Ensure safety and security

SEA BASED RADIATION EARLY WARNING SYSTEM
Radiation Early Warning System

After Chernobyl accident, many countries were compelled to have an emergency system which warn and protect their population from radiation hazards.

- Essential for civil protection
- Land based
- Reacts when radioactivity is already on the land
What is the SBREWS?

The early warning system that gives you the **TIME** to react when a **sea based** radioactive cloud approaches your country.
What is the SBREWS?

Data buoys placed at sea with mounted special radiation detectors approximately 20 Km away from your shore line *(not more than 12 nautical miles as per UN Convention on the Law of the Sea)* with recommended distance of 5 km between buoys in populated areas.
SBREWS

Radiation detector (gamma radiation) placed on water line to detect radioactivity in the water

Radiation detector 12 m. above the water to detect airborne particles (radioactive cloud)

Instrumentation for measurements at sea (wind speed, directions, temperature, current)

Wind & solar generator

Modems

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Example:
The distance between Bushehr nuclear power plant and Dubai is 607 km. With the current speed the radioactive cloud will reach Dubai approximately in 33 hours (1.5 day).

For the current speed and installed SBREWS, we have at least 1 hour more to react.
An hour may give you an opportunity:

• To make certain public aware of the accident;
• To ask civilians to stay indoors and take precaution measures;
• Organize small evacuation of critical elements of government/critical staff.
Dispersion of Radioactive Cloud after Fukushima Accident

Example:
The Data Buoy

Model DB-8000
The Data Buoy

DB-8000 with Floater
The Data Buoy

RS04 Sub Surface

GSP for Particle Identification

Ensure safety and security
Handling the Data

This software supervision allows computer control of various aids to navigation (lights, batteries, AIS, AtoN, ...) for monitoring, diagnosis and optimal infrastructure facilities.

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<th>FONCTIONS FUNCTIONS</th>
<th>état</th>
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<th>cartes</th>
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Several users can access the software at the same time. The administrator controls access to features based on the level of allocated (administrator, manager or user).

Visualisation des AtoN et navires
État des feux (on / off)
Tension de la batterie
Alarme de dérangement
Tableau du parc AIS-AtoN

Display AIS AtoN and vessel
Status of lights (on / off)
Battery status
Off position alarm
Table AIS-AtoN park

Windows / Linux / Mac
Ipad / tablette / Android

Accès universel : où que vous soyez, la supervision se fait depuis internet.

Universal Access: wherever you are, supervision is from the internet.

Ensure safety and security
Handling the Data

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Handling the Data

For Radiation Early Warning System:

• Dose Rate, Counts per Second
• Wind Direction, Wind Speed, Temperature
• Current Direction and Speed
• Optional: Nuclide Identification and Particles
Handling the Data

Alarming:

• Establishing a threshold for Warning and Alarm
• Depending on Wind speed and Direction the Alarm is set off
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Options

Aerosol Sampling and high value Analysis