

CARDINAL

by INOVAtON

SOFTWARE for Marine Aids to Navigation (AtoN)



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CARDINAL - The complete Marine Aids to Navigation (AtoN) software package for through-life asset administration, asset maintenance and monitoring of IALA/IMO compliance requirements.

CARDINAL has been developed for any organization that owns or manages and maintains Marine Aids to Navigation (AtoN).

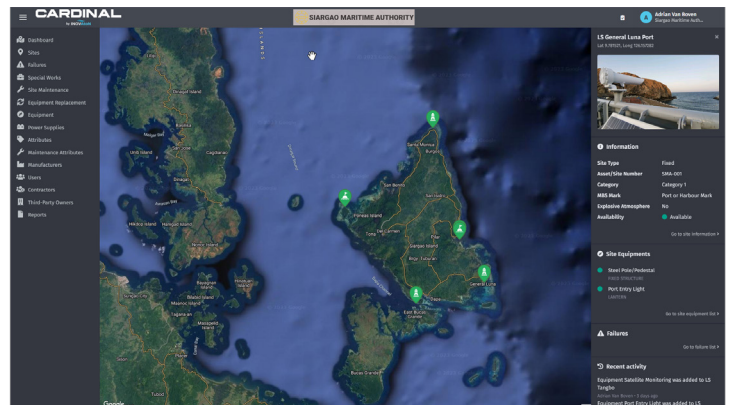
A specialist software platform, CARDINAL provides users with an AtoN asset database that records all site-related details, including the equipment installed, and has the ability to historically record all changes and other events associated with the AtoN site.

CARDINAL provides comprehensive recording of all activities undertaken at each site, including planned maintenance and one-off special works, either through manual entry of data on the web application, or via the fully integrated android application running on a ruggedized tablet. The tablet pre-loads automated maintenance forms specific for each site and user and requires no internet connection during usage, with data synchronization occurring when an internet connection becomes available, making it a true remote-site maintenance recording tool.

Apart from its database and maintenance capabilities, CARDINAL also provides unique features for the management of AtoN failures and outage response, allows for automated calculation and reporting of availability via AtoN category, and for the automatic creation of navigational warnings. Mean Time to Repair (MTTR) is also calculated to assist in the management and benchmarking of outage response times.

The software is intuitive, extremely user-friendly and utilizes a map-based system for an overview of the status of all AtoN sites in the system. Selecting an AtoN site via the geographical interface, the system opens to a new window which outlines general site information with links to individual equipment and maintenance information plus all historical data.

These features make CARDINAL an essential tool for any organization, not only in terms of creating a more efficient and effective asset and asset maintenance recording system and improving the maintenance process overall, but also for ensuring that AtoN services are being delivered in compliance with international standards.



KEY SOFTWARE FEATURES

- Web-Based Application.
- Simple and intuitive geographical information system which shows the status of each AtoN site.
- Easy to access site information which includes all equipment installed on a particular site with historical records.
- Record individual AtoN Sites with information on whether the site is fixed or floating.
- Record the AtoN type in accordance with IALA Recommendation R1001 The IALA Maritime Buoyage System and other key characteristics, such as, but not limited to, range and rhythmic flash character.
- Record details on structure types, type of material and dimensions.
- Record details on buoy type, type of materials, dimensions and mooring system particulars.
- Record all AtoN equipment contained within an AtoN site including Lanterns, AIS AtoN, Racons, Power Supplies, Sector Lights etc.
- Record specific details on AtoN equipment including Make, Model, Serial Number, Installation Date and other equipment-specific information.
- Record any maintenance carried out on sites / equipment including full reporting with photographs and the ability to create individual site maintenance schedules.
- Maintenance can be entered into the system via the web application or through the use of a ruggedized tablet running a fully integrated android maintenance application with pre-loaded site-specific maintenance forms.
- Recording of Special Works carried out on AtoN sites outside of normal maintenance schedules.
- Failure and outage occurrence and response tracking and recording.
- Automatic calculation of AtoN Availability, split between AtoN site categories, as per IALA Recommendations.
- Automatic calculation of AtoN Mean Time to Repair (MTTR)
- Automatic creation of content for Navigation Warnings, compliant with international requirements.
- Full historical data related to each site including Maintenance, Special Works, Replacement of Equipment, failures and outage responses and Navigation Warnings.



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CARDINAL helps monitor compliance of AtoN to international standards.

There are various international obligations that organizations must observe for the provision of AtoN to ensure the highest level of safety of navigation is achieved. The IMO's 'Safety of Life at Sea Convention (SOLAS)' Convention provides information that is implicit to the requirements for AtoN in Chapter V, Regulation 13, and refers to guidance provided by the 'International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA)'.

Some of the most critical aspects of owning and operating AtoN are the operational availability of AtoN, the maintenance of an up-to-date database of all AtoN and the efficient provision of information relating to AtoN for navigational warnings.

CARDINAL provides automated tools that allow organizations to efficiently manage these requirements and to track the performance of their AtoN network. Some of these tools include;

- Maintenance and upkeep of a National Register of AtoN and provision of summaries of updated, key information for all AtoN sites.
- Automatic updates and issuance of information when changes are made to AtoN sites.
- Categorisation of AtoN in accordance with IALA Recommendation R0130.
- Management of the process for rectifying AtoN failures and the automatic and progressive tracking of Availability based on categorisation, in accordance with IALA Recommendation R0130.
- Automatic issuance of key information for navigational warnings when new AtoN are established, when changes are made or when failures are experienced.



SOFTWARE SUPPORT

- Full email support and escalation to direct remote support for faster resolution when required.
- Continual development cycle, with bug fixes and additional features / enhancements to be added in future CARDINAL builds.
- Data input training for clients' users

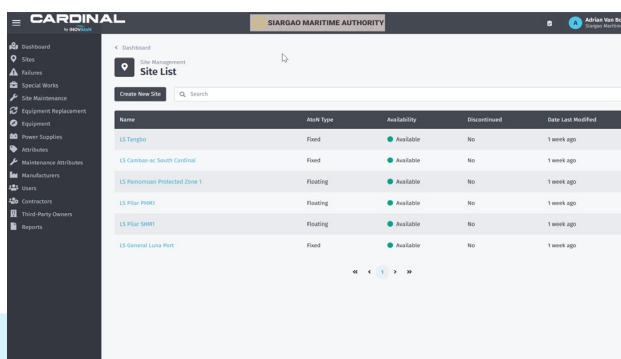
SYSTEM SECURITY

- Secure login into the web application.
- Comprehensive User roles and permissions to enhance internal client system security and data integrity with System Audit Logging.
- Data is secure and encrypted on reputable hosting services.
- Maintenance Tablets are white-listed to the application, password protected and security further enhanced via a Mobile Device Management system.



OPTIONS & ACCESSORIES

- Ruggedized Maintenance Tablet fully configured with the Cardinal Android Application and Mobile Device Management software.
- All-in-One Operator PC, complete and fully configured.
- Wall-mounted monitor complete with mini-pc, complete and fully configured.



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CONTACT US FOR MORE INFORMATION



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The screenshot displays the INOV AtoN software interface. On the left is a vertical sidebar menu with icons and labels for: Dashboard, Sites, Failures, Special Works, Site Maintenance, Equipment Replacement, Equipment, Power Supplies, Attributes, Maintenance Attributes, Manufacturers, Users, Contractors, Third-Party Owners, and Reports. The main area shows a satellite map of the Philippines with several green location markers. A right-hand panel is open, showing a photo of a lighthouse and a list of site information: Site Type (Fixed), Asset/Site Number (SMA-001), Category (Category 1), MBS Mark (Port or Harbour Mark), Explosive Atmosphere (No), and Availability (Available). Below this are sections for Site Equipments (listing Steel Pole/Pedestal, Port Entry Light, and LANTERN) and Failures. At the bottom, a Recent activity section shows 'Equipment Satellite Monitoring was added to LS Tansho'.