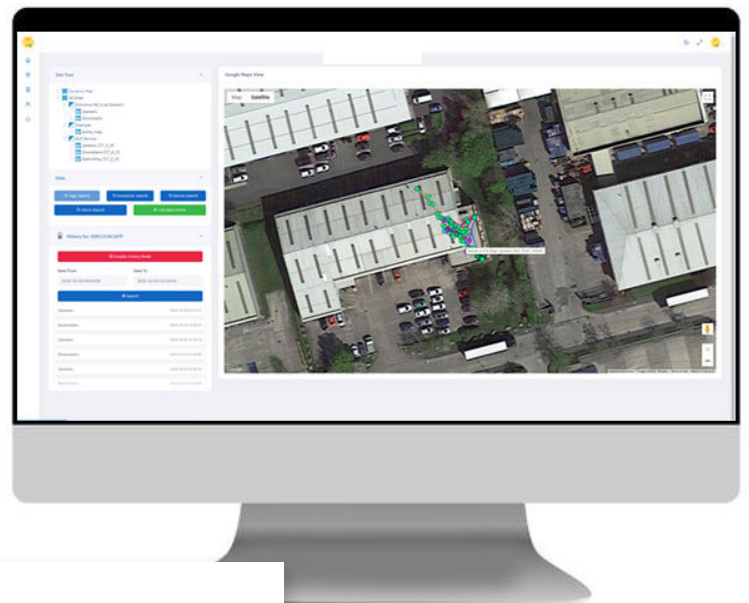


TECHNICAL DATASHEET



EXTRONICS LOCATION ENGINE

The Extronics Location Engine (ELE) software utilises hybrid location technology to provide “dot on a map” for visualisation platforms, reducing infrastructure requirements.

Easily deploy BLE beacons using the site manager app

Monitor RSSI values of Wi-Fi APs and BLE beacons in real-time for diagnostics

Define BLE beacon thresholds for enhanced positioning

Utilises a variety of location and connectivity technologies for increased flexibility

Comprehensive API for use with your preferred visualisation platform

Leverage hybrid technology and use with iTAG X Range of worker safety tags

Greater indoor and outdoor visibility

REDUCE THE AMOUNT OF WIRELESS INFRASTRUCTURE NEEDED FOR ACCURATE LOCATION

When used with iTAG X-Range of worker safety tags, Extronics' Location Engine (ELE) determines the tag location using a proprietary algorithm which includes GPS, RSSI trilateration (Wi-Fi sniffing and BLE), and LF location data. The ELE can gather this tag data from various connectivity technologies such as Wi-Fi, LoRa or Cellular (Hardware dependant) to suit the clients infrastructure requirements.

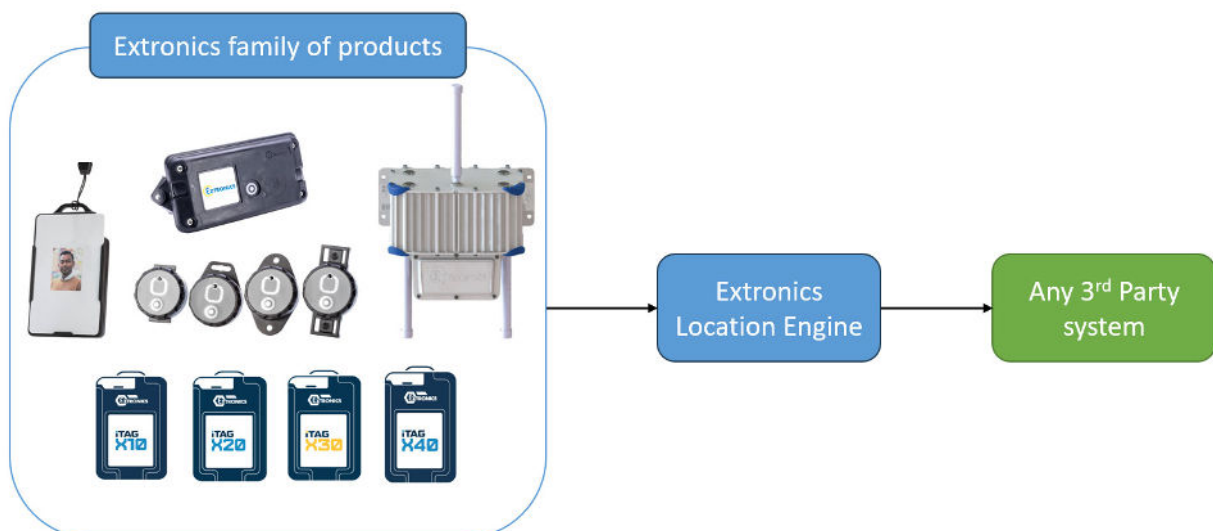


The ELE uses its advanced decision making algorithm to accurately locate workers or assets anywhere on site. Using Hybrid technology, the ELE increases the accuracy of location data. For example, indoor spaces, such as processing areas with high metallic structures, can be configured as hybrid zones to prioritise the use of Wi-Fi and BLE data, over GPS data. Battery powered BLE beacons can be easily added to a site to enhance the positional accuracy without installing cabling to more APs/Gateways.

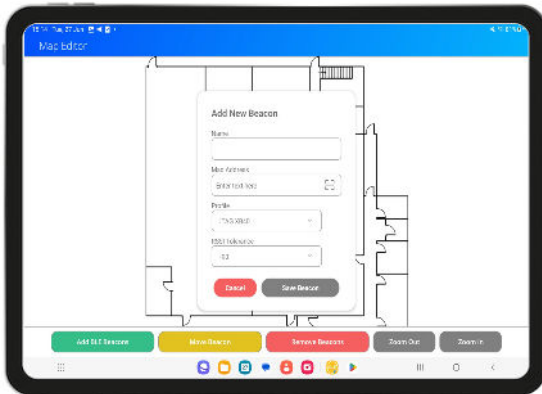
In outdoor environments, such as tank farms or storage yards, the use of GPS technology would be more appropriate meaning fewer Wi-Fi APs or LoRaWAN gateways are required as they are only used for connectivity.

INTEGRATE WITH YOUR PREFERRED VISUALISATION PLATFORM

How to get the location data out of the ELE is just as flexible as how it is generated. The ELE has a comprehensive REST API and websockets available for seamless integration into 3rd party systems. This could be visualisation software showing worker location during an emergency, or it could be a business intelligence package used for analytics to help drive operational efficiency. How you use your data is up to you



USE SITE MANAGER TO STREAMLINE HARDWARE DEPLOYMENT



In a large facility with hundreds of BLE beacons used for trilateration, it can be time consuming to position and configure these on the site maps. The ELE site manager app is built to make deployment of location hardware in the ELE as easy as possible.

Maps are downloaded to the app, running on a tablet, and give the user the ability to add BLE beacons to the map while out in the field.

Placing the BLE beacons on the map is quick and intuitive. Using the tablets' camera to scan the QR code on the iTAG XB40 beacons means human error is eliminated when inputting MAC addresses.

Once the BLE beacons have been installed and positioned in the site manager app, data can be synced back to the ELE with the click of a button

INTEGRATE WITH LORA WAN TO COVER HUGE OUTDOOR AREAS

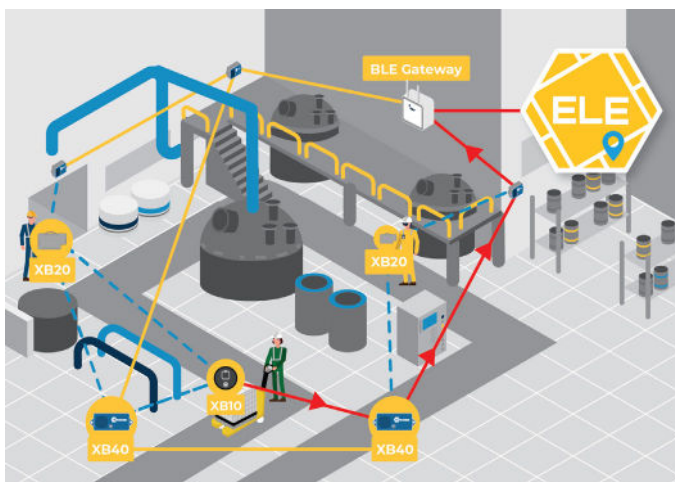
LoRaWAN is a low-power, wide area networking protocol built on top of the LoRa radio modulation technique.

The ELE is used alongside the Extronics iTAG X40 worker safety tags that utilise LoRa connectivity. The ELE is designed to work with various LoRaWAN network servers, for example, ChirpStack or LORIoT.



The use of LoRaWAN allows for tag transmissions to cover huge distances compared to their Wi-Fi or BLE equivalents, meaning the wireless infrastructure requirements are significantly reduced.

INTEGRATE WITH WIREPAS HARDWARE FOR A SCALEABLE MESH



Wirepas is a highly scalable wireless mesh networking technology for connecting and managing IoT devices. The ELE is designed to be compatible with Wirepas networks.

The iTAG XB Range of Wirepas tags and anchors offer a flexible set of options for both worker and asset location. iTAG XB40 anchors can be configured as both a Wirepas anchor and BLE beacon within the ELE to support iTAG X-Range and iTAG XB-Range applications simultaneously. For example, for a low cost asset tracking solution with enhanced worker safety.

SYSTEM REQUIREMENTS

	ELE Server	SQL Server
Screen resolution	Minimum: 1366 x 768	
Physical Memory	Minimum: 8GB Recommended: 16GB	8GB
Cores	Minimum: 4 Recommended: 6	2
CPU speed	2.2 GHz	
Disk Space	50GB	125GB
Operating System	Windows Server 2012 and above	2012 and above Minimum: Express (Express and Location History OFF) Recommended: Standard
LAN Connection	Gigabit	

ORDERING INFORMATION

Contact Extronics	Extronics Location Engine Software