FORTECHO

SMART PROTECTION

FORTECHO

"Fortecho is the world's leading real-time wireless art and object-focused surveillance solution."

FORTECHO enables constant, **centralised**, **wireless** monitoring of valuable paintings, wall hangings, free standing objects / sculptures, display cases and furniture.

24/7 MONITORING FOR:

MOTION

PROXIMITY

VIBRATION

LOCATION

RELATIVE HUMIDITY

TEMPERATURE

PRESSURE

TAMPER

Rapidly detect theft and dangerous climatic changes using a variety of wireless sensors.

Most sensors are form-specific multifunctional **electronic tags***.

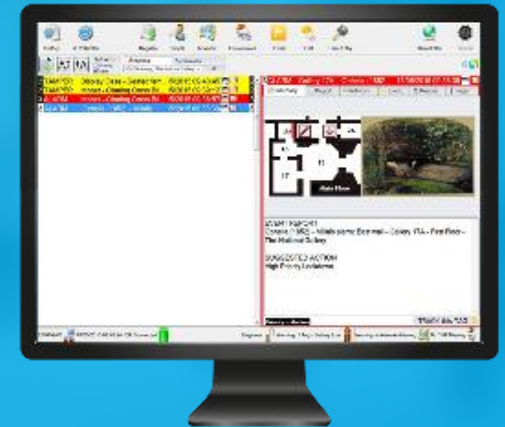**Specialist Tags**

RFID Reader Infrastructure + PIR Sensors · 2D Lasers · 3D Scanners · Pressure Sensors + **FORTECHO Software**

FORTECHO

- INVISIBLE SENSORS CREATE THE BEST VIEWER EXPERIENCE.
- LONG SENSOR BATTERY LIFE REDUCES ART HANDLING.
- SIMPLE-BUT-SAFE SENSOR ATTACHMENT FOR EASE OF USE.
- FULLY INTEGRATED WITH ALL OTHER SECURITY SYSTEMS.

PoE Network Receiver
IS-RX1310

Motion-Sensing Slimline Tag
IS-TGPKIN2

T/rH Microclimate Tag
IS-TGPTH

Wireless Pressure-Sensing Kit
IS-XSPAD01

FORTECHO RFID READERS

433MHz

20-70 Metres Indoor Range

200+ Metres Outdoor Range

FORTECHO RFID SENSORS

Wireless Laser Proximity Detector
IS-LZR600

Custom Wireless Pressure Sensors, Pressure Plinths & Custom Plates
IS-XSPLIN01

Wireless Vibration or Motion Sensor with Tamper
IS-TGP

Wireless Panic Alarm Key Fob
IS-TGF

Wireless Door Contact & Glass Break Sensor
IS-TGAI

Temperature / Relative Humidity & Wireless Door Contact Sensor
IS-TGAITH

CCTV
Intruder Alarms
Door Locks
VMS
SMS
Mobile Pagers
Digital Radios
Sounders

PRODUCT IMAGES NOT TO SCALE

FORTECHO

1. **Tags** (RFID transmitters) are discretely and safely attached to / set near individual artworks or display cases. They transmit information on potentially harmful activity, including:

movement, tampering, vibrations, door openings/closings, and temperature / relative humidity variations.

Tags may work alone, or in connection with other wireless devices (laser scanners, VOS, PIR's, pressure sensors etc.) to detect:

approach / proximity, removal, lift, unauthorised access, and **more...**

2. Tag activity is sent in real-time to a PC running Fortecho software via hidden RFID **readers** (or '**receivers**').

3. **Fortecho software** triggers alarms, sends alerts to the appropriate person(s) in a variety of ways and logs detailed alarm information for later analysis.

FORTECHO

- **Modular and easy to install**. Particularly useful in historic and other buildings where wired sensors are difficult to cable.

- **Flexible** – excellent for monitoring temporary exhibits private residences where artwork size, type and placement can change or vary.

- **Operational 24/7** the solution provides an essential, extra level of object-focused security – particularly important during daytime visiting hours when intruder detection systems are turned off and objects become more vulnerable.

- **Evolving** continually with the assistance of some of the leading global art institutions and collectors.

- **Integrated** easily with 3rd party cabled or wireless sensors. Can activate or send messages to connected external devices such as **sounders**, **doors locks**, **CCTV / VMS**, **pagers**, **SMS/Email messaging** devices, and **Digital Mobile Radios** (DMR).

Used by **MUSEUMS, NATIONAL GALLERIES, PALACES, SITES OF WORSHIP, BANKS, EXHIBITION CENTERS, TRANSPORTERS, AUCTION HOUSES, PRIVATE COLLECTIONS & GALLERIES**. Some notable museum clients include…

- Hermitage, St Petersburg
- The National Maritime Museum, London
- The Whitney Museum, NY
- Victoria & Albert Museum, London
- Getty Museum, Los Angeles
- The Science Museum, London
- National Gallery, Washington
- Courtauld Institute of Art, London
- Royal Academy, London
- Wallace Collection, London
- Kensington Palace, London
- Kew Palace, London
- Hampton Court Palace, Surrey
- The Munch Museum, Oslo, Norway
- Hugh Lane Gallery, Dublin
- Grand Palais, Paris
- Musée du Quai Branly, Paris
- Musée des Impressionismes, Giverny
- Fondation de l'Hermitage, Lausanne

- The National Gallery, London
- Van Gogh Museum, Amsterdam
- Hermitage, Amsterdam
- Museo Thyssen-Bornemisza, Madrid
- Picasso Museum, Malaga
- Uffizi Galleries, Florence
- The British Museum, London
- Harvard Museum, Boston
- Waddesdon Manor, Oxon.
- Museum of Fine Arts, Boston
- The Natural History Museum, London
- Museum of Islamic Art, Doha, Qatar
- Bahrain National Monument, Bahrain
- Palace of the Emirates, Abu Dhabi
- Art Gallery of Ontario, Canada
- Vancouver Art Gallery, Canada
- National Gallery of Australia
- National Museum of Australia

- **Plus Hundreds of Private Collections**

CORE RFID PRODUCT

RFID READERS

RFID DETECTORS/TAGS

IS-RX210/ RX1310 Reader with omni-directional antenna

Frequency: 433.92 MHz

Size: 105x58x28mm

Weight: 118g

Adjustable read ranges. Either serial or IP.

Tag IS-TGAI "Case/object tag"

Frequency: 433.92 MHz

Size: 38x34x13mm

Weight: 15g

For display cases & objects

Tag IS-TGPKIN "Slimline Tag"

Frequency: 433.92 MHz

Size: 86x54x6.5mm

Weight: 24g

For paintings, tapestries or furniture

Tag IS-TGM "Micro-object Tag"

Frequency: 433.92 MHz

Size: 29x25x7mm

Weight : 7g

For display cases, vases, statues

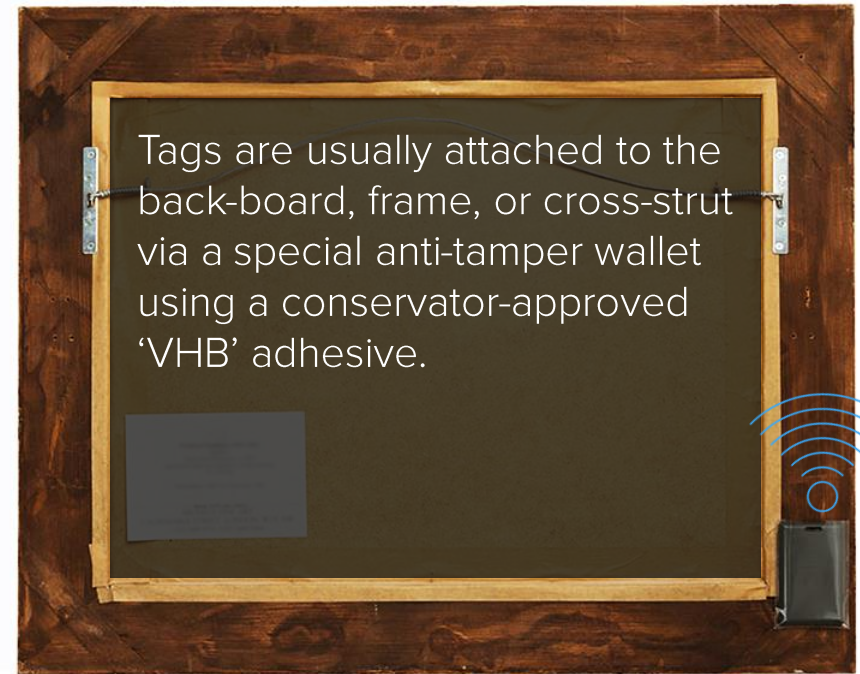*Product images are not to scale

"ACTIVE" RFID TAGS

- Wireless sensors with several compact form factors that are easily fixed onto artworks, objects and show cases.

- Indoor read-range up to 70m. Outdoor read-range 150m+.

- Encoded Transmissions (Site Code, unique ID, State, Alarm, Age, etc.) every 30 seconds.

- Internal sensors alarm on **Tamper**, **Vibration**, **Acceleration**, and **climate conditions**.

- Remotely adjustable sensitivity and functionality.

- Battery life **4 - 10 years** depending on tag type and use :
    - Lithium-ion
    - Low energy consumption

- **Ultrasonic seal** prevents any leakage that might damage artworks.

- 433 MHz frequency offers excellent signal penetration through most materials — 'line of site' view to readers isn't necessary.

SLIMLINE or 'FLAT' ART TAGS

for Paintings, Tapestries, Furniture, other objects

IS-TGP tag test at The National Gallery (UK)

86 x 54 x 6.5mm

Tags are usually attached to the back-board, frame, or cross-strut via a special anti-tamper wallet using a conservator-approved 'VHB' adhesive.

FORTECHO
IS-TGP
SERIES TAGS
CAN DETECT…

LOCATION   TAMPER   VIBRATION   MOTION   RELATIVE HUMIDITY   TEMPERATURE

SHOW CASE TAGS

for all display cases, either on show, or hidden internally.

39x33x14 mm

SHOCK

LOCATION

TAMPER

Display case tags can sense shock, door open/close & microclimate changes (temp & rel. humidity).

Our IS-TGAI tags may be hidden internally or used visibly. They are designed to boost signal when placed on metal.

RELATIVE HUMIDITY
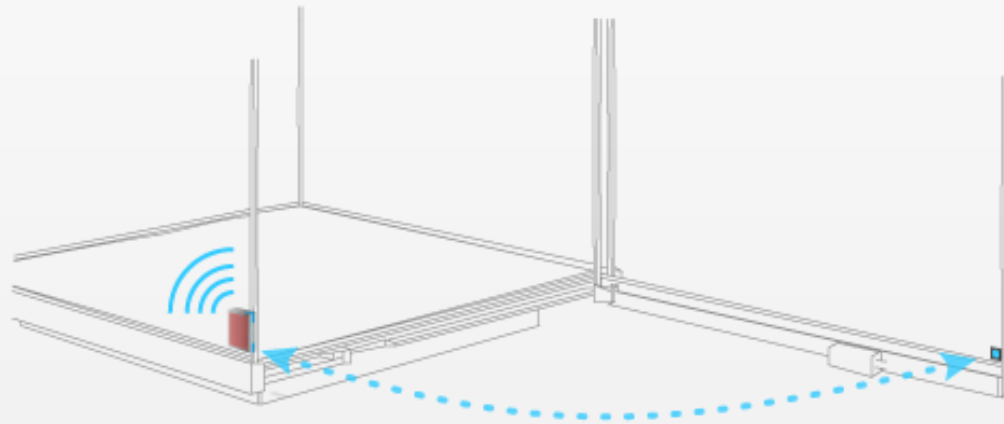
TEMPERATURE

TAGS FOR OBJECTS
for small objects (vases, sculptures, ceramics...), furniture and cases.

IS-TGAI
SERIES TAGS CAN DETECT:

39x33x14 mm

TGAI tags sense movement, vibration & microclimate changes (temperature & relative humidity).

Sensitivity and functionality is adjusted remotely from the software. 3-5 year battery life transmitting every 30 seconds.

May be hidden internally or used visibly. Simply place the tag inside or onto the object, and the object is protected.

SHOCK

LOCATION

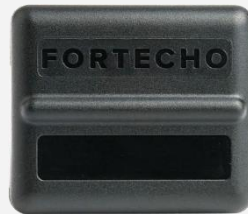TAMPER

RELATIVE HUMIDITY

TEMPERATURE

MICRO-CLIMATE TAGS

TEMPERATURE

RELATIVE HUMIDITY

*

FORTECHO

- Used to accurately monitor micro-climate within display cases, rooms, or *at object level*.

- Temperature & relative humidity measurement accurate to 2DP
  - **Temperature** - T +/- 0.3°C with +/-0.1 repeatability.
  - **rH** - +/-2.0% with +/-0.1% repeatability.

- Beacon tag transmitting a unique ID & data at pre-set intervals as often as 60 seconds.

- Ultra low power consumption provides exceptional battery life

- Available in both TGP & TGAI* form factors.

- Low battery warning

- Simultaneously monitors for unauthorised open/close/tamper of show cases.

MARKET LEADING BATTERY LIFE

Longer battery life

↓

Less art handling

↓

Less risk, cost and time wasted

"4 – 10 years"

with tag "health messages" sent every 30s
(Tag life expectation depends on tag type)

Written testimony from **The National Gallery**, UK
a Fortecho (ISIS) Client since 2000:

THE
NATIONAL
GALLERY

Rob Green
ISIS Ltd
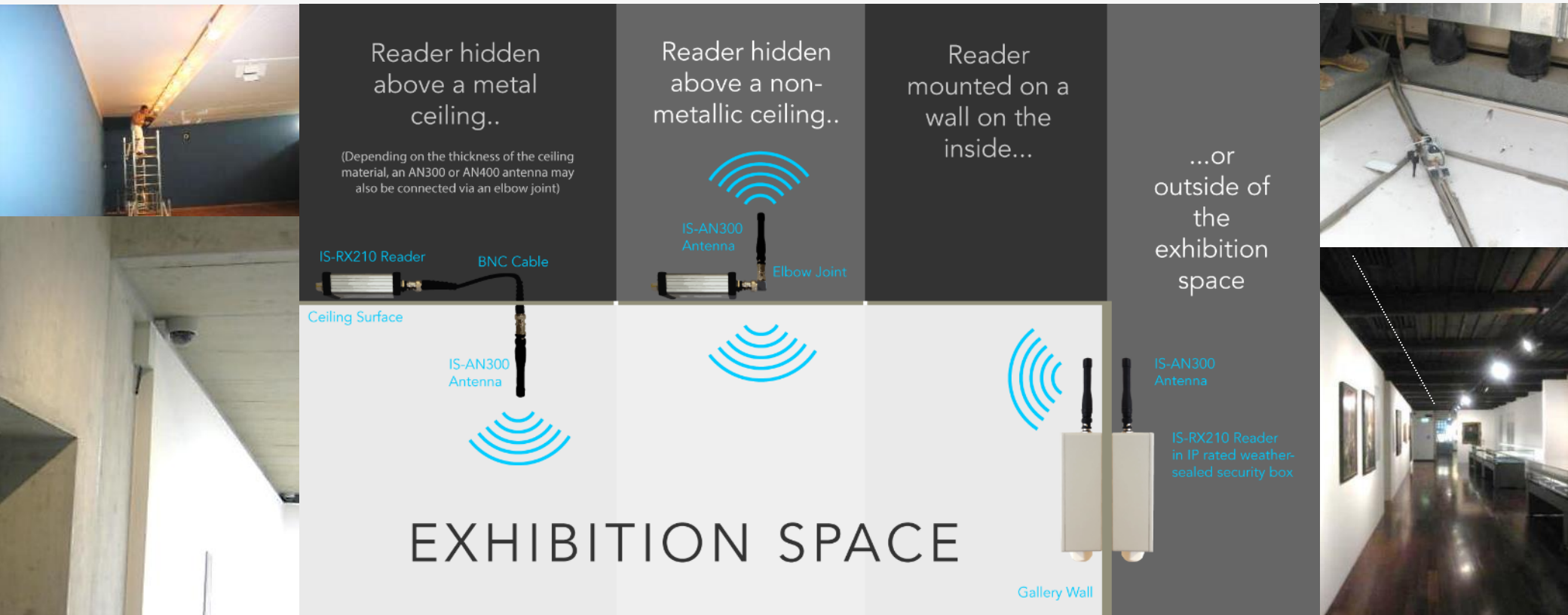Suite 7
Blandel Bridge House
56 Sloane Square
London
SW1W 8AX

June 2008

BATTERY LIFE OF WAVETREND/ISIS TAGS

I am delighted to confirm that the experience of the National Gallery is that the Wavetrend picture tags supplied by ISIS have, almost without exception, proven to have a battery life of at least six years. In many cases the battery life has exceeded seven years since first installation. The very few exceptions noted are tags that failed within the first year and were replaced by ISIS without charge under warranty arrangement.

Jon Campbell

Jon Campbell
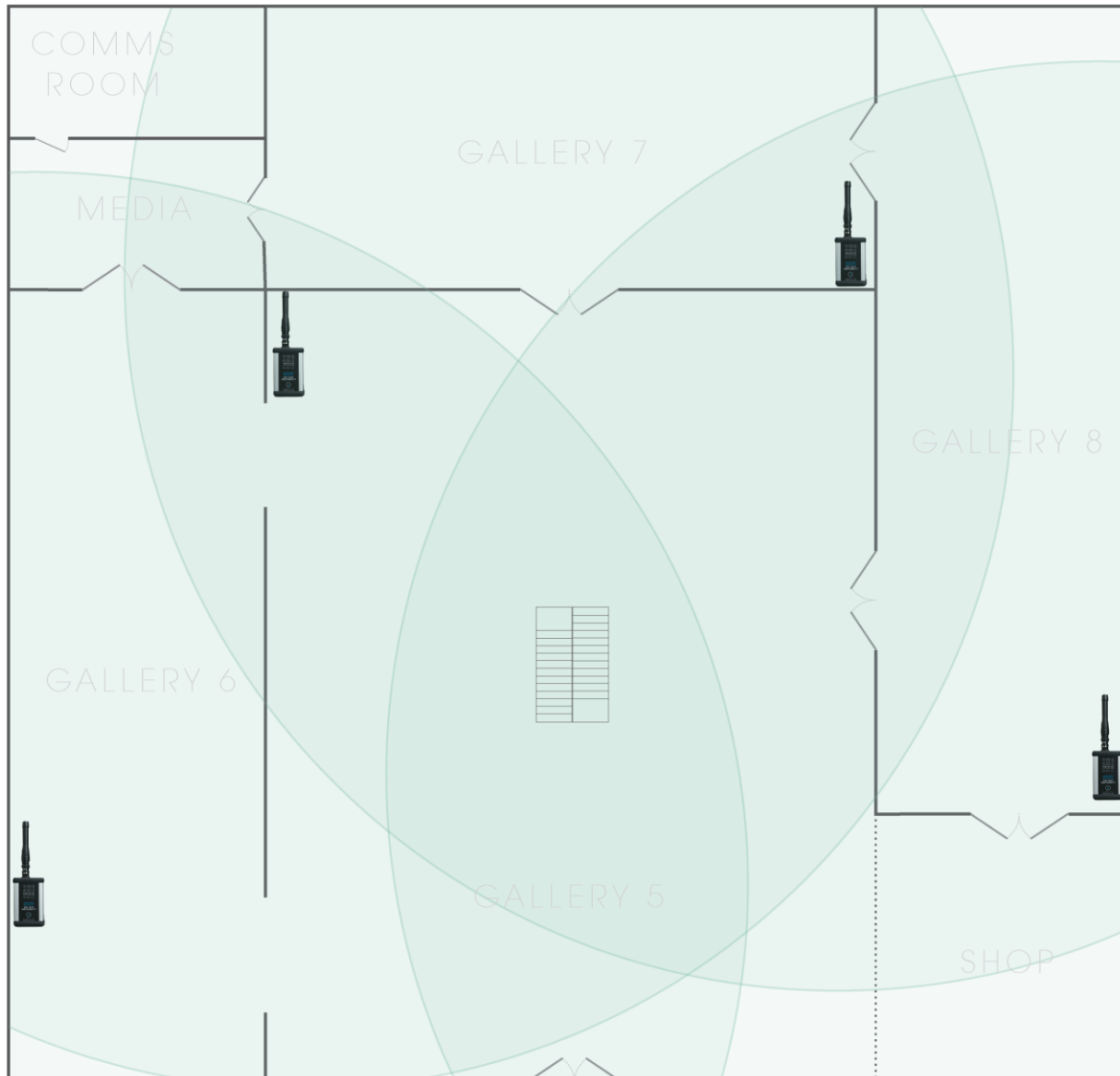Head of Visitor Services and Security

FORTECHO

RFID 'readers' **do not need line of site visibility with sensors**. They can be located behind walls and furniture/furnishings, hidden above moulding, or ceilings, or in technical spaces.

Readers, boxes & antennas are **easily hidden or camouflaged**. IP rated protective reader casing is supplied as standard. Some examples of possible locations below:

Reader hidden above a metal ceiling..

(Depending on the thickness of the ceiling material, an AN300 or AN400 antenna may also be connected via an elbow joint)

IS-RX210 Reader   BNC Cable

Ceiling Surface

IS-AN300 Antenna

Reader hidden above a non-metallic ceiling..

IS-AN300 Antenna   Elbow Joint

Reader mounted on a wall on the inside...

...or outside of the exhibition space

IS-AN300 Antenna

IS-RX210 Reader in IP rated weather-sealed security box

EXHIBITION SPACE

Gallery Wall

COMMS ROOM

GALLERY 7

MEDIA

GALLERY 8

GALLERY 6

GALLERY 5

SHOP

Reader positioning for optimum coverage

Minimum of 2 readers covering each location.

FORTECHO RFID NETWORK READER

MINIMUM COVERAGE PER READER (15-25m)

- **IS-RX1310** Network Readers are located within 90m of a PoE switch.

- Each reader has a unique IP address and connected to the Fortecho PC via network points.

- No hub is required.

SERIAL READERS
IS-RX210
Located to provide a 'cocoon' of radio coverage, with a minimum of 2 readers covering every artwork.

FORTECHO HUBS
Either rack or wall mounted, and typically located in central electrical or technical closets.

Multiple hubs possible per system.

In a single run, a reader can be positioned up to 400m from the nearest hub.
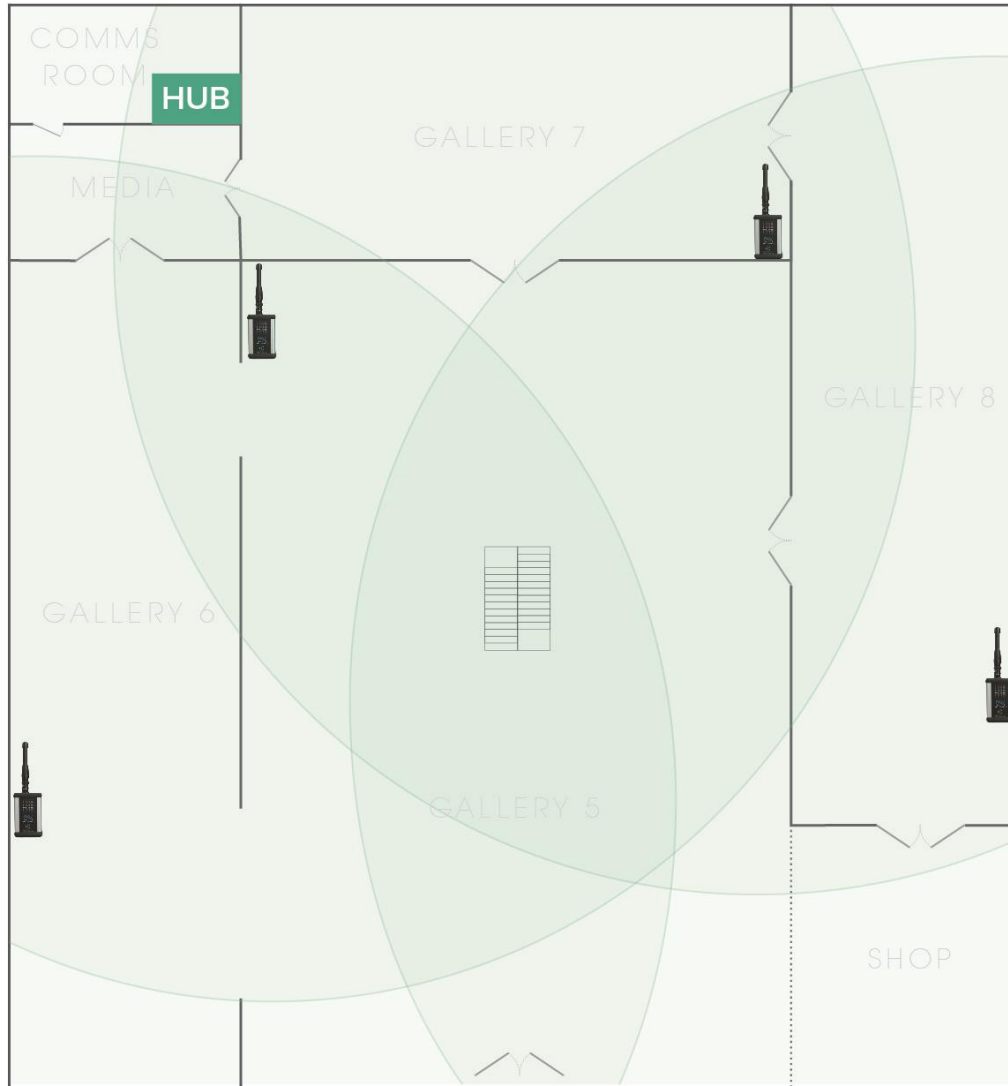
HUB

COMMS ROOM

MEDIA

GALLERY 7

GALLERY 8

GALLERY 6

GALLERY 5

SHOP

Reader positioning for optimum coverage

Minimum of 2 readers covering each location.

FORTECHO RFID SERIAL READER

MINIMUM COVERAGE PER READER (15-25m)

- **IS-RX210** Serial Readers are connected to a Fortecho Hub via Cat5 or Cat6 cabling.

- Cables may be run to location in a direct star configuration and/or in daisy chain sequence (max 4 readers).

- Max 10 Readers per Hub.

- Readers can be up to 400m from the hub on a single cable run.
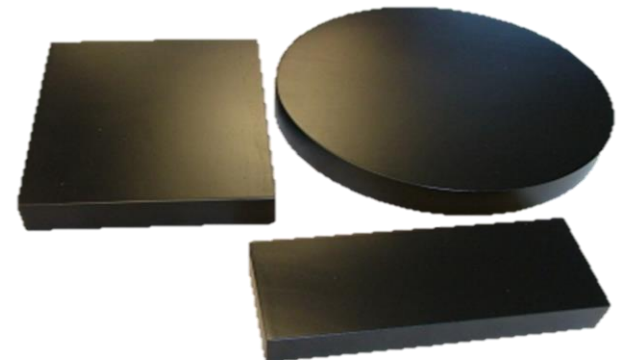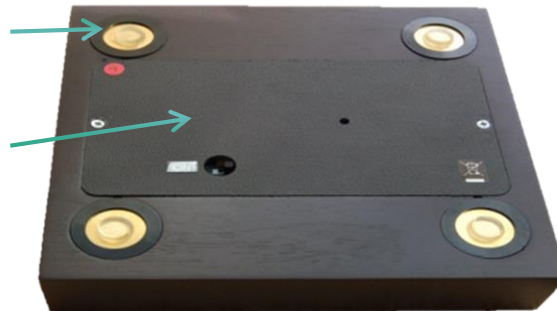
PRESSURE SENSING PLINTHS

- **100% wireless**
- 8g minimum tolerance
- Max. weight 150kg
- Local audible alarm on touch/removal.
- Protects single or multiple items on open display.
- Automatic calibration.
- Min. depth 18mm.

Bespoke plinths available in different shapes, sizes and finishes.

Piezo crystal sensors

Control electronics and battery compartment built into the base of the plinth.
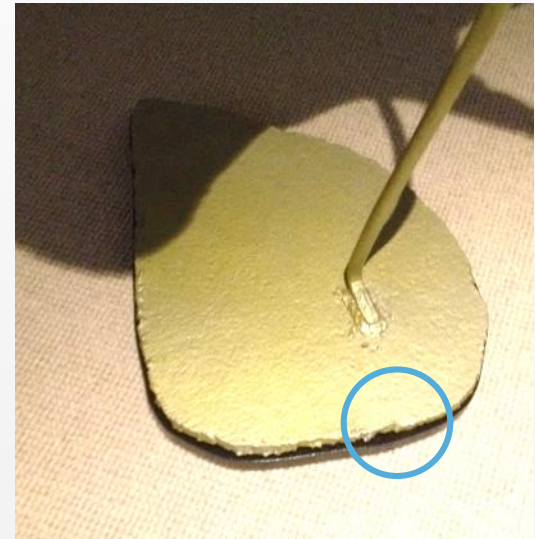
PLINTH COLOUR / WOOD EXAMPLES

MDF (Painted)   American Cherry   White Maple   American Walnut   Medium Oak   Natural Oak   Sapele Mahogony
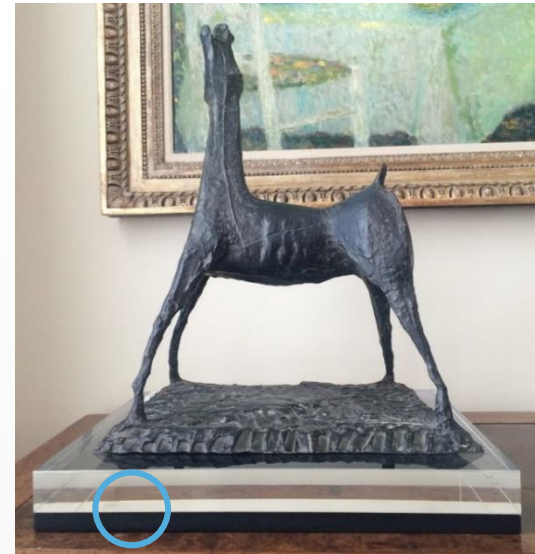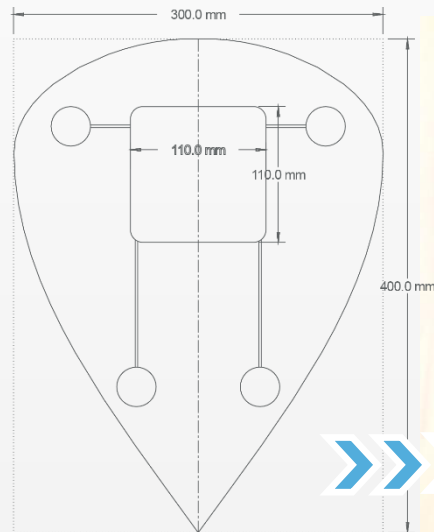
CUSTOM PRESSURE SENSING PLINTHS

Plinths may be fabricated into practically any size*, shape and finish.

Minimum depth: 18mm

PRESSURE-SENSING KITS

- Piezo-electric pressure-sensing 'feet' sensitive to weight changes **as low as 8g.**

- Retro-fit onto/inside other surface tops.

- Useful for single or groups of objects.

- Appropriate for objects up to 150 kg.

ALARM BOX

7 mm

ALARM BOX
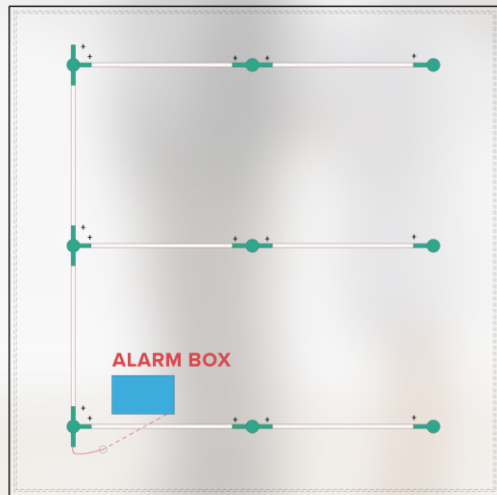
VOLUMETRIC OBJECT SURVEILLANCE

APPROACH PROTECTION FOR 2D + 3D OBJECTS

268 x268 x110mm

- Analyses changes of Infrared light reflectivity within a 3D volume surrounding objects.

- Invisible Volume intrusion detection

- Excellent variable light performance

- Aesthetic over-head mounting

- Multiple early alarm zones

- Integrates via Fortecho relay tag

- Semi-automatic calibration

2D LASER SCANNERS

PRECISE APPROACH PROTECTION FOR OBJECTS BEHIND A THRESHOLD

Protect against vandalism, damage + theft.

- o   Detection range up to 25m x 25m.
- o   Pre-Alert + Alert based on proximity to object.
- o   Invisible curtains. No external illumination required.
- o   Min. target detection size 7cm @ 10m distance.
- o   Easy to retrofit and install. Self-learning of environment.
- o   Day/Night modes for controlling out of hours access to gallery spaces.
- o   Compact 270° model also available for central top-down monitoring with 10m field of view.

Pair with IS-S900 sounder for local audible alarm

PASSIVE INFRARED DETECTOR
[WIRELESS VOLUMETRIC & CURTAIN PIRs]

Other PIRs including a hard-wired, dual-tech (PIR + Microwave) Curtain PIR for rooms -3° can be supplied on request.

An IS-EX35R PIR protecting the entrance of a gallery under renovation at the Wallace Collection

IS-EX35R Wireless PIR

- Low cost
- Long range
- Portable
- Wirelessly linked to Fortecho system via I/O tag
- Battery operated [long life]
- Compact for storage
- No engineer required for setup
- Ideal for coverage during refurbishment

I/O 3ʳᵈ PARTY TAGS

- **Switches 3ʳᵈ party sensors to wireless**. Integrates devices with ISIS Technology / FORTECHO Solutions.

- OEM tag - (86mm x 54mm x 5mm) – 15g

- Connects to outputs from devices such as PIR, pressure-sensing, infra-red scanners, proximity/volumetric scanners, motion CCTV, plunger switches, magnetic contacts …

- Transmits immediate alarms. Often sits within case of 3ʳᵈ party device.

- Transmits supervision/presence every 30 seconds

- Battery life : 3-5 years

PAGERS + RADIOS

DETAILED ALARM DATA SENT DIRECTLY TO GUARDS' DIGITAL RADIOS & PAGERS

- Artwork
- Artist
- Alarm type:
  - — Tamper
  - — Movement
  - — Vibration/Tilt
- Time of Incident
- Location in Gallery
- Gallery
- Floor
- **Acknowledgement** from digital radios back to Fortecho software
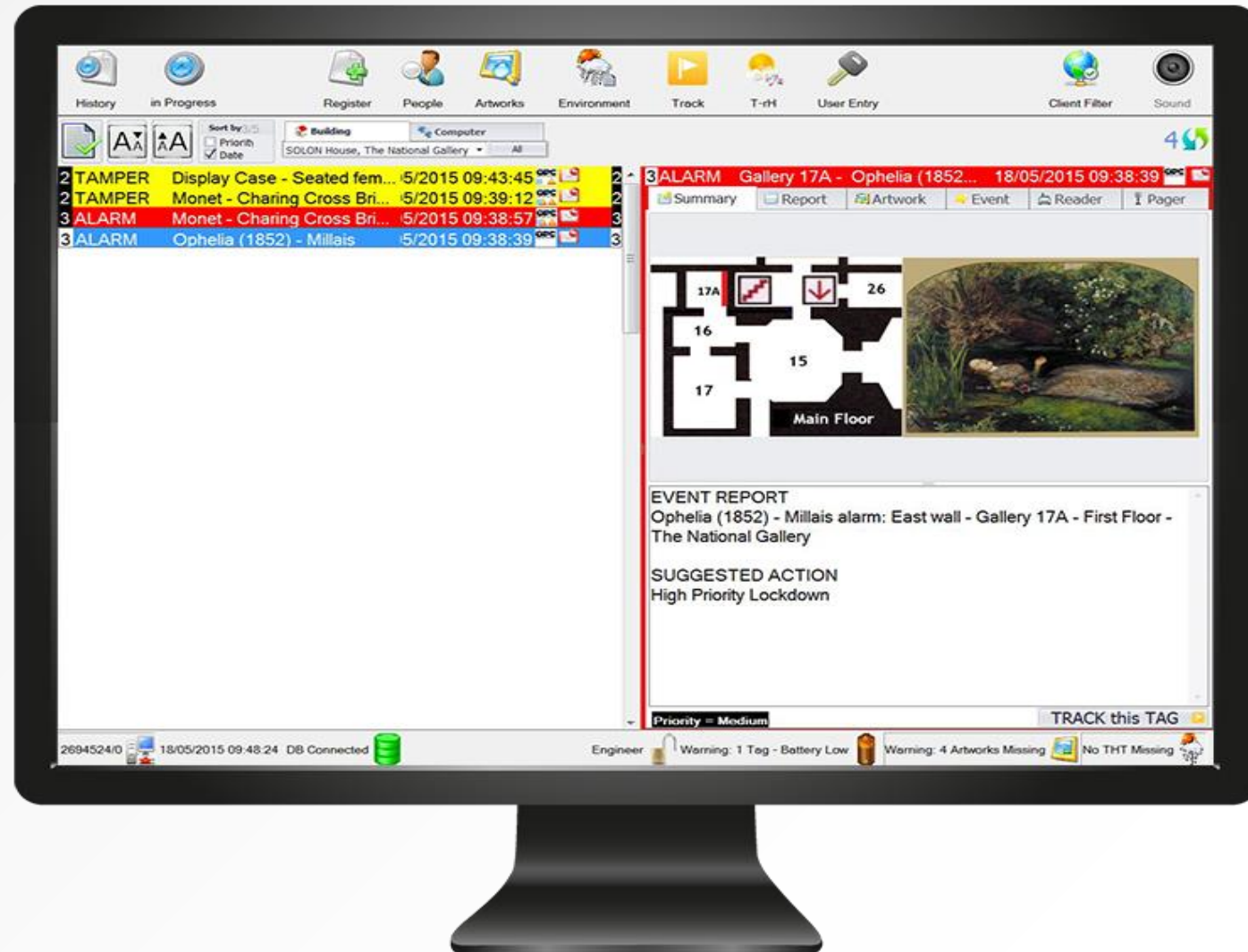
FORTECHO SOFTWARE - ALARMS

Current alarm window is always open and on top.

Alarms:

- Tamper
- Movement
- Personal Duress
- Offline Reader
- 3rd Party Device Alarms
- Temp. & Relative Humidity Change & Parameter Breach
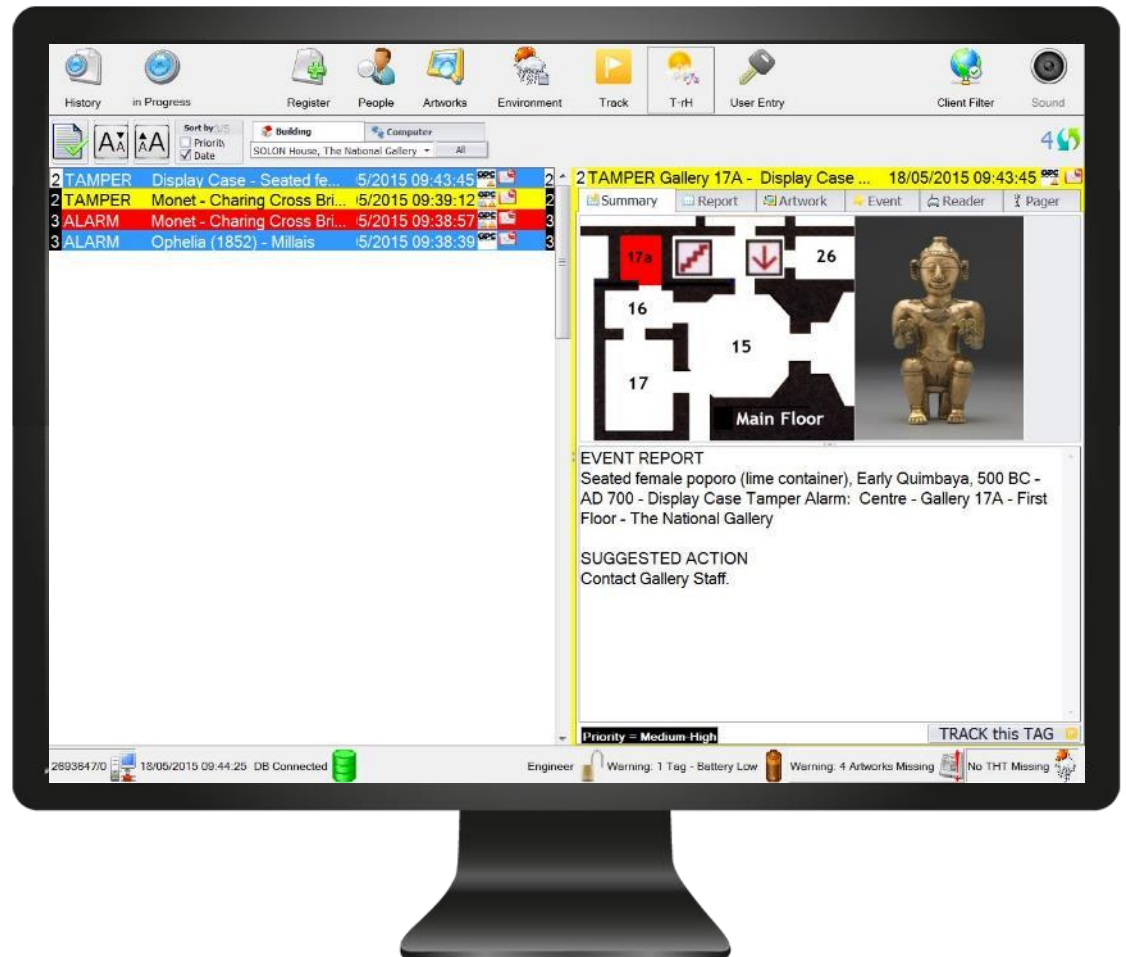
Alerts:

- Missing objects/tags
- Low batteries

- Detailed, colour-coded alarms events & "suggested action"
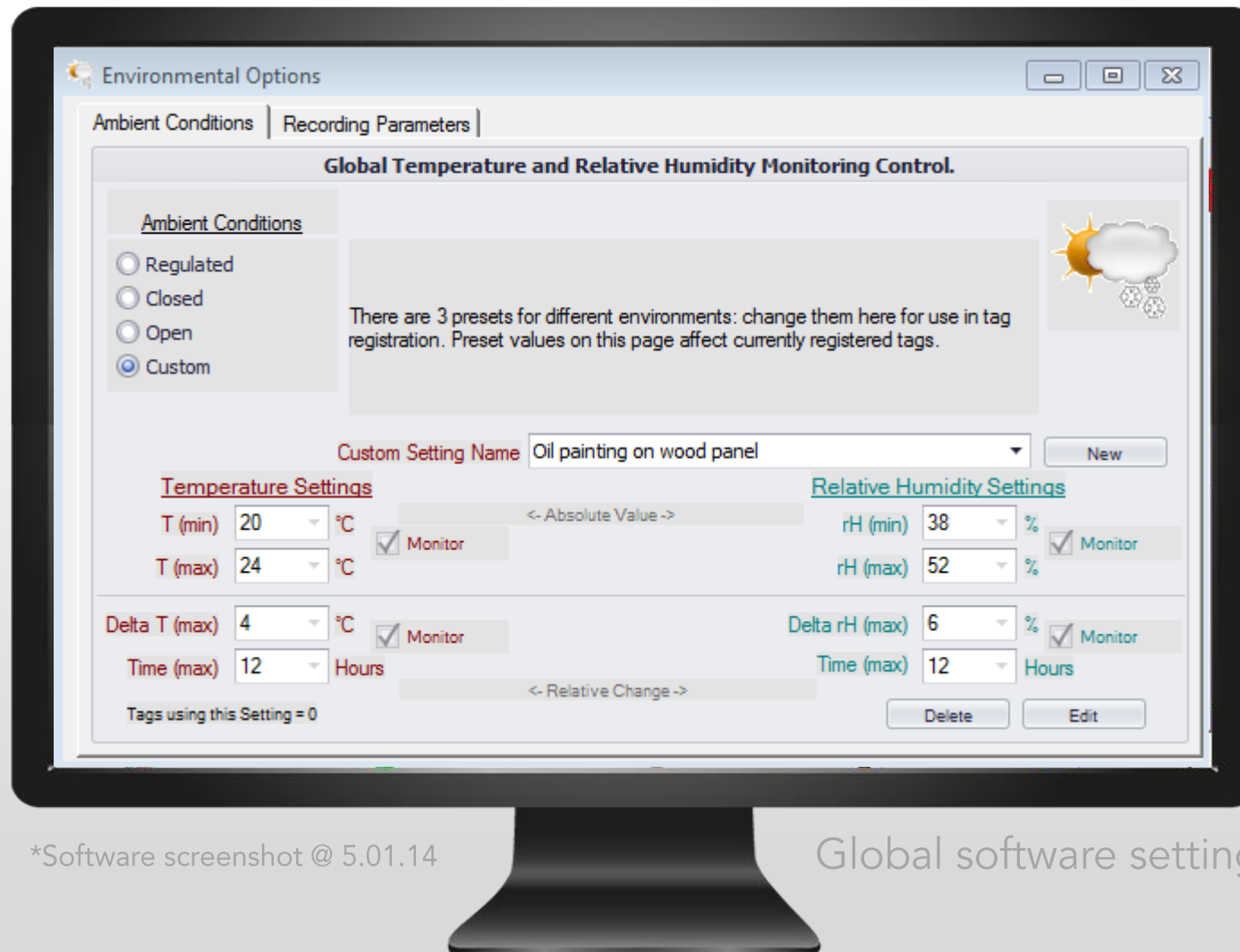- Pre-programmable report responses & location admin.

ALARM PRESENTATION

How is an alarm presented on the security PC?

- Artwork image
- Location image
- Event Report
- Suggested Action
- Artwork information
- Alarm priority
- Event timings
- Reader information & map
- Alarm data transmitted to pagers or security radios
- Zonal tracking function
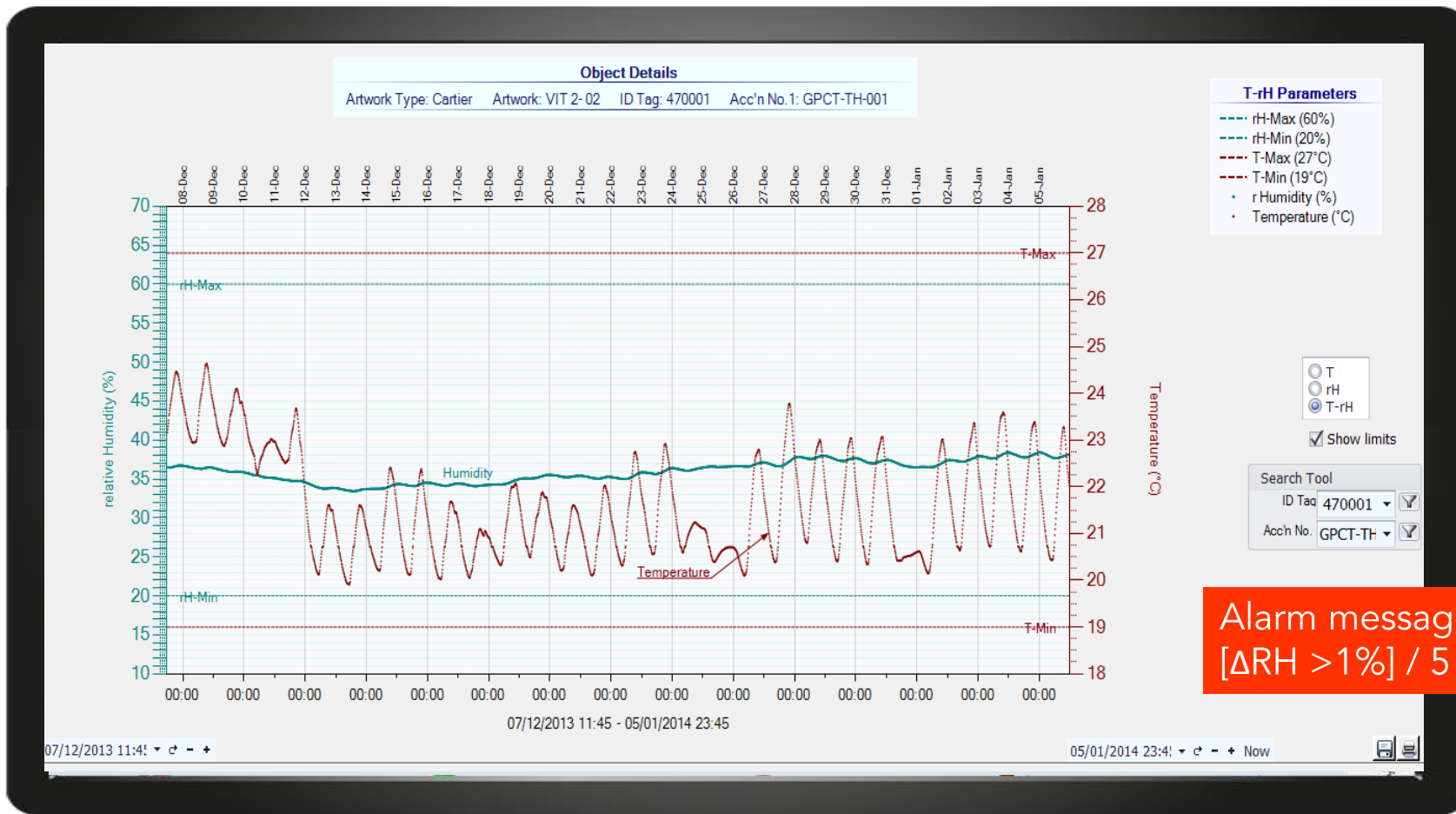
ENVIRONMENT MONITORING (T°-Rh)

*Software screenshot @ 5.01.14

Global software settings

ENVIRONMENT MONITORING (T°-Rh)
[Graphical Analysis]

Object Details

Artwork Type: Cartier   Artwork: VIT 2- 02   ID Tag: 470001   Acc'n No.1: GPCT-TH-001

T-rH Parameters
- - - - rH-Max (60%)
- - - - rH-Min (20%)
- - - - T-Max (27°C)
- - - - T-Min (19°C)
- r Humidity (%)
- Temperature (°C)

○ T
○ rH
◉ T-rH

☑ Show limits

Search Tool
ID Tag 470001 ▼ ▽
Acc'n No. GPCT-TH ▼ ▽

Humidity

Temperature

T-Max

rH-Max

rH-Min

T-Min

07/12/2013 11:45 - 05/01/2014 23:45

07/12/2013 11:45 ▼ ↻ − +   05/01/2014 23:4! ▼ ↻ − + Now

Alarm message is sent for [ΔRH >1%] / 5 minutes

*Software screenshot @ 5.01.14

+ Detailed historical analysis
+ Email alerts

+ User-configurable Individual Alarm Thresholds

THIRD PARTY INTERFACES

Current interfaces with CCTV, Security Management, Video Management & Intruder Detection Systems include:

FRANCE - AppVision Prysm, Genetec, Belledonne (TELEM)

ITALY - Honeywell (Notifier)

UK - Cortech, Wavestore, SMC

IRELAND - Synetics Synergy SMS, Niscayah

HOLLAND - Bosch BVMS, HiSec, Zenitel TETRA, Honeywell

USA - Crestron, Seibold, Siemens, Lenel, Diebold

UAE - Synetics, Synergy SMS

CANADA - Omnicast CCTV System

DENMARK – Milestone VMS

...and many more.

I used the Fortecho system in the Rijksmuseum when I was Head of Security. The system was reliable, provided us with the level of object security we desperately needed, and integrated with our digital radio and CCTV systems to provide seamless, automated real-time alarm functionality.

Willem Hekman, Chairman
The International Committee on Museum Security (**ICMS**)

The Fortecho Product Suite

ADVANTAGES

- ✓ Bespoke design
- ✓ 24/7 surveillance of tagged artworks, display cases and galleries
- ✓ Audits each artwork 2880 times per day
- ✓ Self checks 200x /second
- ✓ Tracks and "fences-in" artworks on the move
- ✓ Low annual maintenance cost
- ✓ Centralised control for setting each object's alarm thresholds, alarm rules, alarm exceptions and acquittal procedures

- ✓ Minimises false approach alarms
- ✓ Highly scalable, modular and easy to install
- ✓ New tool for security guards, curators and registrars
- ✓ Flexible, user-friendly configuration modules
- ✓ Wireless ⇨ Easy and lest costly to deploy
- ✓ Interfaces easily with most 3rd party systems: Digital Radios, CCTV, Email, Sounders, SMS, VMS…
- ✓ Rapidly amortized cost
- ✓ Real time alarms >> Accelerates preventive actions
- ✓ **Trusted by hundreds of leading museums and galleries.**

FORTECHO
SOLUTIONS

Fortecho Solutions Ltd. *(previously known as **ISIS** / Integrated Security Information Systems Ltd.)* is an international RFID solution provider headquartered in the UK with offices in Europe, the USA and Australasia.

Focused on the art market since 2000, we are now widely accepted as the market leader in wireless object surveillance solutions. We provide technology expertise and industry knowledge, system integration, consulting and professional services to private clients & institutions in over 35 countries.

LONDON
GLOBAL HQ

SAN DIEGO

SYDNEY

- Project + Reseller locations
- Office locations

For more information on **FORTECHO** or one of our other solutions, please contact either:

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