

Honeywell Global Tracking Solutions

Honeywell

ABOUT HONEYWELL

Facts:

\$35 B revenue (2011)

130,000 employees

2014 revenue
projection: \$45B

100+ countries

Honeywell

FORTUNE
WORLD'S MOST
ADMIRED
COMPANIES[®] 2011

Corporate Summary:

- Global safety, security, and energy conglomerate
- Great positions in good industries
- Honeywell acquired EMS Technologies in August 2011

Aerospace



Automation & Control Solutions



Specialty Materials



Transportation Systems



HONEYWELL's steps in Russia and CIS

- HONEYWELL INC. office in Moscow - 1974
- HONEYWELL - STERCH INDUSTRIAL CONTROL - 1988
- HONEYWELL «HOME & BUILDING» department - 1991
- HONEYWELL office in Saint Petersburg - 1992
- HONEYWELL in Ukraine - 1993
- HONEYWELL INDUSTRIAL T.C. in Tashkent - 1997
- HONEYWELL in Kazakhstan - 1998
- ATYRAU Training Centre (Kazakhstan) - 2003
- Acquisition of high-tech company PETROCOM - 2005
- Program for cooperation with leading Universities in CIS - 2006
- HONEYWELL office in Kazan - 2010
- Becoming a member of Russian Union of Industrialists & Entrepreneurs - 2010
- Automation College in Moscow - 2010
- R&D in Russia - 2010
 - Current staff: 400 in Moscow
 - 100 Engineering center in ST Pete
 - 100, in regions

Cooperation with Russian Universities

Honeywell Russia (ZAO Honeywell) realizes its program of cooperation with leading Russian Universities in specific scopes which are of interest for corporation. By now Honeywell cooperates with the following universities: Gubkin Russian State University of Oil and Gas, Moscow Institute of Physics and Technology, Saint-Petersburg State Institute of Technology, Kazan State Technology University, Penza State University.

In the framework of the cooperation ZAO “Honeywell” provides with Honeywell products to universities. These products are used in academic activity. Experts of ZAO “Honeywell” also help in learning of the products. Experts of “ZAO Honeywell” give lectures for students and undergraduates. Some students do practical work in departments of ZAO “Honeywell”. Best university graduates go to work to the ZAO “Honeywell”.



Automation College in Moscow

New regional Automation College located in Moscow is one of the biggest in EMEA and offers a large range of training courses:

- Experion PKS Courses
- TotalPlant Solution (TPS) Courses
- Safety System Courses
- Uniformance PHD Courses
- Advanced Solutions Courses
- Additional Courses



Agenda

- Honeywell Global Tracking and Our Markets
- Product Portfolio
 - Powered Tracking & Land Track (SAT-202 / 300i / SAT-401 coming soon)
 - Unpowered tracking (TAM Series)
 - Personal Tracking (Osprey)
 - Viewpoint Application
- Project Examples
 - Public Vehicles Tracking
 - Container Tracking
 - Vessel Monitoring System
 - Tsunami Warning
 - Tuna Buoys
 - Blue Force Tracking
 - Search and Rescue
- Summary

Honeywell Global Tracking

Tracking Products



Powered Battery Portable

- Full line of ISATM2M tracking devices
- Very cost effective HW
- Reports position and status info
- Multiple inputs for collecting data
- Two way messaging
- Data logging and geofencing



Utilities



Logistics



In Transit Visibility



Security

Viewpoint



- Web based
- Mapping and tracking
- POI and alerts
- Geofencing
- ID and authentication
- Establish fleets/groups
- Enterprise version can be placed behind customer firewall

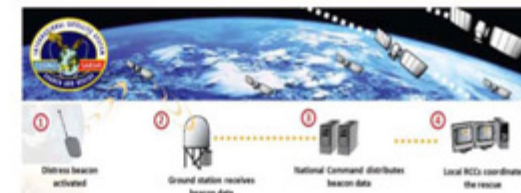


Overlay Detailed Maps

Satellite Comms

- HGT is airtime provider for ISATM2M – not reseller
- Cost effective HW and Airtime – VLDR
- HGT owns network and gateways
- Reseller of Iridium service
- Dedicated Satcom network for NATO Blue Force Tracking in Afghanistan

SAR



- Receives emergency signal from location beacons
- Calculates position with or without GPS
- Maritime, Aeronautical and Personal beacons in use
- LEO, MEO, and GEO
- EMS is the leading provider with over 50 systems in place

Which Markets Do We Address ?

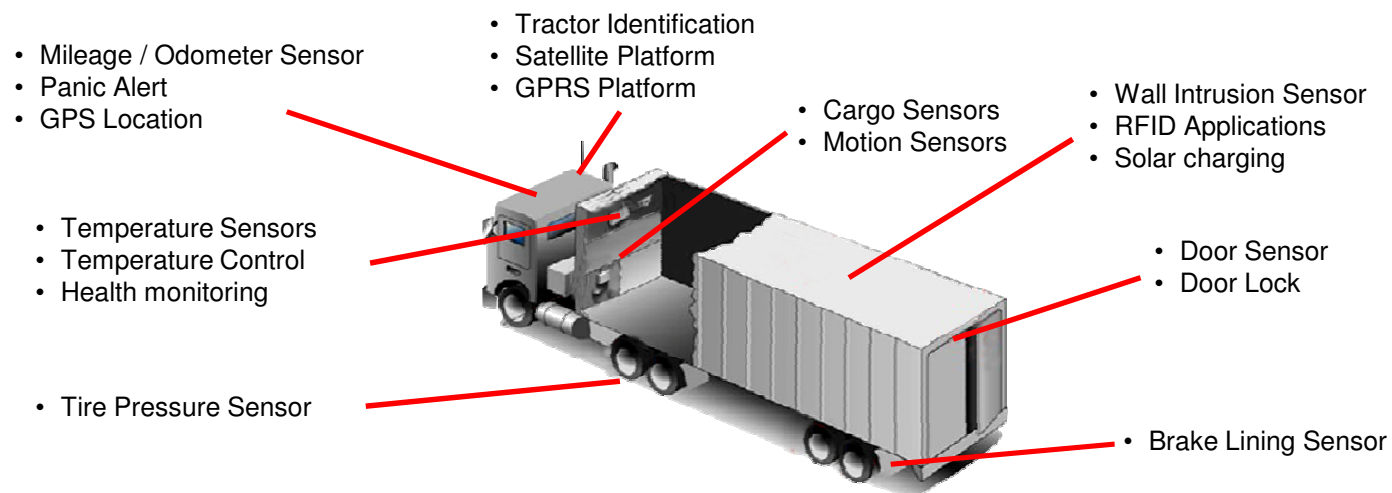
- **Fleet Logistics**
 - Cost-effective delivery of critical data for advanced logistics
 - Global leader in tracking
 - Flexible equipment and services, offering affordable machine-to machine (M2M) data delivery
- **Asset Tracking & Monitoring**
 - Maintain full visibility of high-value, in-transit assets
 - Track and monitor asset locations, as well as external sensor data (temperature, humidity, door open etc.) in web browser
 - Integrate data feeds into existing applications and systems
- **Security & Remote Workers**
 - Secure 2-way messaging and tracking of security teams and remote workers
 - Mobile or fixed satellite communications for reliable frontline situational awareness and Command & Control capacity
 - Advanced broadcast capabilities



Which Markets Do We Address ?

- Land Mobile & Security
 - Tracking & Monitoring:-
 - Trucks
 - Containers
 - Monitoring High Value Assets

Tracking & Monitoring



Which Markets Do We Address ?

- Vessel Monitoring
 - Dhows
 - Yachts
 - Fishing Vessels
- Military and Defence
 - Search and Rescue
 - Blue Force Tracking
 - Personal Locator Beacons

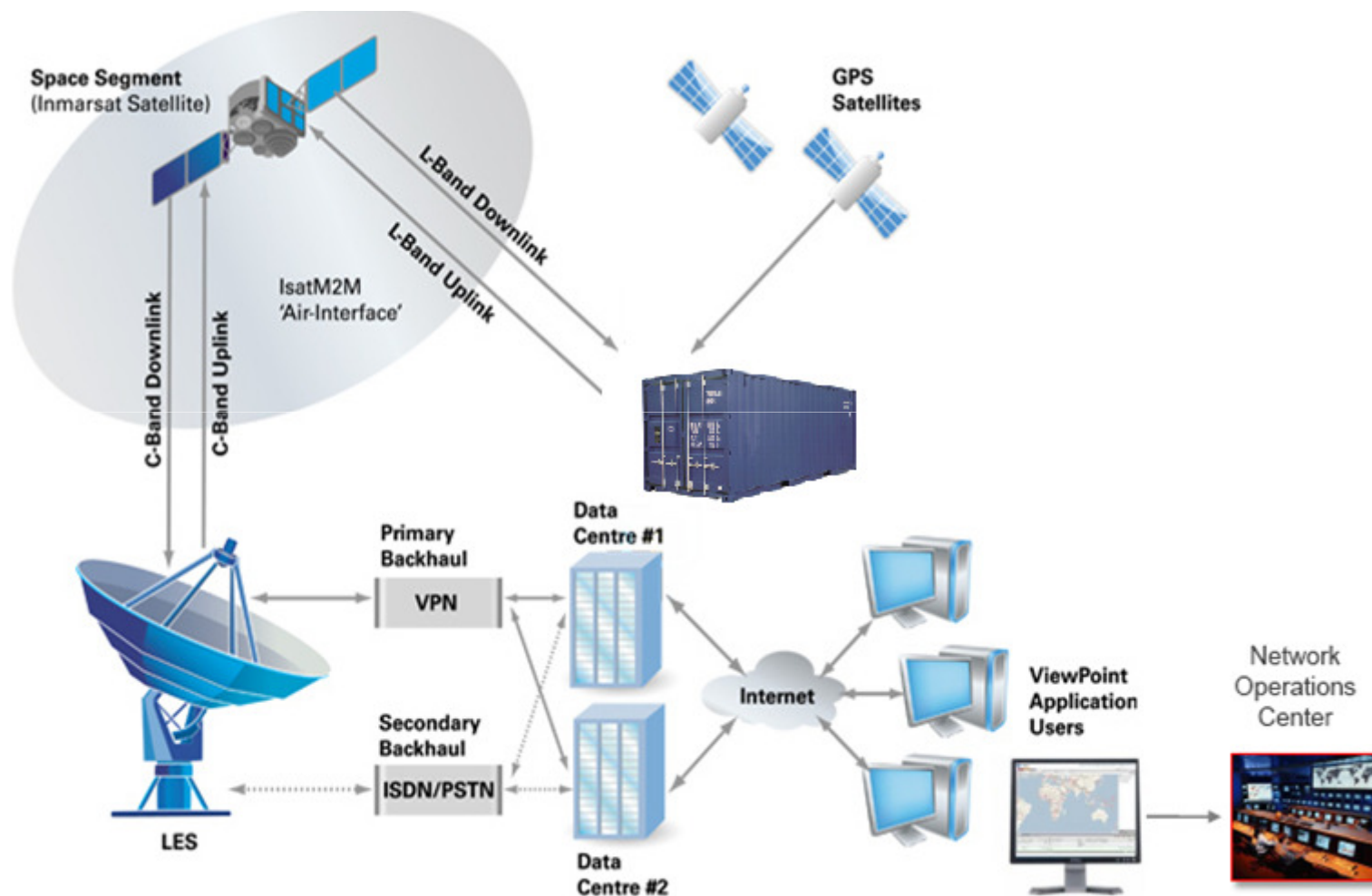
Product Portfolio

Honeywell

Agenda

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 - Powered Tracking & Land Track (SAT-202 / 300i / SAT-401 coming soon)
 - Unpowered tracking (TAM Series)
 - Personal Tracking (Osprey)
 - Viewpoint Application
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System Architecture



SAT-202

The SAT-202 is a compact, single piece unit, which provides a low data rate service. It is an accurate and reliable low cost satellite terminal for tracking, rapid alerting and mobile asset management in security and other mission-critical applications.

The SAT-202 offers direct interfaces to most application environments without the need for additional external circuitry, significantly reducing system integration costs.



Quick Facts

- Uses Inmarsat-D (IsatM2M).
- Incorporates the latest technology, including a new integral 50-channel 3D GPS receiver
- Data-logging functions include GPS positions, transmissions and data for more than 6,500 entries
- Simple to install, easy to configure and requires low power consumption
- One output and three inputs (low voltage output).

SAT-202 Specifications

Physical

| | |
|------------|-----------------------------------|
| Dimensions | 112mm x 46mm (4.4" x 1.8") |
| Weight | 350g, (12.3 oz) (excluding cable) |
| Connector | 12-way plug |

Environmental

| | |
|-----------------------|---|
| Operating Temperature | -40°C to +70°C (-40°F to +158°F) |
| Humidity | ≤ 95% @ +40°C (+104°F) |
| Vibration & Shock | Meets Inmarsat-D & EN60945 requirements |
| IP Rating | IP66 |

Power

| | |
|----------------------|---|
| Sleep | 0.75mW |
| Receive | 1W (incl. GPS) |
| Slotted Receive | 50mW (effective continuous receive power) |
| Transmit | 6W |
| Power Supply Voltage | 9.6V to 32V 'smoothed' DC |

Interfaces

| | |
|-----------------------------|---------------------------|
| Serial Interface | Asynchronous serial RS232 |
| Baud Rate | 4800 or 9600 bps |
| Parity/Data Bits/Stop Bits | N, 8, 1 |
| Configurable Inputs/Outputs | Three |
| Open Drain Output | 250mA max. sink current |

SAT-202 Specifications

Satellite Connectivity

| | |
|-------------------|---|
| Transmitter | EIRP: 0-9dBW Tx Burst Duration: 2s or 8s (auto select) Message length: Standard burst up to 84 bits, Double burst up to 170 bits |
| Receiver | G/T: $\geq -25\text{dB/K}$ at EL = 30° User data rate: ~36 bits per second Message length: Up to 800 bits |
| Elevation Angle | 0° - 90° |
| Frequency Range | Transmit: 1626.5-1660.5 MHz Receive: 1525.0-1559.0 MHz GPS: 1575.42 \pm 1.0 MHz |
| Message Latencies | Poll/Response: up to 1 minute (typically less) Time to first transmission: up to 45 seconds Forward message delivery: up to 45 seconds Return message delivery: up to 20 seconds |
| GPS | Channels: 50 Typical time to first fix: Cold Start <29 seconds, Hot Start <1s (GPS was off for less than 2 hours) Typical position accuracy (SA Off): 2.5m (CEP, 2D) |

Capabilities/Applications

| | |
|--------------------------|--|
| Custom Features | Advanced scripting capabilities enable custom features and functionality |
| Geofencing | Alert areas, Safe Areas, Route corridors, Curfews, Waypoints, Checkpoints, Overdue and more. |
| Third-party Connectivity | Can be integrated with existing ERP systems |

Certifications

| | |
|------------------------|-----|
| Inmarsat Type Approval | Yes |
| FCC | Yes |
| CE | Yes |
| EN60945 | Yes |

SAT-202 Land Track Solution



- **Description:** Land Track is a hard wired tracking, monitoring and alerting solution which includes a distance monitoring and ignition sensing capability. The solution includes SAT-202 vehicle install harness, panic button and specialist asset management script with optional Over The Air Cut-off and mobile data terminal.
- **Purpose:** Asset / fleet management within the ViewPoint application. Automated report generation in CSV format and distribution via email.

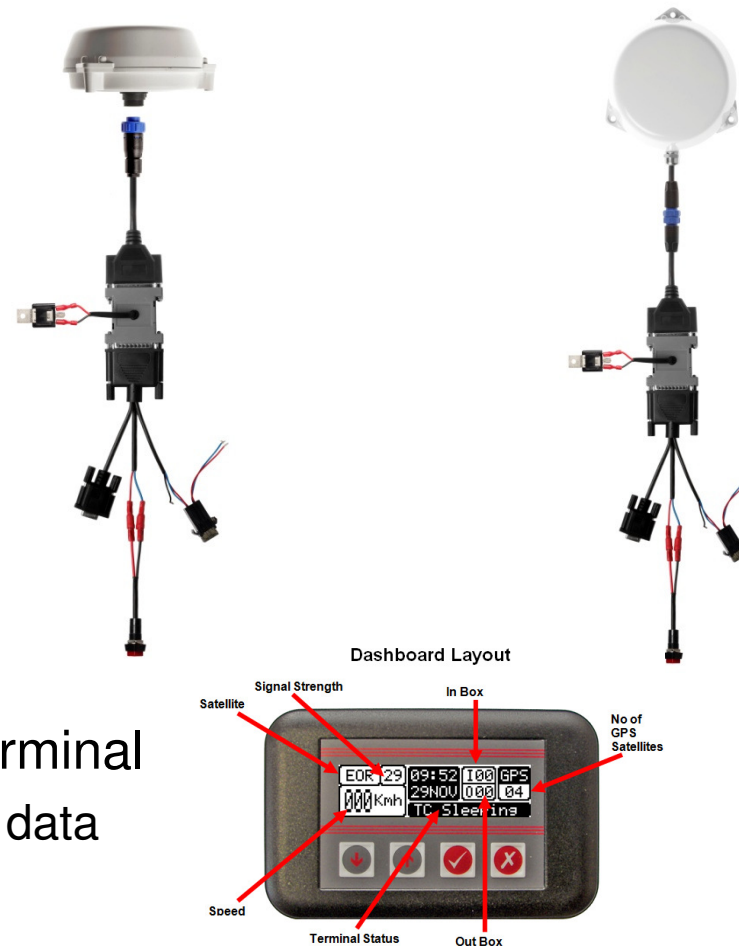
SAT-202 Land Track, OTAC & DILUPE DTM-70

Features:

- Supported by Viewpoint
- Vehicle ignition sense
- GPS-based odometer
- Idling Reporting
- Speed Reporting

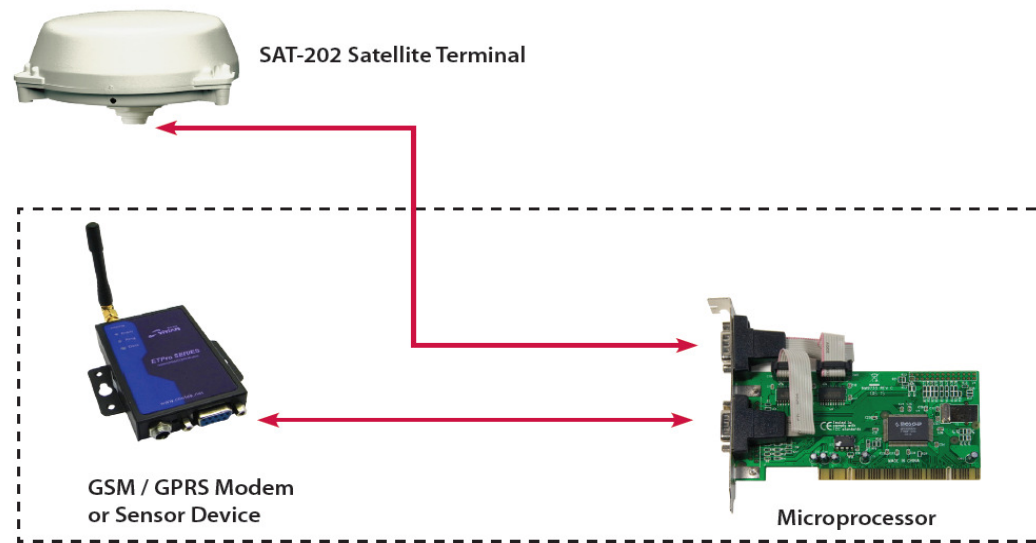
Optional:

- Over-air control of an output i.e. fuel cut-off
- Dilupe DMT-70 Mobile Data Terminal
 - driver inputs fleet management data



SAT-202 Integration

- Honeywell Global Tracking provides a set of services for use by customers developing their own solutions for use in a number of industries including tracking, monitoring and security.
- A system interface is provided using XML over http (ASPI XML) that enables customers to post and retrieve raw data and status messages for the terminals.
- Over The Air Control (OTAC) of digital, analogue and/or open Drain I/Os, tracking, dual mode (satellite/GPRS) operation or to relay sensor data via satellite, the integration of SAT-202 terminals from Honeywell Global Tracking is as applicable.



SAT-202 - Fleet Management

- Fleet management:
 - Distance, speed, fuel, temp, Idle
 - Route Optimization

| | A | B | C | D | E |
|---|------------------|--|------|-------------------|----------------|
| 1 | Fleet | EMS QA TEST | | | |
| 2 | Report Class | CANbus Fuel Log | | | |
| 3 | Description | This lists fuel purchases reported via users on MDT units. | | | |
| 4 | Fleet Tag Filter | Any value | | | |
| 5 | From (UTC+0) | 01/11/2011 00:00 | | | |
| 6 | To (UTC+0) | 11/11/2011 00:00 | | | |
| 7 | | | | | |
| 8 | VehicleID | DriverID | Date | RefuelTime(UTC+0) | RefuelPosition |
| | | | | | RefuelLocation |
| | | | | | FuelAdded |
| | | | | | Odometer |
| | | | | | Distance |

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---------------|---|---------------|------------------|----------------|--------------|-----------------|--------------|------------------|-------------|----------|--------------|
| 1 | Fleet | Showcase | | | | | | | | | | |
| 2 | Report Class | Summary Report | | | | | | | | | | |
| 3 | Description | Monitor vehicle utilisation and driver behaviour over a period. | | | | | | | | | | |
| 4 | From (UTC+0) | 01/12/2011 00:00 | | | | | | | | | | |
| 5 | To (UTC+0) | 08/12/2011 23:59 | | | | | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | Name | Fleet | Distance (km) | Ignition (hh:mm) | Travel (hh:mm) | Idle (hh:mm) | Total Stop Time | GF Stop Time | Non GF Stop Time | Total Stops | GF Stops | Non GF Stops |
| 8 | Transporter 1 | Showcase | 2899 | 40:32 | 39:21 | 1:11 | 127:33 | 127:01 | 00:32 | 10 | 8 | 2 |
| 9 | Transporter 2 | Showcase | 1223 | 34:27 | 30:02 | 4:25 | 133:20 | 130:19 | 2:21 | 15 | 10 | 5 |



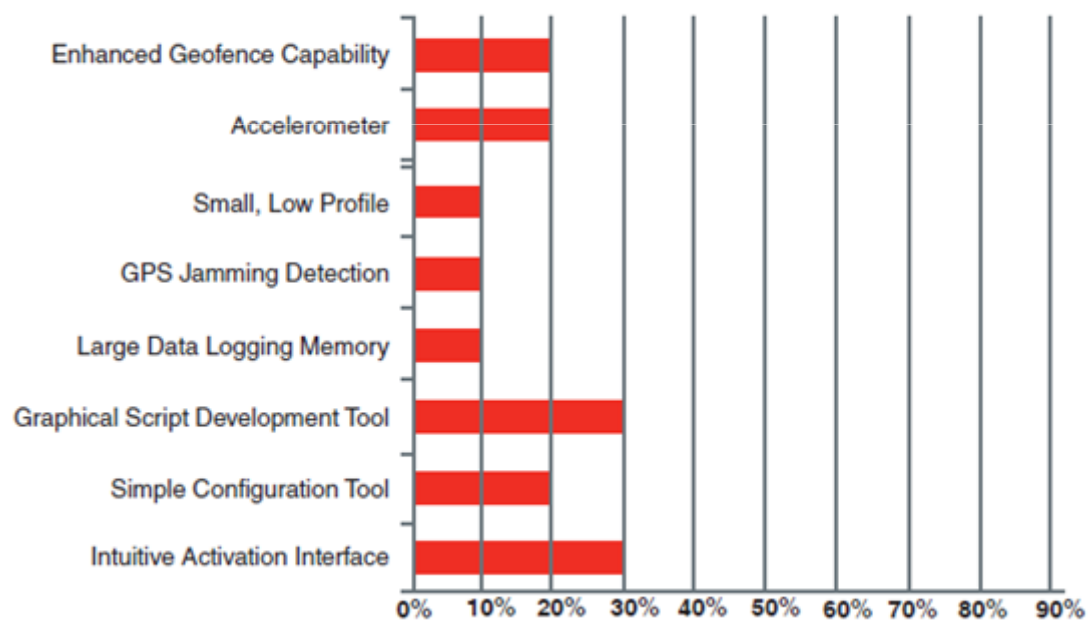
Use Cases

- Advanced VAR Integration: CANbus / Dual mode integration with least cost routing and additional seatbelt, harsh braking/acceleration reports etc.



SAT-401 – Coming Soon

- With the new SAT-401, we took customer input to deliver higher levels of functionality and more cost effective through greater levels of integration. An advance single chip transceiver delivers significant cost reduction and provides support for future high performance services over Inmasrat-I4



TAM-212



212 Rev 1 c/w Key Fob



212 Rev 2 (Turn key)



**SAT-200
Core Module**

- Description:** The TAM-212 is an IP66 rated, standalone tracking device made up of the SAT 200 Core Module & antenna with a 19Ah non- rechargeable Lithium battery pack .
- Purpose:** Remote tracking and monitoring of assets that have no integral power source. When reporting twice daily the TAM 212 can operate for over 5 years without the need for battery replacement.

TAM-212 Product Sheet



TAM-242



- **Description:** The TAM-242 is a derivative of the TAM 212 with a rechargeable Lithium Ion 4.25Ah battery, magnetic feet and a serial port for charging and programming.
- **Purpose:** Rechargeable, dismountable/fixed standalone device for use on assets that may have no integral power source but require remote tracking & monitoring. Operate for up to 1 month on a single charge @ 15 min reporting rate.

[TAM-242 Product Sheet](#)



TAM-252 Door Sensor Solution



- Description: The TAM-242 can be upgraded to the 252 solution using enhanced programming and a door open sensor.
- Purpose: The TAM-252 solution transmit an alert when the sensor switch couple is not aligned (i.e. a misalignment of more than 25mm proximity) in order to alert fleet manager of out of hour, unauthorised or unexpected intrusion.

[TAM-252 Product Sheet](#)



TAM-262 Panic Button Solution



- **Description:** The TAM-242 can be upgraded to the 262 solution using enhanced programming and a Panic Button.
- **Purpose:** When transporting goods in dangerous and hostile environments, upon pressing the Panic Button, the TAM-262 solution transmits an alert to the fleet manager via the application and selected individuals via email and SMS to inform them that the unit has encountered a hazardous situation.

[TAM-262 Product Sheet](#)



TAM-242 Specifications

Physical

Dimensions 247 mm x 178 mm x 48 mm (9.7" x 7.0" x 1.9")

Weight 1.5 kg (3.3 lbs)

Mounting Screws, magnetic feet

Environmental

Operating Temperature -35°C to +55°C (-31°F to +131°F)
Charging temp: 0°C to +45°C (32°F to +113°F)

Humidity ≤95% @ +40°C (+104°F) non-condensing

IP Rating IP66

Interfaces

Serial Interface Asynchronous serial RS232

Baud Rate 9600 bps

Parity/Data Bits/Stop Bits N, 8, 1

TAM-242 Specifications

Satellite Connectivity

Transmitter
 EIRP: 0-9dBW
 Modulation 2 level FSK: 20 Hz tone spacing
 Tx burst duration: 2s or 8s

Receiver
 G/T: $\geq -25\text{dB/K}$ at EL = 30°
 Modulation: 32-ary FSK, 20Hz tone spacing

Elevation Angle
 0° - 90°

Frequency Range
 Transmit: 1626.5-1660.5 MHz
 Receive: 1525.0-1559.0 MHz
 GPS: 1575.42 \pm 1.0 MHz

GPS
 Channels: 50
 Typical time to first fix:
 Cold Start: <29 seconds
 Hot Start <1s (GPS was off for less than 2 hours)
 Typical position accuracy (SA Off): 2.5m (8ft) (CEP, 2D)
 Dynamic capability:
 Velocity 515 m/s maximum
 Acceleration $\leq 4g$
 Maximum update rate 1s

External Sensors

TAM-252 Solution
 TAM-252 external sensor solution includes:
 Remote terminal with a range of wired sensor options: temperature, humidity, vibration, shock, light, door open etc.
 A satellite airtime package to suit your needs
 Secure web-based data access
 SATTAG Version 3 interface to DISA GEX/IRRIS/iSDDC
 A range of power supplies

CargoTrak Pro

Satellite Enabled Tracking & Intrusion Detection (SETID)



- Easy Magnetic Installation
 - On container door and roof
- High Reliability Satellite Communications
 - Inmarsat ISatM2M LDR Protocol
- Cost Effective Rechargeable Batteries
 - Support missions up to 120 days++
- Proven Technology
 - Based on Honeywell 202 Modem technology
- Accurate Positioning
 - Utilizes GPS to establish position data

[Cargo Trak Pro Product Sheet](#)



CargoTrak Pro

Sensor and Battery Pack



- **Multiple sensors:**
 - Temperature & Humidity
 - Motion + Shock/Vibration
 - Door Open Switch
 - Passive IR & Light Detector

Satellite Terminal Unit



- **Over-Air Command & Control**
 - Reporting Rates
 - Sensor Thresholds
 - Geo-Fences



CargoTrak Lite

- Cargo Trak Lite is a slim, low-profile device that requires no power source
- A long-lasting internal battery will last up to one month between charges based on a 15-minute reporting interval* or single use “disposable”

- **Quick Facts:**

- Integral battery pack with low capacity alarm*
- Typically 1 month operation between charges with 15 minute reporting (~2800 pings)*
- Robust enclosure with IP66 /7 ingress protection
- Serial communication via local port*
- Mounting by either built-in magnetic feet or screw fixings
- Is also available with external sensor connection (Optional) *



Cargo Trak Pro Specifications

Physical

Dimensions Transponder Unit: 91 x 413 x 24 mm (3.3" x 16.2" x 0.9")

Sensor Unit: 120 x 180 x 90 mm (4.7" x 7.1" x 3.5")

Weight Transponder unit: 1.6 kg (3.5 lbs)

Sensor Unit: 2 kg (4.4 lbs)

Mounting Magnetic feet

Environmental

Operating Temperature Transponder Unit: -20°C to +60°C (-31°F to +140°F)

Sensor Unit: -20°C to +70°C (-4°F to +158°F)

Humidity ≤95% @ +40°C (+104°F) non-condensing

IP Rating Transponder Unit: IP66 & IP67

Sensor Unit: IP40

Sensors

Door Sensor Open/closed

Light Sensor

Wavelength: 300 to 1000nm

Responsivity at 640 nm: 27.5 counts/lux
16 bit digital

Temperature Sensor

Range: -25°C to +85°C (-13°F to +185°F)

Accuracy: +/- 2°C
8 bit digital

Humidity Sensor

Resolution: <1%
Accuracy: +/- 5%
8 bit digital

Accelerometer

3 axis
Bandwidth: up to 1.6 kHz
Range: up to +/- 16g

Cargo Trak Pro Specifications

Satellite Connectivity

| | |
|------------------------|--|
| Transmitter | EIRP: 0-9dBW Modulation 2 level FSK: 20 Hz tone spacing Tx burst duration: 2s or 8s |
| Receiver | G/T: $\geq -25\text{dB/K}$ at EL = 30° Modulation: 32-ary FSK, 20Hz tone spacing |
| Elevation Angle | 0° - 90° |
| Frequency Range | Transmit: 1626.5-1660.5 MHz Receive: 1525.0-1559.0 MHz GPS: 1575.42 \pm 1.0 MHz |
| GPS | Channels: 50 Typical time to first fix: Cold Start: <29 seconds Hot Start <1s (GPS was off for less than 2 hours) Typical position accuracy (SA Off): 2.5m (8ft) (CEP, 2D) |

Power

| | |
|-----------------------------|--|
| Rechargeable Battery | Number of reports: 5000 at 15 minute intervals |
| Charging | Via 12-way connector on transponder unit |

Certifications

| | |
|-------------------------------|-----|
| Inmarsat Type Approved | Yes |
| FCC Compliant | Yes |
| EN60945 | Yes |
| CE | Yes |

SAT-232 Osprey



- **Description:** A portable tracking & messaging device. Robust, lightweight (350g), hand held or vehicle mounted and suitable for long-term use in all environments, with a dedicated alert button (protected to prevent false alarms).
- **Purpose:** In conjunction with the ViewPoint (VP) mapping & management application, the Osprey enables two way, user defined codebook (canned) text messaging & asset / personnel tracking. Alerts into the VP are forwarded to multiple destinations via SMS and e-mail & VP also enables M2M Osprey to Osprey messaging.

Osprey Main Features

Terminal

- Automated GPS reporting intervals
- Dedicated Alert and POI buttons
- Terminal-to-terminals communication
- Self-contained unit with integral battery
- Front Panel can be custom branded. (Minimum volume commitments)
- Local time zone setting
- Efficient, intuitive menu navigation

Osprey Main Features

Communication

- Worldwide tracking, messaging and alerting
- Alert notification to multiple contacts via SMS and email
- Locates nearest Osprey Personal Tracker in a group
- Up to 450 customizable pre defined messages
- Stealth-mode for silent and low backlight operation
- Synchronization “over-the-air” of pre-defined messages and address book
- Customize map views using Points of Interest (POIs)

Use Cases

- Land, Air and Sea platform tracking, monitoring, communication & fleet management.



<http://www.youtube.com/watch?v=aika-fSV6bo>

Osprey Standard Kit

A Standard Osprey Kit

When ordering please quote A127B01



Osprey Cradle

A139B01



Cradle Straps

A141B01



Cradle with 3 Straps

A140B01



5V USB Charger

A145B01



Osprey Accessories

- For in-vehicle / vessel fits an external passive antenna can be integrated into the Osprey bottom connector.
- A side entry passive antenna with magnetic feet (dismountable, temporary fit) is also available



Osprey Power Management

- Standard Mini USB port on Osprey
- Can be charged via PC USB port (N.B. Osprey Manager must be loaded)
- Best charge source is the Mains charger



5v USB International charging kit

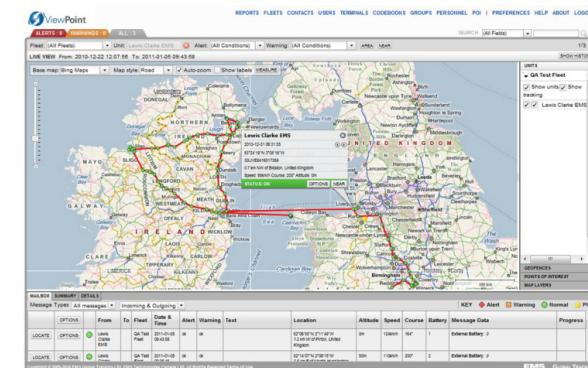
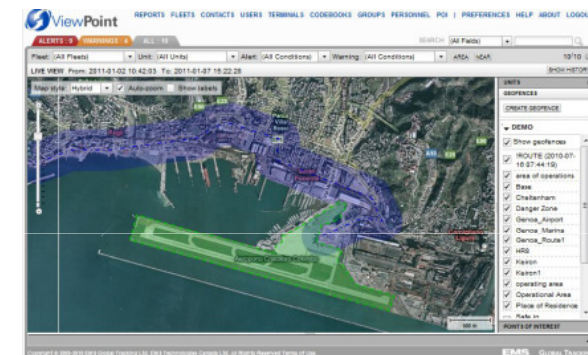
Attach to a vehicle cigarette lighter based USB charger with 5v 1A rating

Osprey-232 Technical Specifications

| Physical | |
|---------------------------|--|
| Dimensions | Terminal: 183 x 87 x 52mm (7.2"x 3.4" x 2.0") |
| Weight | 350g (12.3oz) including batteries |
| Handling | Side anti-slip grips for safe handling in adverse weather |
| OLED Display | 36 x 20mm (1.4" x 0.8") |
| Environmental | |
| Operating temperature | -20°C to +55°C (-4°F to +131°F) |
| Storage temperature | -40°C to +60°C (-40°F to +140°F) |
| Humidity | 95% @ 40°C (+104°F) |
| Vibration & shock | Survives a 1m (3.3 ft) drop |
| IP Rating | IP67 |
| Waterproof | 1m (3.3ft) depth for 30 minutes (IP67), Floats in water |
| Power | |
| Batteries | Rechargeable Li-ion battery Operates for several days depending upon configuration USB charging interface (+5V 1A) |
| Interfaces | |
| Docking port | External vehicle mount antenna (included) and cradle (not included) |
| Communication | Mini USB interface |
| Satellite Connectivity | |
| TGPS | 50 channel GPS |
| Capabilities/Applications | |
| Alerting | Dedicated Alert button |
| Points-of-interest | Dedicated POI button |
| System details | Worldwide two-way messaging and tracking |
| Certification | |
| FCC | CFR47 Part 25 |
| R&TTE | EN301 426 V1.2.1 (2001) |
| Safety | EN60950-1:2006/UL60950-1 |

Viewpoint Application

- Web-based application
 - Track all vehicles anywhere
 - Sophisticated Rules Engine
 - Geo-fences, Email/SMS alerts
 - State-of-the-art maps
 - Custom map overlays
 - High-res maps
 - Real-time, recent and up-to 90 days of tracking history, rest can be archived
 - Locate a terminal based upon: alert status, group or a user-defined event
 - Disable a vehicle remotely
 - Monitor driver behaviour
- Enterprise ViewPoint
 - User authentication via challenge
 - 56/256-bit key encryption
 - Decryption behind Enterprise/Gov firewall



Viewpoint Screen Shots

Mouse over on the mapping window of any given car and time to get a quick update





Poll a Vehicle

Options for ITC Demo

INFORMATION COMMUNICATE **CONFIGURE** MODIFY FENCES REPORTS

Options to Configure Unit & Request Reports

| Message | Alters | Current Value | Update Value / Submit Command |
|---------------------------|-----------------------|---------------|--|
| Set Speed Alarm Threshold | Speed Alarm Threshold | 100 km/h | 100 km/h <input type="button" value="SUBMIT"/> |
| Set Heartbeat Interval | Heartbeat Interval | 24 Hours | 24 Hours <input type="button" value="SUBMIT"/> |
| Set Speed Alarm Interval | Speed Alarm Interval | 10 Minutes | 10 Minutes <input type="button" value="SUBMIT"/> |
| Reset Panic Alert | | | <input type="button" value="SUBMIT"/> |
| Poll Script Version | | | <input type="button" value="SUBMIT"/> |
| Set Idle Alarm Interval | Idle Alarm Interval | 10 Minutes | 10 Minutes <input type="button" value="SUBMIT"/> |
| Poll Unit Location | | | <input type="button" value="SUBMIT"/> |
| Set Alerting Interval | Alerting Interval | 5 Minutes | 5 Minutes <input type="button" value="SUBMIT"/> |
| Set Tracking Interval | Tracking Interval | 10 Minutes | 10 Minutes <input type="button" value="SUBMIT"/> |

From: 2012-02-26 22:17:00 To: 2012-02-29

Google Maps Map style: Road

Units: ☒ Show units ☐ Show

CRP ☒ DubaiFleet ☒ Musah's Fle ☒ Oil and Gas ☒ Oman Fish

GEOFENCES POINTS OF INTEREST MAP LAYERS

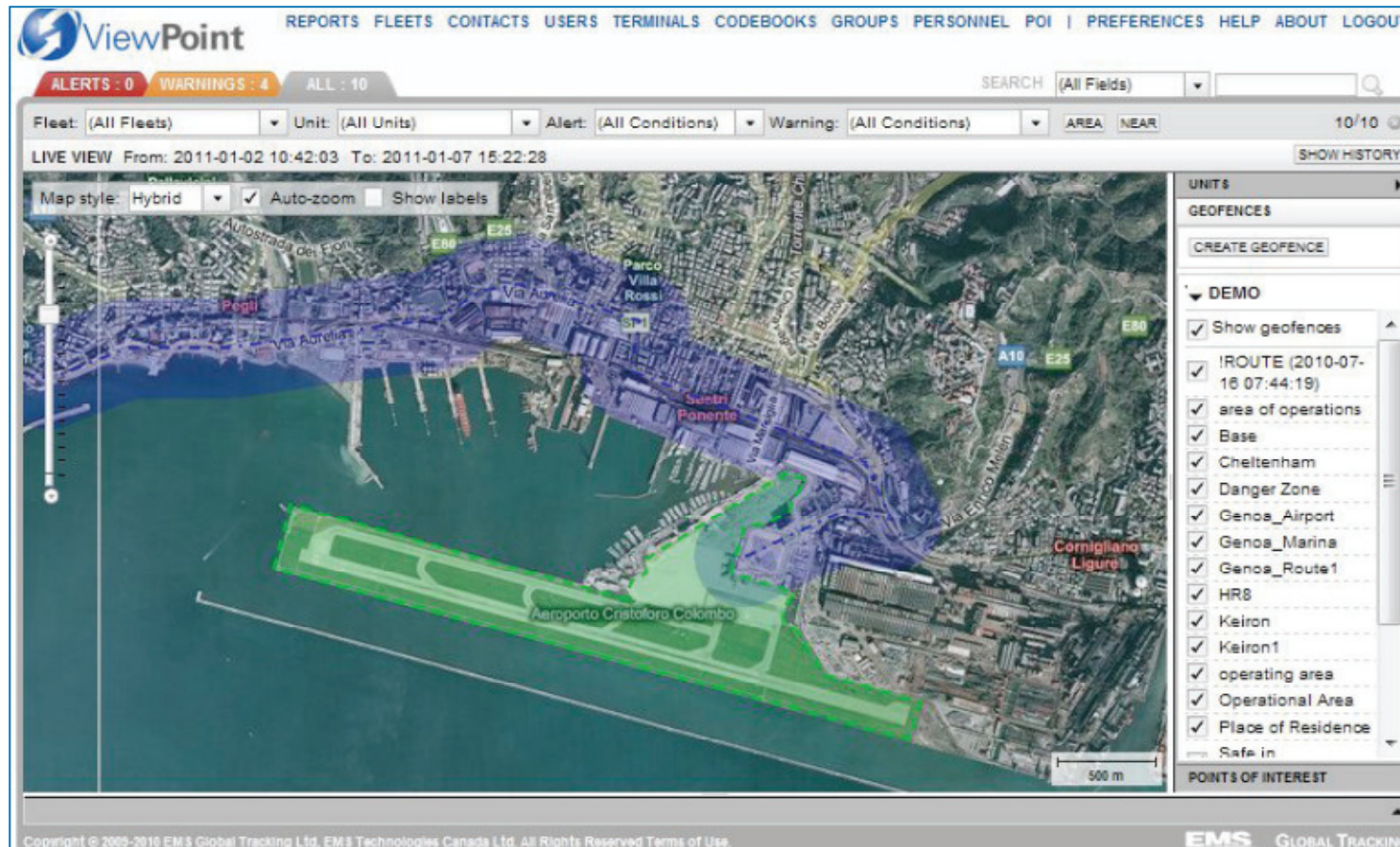
KEY ◆ Alert ■ Warning ● M

Course Battery Message Data

Set Speed Alarm Threshold Speed Alarm Threshold: 130 km/h

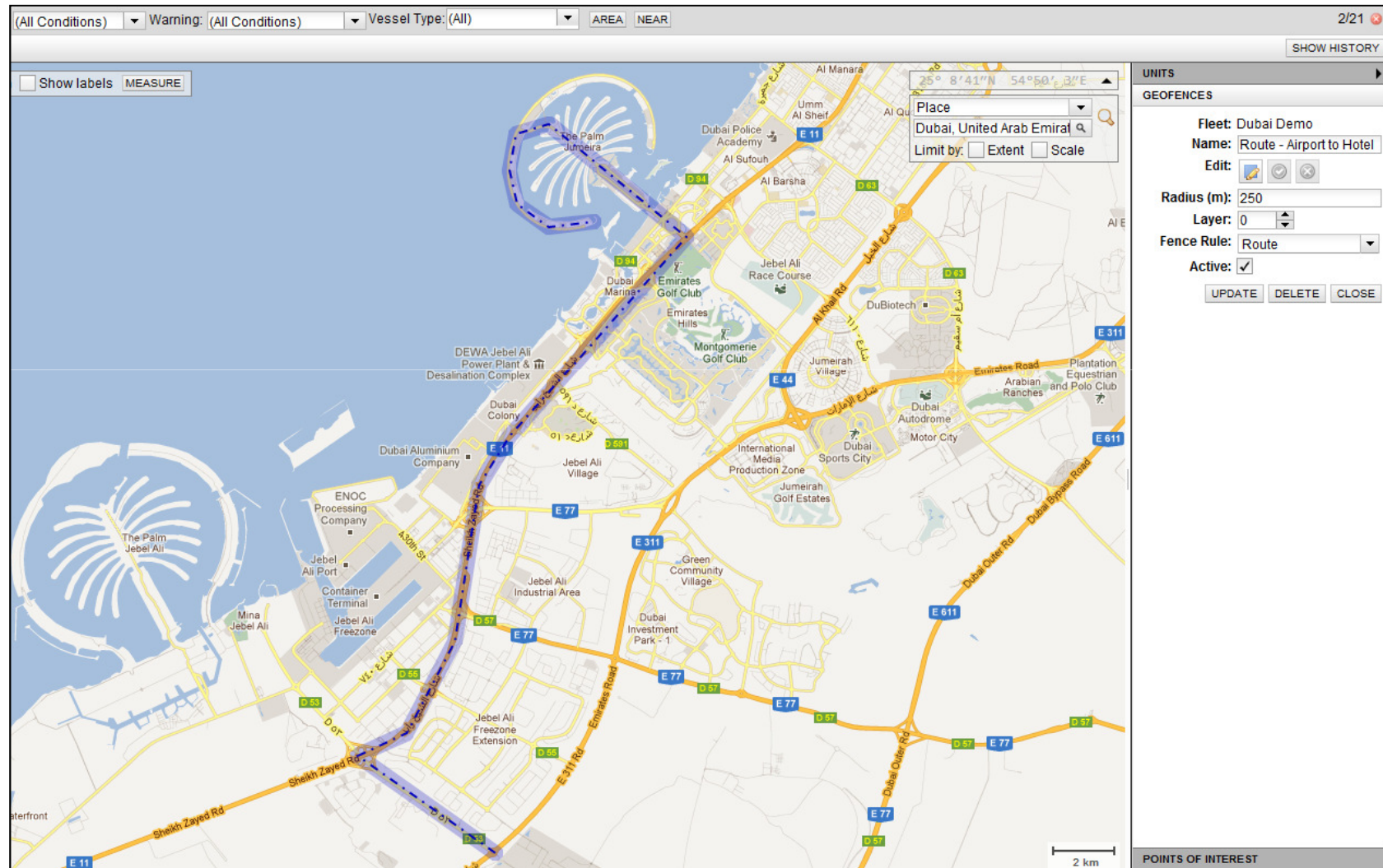


Geo-fencing





Geo-Fenced Corridor



Curfew Geo-Fencing Set-up

Value

Latitude

Ext

Edit Curfew: 8 NM South - 16min Tracking

| | 00:00 | 03:00 | 06:00 | 09:00 | 12:00 | 15:00 | 18:00 | 21:00 |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sunday | | | | | | | | |
| Monday | | | | | | | | |
| Tuesday | | | | | | | | |
| Wednesday | | | | | | | | |
| Thursday | | | | | | | | |
| Friday | | | | | | | | |
| Saturday | | | | | | | | |

- Highlighted cells indicate curfew periods, during which the geofence is active.
- To create curfew periods, click and drag with the left (or primary) mouse button.
- Press and hold the Ctrl key (PC) or Command key (Mac) to create multiple non-adjacent curfew periods.

REMOVE ALL

OK CANCEL

Check Points to Monitor Delays

Options for MASERA Dhow

INFORMATION
 COMMUNICATE
 CONFIGURE
 MODIFY
 FENCES
 TRACKING
 INBOX
 OUTBOX
 COMMAND LOG
 FUEL LOG
 AUDIT UNIT OPERATIONS
 AUDIT UNIT CO

Unit/Fence Setup

| Name | Type | Radius | Rule | Checkpoint Deadline | Curfew | Mission Rules | Layer | Active | Enable |
|-------------------------------|----------|--------|----------|---------------------|--------|---------------|-------|--------|-------------------------------------|
| !ROUTE (2012-02-14 06:03:52) | Corridor | 500m | Route | | No | No | 0 | No | <input checked="" type="checkbox"/> |
| !ROUTE (2012-03-07 08:24:49) | Corridor | 500m | Route | | No | No | 0 | No | <input checked="" type="checkbox"/> |
| !ROUTE (2012-03-20 04:38:55) | Corridor | 500m | Route | | No | No | 0 | No | <input checked="" type="checkbox"/> |
| !ROUTE (2012-03-21 07:07:42) | Corridor | 500m | Route | | No | No | 0 | No | <input checked="" type="checkbox"/> |
| (DUQM PORT) | Corridor | 1000m | Waypoint | | No | Yes | 1 | Yes | <input checked="" type="checkbox"/> |
| 6 NM Central - 16min Tracking | Polygon | | Warn | | No | Yes | 1 | Yes | <input checked="" type="checkbox"/> |
| 6 NM North -16min Tracking | Polygon | | Warn | | No | Yes | 1 | Yes | <input checked="" type="checkbox"/> |
| 6 NM South - 16min Tracking | Polygon | | Warn | | No | Yes | 1 | Yes | <input checked="" type="checkbox"/> |
| 8 NM Central - 16min Tracking | Polygon | | Warn | | No | No | 1 | Yes | <input checked="" type="checkbox"/> |
| 8 NM North - 16min Tracking | Polygon | | Warn | | No | Yes | 1 | Yes | <input checked="" type="checkbox"/> |
| 8 NM South - 16min Tracking | Polygon | | Warn | | No | Yes | 1 | Yes | <input checked="" type="checkbox"/> |
| EEZ Alert - 2min Tracking | Polygon | | Alert | | No | Yes | 3 | Yes | <input checked="" type="checkbox"/> |
| EEZ Warning - 16min Tracking | Polygon | | Warn | | No | Yes | 2 | Yes | <input checked="" type="checkbox"/> |
| Normal 2hr Traacking | Polygon | | | | No | Yes | 0 | Yes | <input checked="" type="checkbox"/> |

March
 26 27 28 29 1 2 3
 4 5 6 7 8 9 10
 11 12 13 14 15 16 17
 18 19 20 21 22 23 24
 25 26 27 28 29 30 31
 1 2 3 4 5 6 7
 2011 2012 2013

APPLY CHANGES

Waypoints & Checkpoints

The screenshot displays the Honeywell Tracker 1 software interface. The main map shows a city area with various landmarks and roads. A blue dashed line indicates a route. A yellow circle represents a waypoint. A green box highlights the 'Tracker 1' status bar, showing the current location and speed.

Options for Tracker 1

INFORMATION COMMUNICATE CONFIGURE MODIFY **FENCES** TRACKING INBOX OUTBOX COMMAND LOG FUEL LOG

AUDIT UNIT OPERATIONS AUDIT UNIT COMMANDS DISPLAY GROUP

Unit/Fence Setup

| Name | Type | Radius | Rule | Checkpoint Deadline | Curfew | Layer | Active | Enable |
|--------------------------|----------|--------|----------|---------------------|--------|-------|--------|-------------------------------------|
| Palm Waypoint | Circle | 500m | Waypoint | 31-Jan-12 09:00:00 | No | 1 | Yes | <input checked="" type="checkbox"/> |
| Route - Airport to Hotel | Corridor | 250m | Route | | No | 0 | No | <input checked="" type="checkbox"/> |

APPLY CHANGES

Tracker 1

23-Jan-12 16:38:25

52°00'15"N 2°07'29"W

2.2 km E of Tewkesbury, United Kingdom

Speed: 0km/h Course: 16°

STATUS: OK OPTIONS NEAR

UNITS

GEOFENCES

Fleet: Dubai Demo

Name: Palm Waypoint

Edit:

Radius (m): 500

Layer: 1

Fence Rule: Waypoint

Active: ☒

UPDATE DELETE CLOSE

POINTS OF INTEREST



Disable a Vehicle in Real-Time

Options for 08-IN-0064

INFORMATION CONFIGURE MODIFY FENCES REPORTS

Options to Configure Unit & Request Reports

| Message | Alters | Current Value | Update Value / Submit Command |
|---------------------------|-----------------------|---------------|--|
| Set Speed Alarm Threshold | Speed Alarm Threshold | 80 km/h | 80 km/h <input type="button" value="SUBMIT"/> |
| Set Tracking Interval | Tracking Interval | 1 Hour | 1 Hour <input type="button" value="SUBMIT"/> |
| Set Heartbeat Interval | Heartbeat Interval | 24 Hours | 24 Hours <input type="button" value="SUBMIT"/> |
| Set Alerting Interval | Alerting Interval | 15 Minutes | 15 Minutes <input type="button" value="SUBMIT"/> |
| Remote Relay Control | Relay | Enabled | Enabled <input type="button" value="SUBMIT"/> |
| Set Speed Alarm Interval | Speed Alarm Interval | 10 Minutes | 10 Minutes <input type="button" value="SUBMIT"/> |
| Poll Unit Location | | | <input type="button" value="SUBMIT"/> |
| Reset Panic Alert | | | <input type="button" value="SUBMIT"/> |
| Poll Script Version | | | <input type="button" value="SUBMIT"/> |
| Set Idle Alarm Interval | Idle Alarm Interval | 15 Minutes | 15 Minutes <input type="button" value="SUBMIT"/> |



Monitor a Speeding Vehicle



Fleet: (All Fleets) Unit: (All Units) Alert: (All Conditions) Warning: (All Conditions) AREA: NEAR

LIVE VIEW From: 2012-02-26 19:37:00 To: 2012-02-29 13:51:05 SHOW HISTO

Base map: Google Maps Map style: Road Auto-zoom Show labels MEASURE

ITC Demo
 2012-02-29 13:47:08
 25°05'27"N 55°11'14"E
 40RCN1718876232
 98.6 km NE of Abu Dhabi, United Arab Emirates
 Speed: 100km/h Course: 113°
 STATUS: SPEEDING OPTIONS NEAR

UNITS
☒ Show units ☐ Show tracking
☒ CRP
☒ DubaiFleet
☒ Musah's Fleet
☒ Oil and Gas Basra
☒ Oman Fisheries

GEOFENCES
 POINTS OF INTEREST
 MAP LAYERS

MAILBOX SUMMARY DETAILS REPORTS
 Message Types All messages Incoming & Outgoing

| | | | | | | | | | | KEY | Alert | Warning | Normal | P |
|--------|---------|----------|---------------|---------------------|----|----|----------|--------------------------------|---|---------|-------|--|--|---|
| LOCATE | OPTIONS | ITC Demo | Musah's Fleet | 2012-02-29 13:47:08 | ok | On | SPEEDING | Emirates 25°06'00"N 55°13'53"E | 98.6 km NE of Abu Dhabi, United Arab Emirates | 100km/h | 113° | distance: 28160 Odometer reading: 11776 | IDLE flag set: 0 Section Distance: 2048 Cumulative distance: 21504 | |

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EN EMS GLOBAL TRACK



Listening In

The screenshot displays the ViewPoint software interface. At the top, there are navigation tabs: FLEETS, CONTACTS, USERS, TERMINALS, CODEBOOKS, GROUPS, PERSONNEL, POI, PREFERENCES, and HEL. Below these, there are filters for ALERTS (2), WARNINGS (1), and ALL (13). A search bar is also present. The main area shows a map of the Persian Gulf region with various units marked. A dialog box titled 'Options for Sutukuruvi Dhow (License Exp 05/03/2013)' is open, showing tabs for INFORMATION, COMMUNICATE, CONFIGURE, MODIFY, FENCES, and REPORTS. The 'MESSAGE OPTIONS' section is active, prompting the user to 'Enter the text message you wish to send.' Below this, there are two dropdown menus: 'Listen into Vehicle' and 'SMS 1010 - listen-in'. A red arrow points to the 'Listen into Vehicle' option. Below the dropdowns, there is a text input field containing 'Locate and Listen IN Command'. A 'SUBMIT' button is visible at the bottom right of the dialog box. On the right side of the interface, there are sections for 'UNITS' (with checkboxes for Show units, CRP, DubaiFleet, Musah's Fleet, Oil and Gas, and Oman Fisher) and 'GEOFENCES' (with checkboxes for POINTS OF INTEREST and MAP LAYERS). At the bottom, there is a legend for 'KEY' with symbols for Alert (red diamond), Warning (orange square), and Message (green circle).

Reporting Wizard

Advanced Reports

- ✓ Mileage
- ✓ Idle
- ✓ Speed
- ✓ Geofence
- ✓ Summary
- ✓ Journey
- ✓ Fuel

Scheduled report wizard

Schedule Report Stage 1 of 5

Setup

Fleet: Dubai Demo

Report Class: Summary Report

Summary Report Class:

- Fleet Commands Audit Report
- Fleet Fuel Log Report
- Fleet Fuel Log Summary Report
- Fleet Operations Audit Report
- Geofence Report
- Idle Report
- Mileage Report
- Speed Report
- Summary Report**
- Unit Commissioning Report

Frequency: daily

Report Types: All Frequencies All Reports Generate: ON DEMAND SCHEDULED

| Name | Report | Frequency | Fleet | Next Scheduled | Last Update | Save Formats |
|------|--------|-----------|-------|----------------|-------------|--------------|
|------|--------|-----------|-------|----------------|-------------|--------------|

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Customized Reports

Reports
Fleet:
QA Test
UTILISATION FUEL LOG NEW FUEL LOG AUDIT OPERATIONS AUDIT COMMANDS SCHEDULED ON DEMAND

Schedule Report Stage 2 of 5
Daily Report
Fleet: QA Test
Report Class: Speed Report
Description: Monitor vehicle speeds over a
Name: KM Speed Report
From: 00:00:00 (UTC+0) the d
To: 00:00:00 (UTC+0) on th
☐ Sunday
☐ Monday
☐ Tuesday
☐ Wednesday
☐ Thursday
☐ Friday
☐ Saturday

Geofence report
Fleet: QA Test
Report Class: Geofence Report
Description: This lists time spent in geofences
Name: Geofence report
Unit 'Truck Type' Filter: Any value
From (UTC+0): 2011-03-06 23:45:00
To (UTC+0): 2011-03-07 23:45:00

Summary report
Fleet: QA Test
Report Class: Summary Report
Description: Monitor vehicle utilisation and driver behaviour over a period
Name: Summary report
Unit 'Truck Type' Filter: Any value
From (UTC+0): 2011-03-09 23:45:00
To (UTC+0): 2011-03-10 23:45:00

| Name | Fleet | Truck Type | Geofence | Time In (UTC+0) | Time Out |
|-----------------|---------|------------|------------|---------------------|------------|
| 201C Land Track | | | Total | | |
| PT10 | QA Test | | Waypoint 1 | 2011-03-07 17:07:30 | 2011-03-07 |
| PT10 | QA Test | | Waypoint 2 | 2011-03-07 17:18:05 | 2011-03-07 |
| PT10 | | | Total | | |
| QA 448 | QA Test | | Waypoint 2 | 2011-03-07 08:04:16 | 2011-03-07 |
| QA 448 | QA Test | | Waypoint 1 | 2011-03-07 08:14:15 | 2011-03-07 |
| QA 448 | QA Test | | Waypoint 1 | 2011-03-07 17:07:58 | 2011-03-07 |
| QA 448 | QA Test | | Waypoint 2 | 2011-03-07 17:17:50 | 2011-03-07 |
| QA 448 | | | Total | | |

| Name | Fleet | Truck Type | Distance (km) | Ignition Time (hh:mm) | Travel Time (hh:mm) | Idle Time (hh:mm) | Total Stop Time (hh:mm) | GF Stop Time (hh:mm) | Non GF Stop Time (hh:mm) | Total Stops | GF Stops | Non GF Stops |
|-----------------------|---------|------------|---------------|-----------------------|---------------------|-------------------|-------------------------|----------------------|--------------------------|-------------|----------|--------------|
| Land Track 137 3 mins | QA Test | | 2.56 | 07:00 | 04:48 | 02:13 | 00:13 | 00:00 | 00:13 | 1 | 0 | 1 |
| Showcase land track | QA Test | | 0.00 | 00:00 | 00:00 | 00:00 | 16:38 | 00:00 | 16:38 | 0 | 0 | 0 |
| PT10 | QA Test | | 0.00 | 00:00 | 00:00 | 00:00 | 24:00 | 00:08 | 23:51 | 0 | 0 | 0 |
| QA 448 | QA Test | | 0.00 | 00:00 | 00:00 | 00:00 | 24:00 | 00:26 | 23:33 | 0 | 0 | 0 |

Product Notes

- Direct manufacturer with the ability to customize hardware as required
- Can draw upon the expertise of world class Honeywell lab facilities across multiple disciplines and business units
- Capable to deliver full turnkey solutions
- Delivery of professional customized software mapping application and database integration APIs (e.g. US Transcom requirements)
- Search and Rescue reference sites throughout the Middle East : GACA in KSA, UAE Armed Forces, Turkey Civil Aviation, Qatar (DOD)
- Global Tracking references in the Middle East: WFP, Supreme Foods, Tapestry, NATO in Iraq

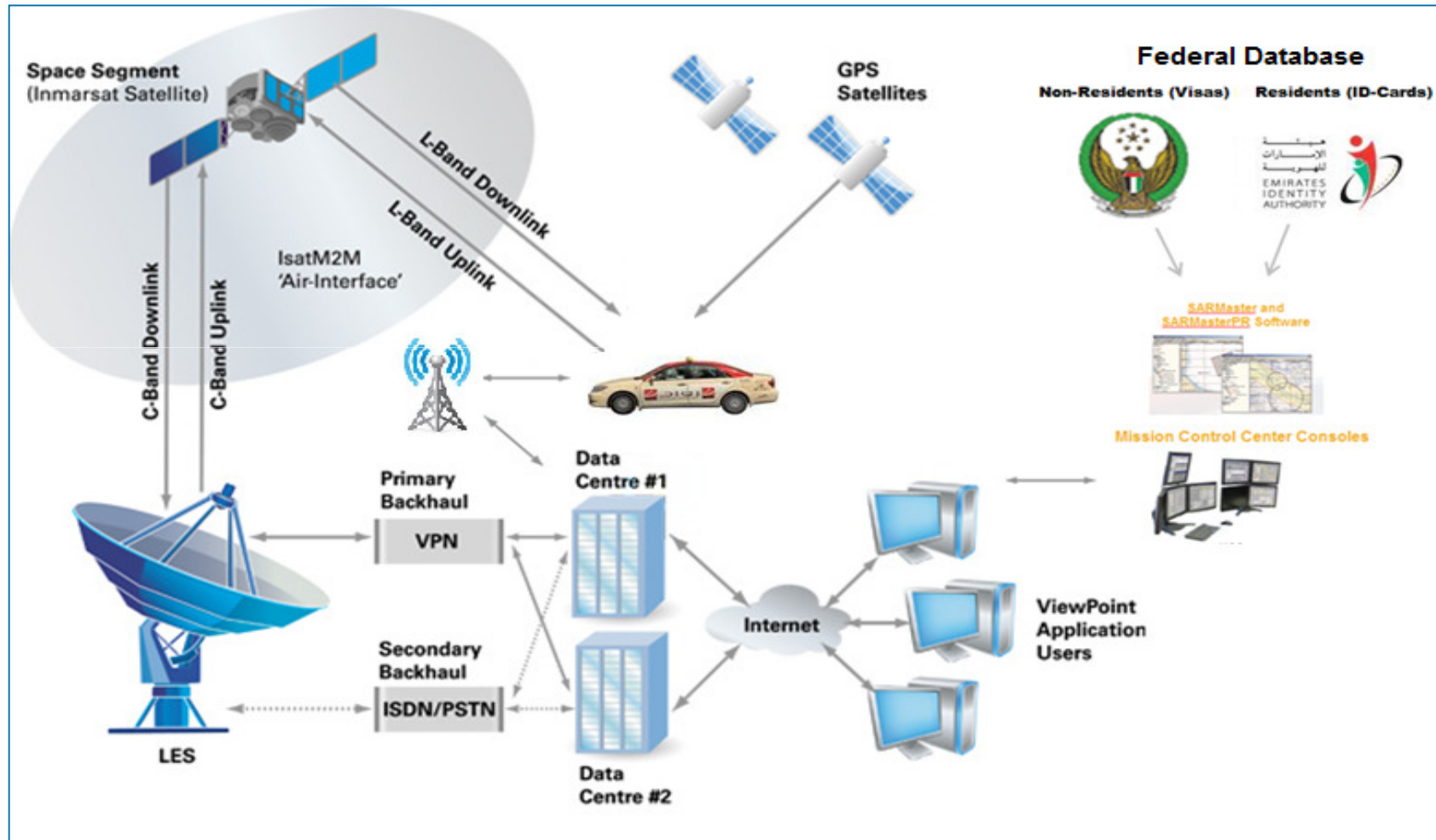
Project Examples

Honeywell

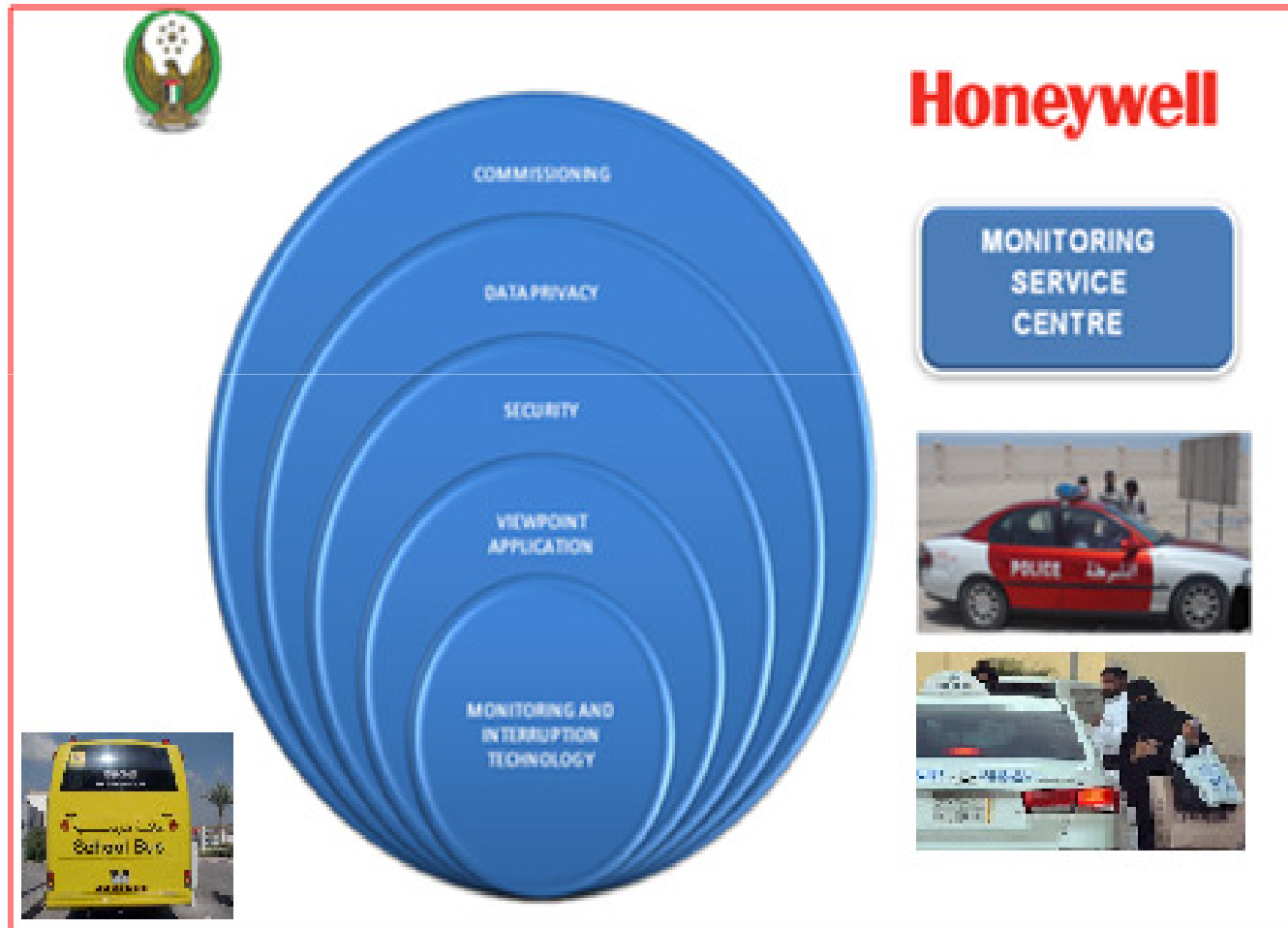
Agenda

- Honeywell Global Tracking and Our Markets
- Product Portfolio
 - Powered Tracking & Land Track (SAT-202 / 300i / SAT-401 coming soon)
 - Unpowered tracking (TAM Series)
 - Personal Tracking (Osprey)
 - Viewpoint Application
- Project Examples
 - Public Vehicles Tracking
 - Container Tracking
 - Vessel Monitoring System
 - Tsunami Warning
 - Tuna Buoys
 - Blue Force Tracking
 - Search and Rescue
- Summary

Public Vehicle Tracking



Public Vehicle Tracking - A Managed Service



Public Vehicle Tracking – The Honeywell USPs

- Quality Hardware
 - High-end, IP66/67, high drop tests, covert
 - Both GSM/GPRS & Satellite options
- Sophisticated Powerful Application
 - Easily customized,
 - Fully scalable
 - State-of the art mapping features
 - Real time, high reliability
 - Web-based or fully server based
 - Multiple XML feeds for database interrogation and integration with key government applications
 - Arabic language version
- Security
 - Decryption behind Enterprise/Gov firewall
 - Legal Intercept (LI) capability and offering

Public Vehicle Tracking – The Honeywell USPs

- Managed Service
 - Turnkey offering
 - Monthly charging (recurring revenue)
 - Service Level Agreements (SLAs)
- Integration with Search & Rescue Centre
 - Utilizing Honeywell's existing infrastructure in Abu Dhabi
 - SARMaster Incident & Disaster Management

Container Tracking

END-TO-END LOGISTICS SOLUTION

Case Study: World-Wide Food Distributor

Keeping Food Flowing To Coalition Forces In Afghanistan



- Scanning boxes of food in cold storage warehouse
- Complete control and visibility of all in-transit assets
- Receiving the goods at military bases
- ViewPoint integrated into the client's application environment



SECURITY

- Secure 2-way messaging and tracking of security teams
- Mobile or fixed satellite communications for reliable frontline situational awareness and Command and Control (C2) capacity
- Advanced broadcast capabilities

FLEET LOGISTICS

- Cost-effective delivery of critical data for advanced logistics
- Global leader in telemetric, tracking and Search and Rescue (SAR) solutions
- Flexible equipment and services offering affordable machine-to-machine (M2M) data delivery

ASSET TRACKING & MONITORING

- Maintain full visibility of high-value, in-transit assets
- Use ViewPoint to track and monitor asset locations as well as external sensor data (e.g., temperature, humidity, and door open)
- Integrate ViewPoint data feeds into existing applications

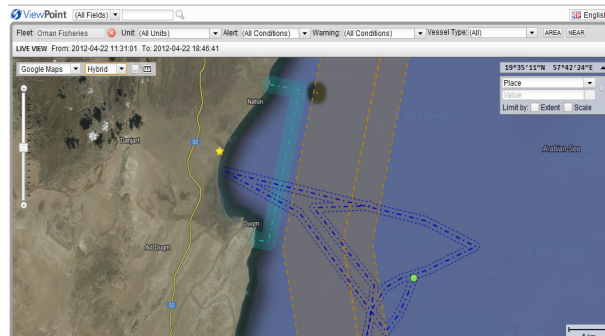
GLOBAL ASSET TRACKING & MONITORING REAL-TIME INTRUSION DETECTION






- Data Fusion
 - » Multiple sensors
 - » Door open, temperature, humidity, etc
 - » Increases reliability
- Mesh Network Systems
 - » RFID, Bluetooth, Wi-Fi, 3G, Satellite
 - » Automatic and smart switching between connectivity method
- Tracking & Monitoring: Software as a Service (SaaS)
 - » Hardware + Software + Connectivity + Service
 - » End-to-end solution

Maritime Tracking Solutions

- **Variety of Hardware devices**
 - Portable or fixed, display, keyboard, etc ..
- **Variety of Software applications and add on Modules**
 - Tracking & monitoring,
 - Alerting & Incident Management
- **Systems Customization, Integration and Start-up**
 - SW customization (language)
 - SW Integration
 - Accessory customization (batteries, solar panels, etc ..)
 - Training and start-up phase



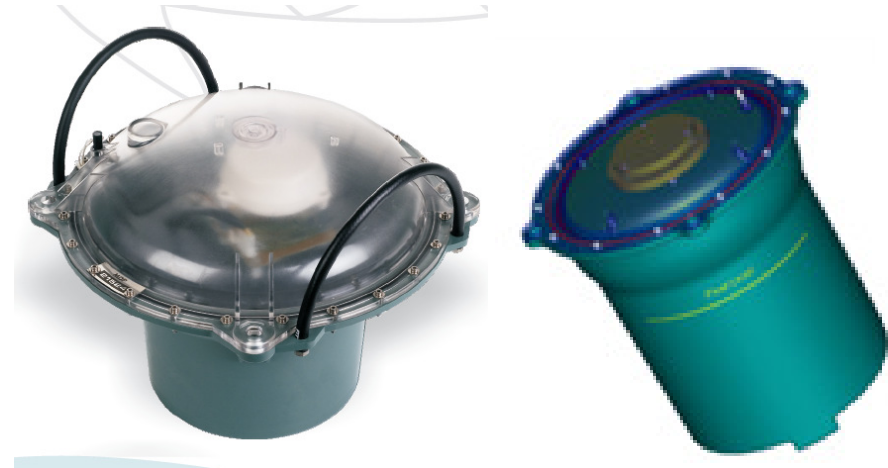
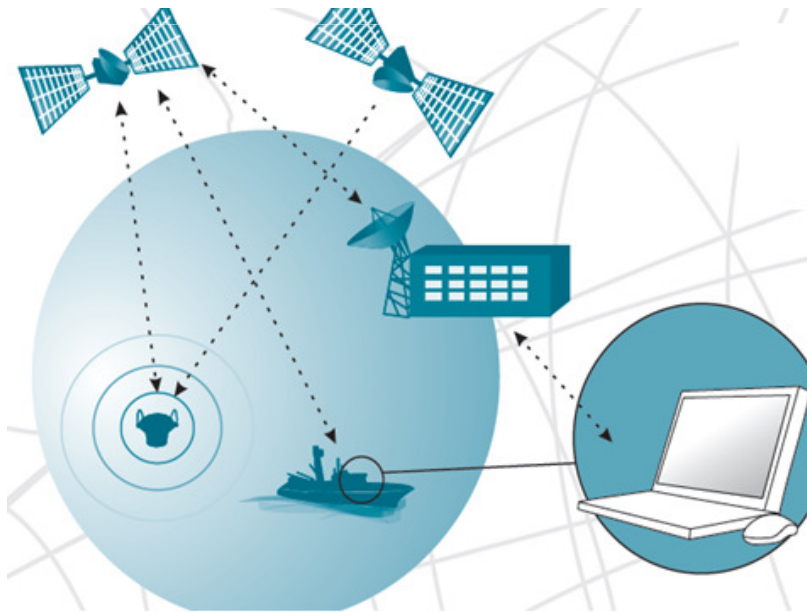
Maritime Vessel Matrix

| PRODUCT | VESSEL TYPE | PRICE RANGE | APPLICATION | KEY FEATURES | MARKET SEGMENT |
|---|--|--------------|-----------------------------------|--|--|
| <p>Osprey Marine – Fixed</p>  <p>ANTENNA MAST MOUNT AND MOUNTING PLATE</p> | <p>Tug boats</p> <p>Yachts,</p> <p>Trawlers</p> <p>Dhows</p> <p>Fishing vessels</p> <p>Small vessels</p> | Low-Medium | <p>ViewPoint</p> <p>SARMaster</p> | <p>Fixed docking station</p> <p>Text interface</p> <p>Canned messages</p> <p>Dedicated Panic and POI buttons</p> | <p>Industrial</p> <p>Private</p> <p>National fisheries</p> |
| <p>Osprey Marine – Portable</p>  | <p>Coastal vessel</p> <p>Speed boats</p> | Low | <p>ViewPoint</p> <p>SARMaster</p> | <p>Portable with docking station</p> <p>Text interface</p> <p>Canned messages</p> <p>Dedicated Panic and POI buttons</p> | <p>Industrial</p> <p>Private</p> <p>National fisheries</p> |
| <p>Cargo Trak Lite Maritime</p>  | <p>Jet Skis</p> <p>Tug boats</p> <p>Yachts</p> <p>Trawlers</p> <p>Dhows</p> <p>Single fishing vessels</p> <p>Small vessels</p> | Lowest range | <p>ViewPoint</p> <p>SARMaster</p> | <p>Magnetic mount</p> <p>Self-powered,</p> <p>Long battery life</p> <p>1 alarm input</p> <p>Siren alert</p> | <p>Leisure</p> <p>Industrial</p> <p>Private</p> |

Tuna Buoys

Description: Product specific to the tuna fishing industry. A watertight plastic buoy containing the SAT 200 terminal and a water temperature sensor

Purpose: Water temperature sensor and locating device for the tuna fishing industry



Tsunamai Early Warning System

- Outdoor mass notification system installed around sea & land sites
- Integrated with satellite communications modems via Inmarsat
- The solution delivers power management for driving high powered speaker arrays as well as send alarms and data via satellite
- This can also be linked to a National Government's Search and Rescue SARMaster Facilities that are manufactured by Honeywell

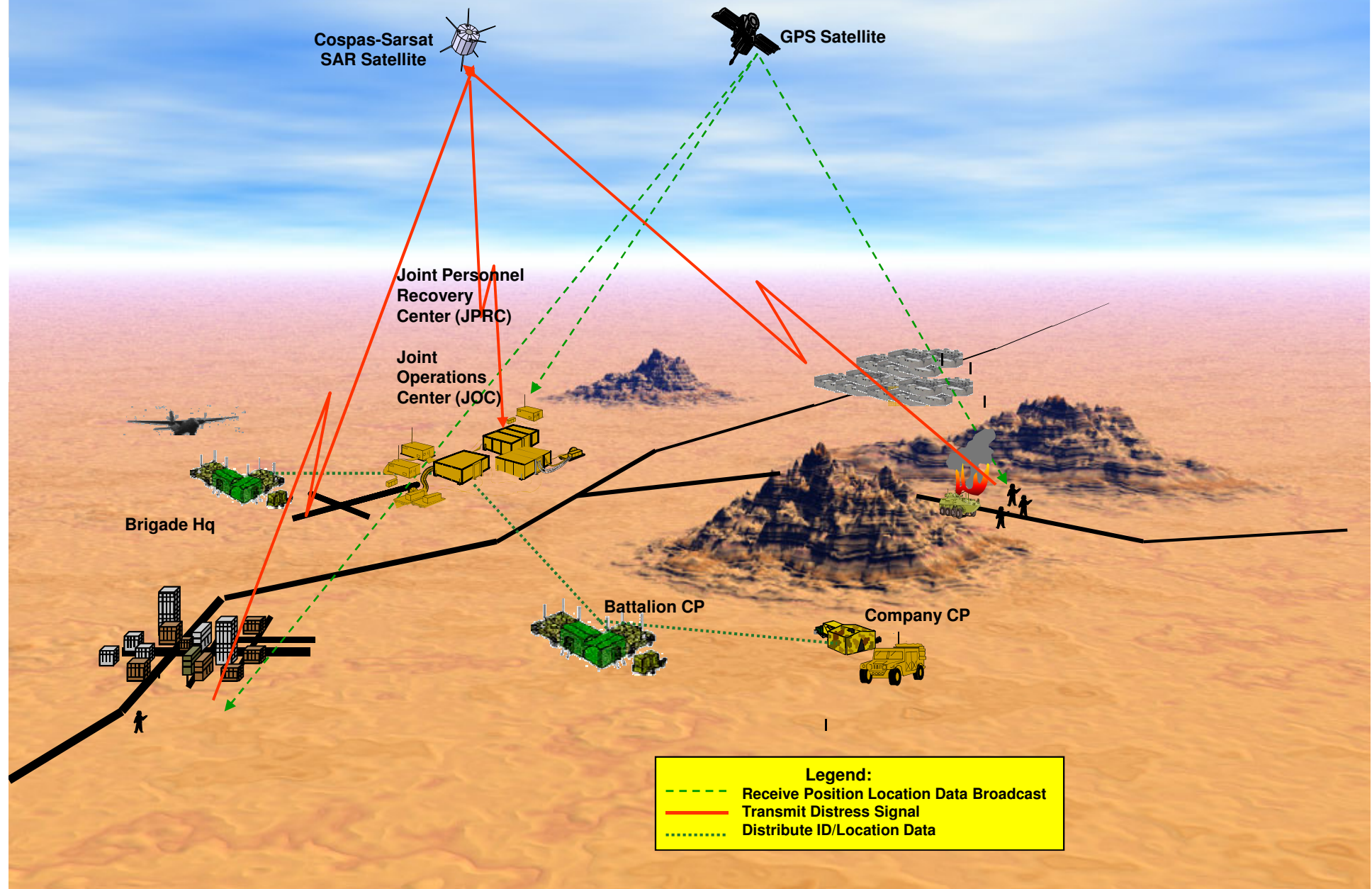


Blue Force Tracking

- Military - Force tracking identifies friendly forces location, provides situation reports & 2-way communication for command and control. Situational awareness for the control centre with a panic button capability for isolated personnel.



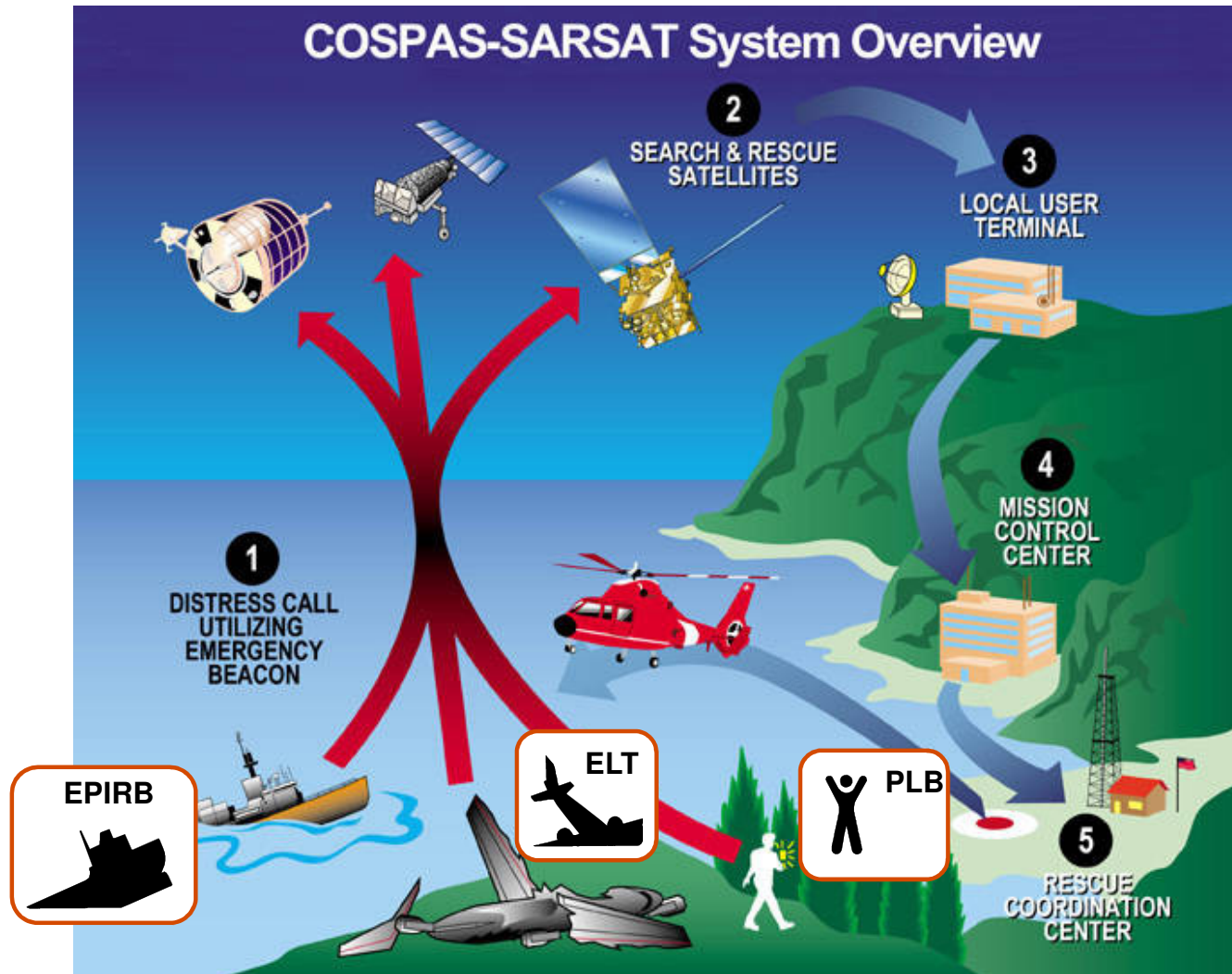
Blue Force Tracking Personnel Recovery Support System (PRSS)



Search and Rescue Systems

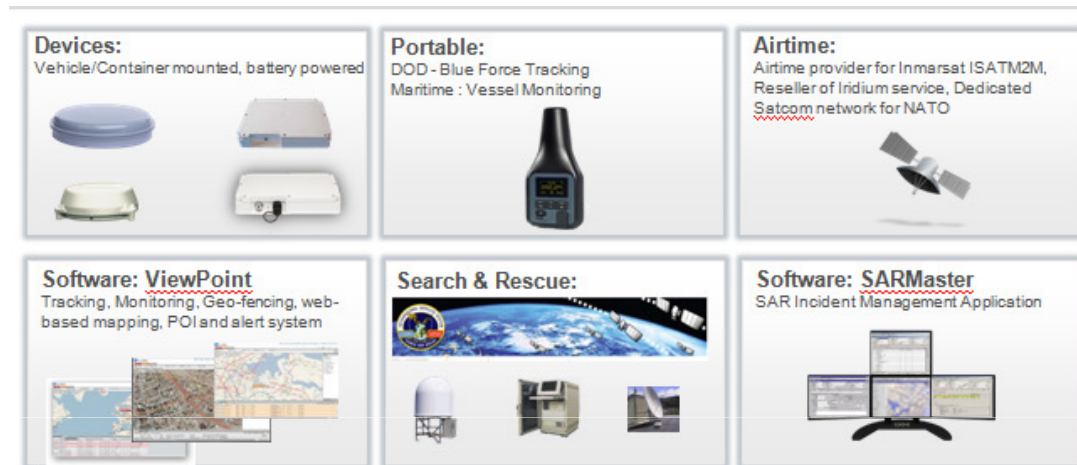


Search and Rescue Systems



Summary

- Customization
- Combined Expertise
 - SAR
 - Tracking
 - Logistics
- R&D – sensors
- Civil and Defense
- Global
- Local



Satellite Communications

Managed Services

Applications

HW Devices

Service & Support