The CelloTrack product line is designed for advanced asset tracking and remote monitoring, featuring enhanced functionality with full fleet management capabilities, robustness and ease of installation, suitable for a wide variety of asset management applications.

The CelloTrack product line is available in two variants – a standalone version and a power version, which includes extended battery life and the ability to connect external sensors via two configurable GPIOs. Models are suitable for 2G, 3G (North America) and 3G (Europe) cellular communication technologies.

The capabilities provided by the CelloTrack product line can greatly increase the productivity and bottom-line of enterprises. This is largely due to the improvement in the often difficult task of successfully tracking and remotely managing the location, usage profile and security aspects of transportation equipment such as trailers, containers, train wagons or any kind of valuable mobile and fixed assets, such as electricity generators, heavy machinery, chemical toilets and waste containers.
Track it All

CelloTrack
A standalone, self-powered, mobile device, equipped with a durable and long-life battery as well as a highly durable IP67 weatherproof casing. This device functions optimally without direct access to a power supply, without ongoing maintenance and with high resilience under severe conditions.

CelloTrack Power
A device with an internal charger suitable for cases where an intermittent power supply exists and permanent installation with additional monitoring and control capabilities through the versatile GPIO are required. The unit charges its internal battery when the power is connected and uses its battery while power is disconnected to ensure continuous serviceability, sometimes with long periods between power connection events.

A connection to the vehicle power outlet in the vehicle for applications which require quick deployment is also available with the CelloTrack Lighter Harness - the harness is equipped with a plug that allows for an easy connection to the cigarette lighter outlet.

Highlights
- GNSS receiver, supporting GPS and GLONASS positioning engine and offering high acquisition and tracking performance.
- Rugged IP67 enclosure for outdoor durability and long operating life.
- Dual tampering detection mechanism to detect tampering of device from cradle and/or cradle from mounting surface.
- Fully-featured fleet management capabilities.
- High performance Li-Poly rechargeable battery with various battery solutions (3Y, 8M, XT).
- Adaptive transmission rate, automatically adjusted as a function of external power availability and movement status.
- 2 configurable GPIOs: can be used as general purpose input/output supporting digital, analog, frequency counter inputs.
- Built-in 3D accelerometer for movement and towing detection.
- MMI: Programmable push button and two monitoring LEDs for GSM/GPS status.
- 100 Built-in Geo-fences.
- Easy installation, including built-in zip tie holes and optional magnetic cradle.
- CelloTrack accessories include: cradle, magnetic cradle, lighter harnesses*, charger**.
- Cellocator + maintenance server compliant.

*CelloTrack Power
**CelloTrack

CelloTrack Power Add-On Accessories
- Fuel Level Sensor - measures the fuel level in the vehicle tank.
- Fuel Cap Protector - disables access to the fuel tank when closed and reports on fuel cap openings.
- Analog Temperature Sensor - connects to the analog input of the unit. Available in 5m and 20m lengths and has a temperature range of -40°C to +75°C.
- Door Sensor – a massive and rugged device used to detect the opening of doors, especially in container/trailer applications.
Use Cases

**Fleet Logistics**

The CelloTrack Power device, when installed on a trailer, provides information on the precise location of the trailer, including alerts in case it breaches a predefined geofence. In addition, the device recognizes if the trailer has been connected to a truck and whether it is currently on the move. The CelloTrack power device recharges the battery while the trailer is connected to the truck and uses its long life battery when disconnected.

**Rental Companies**

Efficient monitoring of rented assets, such as storage containers, construction machines, electricity generators, caravans, chemical toilets and more. The easy to install CelloTrack standalone device enables stakeholders to remotely monitor the status of their assets’ usage during the rental period, including location, displacement, operation hours (by movement) and other inventory management aspects for adherence of contractual obligations.

**Container Security & Cargo Logistics**

Large industrial companies that deliver valuable cargo using containers often encounter theft and tampering attempts, leading to significant financial damages. In addition to insuring valuable cargo, monitoring is required along the cargo’s journey, from the point of origin to the point of delivery. CelloTrack can be covertly installed inside the container, allowing the continuous tracking of the container and cargo and providing logistic and inventory information including alerts when there is a deviation from the route. In addition, the CelloTrack Container Lock can be installed on the outside to provide indication if the container has been opened during the supply chain.

**Construction & Heavy Equipment**

Trucks, earth-movers, paving equipment, dumpsters, generators and machinery – often left for long periods on construction sites – are expensive to replace and, if stolen, significantly interrupt the work progress. The robust, water and dust resistant CelloTrack device can easily be deployed and concealed on all types of heavy equipment. The device will immediately alert when the equipment is moved and provide its precise location to the stakeholder. Real time tracking and movement detection can effectively halt theft in progress and increase recovery rates of stolen equipment, thus substantially reducing monetary loss.

**Securing ATMs**

ATM crimes are becoming more common around the world. The CelloTrack device can prevent these violent ATM attacks and can assist in returning a stolen ATM. The CelloTrack is located inside the ATM’s safe and routinely transmits data once a day. When tilt or movement are detected by the accelerometer or when the device is disconnected from power or is beyond a geo-fence, the device starts transmitting data in closer intervals and an alert is sent to the relevant person.
CelloTrack Container Lock

A complete control and real-time monitoring system that keeps track of cargo throughout the supply chain, independently from the vehicle transporting it (ship, truck, train, etc.).

The CelloTrack Container Lock is an electronic robust solution based on the CelloTrack Power, offering an agile tracking and cargo monitoring for containers with almost instant assembly and removal, eliminating the need to open the container and interfering with logistics operations such as authority inspections, transport, loading and unloading. It provides information on where the goods are at any given point and if there are any bottlenecks along the way. The device accelerometer senses movement and an embedded magnetic sensor detects when the container’s doors are opened or tampered with.

CelloTrack Security Seal

Multifunctional external solution based on a rugged, massive, harsh weather resistant lock that integrates and protects the CelloTrack device, enabling its use in a wide range of security applications. Through the use of a stainless steel electronic wire rope available in different cable lengths, the CelloTrack Seal quickly installs into virtually any type of truck, container trailer, tanker truck, warehouse or critical zone doors and detects the Lock’s opening, wire rope cutting or tampering to alert of any unauthorized intrusion attempts. It also helps monitor, control and leave evidence of the door’s access events as part of a complete management solution.
## Battery Life Time Table

<table>
<thead>
<tr>
<th>TX / 24Hrs</th>
<th>CelloTrack 3Y - 13 AH Battery Lifetime</th>
<th>CelloTrack XT - 5.3 AH Battery Lifetime</th>
<th>CelloTrack 8M - 2 AH Battery Lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>96</td>
<td>1 Month</td>
<td>10 Days</td>
<td>5 Days</td>
</tr>
<tr>
<td>48</td>
<td>2 Months</td>
<td>20 Days</td>
<td>10 Days</td>
</tr>
<tr>
<td>24</td>
<td>4 Months</td>
<td>50 Days</td>
<td>20 Days</td>
</tr>
<tr>
<td>12</td>
<td>8 Months</td>
<td>3 Months</td>
<td>40 Days</td>
</tr>
<tr>
<td>8</td>
<td>11 Months</td>
<td>4 Months</td>
<td>50 Days</td>
</tr>
<tr>
<td>6</td>
<td>13 Months</td>
<td>5 Months</td>
<td>2 Months</td>
</tr>
<tr>
<td>4</td>
<td>16 Months</td>
<td>7 Months</td>
<td>3 Months</td>
</tr>
<tr>
<td>2</td>
<td>22 Months</td>
<td>10 Months</td>
<td>5 Months</td>
</tr>
<tr>
<td>1</td>
<td>30 Months</td>
<td>14 Months</td>
<td>8 Months</td>
</tr>
</tbody>
</table>

**The calculations are based on the following assumptions and setup:**

Battery self discharge rate: 3% of available capacity per month at 25°C. Battery is fully charged optimally before first use. Operation mode: periodic peeking. Number of messages per day as specified in the table. Up to 2.5 minutes total on time on peeking. Up to 1.3 minutes GPS on-time on peeking. Based on 2G modem HW variant. Values may vary according to operational conditions.

## CelloTrack Specifications

### Communication

**Cellular communication**
- 3G NA: HSPA 5.76[UL]/7.2[DL] Mbps; 850, 1900, AWS
- 3G EU: HSPA 5.7[UL]/7.2[DL] Mbps, 900, 2100
- 2G: GSM/GPRS, 850, 900, 1800, 1900 (Quad band)

**SIM**
- Internal, replaceable, 1.8/3V
- Remote PIN code management

**Antenna**
- Internal, multi band GSM antenna

**GNSS**
- Internal module, MediaTek MT3333 chipset
- Sensitivity (tracking): -165dBm
- Acquisition (normal): Cold <35Sec, Warm<35Sec, Hot<1Sec

### Inputs & Outputs

**I/O**
- Two configurable ports supporting true GPIO (General Purpose Input Output). Each I/O port supports:
  - Discrete Dry Input
  - Discrete Wet Input
  - Analog 0-2.5V Input
  - Analog 0-30V Input
  - Frequency Counter Input
  - Output
- Discrete Dry – Ground sensing. Configurable ground threshold
- Discrete wet – Logic 1 and 0 Configurable thresholds
- Analog inputs with variable resolution:
  - 8bit: 0-2.5V: 20mV resolution, accuracy ±30mV
  - 8bit: 0-30V: 100mV resolution, accuracy ±100mV
  - 12bit: 0-2.5V: 5mV resolution, worst case accuracy <10mV, max 20mV
  - 12bit: 0-30V: 8mV resolution, worst case accuracy <40mV
- Frequency counters – Up to 5kHz input signal; Signal level (3V < Vin ≤ 30V); Accuracy ±2%

**Output**
- Open collector

### Interfaces

**COM port**
- Cellocator Serial Protocol
- Debug, Configuration, FW upgrade
- RS232, CMOS levels

**3D Accelerometer**
- Movement detection

**MMI**
- 2 LED status indication
- Activation / Distress button
- Tamper switch

**Connectors**
- CelloTrack
  - 6 pin Molex, Automotive
- CelloTrack Power
  - Pigtail
### Power

<table>
<thead>
<tr>
<th>Input voltage:</th>
<th>CelloTrack</th>
<th>CelloTrack Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.2V 1A CCCV Charger</td>
<td>9-32V DC</td>
</tr>
</tbody>
</table>

| Internal Battery | CelloTrack 3Y family: Li-Polymer, 3.7V, 13Ah, rechargeable | CelloTrack 8M family: Li-Polymer, 3.7V, 2Ah, rechargeable | CelloTrack XT family: Li-Polymer, 3.7V, 5.3Ah, rechargeable |

### Environment

<table>
<thead>
<tr>
<th>Temp, operating</th>
<th>CelloTrack 3Y and CelloTrack 8M: Discharging: -20°C – 60°C. Charging: 0-45°C.</th>
<th>CelloTrack XT: Discharging: -30°C – 70°C. Charging: -20°C – 60°C (Sonata 5300 mAH battery)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp, storage</td>
<td>CelloTrack 3Y and CelloTrack 8M: -20°C – 35°C</td>
<td>CelloTrack XT: -20°C – 60°C</td>
</tr>
<tr>
<td>Ingress Protection</td>
<td>IP67</td>
<td></td>
</tr>
<tr>
<td>Vibration, Impact, Humidity, chemical</td>
<td>ISO 16750</td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>Magnetic or screw mounted cradle</td>
<td>Tampering detection</td>
</tr>
</tbody>
</table>

### Certifications

<table>
<thead>
<tr>
<th>CE</th>
<th>CE EMC &amp; R&amp;TTE according to 89/336/EEC or 1999/5/EC</th>
<th>CE Safety EN60950-1:2001+A11:2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCC</td>
<td>Part 15 Subpart B, part 22/24 compliant</td>
<td></td>
</tr>
<tr>
<td>PTCRB</td>
<td>TRP, TIS, Spurious and harmonics emission</td>
<td></td>
</tr>
<tr>
<td>AT&amp;T</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

### Dimensions & Weight

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>~155mm x 81mm x 45mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>CelloTrack 3Y ~ 490gr</td>
</tr>
<tr>
<td></td>
<td>CelloTrack 8M ~ 280gr</td>
</tr>
<tr>
<td></td>
<td>CelloTrack XT ~ 330gr</td>
</tr>
</tbody>
</table>