

# CIWG 2025 MoM

## CBRN-Analysis v.26 Release

### Minutes of Meeting

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## Foreword

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Bruhn NewTech held its annual CBRN-Analysis Continual Improvement Working Group (CIWG) on 5-6 Nov 2025 with participants from 14 nations and NATO.

This document summarises the content of each agenda item as an aid to the participants. For further details, the presentation from each item is also available.

Please contact [info@newtech.dk](mailto:info@newtech.dk) if you have comments or suggestions for future CIWG content.

**Note:** Dates for next year's CIWG is 3-4 Nov 2026 (ice breaker on 2 Nov).



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## 1. The New Bruhn NewTech Structure

- **Evallic group**
  - Bruhn NewTech is now part of the Evallic group.
  - Evallic is home to leading niche companies within the defence market.
  - For Bruhn NewTech this opens new opportunities as part of a larger organisation.
- **Riskaware**
  - The UK company Riskaware has been acquired by Bruhn NewTech.
  - Riskaware specialises in advanced modelling software within CBRN and other fields.
  - Riskaware capabilities will be used to widen Bruhn NewTech's product offers.

## 2. CBRN-Analysis v. 26, Technical information

- **Hardware Requirements**
  - No major changes from previous version.
  - Minimum memory requirement remains at 500MB.
  - Recommendation to clarify minimum vs. recommended specs.
- **Operating System Support**
  - Supports: Windows 10 and Windows 11.
  - Windows 10 support extended via Microsoft's Extended Security Updates.
  - Windows 8 is not supported.
- **Microsoft Office Compatibility**
  - Support removed for Office 2016 and 2019.
  - Office 2024 added to supported list.
  - **Office 2021 support ends** next year.
  - Plan to **phase out 32-bit Office** versions in favour of 64-bit.
- **Database Compatibility**
  - Destination database updated to support longer email addresses.
  - Databases from older versions can be imported into v26 but not exported back.
  - Mixing versions (e.g., v19 with v26) can cause issues due to changes in standards and formats.
- **Message Format Standards**
  - Alignment with ATP-45 and ATP-11 standards.
  - No changes to message format this year.
  - Plan to maintain consistency in future versions unless required by new standards.
- **Communication Between Versions**
  - Smooth communication between v25 and v26.
  - Issues arise when exchanging messages between older and newer versions (e.g., v19 and v26).

- Manual adjustments may be needed for compatibility.
- **User Feedback & Future Improvements**
  - Request for better documentation of version compatibility in user guides.
  - Discussed possible compatibility module to ease cross-version communication.

### 3. Introducing CBRN-Analysis v.26

- **Alignment with AEP-45 Standards**
  - New message format for missile warning reports (MWR).
  - Visual and functional updates to ensure compliance.
  - Example: Date-Time Group now appears in the PAPAX field of blood agent reports.
- **Error Handling & Operator Guidance**
  - Warnings for incorrect field usage (e.g., GOLF Field 6 in nuclear reports).
  - Conflict detection between persistent and non-persistent agent reports.
  - Enhanced operator prompts decision-making during ambiguous incidents.
- **Template Handling Enhancements**
  - Removal of LTA (Latest Time of Arrival) references per updated standards.
  - Improved logic for handling units reporting incidents within existing hazard templates.
  - Operator can now choose how LTA is used in “on target” or “off target” determination based on unit location and incident context.
- **Weather Data Compliance**
  - System now warns if less than 24 hours of meteorological data is available.
  - Adjustable parameters to align with AEP expectations.
- **Missile Intercept Report Integration**
  - Ability to receive and display missile warning reports from higher command.
  - Operators cannot create these reports but can view and forward them.
  - Customizable map display options for contours and sensor data.
- **Common Operational Picture (COP) Publishing**
  - Expanded options for publishing reports in formats like NVG, KML, and APP-6D.
  - Operators can select specific reports and folders for COP integration.
  - Only available to users with the COP module.
- **Checklist Functionality**
  - Typing timeout extended from 3 to 10 seconds for checklist entries.
  - Improves usability for operators entering detailed notes.
- **Email Field Expansion**
  - Email address field extended to support up to 254 characters.
  - Addresses previous limitations in the destination database.

- **Documentation & Terminology Updates**
  - User Reference Guide renamed to Operator Reference Guide.
  - Grammar and content improvements, including template display adjustments.
  - All current ERGs are now accessible via the references page.
- **Cybersecurity & Support Enhancements**
  - Improved system logging for error tracking.
  - Minor updates to license agreement.
  - Ongoing work on modelling and support tools.

#### 4. CBRN-Analysis NG - Vision

- **CBRN-Analysis NG** is being developed in response to:
  - The **EC2 project** under the European Defence Fund (browser-based, multi-user).
  - The **CBRN FS project** in NATO, aiming to introduce browser based solution.
    - NATO's capability package is delayed. It is being rewritten to better align with existing market solutions, i.e. CBRN-Analysis.
  - National project plans
- **Vision for CBRN-Analysis NG**
  - **Browser-based interface** for ease of use and reduced logistical footprint.
  - **Multi-user data sharing** to enable collaborative work within HQs and across systems.
  - **Offline capability** for use in disconnected environments.
  - **Interoperability** with NATO infrastructure and systems like NCOP.
  - **Flexible deployment**: server-based, standalone, or hybrid setups.

#### 5. CBRN-Analysis NG - Demonstration

- Live demo of NG interface showed:
  - Notifications and message handling.
  - Scenario switching and unit tracking.
  - Enhanced user experience compared to the classic version.
- A short video and PowerPoint will be shared for further review.
- **Deployment Architecture**
  - Three deployment models:
    - Single computer (standalone).
    - Small team (up to 4 operators).
    - HQ setup (central server with multiple clients).
  - Server handles all logic, data storage, and communication.

- Clients access via browser; no internet required.

## 6. CBRN-Analysis NG Roadmap

- First operational version with core functions expected in **2027**.
- Gradual transition planned; nations can transit in phases adapt to their plans.
- Aim to align with national projects like Denmark's Brigade CIS.
- **Future Capabilities**
  - Integration of **AI-based guidance**, **training tools**, and deeper **knowledge management**.
  - Enhanced **dispersion modelling**, **DECON advice**, and **mask penetration estimates**.
  - Collaboration with research institutes like **FFI** and **TNO**.

## 7. CBRN-Analysis NG, IT terminology

- Addressed possible misunderstandings between military and software teams.
- **Software Requirements**
  - Browser client requires support for WebGL 2.0.
  - Compatible with Windows 7 and newer.
  - Communication via shared folders, POP3, and SMTP.
  - Supported browsers: Edge, Chrome, Firefox.

## 8. CWIX (Coalition Warrior Interoperability Exploration Exercise)

- **Purpose of CWIX**
  - CWIX is a NATO-led annual exercise hosted by Allied Command Transformation at the Joint Force Training Centre in Bydgoszcz, Poland.
  - It focuses on **interoperability testing**, not showcasing, with over 4,000 participants from nations and industry.
  - Participants bring their networks, systems, and capabilities to test, break, fix and improve interoperability.
- **Systems Tested**
  - Two systems were brought:
    - **CBRN-Analysis – currently fielded Windows version**
    - **CBRN-Analysis NG – prototype version**
  - Goals:
    - Test interoperability between national and NATO systems.
    - Stress-test the NG platform.
    - Explore integration within the Federated Mission Network (FMN) environment.
- **Federated Mission Network (FMN) Overview**
  - FMN is NATO's initiative for **Day Zero Interoperable Forces**.
  - CWIX supports FMN spiral development through:

- **Practising** current spirals (e.g. Spiral 3 & 4).
  - **Experimenting** with upcoming spirals (e.g. Spiral 5 & 6).
  - **Exploring** future spirals (up to Spiral 10 by 2031).
- **Objectives & Testing**
  - Key objective: **Objective 96** – CBRN information exchange between national CBRN systems and C2 systems.
  - Other objectives:
    - **Objective 38** – Consuming map data via NATO Core Services.
    - **Objective 44** – Experimenting with meteorological data in APP-11 format.
  - Over 300 tests were conducted, including:
    - Exchange of CBRN messages (CBRN 1–5).
    - Publishing APP-11 formatted data to NATO’s NCDF data lake.
    - Providing situational awareness via NVG layers to systems like NCOP and EU command tools.
- **SitaWare Integration Demo**
  - SitaWare applications (Edge and Frontline) allow soldiers to input CBRN incidents.
  - These are sent to CBRN-Analysis for calculation and distributed across the tactical network.
  - Supports NVG format sharing across brigade and division levels.
- **Key Findings & Lessons**
  - **Visualisation inconsistencies:** Nations interpreted contamination areas differently due to closed vs. open contour rendering. Only CBRN-Analysis had correct visualisation of contaminated areas on maps. All other systems displayed areas incorrectly.
  - **APP-11 compliance issues:** Norwegian and British weather services provided non-compliant messages.
  - **CBRN-Analysis NG:**
    - Successfully ran all tests.
    - No performance issues or downtime.
    - Demonstrated readiness for deployment.
- **Plans for Next Year**
  - Return to CWIX with:
    - **SCIM® Sensor integration software** – sensor fusion across platforms.
    - **Data diode testing** with Danish company Arbit – transferring data from unclassified to classified environments.
    - Aim to test data flow between “green” (unclassified) and “pink” (classified) networks.

## 9. A peak into the research lab - AI

- **Introduction to Riskaware & AI Focus**
  - Emphasis on **small form factor AI** that can run without GPUs or data centres.
  - Example: Counter-drone system running AI on a standard laptop.
- **AI in CBRN-Analysis**
  - Discussion centred on how AI could support **warning and reporting, training, and decision support**.
  - AI applications proposed:
    - **Voice-controlled interfaces** for hands-free message creation.
    - **Sensor integration** to enhance situational awareness.
    - **AI-assisted diagnosis and recommendation systems** (similar to medical use cases).
    - **Synthetic data generation** for training and exercises.
    - **Intelligent search and summarisation** of risk object tables and messages.
- **Concerns & Cautions**
  - Participants raised concerns about:
    - **Explainability** of AI decisions.
    - **Trustworthiness** and **accuracy** of AI-generated outputs.
    - **Security risks** and **false positives/negatives**.
    - **Over-reliance** on AI vs. human judgement.
  - Emphasis on AI as a **support tool**, not a replacement for operators.
- **Deployment & Integration Challenges**
  - Discussion on:
    - **Deployment in secure networks**.
    - **Integration with existing systems** like TAK, SitaWare, and CBRN-Analysis.
    - **Standards and control** – NATO standards, user-defined models, and access protocols.
- **Concepts Explored**
  - **Natural language processing** for converting speech to structured CBRN messages.
  - **AI assistants** for summarising messages and guiding software use.
  - **Sub-threshold analysis** using social media and public data to detect early biological threats.
  - **AI-generated injects** for training scenarios.
  - **Commander advice modules** based on AI interpretation of operational data.

## 10. Pilot-testing NG

- **Purpose of Pilot Testing**
  - To evaluate the usability and effectiveness of design improvements and new features in **CBRN-Analysis NG** and potentially future versions of **SCIM®**.
  - Feedback from real users is essential to ensure the product is intuitive and user-friendly.
- **How It Works**
  - Participants may be asked to complete short tasks or respond to surveys.
  - Sessions will be flexible, voluntary, and designed to fit participants' availability.
  - Feedback will be collected on an ongoing basis.
- **Next Steps**
  - Interested participants can speak directly with Mai or contact her via email.
  - Formal invitations and instructions will be sent out early in the new year.
- **Call to Action**
  - All levels of availability are welcome—even an hour of participation is appreciated.
  - The goal is to make the system better for users by involving them in the design process.

## 11. The new CAMPUS

- **Purpose of CAMPUS**
  - CAMPUS is the new online training hub for CBRN-Analysis and related products.
  - Built on the **Moodle** learning management system, widely used in defence environments.
  - Designed to support both **self-paced microlearning** and **blended learning** (online + in-person).
- **Features & Structure**
  - **Public Access Area:**
    - No login required.
    - Includes product information, tutorial videos, news updates, and licence key support documents.
  - **Restricted Access Area:**
    - Requires account approval by the Bruhn NewTech team.
    - Offers exclusive content for customers, including advanced modules, pilot testing forums, and internal training materials.
- **Training Vision**
  - Expand beyond traditional classroom courses to flexible online formats.
  - Enable refresher training, onboarding, and advanced learning through interactive digital content.
  - Support multilingual content using AI-powered text-to-speech and translation tools.
- **Course Catalogue**
  - Includes operator courses, advanced modules, and future online offerings.

- Courses can be tailored to national needs and delivered in various formats.
- **Pilot Testing & Feedback**
  - CAMPUS will host forums and sign-up areas for pilot testers.
  - Feedback from users will help shape future content and platform improvements.
- **Future Plans**
  - Launch the first online course in 2026.
  - Continue developing internal training tools and transition them to external use.
  - Explore adding a **discussion board** for operators to share insights and ask questions.

## 12. SCIM® – Next Generation

- **Purpose of SCIM®**
  - SCIM® provides a unified interface for managing diverse sensor types on the battlefield.
  - It currently integrates over 60 sensors into a single platform, replicating their functionality and data outputs.
  - Enables seamless end-to-end data flow from sensor detection to CBRN-Analysis for hazard prediction.
- **User Personas & Operational Context**
  - SCIM® is designed for:
    - **Sensor platform operators** at the tactical edge.
    - **Commanders** needing situational awareness.
    - **CBRN analysts** integrating sensor data into broader operational analysis.
  - Supports planning, monitoring, and executing sensor-based missions.
- **SCIM® NG Interface & Features**
  - Browser-based interface aligned with CBRN-Analysis NG for consistency.
  - Key features include:
    - **Map-based sensor and platform visualisation.**
    - **Sensor health monitoring** (e.g. battery, consumables).
    - **Alarm indicators** and **trace lines** for movement tracking.
    - **Detailed sensor and platform views** with operational status and controls.
    - **Simplified UI** for quick access to critical data.
- **Deployment Models**
  - SCIM® can be deployed in various configurations:
    - **SCIM® Edge:** Embedded on unmanned platforms (UAVs, UGVs) or fixed sites.
    - **Standalone SCIM®:** Used in dedicated sensor command vehicles.

- **Integrated SCIM®:** Embedded within CBRN-Analysis for direct data processing and reporting.
- **Use Cases**
  - **Conventional CBRN reconnaissance** with platoons and vehicles.
  - **Unmanned sensor swarms** for rapid mapping of contamination.
  - **Perimeter monitoring** at forward operating bases.
  - **National sensor networks** for large-scale data aggregation.
  - **Passive sensor integration** on vehicles for battlefield awareness.
  - **Naval applications** for damage control and fleet-wide dissemination.
- **SCIM® Administrator Tool**
  - A configuration interface allowing users to:
    - Auto-discover platforms and sensors.
    - Hot-swap sensors with minimal setup.
    - Customized platform visuals and layouts.
    - Define data aggregation rules and sharing protocols.
  - Built on NATO standard **STANAG 4586** for interoperability.
- **Integration with CBRN-Analysis**
  - SCIM® acts as a data source for CBRN-Analysis, enabling automatic or manual generation of CBRN reports (e.g. CBRN 4).
  - Future development will refine how SCIM® functions within CBRN-Analysis NG, ensuring seamless operator experience.

### 13. Additional models

- **Dispersion Modelling Module**
  - Based on the Urban Dispersion Model (UDM) developed by DSTL and Riskaware.
  - Provides high-fidelity urban dispersion modelling using terrain, land cover, and building data.
  - Outputs include dosage, concentration, and AEGLs (Acute Exposure Guideline Levels).
  - Uses a dynamic geographic data system (GEDIS) to generate urban databases for any location.
- **Source Term Estimation Module**
  - Estimates source location and parameters using CBRN 1 and CBRN 4 messages.
  - Can operate with or without SCIM® sensor integration.
  - Supports multiple fidelity levels:
    - Geometric model for quick estimates.
    - Bayesian inference model for probabilistic, continuous refinement.
  - May use forecast or historical meteorological data depending on availability.

- **Sensor Placement Module**
  - Optimises sensor deployment to protect assets or areas.
  - Uses pre-run dispersion predictions and threat scenarios.
  - Supports various sensor types and placement constraints.
  - Can integrate with SCIM® for real-time sensor data and deployment feedback.

## 14. Additional Capabilities

- **TAK Overview**
  - TAK (Team Awareness Kit / Tactical Assault Kit) is a geospatial collaboration tool used by military and civilian agencies.
  - Supports mapping, chat, APP-6 symbology, and plugin-based extensions.
  - Widely adopted by US and NATO forces.
- **Prototype Integration**
  - Riskaware has developed a plugin to:
    - Send CBRN 1, 3, and 4 messages from TAK devices.
    - Connect to sensors (e.g. LCD 3.3) via Bluetooth for automated readings.
    - Trigger dispersion modelling in Urbanaware and return contours to TAC clients.
- **Future Integration with CBRN-Analysis**
  - Plan to link TAK directly with CBRN-Analysis for:
    - Full ATP-45 template generation.
    - Real-time sensor data from SCIM.
    - Bidirectional data exchange between TAK clients and CBRN-Analysis.
- **Offline Capability**
  - Long-term goal: enable basic CBRN message creation and hazard mapping directly on TAK devices without internet access.

## 15. European Projects

- **EC2 (European Command and Control)**
  - Aims to improve interoperability across European defence systems.
  - Supports the EU Operational Headquarters with a unified C2 solution.
  - Bruhn NewTech contributes as the CBRN functional service.
- **SOS (System of Systems for CBRN Information)**
  - Focuses on harmonising data models across military and civilian CBRN systems.
  - Seeks to create an overarching information architecture for CBRN operational awareness.
  - Not about reinventing existing systems but about enabling cross-system data exchange.
  - Aligns with NATO standards, particularly ATP-45.

- MOD-driven project with active participation from national defence ministries.
- **MOSAIC**
  - A research-focused project aimed at real-time monitoring and dynamic mapping of chemical and biological threats.
  - Involves sensor innovation, 3D mapping, and virtual reality.
  - Bruhn NewTech contributed through SCIM® and CBRN-Analysis, with emphasis on STANAG 4586 integration.

