



MONITORING & MAINTENANCE

Management
System
approved
by LRQA
to standards
ISO 9001:2015





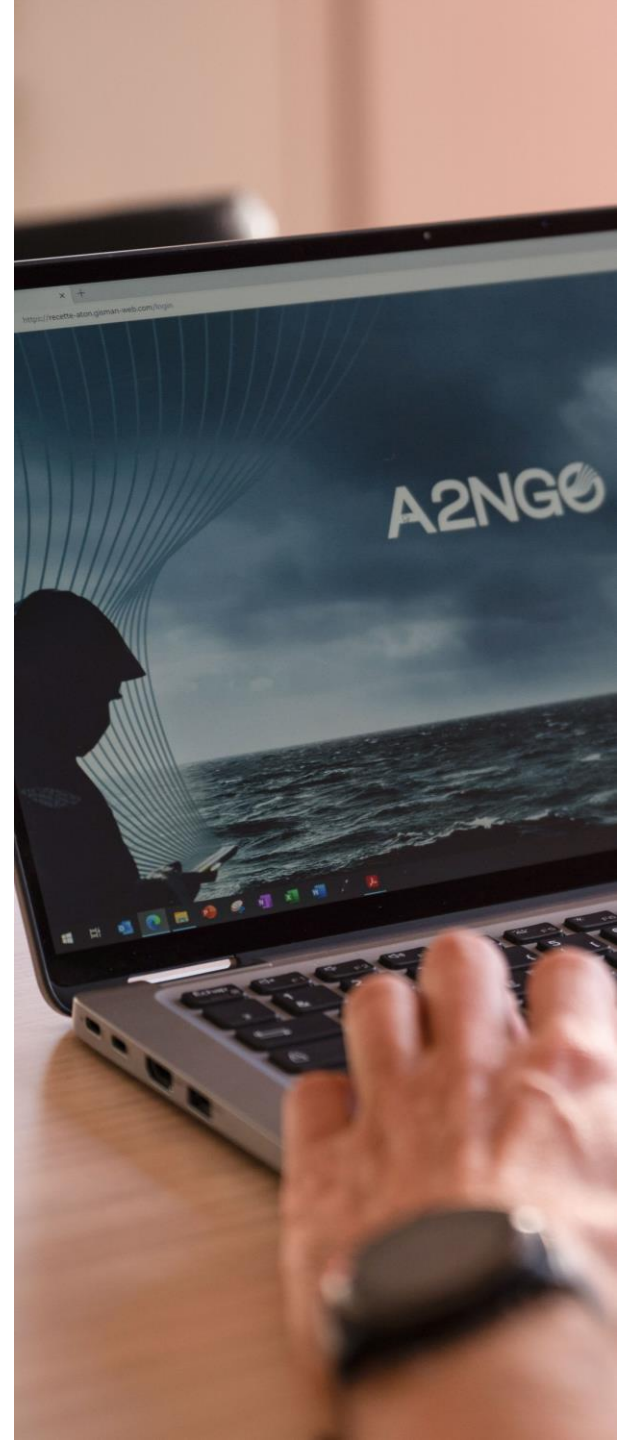
A2NGO

KEEP IN CONTROL!

Connectivity to enhance your user experience

A2NGO

- Lanterns equipped with the **A2NGO** system capture operating and location information,
- Lanterns equipped with the **A2NGO** system transmit this information, in viewable form, to the dedicated **GISMAN** web portal, which is capable of storing this data,
- Lanterns equipped with the **A2NGO** trigger alarms if the information gathered so requires,
- The communication network is **M2M** (machine to machine),
- Data transmission and storage is **cyber-secure**.





A2NGO

KEEP IN CONTROL!

2 FUNCTIONS ACCESSIBLE VIA OUR
SECURE CYBER WEB PORTAL

A2NGO

- ● MONITORING APPLICATION
Monitor your assets (AtoN) remotely, in real time
and at lower cost

- ● MAINTENANCE APPLICATION
Optimise the availability of your assets (AtoN) by
centrally managing the maintenance of your
beaconing system

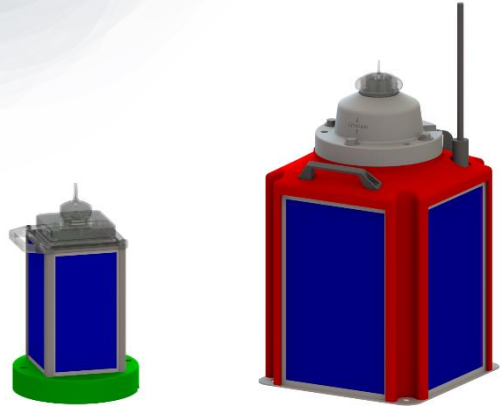




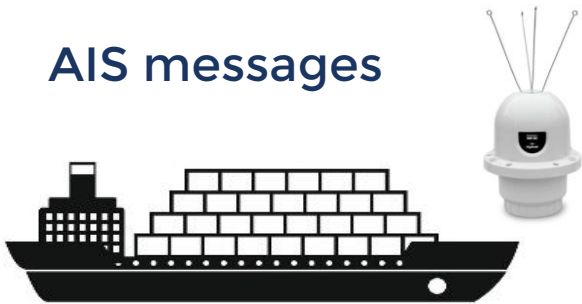
A2NGO
MONITORING

A2NGO Monitoring

Connected lanterns



AIS messages



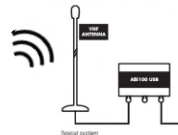
Communication systems



BLUETOOTH



SAT / GSM / SIGFOX



A2NGO AIS RELAY

WEB Server



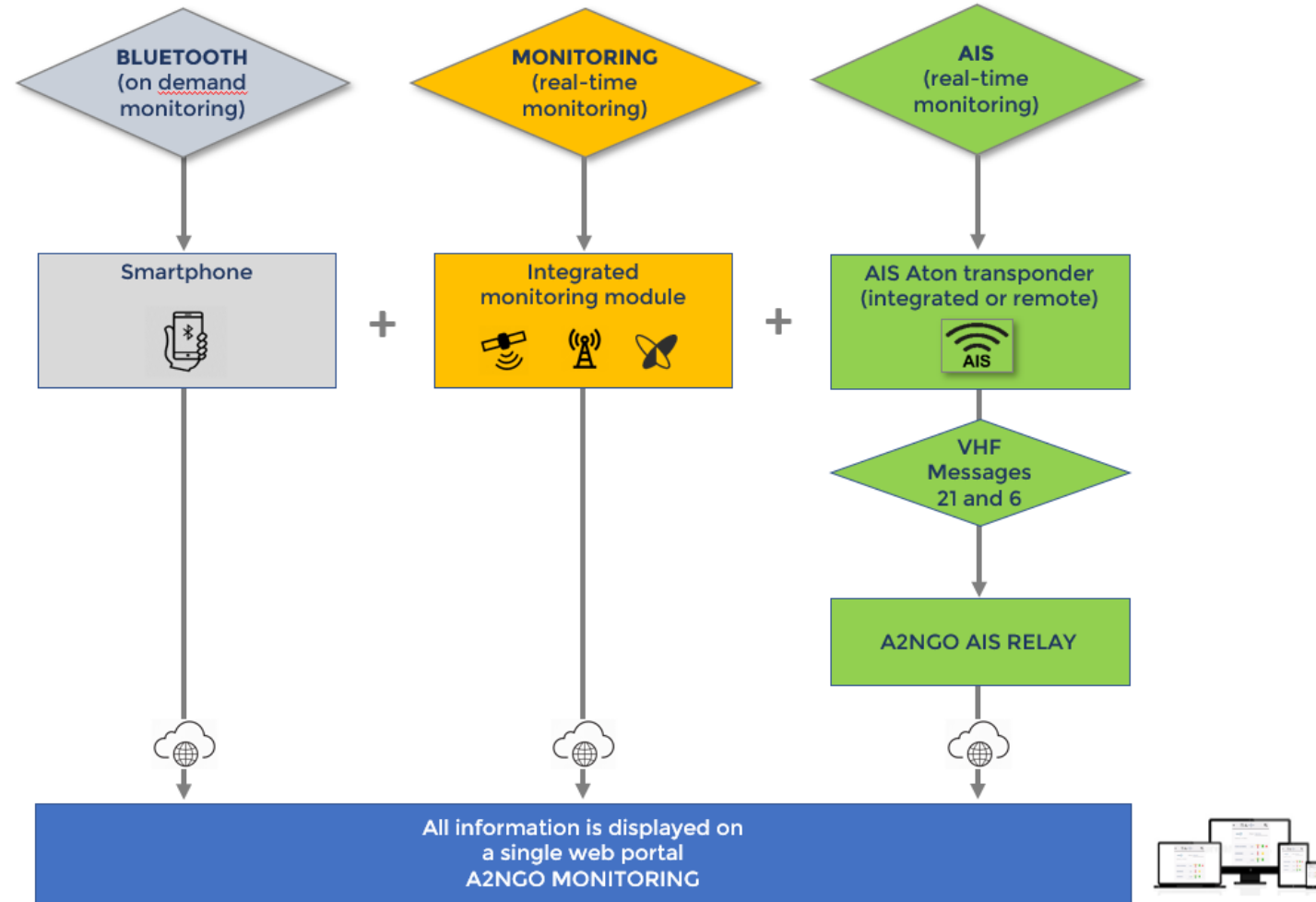
WEB
PORTAL GISMAN



- ✓ ATON STATUS
- ✓ ALARMS (LANTERN FAILURE/
OFF POSITION)
- ✓ VESSEL TRAFFIC MONITORING
(with AIS)

A2NGO MONITORING

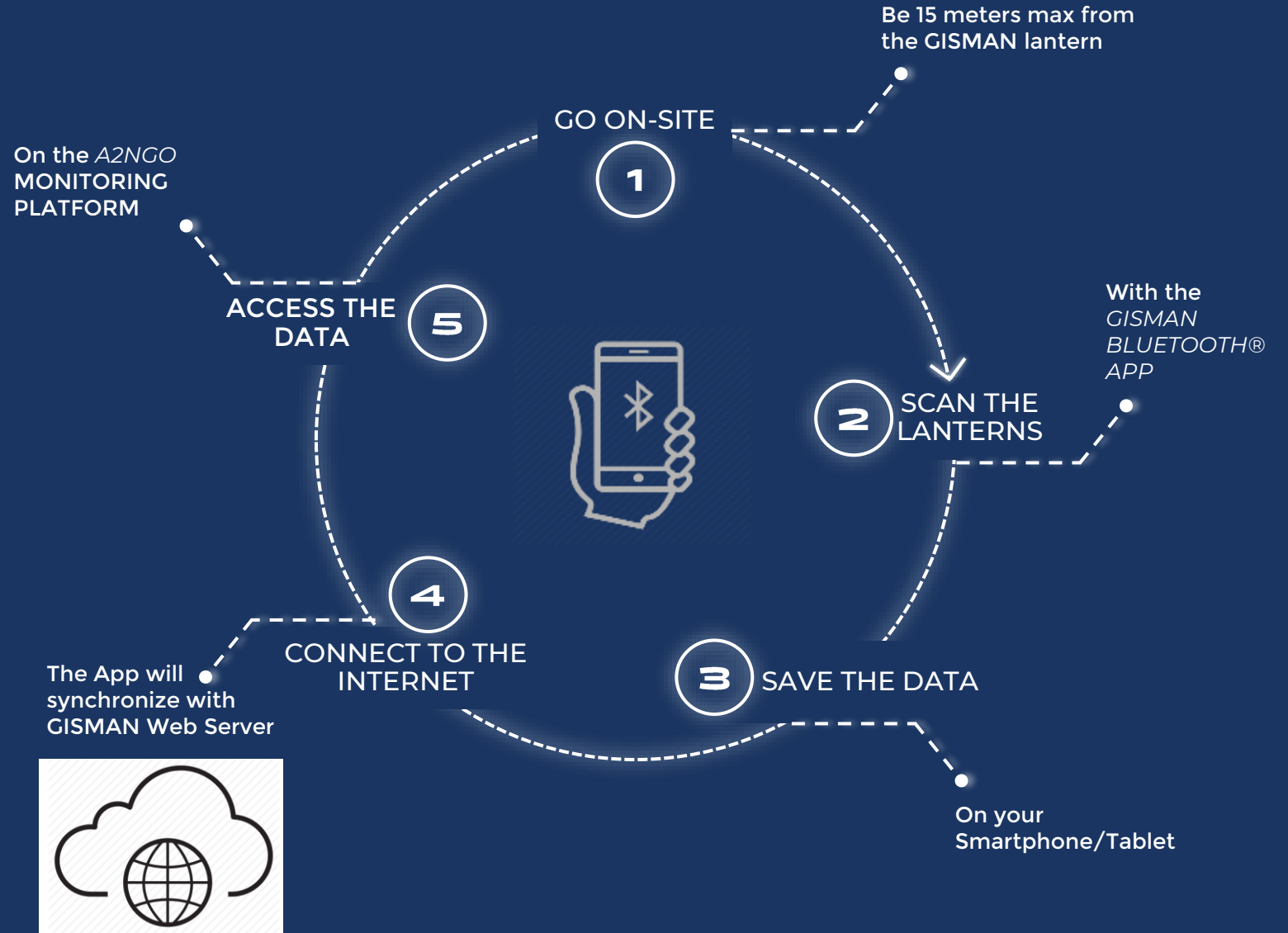
3 COMMUNICATION MODES

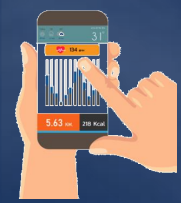


A2NGO MONITORING

via **BLUETOOTH®**
CONNECTIVITY

On Demand Monitoring



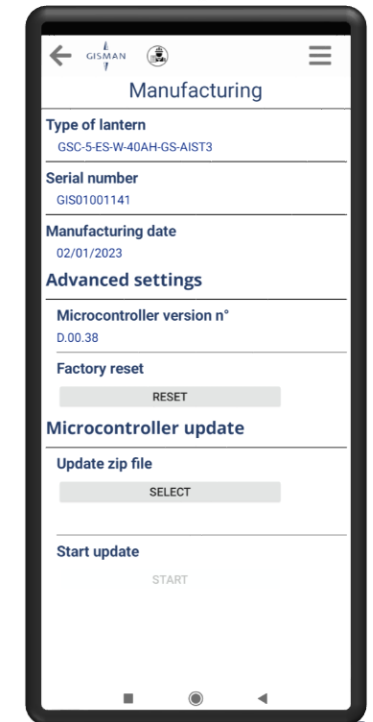
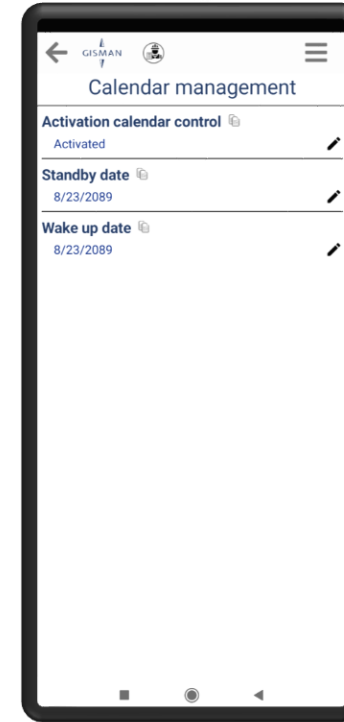
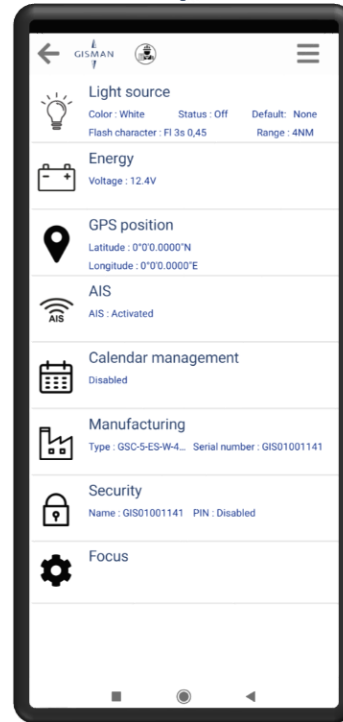
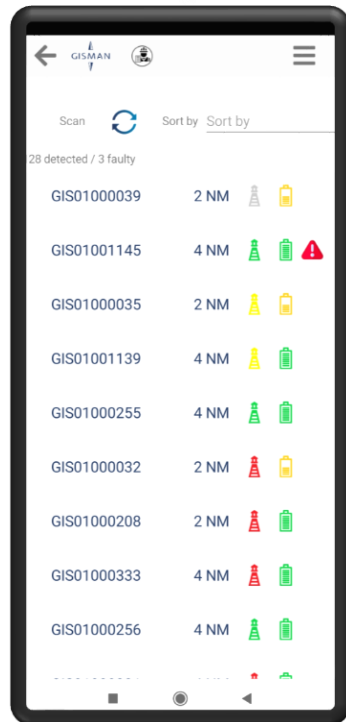


GISMAN
Bluetooth®

A2NGO MONITORING with Gisman bluetooth®

Access to and recording of lantern
parameters during on-site inspections

Available in French, English, Spanish and Portuguese





A2NGO MONITORING

By satellite, gsm or Sigfox


Remote access,

Real-time alarms



A CHOICE OF 3 COMMUNICATING MODULES

Satellite (IRIDIUM)  

GSM (SIM card) 

SIGFOX (IoT if coverage available) 



SECURE ACCESS THROUGH A DEDICATED WEB PORTAL

Real-time status and operating history of lanterns

Cyber-secure system



USER EXPERIENCE MADE EASY

Multi-user

Multi-product

Multi-site

*A2NGO MONITORING
by AIS transponder (VHF)
Type 1 or type 3*

Lanterns parameters and vessel traffic

Real time alarms



DATA EXCHANGE VIA AN AIS TRANSPONDER IS BASED ON WELL-DEFINED MESSAGES

Message 21 used for the identification & location of the Navigation Aid and the status (on/off) of the lantern)

Message 6 used for remote monitoring of a Navigation Aid



THE A2NGO AIS RELAY STATION IS AN INTUITIVE SOLUTION FOR RECEIVING AND SENDING DATA RECEIVED FROM THE AIS

PC/Server with VHF aerial

Web-connected (WIFI or LAN)

Receives, encapsulates and transmits AIS messages received under VHF coverage to the GISMAN web server



A2NGO WEB PORTAL WITH RECORD & REPLAY FUNCTIONS






View AIS data

Record AIS data

Replay AIS data

A2NGO MONITORING

Matrix of available solutions

| | | Communication Network | Receiving Frequency | Cost | Depth of Data |
|-------------------------------------------------------------------------------------|-----------|---------------------------------------------|---------------------|------|---------------|
|  | Bluetooth | Via internet from a smartphone | After each visit | 0 | +++ |
|  | Satellite | Satellite network | 1 to 2 times a day | ++ | ++ |
|  | GSM | Local mobile network (Requires SIM DATA) | 1 to 2 times a day | +++ | ++ |
|  | Sigfox | SigFox network | 1 to 2 times a day | + | + |
|  | AIS | Via VHF (Requires A2NGO AIS Relay) | Every 3 minutes | 0 | + |

A2NGO MONITORING

A wide range of available data

| Monitoring data | BLUETOOTH | SAT | GSM | SFOX | AIS |
|--------------------------------------------|-----------|-----|-----|------|-----|
| Operating mode | X | X | X | X | |
| Autonomy management function enabled | X | X | X | X | |
| Light source status | X | X | X | X | X |
| Light source fault | X | X | X | X | X |
| Charging fault | X | X | X | X | |
| Off-position fault | X | X | X | X | |
| Battery voltage | X | X | X | X | X |
| GPS coordinates | X | X | X | X | X |
| Reference GPS coordinates | X | X | X | | |
| Off-position radius | X | X | X | | X |
| Last day to night and night to day passage | X | X | X | | |
| Night range/intensity | X | X | X | | |
| Programmed flash character - night | X | X | X | | |
| Day range/intensity | X | X | X | | |
| Programmed flash character - day | X | X | X | | |
| Calendar management enabled | X | X | X | | |
| Wake-up date | X | X | X | | |
| Standby date | X | X | X | | |

A2NGO MONITORING

Data display on the web portal

The screenshot displays the A2NGO Monitoring web portal interface, divided into two main sections: 'Monitoring AtoN' and 'Vessel Traffic (AIS)'. Both sections show a map of the Baie de Quiberon area with various navigational aids and vessel positions.

Monitoring AtoN Section:

- Map:** Shows the coastline of the Baie de Quiberon with various navigational aids (AtoN) marked. A search bar is present at the top left.
- Details Panel (FAIRWAY):**
 - Status:** Details, AtoN, Maintenance
 - Type:** AtoN
 - Serial No.:** 01000210
 - Color:** (Not specified)
 - State:** Normal operation
 - Mode:** Standby
 - Battery status:** 6.6 V, charge OK
 - Position:** Lat 47°32'26.33"N, Long 3°0'24.16"W
 - Monitoring:** GSM
 - Photo:** Includes a small image of a boat.

Vessel Traffic (AIS) Section:

- Map:** Shows the same area as the AtoN section, but with a focus on vessel traffic. A specific vessel, 227969750, is highlighted with a green arrow.
- Details Panel (227969750):**
 - Status:** Details
 - Type:** Navire
 - Position:** Lat 47°33'23.24"N, Long 3°0'53.48"W
 - Direction:** 185°
 - Speed:** 4.5 Knots
 - Status:** Not defined
 - Date / time ascent:** 03/03/2023 13:03:00 GMT
 - Ascent by:** GISMAN WatchAtoN

Monitoring AtoN

Vessel Traffic (AIS)

A2NGO MONITORING

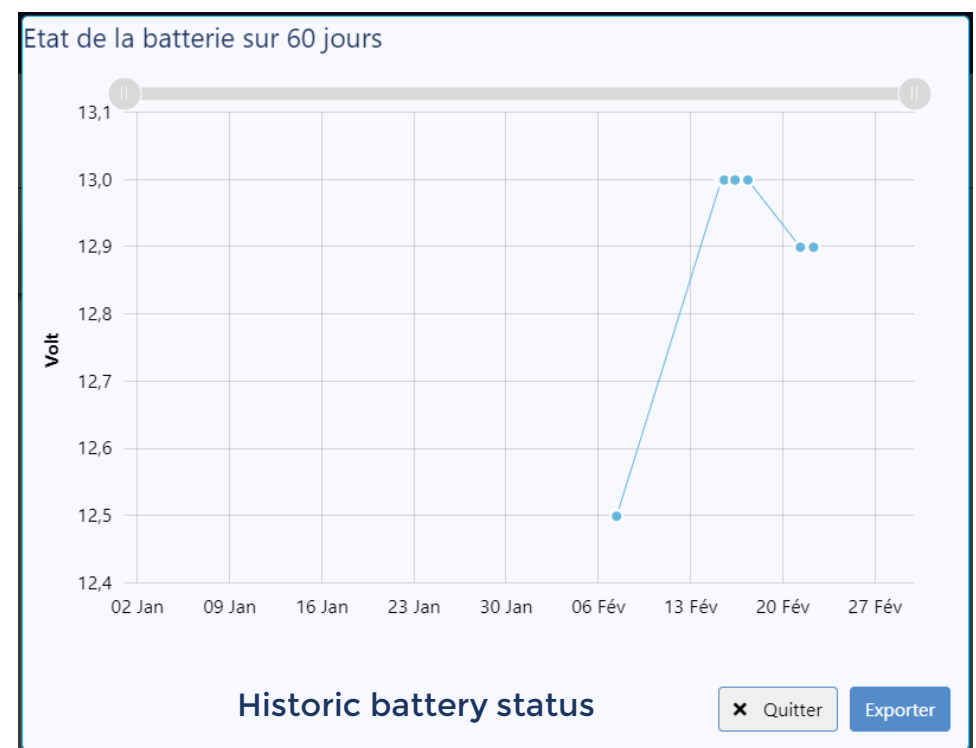
Data display on the web portal

The screenshot displays two panels of data for a FAIRWAY light signal. The left panel shows the 'Details' tab with various technical specifications. The right panel shows the 'AtoN' tab with commissioning and support information.

| FAIRWAY | | | |
|-------------------------------|-----------------------|------|-------------|
| Status | Details | AtoN | Maintenance |
| Light signal | | | |
| Color | Red | | |
| Mode | Standby | | |
| Status | Off | | |
| Night flashing character | 54 - Fl 3s 0,45 - 15% | | |
| Day flashing character | 54 - Fl 3s 0,45 - 15% | | |
| Offset synchro | 0 s | | |
| Night range | 2 Nm | | |
| Day range | 0.1 Nm | | |
| Measured current | 0 A | | |
| Temperature | 22 °C | | |
| Thermal management: intensity | 100 % | | |
| Min. temp. over 24h | 22 °C | | |
| Max. temp. over 24h | 22 °C | | |
| Average temp. over 24h | 22 °C | | |
| Power management: | 100 % | | |


| FAIRWAY | | | |
|-------------------|------------------------|------|-------------|
| Status | Details | AtoN | Maintenance |
| Commissioned on | 02/01/2023 | | |
| Latitude | 47°32'26.33"N | | |
| Longitude | 3°0'24.16"W | | |
| Availability rate | --- | | |
| Support | | | |
| Product | --- | | |
| Type | Bouée Acier | | |
| Remark | No product reference | | |
| Light signal | | | |
| Product | GSC-5-MONIT | | |
| Type | Self-contained Lantern | | |
| Serial No. | 01000210 | | |
| Commissioning | 09/01/2023 | | |
| No radio aid | | | |
| Monitoring module | | | |
| Product | GSC-5-MONIT | | |
| Type | Self-contained Lantern | | |
| Serial No. | 01000210 | | |
| Monitoring type | Cellular - GSM | | |

AtoN downloaded data



Historic battery status

✕ Quitter Exporter



A2NGO
MAINTENANCE



A2NGO

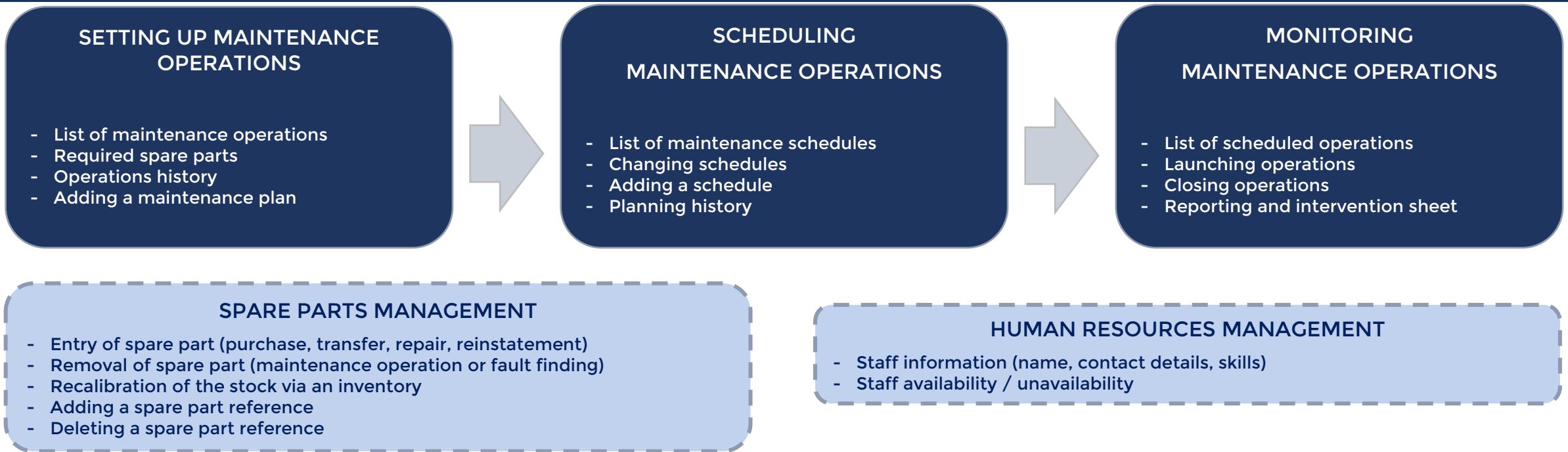
KEEP IN CONTROL!

A maintenance management platform to optimise AtoN serviceability

A2NGO

- PLATFORM OBJECTIVES
 - Guarantee an equipment availability rate in line with AISM recommendations**
 - Reduce maintenance costs**
- KEY FEATURES
 - Plan and manage your preventive and corrective maintenance operations**
 - Manage spare parts and human resources**
 - Manage maintenance for all manufacturer AtoN**
 - Interfaces with the Maintenance and Monitoring application**





A2NGO

ASK FOR A DEMO



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