CBRN
Solutions

PROTECT YOUR TEAM

SEE THE INVISIBLE

SAVE LIVES

bertin environics

WE SENSE & DETECT
FOR A SAFER WORLD

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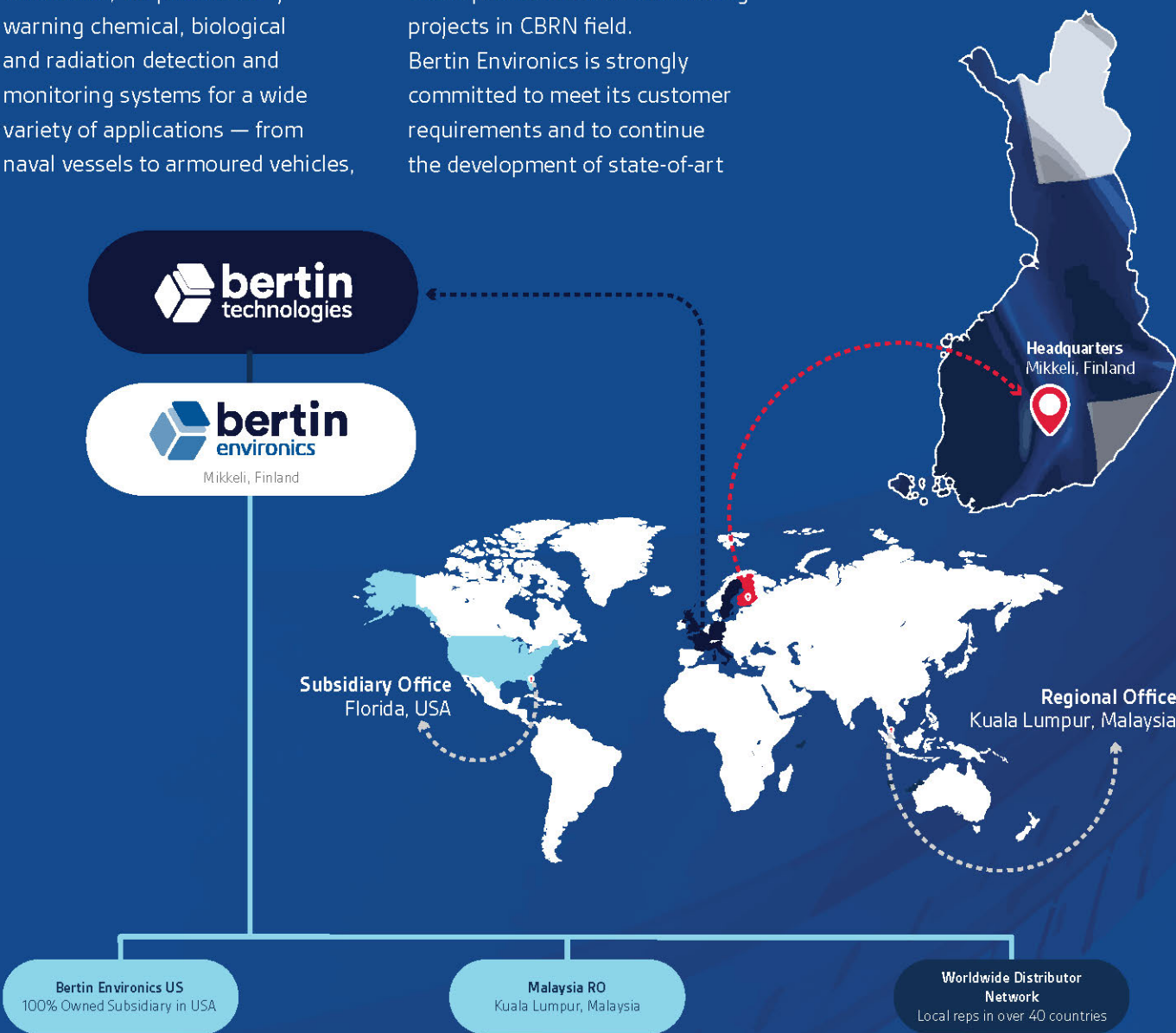
WE SENSE & DETECT
☣☢☠ FOR A **SAFER WORLD**

PART OF
THE GROUP

bertin
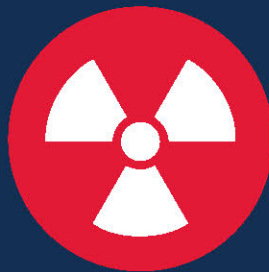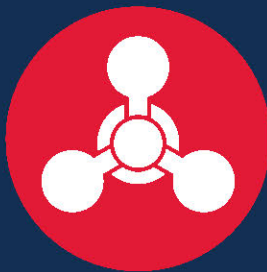technologies

Company Introduction

Bertin Environics, part of Bertin Technologies Group, is a Finnish company with over 35 years of experience from improving CBRN safety around the world with its in-house technologies and system solutions. Our deep roots in chemical detection materialize in the globally known handheld chemical detector — ChemProX — utilized by several defense and first response organizations.
In addition, we provide early warning chemical, biological and radiation detection and monitoring systems for a wide variety of applications — from naval vessels to armoured vehicles,

building protection and unmanned platforms. The foundations of our solutions for CBRN detection and monitoring rely on a long experience and proven expertise. In addition, our system solutions are built from COTS products and feature a cutting-edge scalable architecture. Behind our comprehensive range of products and solutions there is a highly competent team of experts with years of experience in the implementation of demanding projects in CBRN field.
Bertin Environics is strongly committed to meet its customer requirements and to continue the development of state-of-art

technologies for CBRN detection and analysis. Our goal is to provide innovative solutions to defeat the constantly evolving CBRN threat. Bertin Environics' headquarters and production facilities are located in Mikkeli, Finland. In addition, there are subsidiary and regional offices strategically located to operate in collaboration with a worldwide partner network.

bertin technologies
Mikkeli, Finland

bertin environics
Mikkeli, Finland

Headquarters
Mikkeli, Finland

Subsidiary Office
Florida, USA

Regional Office
Kuala Lumpur, Malaysia

Bertin Environics US
100% Owned Subsidiary in USA

Malaysia RO
Kuala Lumpur, Malaysia

Worldwide Distributor Network
Local reps in over 40 countries

CBRN Flagship of

bertin technologies

Bertin Technologies is a French industrialist group of scientific instrumentation that designs and manufactures measurement, observation and detection systems and instruments for critical applications. Every day, Bertin Technologies pursues technological advances in the fields of Nuclear, Defence, Space, Big Science, Life Sciences and Health. Its 600 employees share a desire for excellence, in the service of remarkable and innovative technological solutions. Based in Paris Region, Bertin Technologies Group comprises 3 brands – Bertin Instruments, Bertin Photonics, and Bertin Health & Life Science. In addition, Bertin Technologies has operational subsidiaries in Europe (Germany, Finland, Italy, the United Kingdom, Sweden) and the United States.

Military & First Response

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Conventional CBRN weapons and toxic industrial hazards are an ever evolving threat that defence, armed forces troops, and first responders must be aware of and be prepared for 24/7.

Real-time CBRN situational awareness is critical for effective risk assessment, and tactical and operational decision making in both military or emergency operations. Bertin Environics provides commanding officers and operators with reliable, adaptable monitoring solutions for a variety of situations and scenarios, ranging from domestic and international operations to local accidents and terrorist activities involving CBRN material.

Our solution offer is built to withstand 24/7 use and it is convenient to transport. Operators on the field can be equiped with lightweight devices providing: chemical detection and classification for TICs and CWAs, identification of radionuclides, as well as certain bio agents.

Bertin Environics devices are compliant with relevant MIL-STD.

FIND OUT MORE ON
First Response CBRN Monitoring

Visit our website and download a dedicated Application Note.

CHEMICAL DETECTION & CLASSIFICATION
ChemProX

CHEMICAL DETECTION & IDENTIFICATION
Second Sight MS

BIOLOGICAL IDENTIFICATION
ENVI Assay System

RADIATION DETECTION & IDENTIFICATION
RanidPro200

RADIATION DETECTION
SaphyRAD

- Comprehensive situational view in minutes
- Full transportable CBRN system capability
- Ready to go 24/7
- Ease of use, maintenance and transport

Unmanned Vehicles

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Incident management and emergency response require informed decision making. Providing easily integratable chemical detection system for drones and robots used for field surveying by reconnaissance teams, HAZMAT responders, and special forces — such as bomb squads — greatly enhances situational awareness.

ChemProX is easily and quickly mounted onto Unmanned Air Vehicles and Unmanned Ground Vehicles, without external hardware or software. Everything essential for enhanced chemical detection — from powering to interfacing and dynamic data communication — is built-in. Radiation detection can be added to remote applications within seconds. The detection information is dynamically shared via 2.4GHz to the ChemProXRU and a web

browser based interface program allowing for efficient surveillance of wide areas, typically within a range up to 1km. Furthermore, ChemProX chemical detector is also suitable for seamless third party integration to the unmanned vehicle control system interface.

Dynamic 2-Way Communication for Remote Detector Control

ChemProX Deployment Kit was developed for enabling a quick mounting of ChemProX chemical detector to UAVs or UGVs.

ChemProX's usability is easily scalable based on the mission's requirements: the number of detectors in operation is easily increased with built-in wireless capabilities. This also allows for handheld usage, since the detector is not physically tied to separate system or electronics.

FIND OUT MORE ON

Unmanned Chemical Reconnaissance

Visit our website and download a dedicated Application Note.

Use the trend line to locate the danger.

1

If a generic alarm appears...

2

3

... use the dynamic 2-way communication capability to change the detection mode — in this case, from TIC to CWA — and drill the situation further to classify the detected chemical.

CHEMICAL DETECTION & CLASSIFICATION
ChemProX

REPEATER & REMOTE ALARM UNIT
ChemProX RU

CHEMPROX BUILT-IN SOFTWARE
Mobile C&C & Training Software

Operator #1

RU
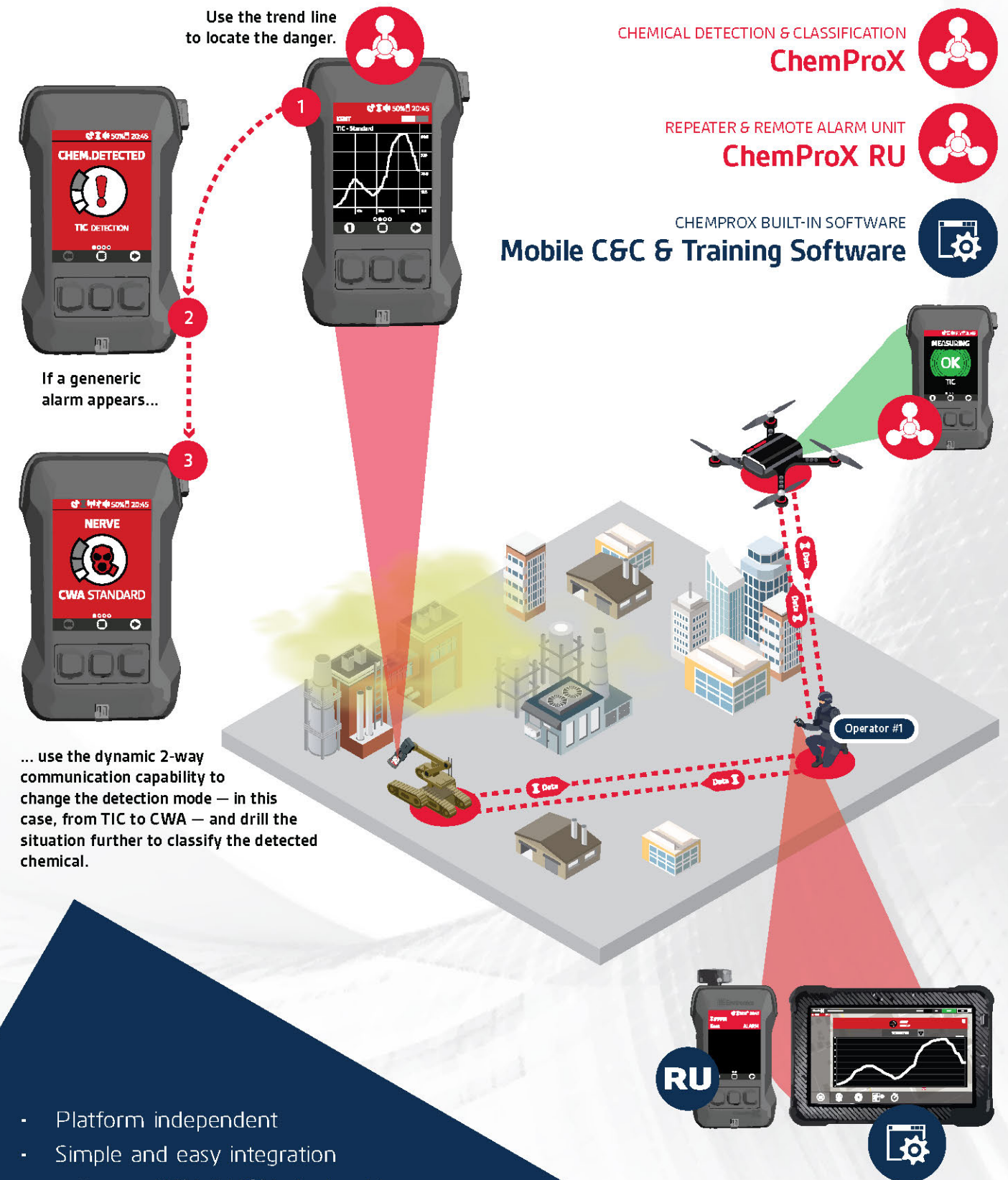
- Platform independent
- Simple and easy integration onto any UAV / UGV, deployable within minutes
- Built-in powering, interface, and wireless communication for dynamic communication

Armoured Vehicles

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X-System: Complete CBRN Solution for Military Vehicles

Bertin Environics´ new CBRN X-System solution meets the needs set by the different roles and operational contexts of armoured vehicles in all sizes and mobility categories. Tested for uncompromised performance in demanding military use, the CBRN concept provides and forwards timely early-warning for CBRN threats and situational awareness and guidance for smart use of protective and other appropriate countermeasures. It scales effectively from single point detection to more comprehensive

systems, covering monitoring of internal and external CBRN threats encountered in vehicle environment. The modular system serves to minimize the exposure of the crew to incapacitating and life-threatening CBRN agents, as well as to conduct advanced reconnaissance, surveillance and survey tasks.

Compact & Easily Scalable

Bertin Environics´ robust design of armoured CBRN systems is built

upon the proven expertise in the field, summing up high usability, feasibility, cost-effectiveness and maintainability demands set by vehicle manufacturer, integrators and operators.

The core of the systems is formed by the ChemProX-DS, providing CWA/TIC detection, status information and integration interface for additional CBRN sensors and data communication to 3rd party systems like a BMS. The performance of X-System and its components has been tested against appropriate MIL Standards.

CHEMICAL DETECTION & CLASSIFICATION
ChemProX-DS

BIOLOGICAL DETECTION
Rugged ENVI BioScout

GAMMA RADIATION DETECTION
RanidX

FIND OUT MORE ON

Armoured CBRN Monitoring

Visit our website and download a dedicated Application Note.
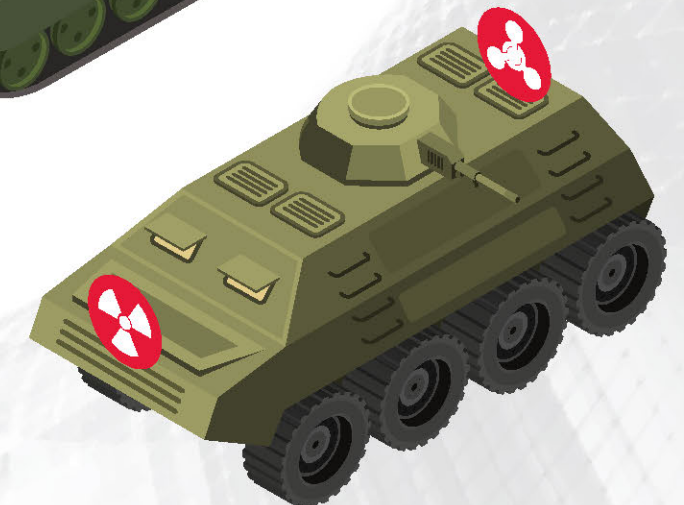
- Experienced Vehicle CBRN System supplier with over 100 systems installed
- Compact solution with in-house COTS products
- Scalable & modular system architecture

XSystem
Complete CBRN Monitoring Solution

Reconnaissance Vehicles

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Armoured Vehicle Applications

Military units are susceptible to CBRNE threats due to accidents, gas and radioactive leaks, and escalating terrorism. Armoured CBRN reconnaissance vehicles have an active, key role in creating situational awareness, facilitating versatile CBRN reconnaissance, survey and surveillance in peace and wartime missions. They gather together the vital elements of monitoring and detection, environmental sample collection, CBRN analysis, area marking and data management & reporting. As a key component, the CBRN system software visualizes CBRN event and measurement data, controls integrated sensors, reports observations and transfers data to 3rd party systems. It guides the operators to take timely and appropriate measures on the basis of the real-time situational overview. The application specific SW functions support successful completion of tasks. The same CBRN system software works as a valuable tool for real operations, maintenance and trainings.

The X-System based Armoured CBRN Reconnaissance vehicle concept is a chassis independent solution to meet customer requirements.

Light Vehicle Applications

A similar CBRN surveying concept can be applied to First Response solutions providing continuous preparedness for CBRN incident and crisis management. This solution offers a mobile and safe CBRN filtered and overpressurized workspace for environmental sample collection, monitoring, detection and analysis of CBRN threat agents, meteorological measurements, area marking and situational awareness for informed decision making. It also includes optional solutions for personal protection, decontamination, and unmanned air and ground detection.
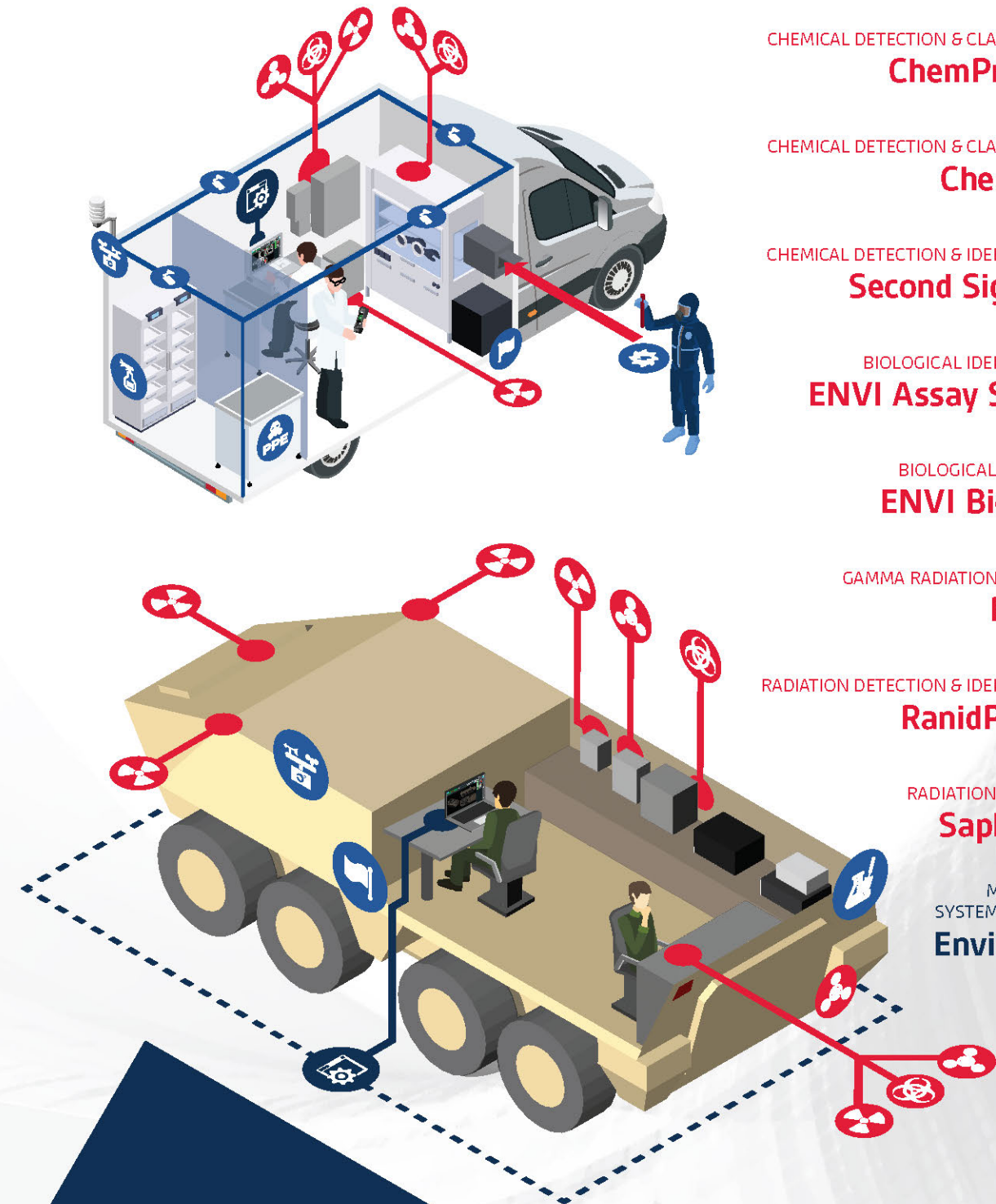
FIND OUT MORE ON
Armoured CBRN Reconnaissance
Visit our website and download a dedicated Application Note.

FIND OUT MORE ON
Light CBRN Reconnaissance
Visit our website and download ta dedicated Application Note.

CHEMICAL DETECTION & CLASSIFICATION
ChemProX-DS

CHEMICAL DETECTION & CLASSIFICATION
ChemProX

CHEMICAL DETECTION & IDENTIFICATION
Second Sight MS

BIOLOGICAL IDENTIFICATION
ENVI Assay System

BIOLOGICAL DETECTION
ENVI BioScout

GAMMA RADIATION DETECTION
RanidX

RADIATION DETECTION & IDENTIFICATION
RanidPro200

RADIATION DETECTION
SaphyRAD

MONITORING SYSTEM SOFTWARE
EnviScreen

XSystem
Complete CBRN Monitoring Solution

- Vehicle CBRN System supplier with over 100 systems installed
- Turnkey Solution with in-house COTS & 3rd party products
- Scalable and modular system architecture with connectivity and redundancy

Naval & Maritime Vessels

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Maritime environment sets high requirements for performance and tolerance of CBRN system components. Bertin Environics' new Naval CBRN X-System has been designed and tested for Naval and Maritime use, and to be most suitable for withstanding harsh offshore conditions.

The X-System solution includes Bertin Environics' COTS products with a new scalable system architecture capable of providing early-warning for chemical, biological and radiation threats and a CBRN dedicated System Software. The X-System also provides easy integration possibilities to 3rd party systems like NBC filtration, ship automation and control systems. To protect vessel operators and to warn for airborne CBRN threats,

the X-System architecture enables to create a tailored and optimized CBRN detection system to any vessel, regardless of its size or shape, for both defense use and civil security applications, like Coast Guard patrolling or Fire Fighting. The new X-System architecture for vessels comprises external protection with measuring points outdoors, internal protection for the crew with measuring points inside the citadels, and and sea water radiation level monitoring.

IACS Compliant System

The X- System follows the general recommendations and guidelines for special equipment and systems of naval vessels.
These kind of recommendations are given e.g. by Det Norske Veritas.

The X-System Naval & Maritime CBRN Monitoring Systems' components are compliant with Classification Society requirements.

Reduced Cabling, Increased Redundancy

The new X-System's architecture increases the system redundancy, as any of the ChemProX-DS can act as a master unit for the system and communicate with the IPMS.

CHEMICAL DETECTION & CLASSIFICATION
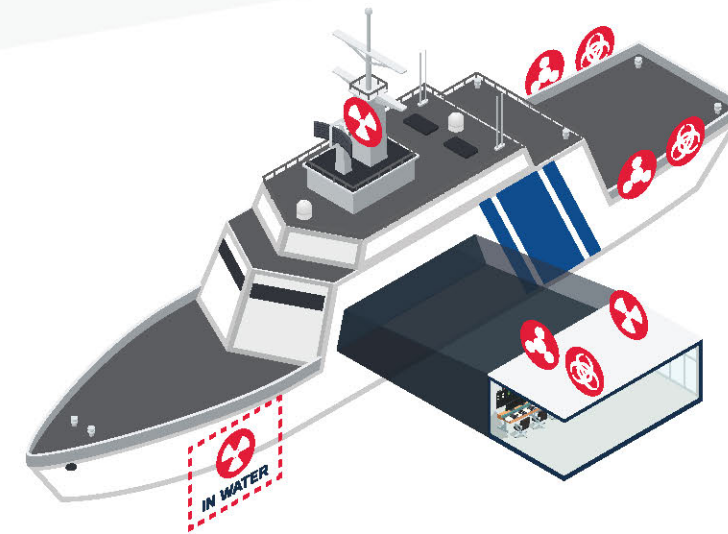**ChemProX-DS**

BIOLOGICAL DETECTION
ENVI BioScout

GAMMA RADIATION DETECTION
RanidX

MONITORING SYSTEM SOFTWARE
EnviScreen

IN WATER

IN WATER

FIND OUT MORE ON
Naval & Maritime CBRN Monitoring

Visit our website and download a dedicated Application Note.

XSystem
Complete CBRN Monitoring Solution

- Experienced Naval CBRN System supplier with over 100 systems installed
- Complete CBRN Solution based on in-house COTS products
- New detection system architecture

Buildings & Shelters

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Building Applications

Successful CBRN releases cause casualties and fatalities, disrupt operations and business, and lead to time-consuming and expensive decontamination process. Most facilities are vulnerable to CBRN releases, since they are not designed or equipped to protect the buildings and their occupants from exposure to harmful agents.

Building CBRN Monitoring systems enable timely threat detection and early warnings to initiate countermeasures and confirmatory activities.

Based on threats risks and vulnerability assessments, critical building areas are equipped with appropriate and proportional CBRN sensor systems. Typical sites for the sensor installations include air intakes, entrances, conference rooms, and reception sites for mail and cargo and roof tops. By showing real-time event and measurement data and incident related emergency instructions, the CBRN System Software centralizes situational awareness and data management for informed decision making. Sensor and 3rd party system level integrations are supported. Bertin Environics' Building CBRN concept is a combination of key COTS components and complementing 3rd party solutions to meet the most demanding requirements for facility protection.

Shelter Applications

By serving all shelter categories in military and civil defense we understand how the various aspects of safety are connected in different shelter classes, on a practical level. The scalable and modular X-System extends from independent small gastight nuclear shelters to large automated and networked underground facilities. The solution can be complemented with indoor air quality sensors, perimeter protection systems and portable CBRN instrumentation for verification and further analysis.
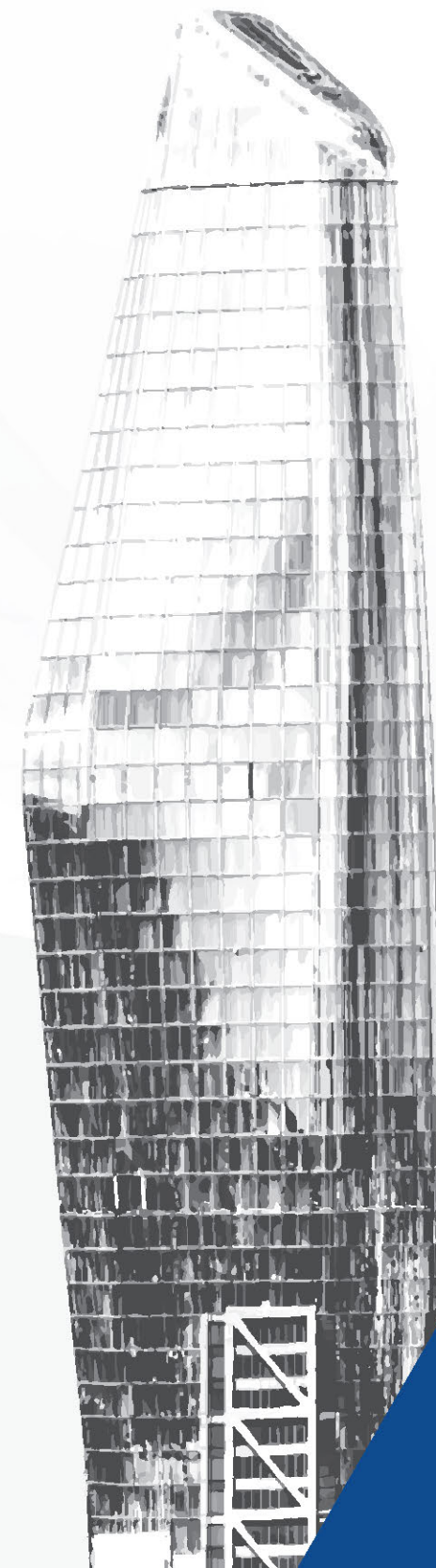
FIND OUT MORE ON
Building CBRN Monitoring

Visit our website and download a dedicated Application Note.

FIND OUT MORE ON
Shelter CBRN Monitoring

Visit our website and download a dedicated Application Note.

CHEMICAL DETECTION & CLASSIFICATION
ChemProX-DS

BIOLOGICAL DETECTION
ENVI BioScout

RADIATION DETECTION & IDENTIFICATION
RanidPort & RanidProFX

GAMMA RADIATION DETECTION
RanidX

MONITORING SYSTEM SOFTWARE
EnviScreen

INTERNAL PROTECTION

EXTERNAL PROTECTION

INTERNAL PROTECTION

INTERNAL PROTECTION

- Supplier with over 200 stationary CBRN system installations
- CBRN Solution with in-house COTS products for various building and shelter categories
- Scalable and modular system architecture with connectivity and redundancy

X‑System
Complete CBRN Monitoring Solution

Ports & Borders

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Nations must efficiently monitor people and goods passing through borders to prevent e.g. illicit trafficking of radioactive material. Handling large masses passing through international a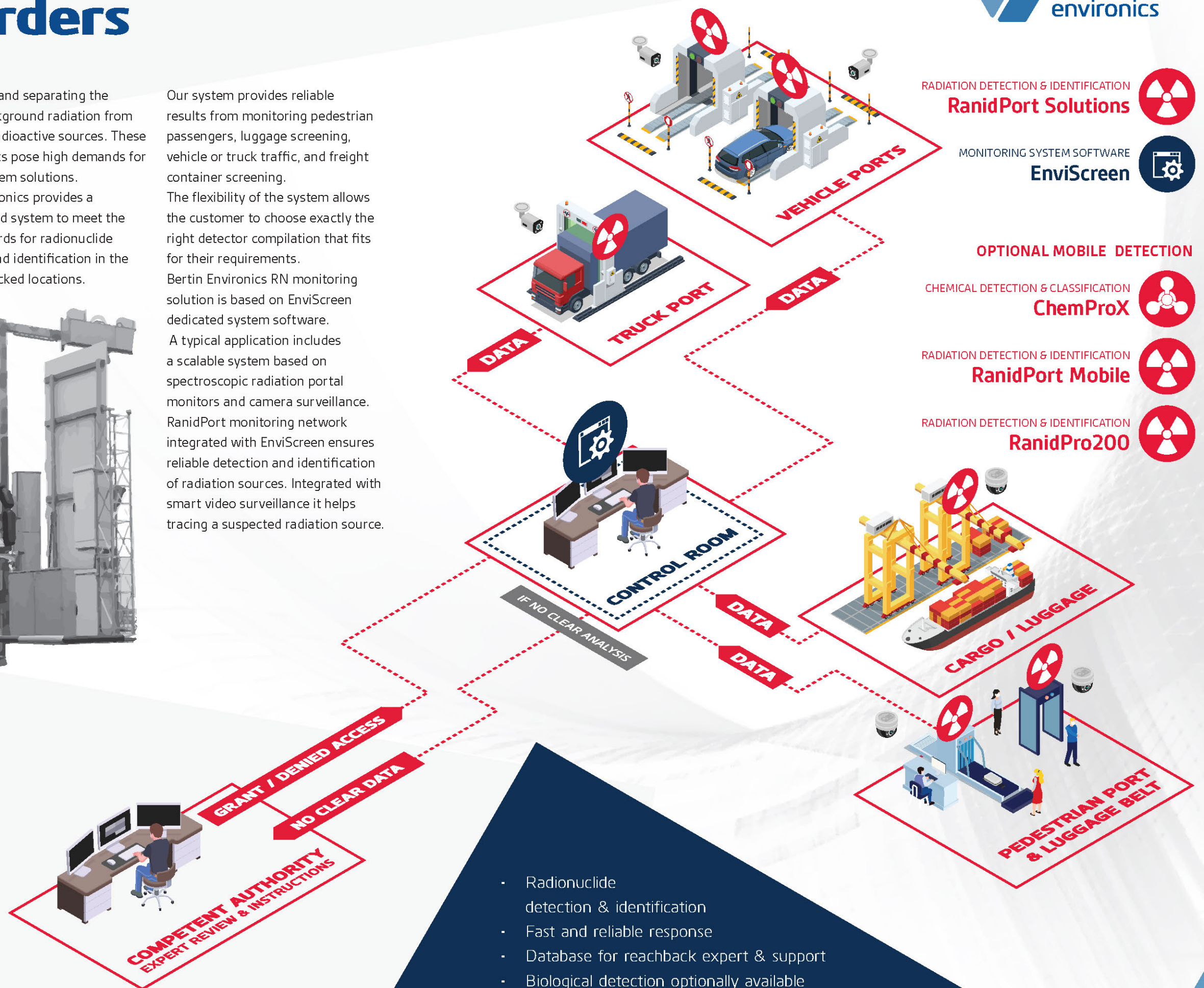irports requires reliable tools for monitoring and separating the natural background radiation from unnatural radioactive sources. These requirements pose high demands for reliable system solutions.

Bertin Environics provides a sophisticated system to meet the high standards for radionuclide detection and identification in the highly trafficked locations.

Our system provides reliable results from monitoring pedestrian passengers, luggage screening, vehicle or truck traffic, and freight container screening.

The flexibility of the system allows the customer to choose exactly the right detector compilation that fits for their requirements.

Bertin Environics RN monitoring solution is based on EnviScreen dedicated system software. A typical application includes a scalable system based on spectroscopic radiation portal monitors and camera surveillance. RanidPort monitoring network integrated with EnviScreen ensures reliable detection and identification of radiation sources. Integrated with smart video surveillance it helps tracing a suspected radiation source.

FIND OUT MORE ON
Border CBRN Monitoring
Visit our website and download a dedicated Application Note.

RADIATION DETECTION & IDENTIFICATION
RanidPort Solutions

MONITORING SYSTEM SOFTWARE
EnviScreen

OPTIONAL MOBILE DETECTION

CHEMICAL DETECTION & CLASSIFICATION
ChemProX

RADIATION DETECTION & IDENTIFICATION
RanidPort Mobile

RADIATION DETECTION & IDENTIFICATION
RanidPro200

VEHICLE PORTS

DATA

TRUCK PORT

DATA

CONTROL ROOM

IF NO CLEAR ANALYSIS

DATA

DATA

CARGO / LUGGAGE

PEDESTRIAN PORT & LUGGAGE BELT

GRANT / DENIED ACCESS

NO CLEAR DATA

COMPETENT AUTHORITY
EXPERT REVIEW & INSTRUCTIONS

- Radionuclide detection & identification
- Fast and reliable response
- Database for reachback expert & support
- Biological detection optionally available

Portable Devices

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environics

ChemProX

New Generation Handheld Chemical Detector

ChemProX is a CWA & TIC early-warning handheld chemical detector which allows for real-time situational awareness. It features wireless communication network with GPS, a built-in simulation mode for training, and it is based on an in-house developed proven and enhanced technology.

CBRN Kit

ChemProX CBRN Kit is a comprehensive set that expands the capabilities of ChemProX for full CBRN threat detection.

Second Sight MS
Standoff Gas Cloud Detector

Second Sight MS is a passive long-range gas cloud detector for remote detection, visualization, and identification of chemical warfare agents and toxic industrial gases in real time. Thanks to its compact, lightweight, and modular design, it is ideally suited to military and civil security operations, providing early warning of suspicious gas cloud, and allowing better decision-making. With its thermal imaging sensor and advanced HMI, it enables remote supervision and fast tracking of multiple gas clouds, while displaying source point, contamination area, gas name and estimated concentration.

ENVI Assay
Lab-in-a-box Biodefence Tests

ENVI Assay System is a high quality and proven test method for early detection and BWA identification, and the most compact immunoassay "lab-in-a-box" in the market. We have available disposable, separate assays for seven highly poisonous hazardous agents: ricin toxin, botulinum toxin, Bacillus anthracis anthrax, orthopox virus, SEB, Yersinia pestis and Francisella tularensis.
ENVI Assay System test kits are featured with practical tools and straightforward test method giving fast response, specificity, and sensitivity ideal for provisional biological threat assessment from environmental samples.

RanidPro200
Ranionuclide Identifier Backpack & Source Location

RanidPro200 is a high performance and simple tool for radionuclide search, identification & location, featuring an operator friendly easy user interface with internal mapping & history functions. It can be controlled remotely through a smartphone interface and allows full reach back capability.

RanidSOLO

RanidSOLO is a spectrometric radiation source locator for RanidPro200. This valuable add-on enables tracking down multiple sources of gamma radiation.

RanidPort
Mobile Spectroscopic Radiation Portal Monitoring Solution

RanidPort is a mobile advanced spectroscopic portal monitors with a high volume NaI(Tl) scintillation detector, for rapid detection and identification of radioactivity or radioactive material.
RanidPort suits for indoor and outdoor applications and features automated operation with optional camera surveillance system. The mobile operators utilize with a web server based graphical user interface and a MySQL based spectroscopic database.

SaphyRAD MS
Multiprobe Survey Meter

SaphyRAD MS is a multiprobe survey meter designed for defense and security operations in CBRN risk situations. Its ruggedized housing make it suitable for operations in harsh environments, and for non-specialist users wearing PPE. SaphyRAD MS can be used for radiation exposure monitoring (dose / dose rate), contamination detection and identification. Equipped with a comprehensive range of smart probes, it allows for the detection and measurement of alpha, beta, gamma, neutron and X-Ray radiation. It includes a built-in simulation function for training, to perform measurement or contamination control without using real radioactive sources.

System Components

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ChemPro X DS
Detection System Compatible Chemical Detector

ChemProX-DS is a CWA & TIC chemical detector for mobile and stationary installations, which allows for both independent usage and system integration, featuring a local display with full CBRN system status.
Designed and developed for being a resourceful instrument, its versatile communication and connectivity features increase system redundancy and minimize cabling needs.

Second Sight MS
Standoff Gas Cloud Detector

Second Sight MS can be mounted on CBRN mobile platforms, such as military or reconnaissance vehicles, with full integration within CBRN sensors, for providing total situation awareness in case of a chemical incident on the battlefield. Minimizing personnel's exposure, remote monitoring from inside the vehicle provides 360° surveillance capability.

ENVI BioScout
Bioaerosol Detector with a 3-in-1 Capability

ENVI BioScout — available in both normal and rugged casing — is a bioaerosol detector with a 3-in-1 capability that provides continuous monitoring and warns for the presence of harmful airborne biological particles and collects air samples for further BWA analysis. When connected to ChemProX-DS the status and alarms are indicated on the local user interface.

Ranid X
Detection System Compatible Radiation Detector

The RanidX allows real-time gamma and X-ray radiation monitoring in mobile and fixed applications, detecting and measuring radiation down to low levels (L.L.R). The RanidX provides dose rate and status readings through the software interface. When connected to the ChemProX-DS, the current dose rate, accumulated dose readings and alarms are indicated on the user interface. By using 2 or more RanidX detectors in a system, it is also possible to monitor the radiation direction on the user interface of the ChemProX-DS or CBRN Monitoring Software.

RanidProFX
Radionuclide Identifier for Fixed Installations

RanidProFX is a high performance tool for radionuclide identification, and integratable to air samplers. The device measures, detects and identifies the source of radiation and gives the user clear and simple information from the results. RanidProFX also enables full reachback support capability for remote expert support. It has a very low false alarm rate through unique automatic energy stabilization routines.
A comprehensive nuclide database enables that the measured data can be compared to the known spectrums for very specific analysis.

EnviScreen
CBRN Monitoring System Software Solution

EnviScreen Operix is a sophisticated CBRN sensor networking and monitoring system software. Designed to meet requirements of different CBRN monitoring applications, it is a complete solution for CBRN monitoring, reporting, training and system maintenance. It provides real-time situation overview and sensor management from multiple locations, offers a scenario planning / simulation tool, and sends automatic notifications from system maintenance needs. EnviScreen is a secure tool for reliable data communication utilizing SSL/AES encryption.

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