

ASSET or VEHICLE (GPS) TRACKING SYSTEMS

In the transportation is very important to track your asset/vehicle and driver's locations. Today its possible to obtain a lot more information of your asset, than just their location.

The asset or vehicle tracking systems are a combination of hardware and software based systems used to track your assets (trucks, cars, equipment etc.) on electronic maps. There are three types of tracking systems; Cellular network based, Wireless passive system and Satellite based. Satellite tracking systems commonly use either the USA's Global Positioning System (GPS) or Russia's Global Navigation Satellite System (GLONASS). The European system is Galileo under the Global Navigation Satellite System (GNSS). And the Chinese system is BeiDou which has the maximum number of satellites (35) in orbit as of June 2020.



Types of Systems:

Cellular Network - The cellular tracking system is either installed on your cellular phone or tablet device. Such systems have a low installation costs generally have a recurring service costs to it. The major disadvantage of such systems is that the vehicle location is approximate and not very accurate.

Wireless Passive – This is different to the cellular network and is not dynamically active but a passive system. The location is tracked using the satellite system and the data is stored on the system until retrieved once the vehicle is at the yard. Such systems are relatively expensive compared to cellular networks but, but the advantage is that generally these do not include any recurring service costs and only include a on time installation cost. Some modern day passive systems with additional modems are able to provide active data as well.

Satellite based – This is an active system and the major advantage of such systems is its country wide and cross country services, where the cellular networks are not available. This system is expensive but very useful for trucking companies which have trucks running across countries with massive regions where a cellular network may be available, such as Australia, Russia, Canada, China, USA, India, etc. This system is also accurate unlike the cellular based

system. Such systems actively transmit the location data onto the server through cellular networks.

System Selection:

The basic question is which system should you install? The answer is very simple. If you can answer the following questions you can eliminate many systems which you will never use to their full potential and will save on unnecessary installation and recurring services costs.

- What are the objectives of installing the system?
- What data is desired and why?
- What is your budget?

If you can clearly answer these questions, you can easily shortlist the systems best suitable to your requirements and further evaluate them to select one for installation.

New Technologies:

Today devices are available that not only provide the vehicle location but by default a lot more information like the vehicle speed, stoppage data, fuel filling and usage etc. There are also devices that provide live diagnostics data which help in more efficient maintenance of your vehicles ensuring fewer vehicle break downs, lower maintenance costs and also help monitor driving habits of the drivers.



Data Scope:

Tracking systems initially provided only the location of your asset or vehicle but today a lot more data can be actively obtained and monitored. Some of the data possible is

- Vehicle location
- Vehicle speed and mileage
- Fuel usage
- Fuel tank levels
- Braking
- Idling
- Vehicle diagnostics (for maintenance)
- Driver behaviour
- Vehicle breakdown



- Is the vehicle within its regional zone limits
- Is the vehicle following the designated route
- Has the vehicle made the designated stops

And more related data can be obtained and monitored.

For ease of use, monitoring and reporting, this data along with other logistics and distribution related data is many times merged together into a single ERP system by companies with major distribution services.

Suppliers:

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