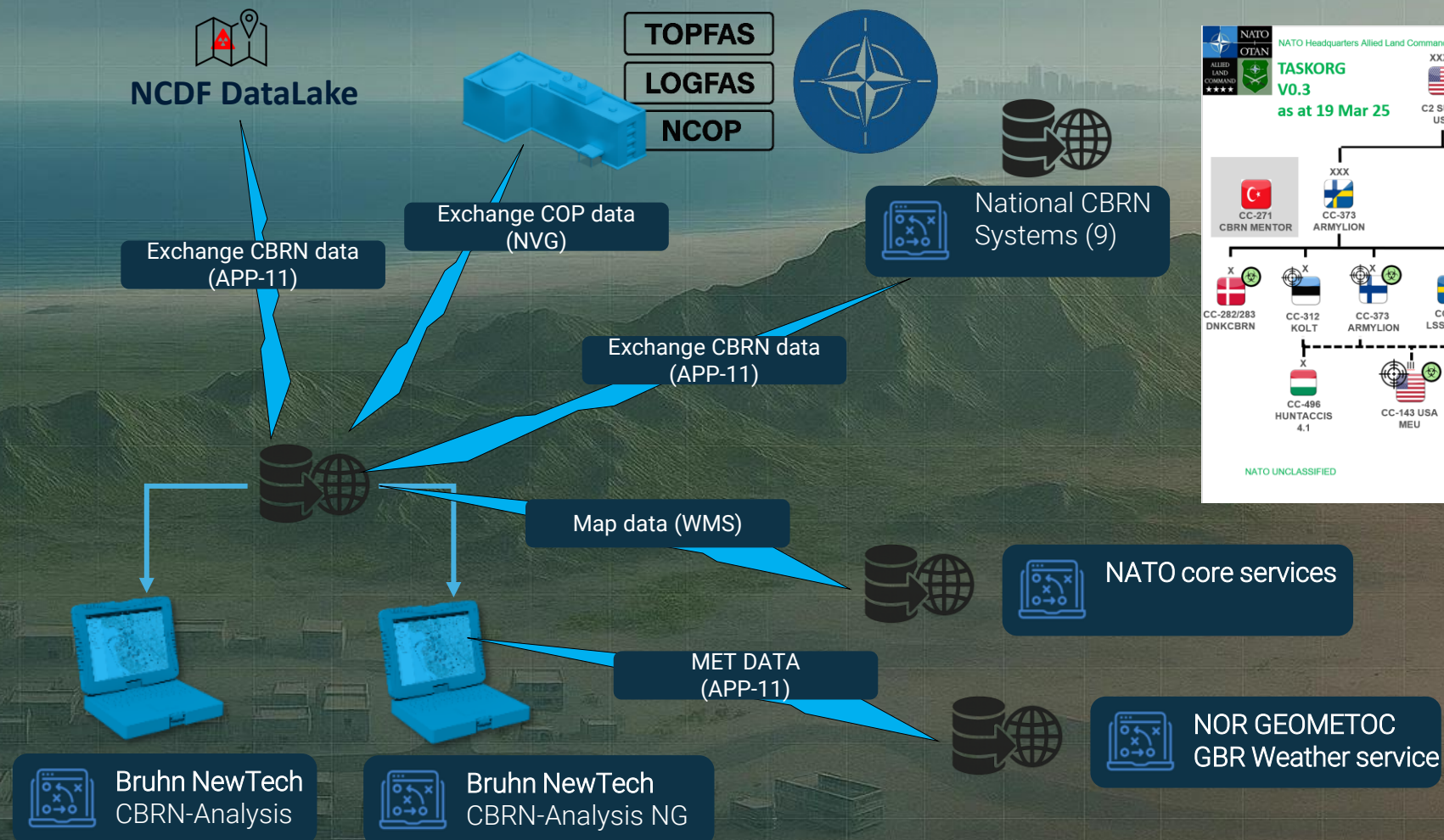
OBJ-038 eXperiment, eXamine and eExercise GeoMetOc Services provision (Air, GeoMetOc, Land, MDC2, Maritime, Space)

OBJ-044 eXperiment the file-based exchange of METOC data and products for FMN SP6 (GeoMetOc)

OBJ-096 eXperiment and eXamine CBRN information exchange between National CBRN systems and with C2 systems (Air, Comms, Cyber, Land, Log-Med, MDC2, Maritime)

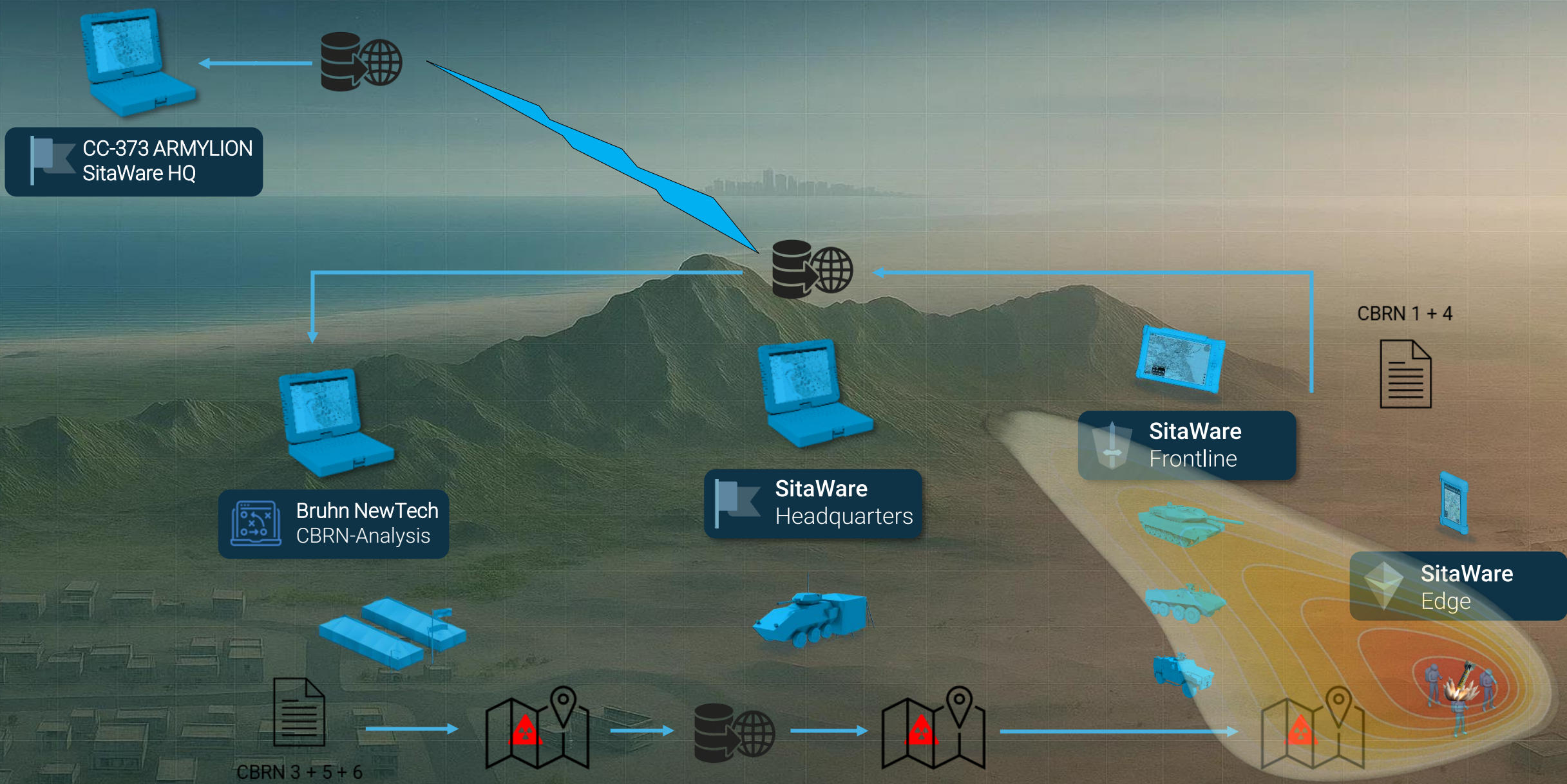
OBJ-235 Transform CBRN MTF to NCDF (Land, MDC2)

OBJ-291 Transform NCDF to CBRN MTF (Land, MDC2)



NATO standards in play:

- APP-11 (CBRN messages)
- AdatP-03 (MTF)
- Nato Vector Graphics
- ATP/AEP-45
- AdatP-36 (FFTS)



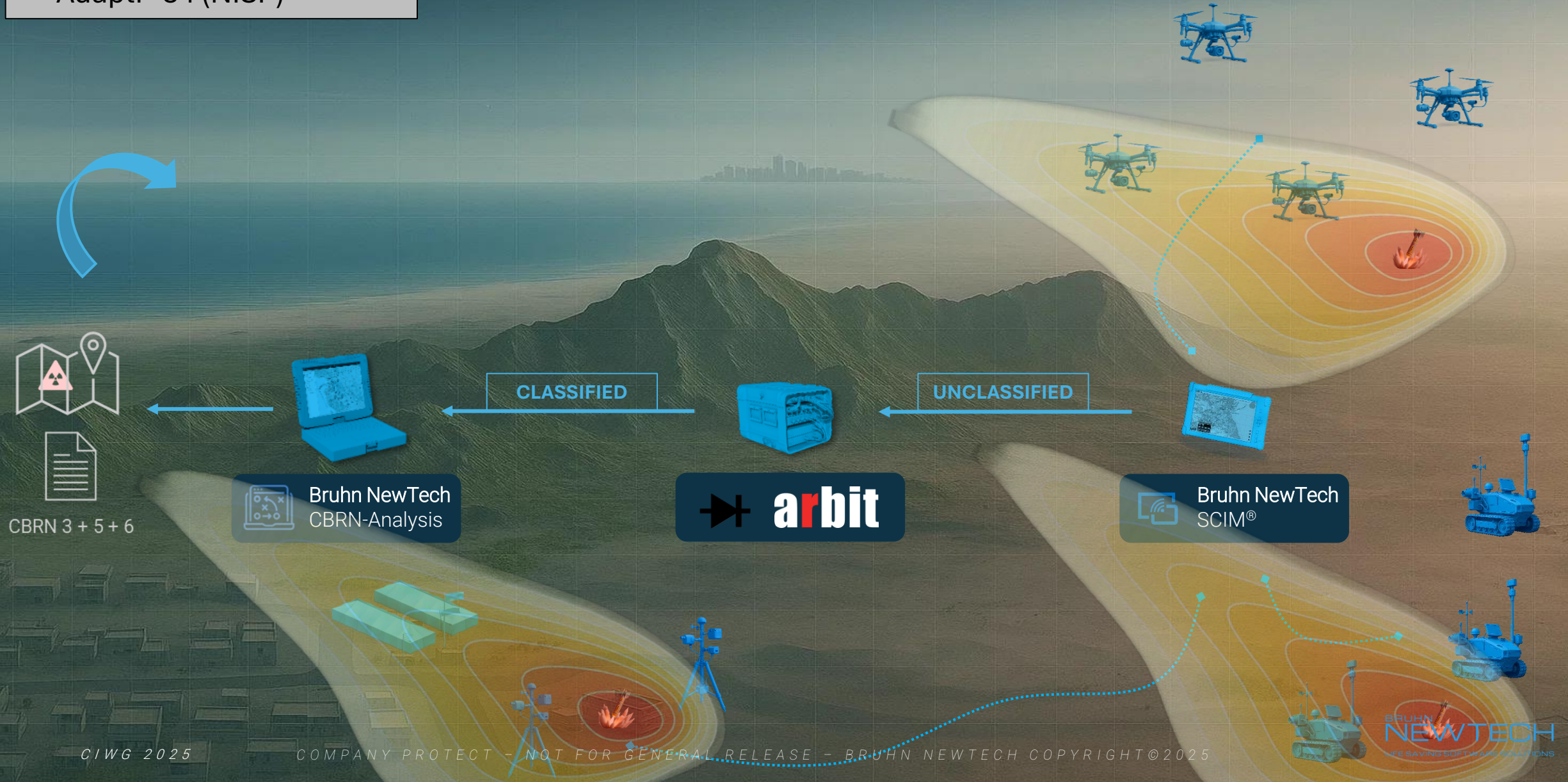
Interoperability issues & Take aways

- Interoperability challenges:
 - Difference in Interpretation of CBRN 5 open or closed contours – the issue has been addressed at KMP - CBRN-Analysis is correct
 - NCDF Data Lake transformation to native – NCDF transformation is not APP-11 compliant
 - NOR GEOMETOC and the GBR MMVH Weather Service – MET messages provided not compliant with APP-11
- Take Aways:
 - CBRN-Analysis and CBRN-Analysis NG performed all tests successfully on an FMN ready platform
 - Networking
 - Greater knowledge about the ecosystem (FMN + services/capabilities)

NATO standards in play:

- AEP-84 (UA Interop ICD)
- AdaptP-34 (NISP)

Ambitions CWIX 2026





QUESTIONS



THANK YOU



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