vehicle tracking & fleet management system

www.arvento.com
Arvento was founded in 2005 with one goal in mind, to provide rich, reliable vehicle tracking systems for Turkey and world.

Today, Arvento as one of the fast-growing and most innovative providers of vehicle tracking and fleet management systems of the world, which designs, develops and manufactures vehicle tracking systems and telematics products.

For the past five years, Arvento has focused on developing and providing its customers with a reliable and comprehensive fleet management systems and telematic products. All products of Arvento are always at the cutting edge of new technologies and fulfill the demands of the onboard geomatics market. Today, Arvento is one of the very few companies in the world which produces its own products.

Arvento can provide the possibility of having your almost entire external business process under control and which provides the conditions for the vehicles to maximize their benefits and strengths and to minimize its limitations and risks.

As a result, Arvento has become a leader in its field and has earned the trust and confidence of large corporations for managing their vehicles.

Thanks to P&D, sales and management teams, Arvento is able to efficiently and effectively provide its customers with discontinuous high-quality but yet cost effective products in the whole world. Today, Arvento leads its market leader position in many countries such as Turkey, Turkish Republic of Northern Cyprus, Romania, Moldova, Georgia, Austria, Azerbaijan etc. with more than 70,000 vehicles and 4000 customers all around the world.

www.arvento.com
arvento is a flexible and reliable solution for managing vehicle fleets; Which has the necessary knowledge, skill and experience to support you in making the required steps that will make and keep your organization more profitable and competitive.
WHY? vehicle tracking and fleet management systems

Reduces vehicle maintenance and operational costs:
In addition to preventing ill use of the vehicle and excess mileage due to out-of-business trips, it also monitors such needs of the vehicles as maintenance, service, and repairs by means of special software. Thus it extends the natural wearing out time of the vehicle and saves maintenance and operational costs.

Saves time:
It prevents out-of-business trips by monitoring the vehicles around the clock. It reports starting and finishing times of the work and optimizes the work flow. It eliminates the unnecessary phone calls with the drivers as to their whereabouts. Thus it makes great savings in work force and time.

Saves fuel:
It eliminates out-of-business use of vehicles and prevents bad driving by controlling unnecessary idling, sudden acceleration, slowing down, speeding, etc. Thus it saves substantial amount of fuel.

Increases control:
Thanks to tracking and reporting around the clock, it increases control and supervision over the vehicles and drivers. In case of stealing or loss of the vehicles, it allows them to be found easily.

Ensures compliance with the traffic rules and safe driving:
It ensures compliance with the traffic rules by preventing ill driving and speeding of the vehicles. It sends an alarm in case of possible accidents and emergencies, thus lowering accident risk, reducing traffic tickets, providing possibility to intervene immediately in case of emergencies.
WHY ARVENTO?

Its Product Diversity: Various tracking devices developed for the requirements, sector specific software and hardware solutions which are customized for the requirement of users in addition to standard vehicle tracking applications, Desktop, PDA, BlackBerry software and SMS applications.


Its References: Turkey’s the largest vehicle tracking brand and market leader position in many countries with more than 4000 customers and more than 70000 vehicles.

Its Experience: Its successful R&D staff, consisting of outstanding engineers and undersigning many successful projects in this field for several years.

Its Sales and Service Network: Service and dealer network which is experienced and certified in their fields.

Its Warranty Period: Indefinite equipment and software warranty continuing as long as the subscription following the standard 2 years warranty.
Software and hardware of Arvento are being manufactured by Turkish engineers in Turkey. There are a very limited number of companies which produce both the software and hardware by themselves in the field of vehicle tracking systems in Turkey and abroad and release them to clients in the form of a package. Arvento is at the top rankings amongst these companies with its technology and service quality.

Arvento which exports the technology it has developed to 15 different countries, had the honor of being the company which introduces vehicle tracking systems for the first time to such countries as Moldova, Georgia, Egypt, Turkish Republic of Northern Cyprus. As of 2008, Arvento products were started to be exported to Germany and Austria.

2009-2010 target of Arvento is to export its products to about 20 countries in Europe, Central Asia, Arab Peninsula and Northern Africa.
The clients, by means of Arvento Vehicle Tracking and Fleet Management Software, are capable of monitoring their vehicles in real time or retrospectively, view the information from the vehicle, change alarm and programming states of the vehicles.

If requested, entire system, including control and communication systems, can be installed at the client’s premises.

Arvento Mobile Data Instruments fitted on the vehicles, transmit to Arvento Control and Communication Center, the location coordinates they receive from GPS Satellites, telemetric information (such as temperature, etc.) from the connected sensors via GSM/GPRS network. The incoming information is compiled by means of special software and recorded in the databank in the Arvento servers.

HOW SYSTEM WORKS?
Arvento, by means of software which is customized for the users, facilitates life and technology. Your vehicle is in your sight 24/7 thanks to Desktop, PDA, BlackBerry software and SMS applications, in addition to standard Arvento Web software.
ARVENTO DESKTOP SOFTWARE

Through Arvento software, digital maps are installed on the user’s computer. Only data transmitted by the equipment is retrieved through the internet. Thus the system operates fast and effectively and can be used without problems even with the low bandwidth internet connections.
By means of Arvento web software, one logs in the system at www.arvento.com address with a password. The vehicles are tracked from any computer with internet connection, by means of advanced software and digital maps hosted on the web server.
ARVENTO
PDA SOFTWARE

By means of PDA software, vehicles are tracked from the PDAs, in real time on the digital maps. It is possible to get current and past reports, alarm and warning messages from the system. Moreover, thanks to software to be installed, it is possible to track PDAs with GPS capability through internet just like vehicle tracking devices.
By means of BlackBerry software, vehicles are tracked from the BlackBerries, in real time on the digital maps. It is possible to get current and past reports, alarm and warning messages from the system. Besides, thanks to software to be installed, it is possible to track BlackBerries with GPS capability through internet just like vehicle tracking devices.
DIGITAL MAPS

Digital maps are integrated into Arvento’s standard programs and updated throughout the subscription period. Furthermore, users can add desired places on standard maps (for example, their own company buildings or others owned by customers) and prepare customized maps. As a standard, the system consists of digital maps of main roads in Europe and many other countries as well as certain streets, avenues and important locations. Optionally, users can track their vehicles via Google Maps.
Arvento control and communication center consists of the necessary hardware and software infrastructure such as Arvento server software, database, internet and advanced security systems, etc. which are all necessary for providing uninterrupted and reliable service.

Information transmitted by Arvento mobile data instruments is collected in databank hosted in Arvento servers which serve 24/7. Arvento servers transfer such information online to servers based on their level of authorization and security descriptions. Control and communication center service is provided for a period of 2 years free of charge within the warranty period provided with the basic set. If requested, server computers and software necessary for control and communication center may be installed at the client’s premises.
Mobile data instruments to be installed aboard the vehicles transmit location coordinates they receive from GPS satellites and data retrieved from the sensors hooked up to them, to the center over GPRS network by means of integrated GPS receiver, GSM/GPRS modem and I/O ports. Similarly, these instruments can be operated and their firmware as well as programming parameters can be changed remotely from the center by means of commands sent through GPRS, without physically interfering with them. Arvento Mobile Data Instruments can be easily installed anywhere out of sight within the vehicle thanks to their portability and easiness to install. Arvento Mobile Data Instruments with I/O ports of which number can be increased for additional features are supplied with Lithium Ion batteries as standard against any electrical failures.
arvento mobile systems

### Technical Specifications

**Model**: imt.12

**Producer**: Arvento Mobile Systems

**Dimensions (Width - Length – Depth)**: 105x70x26 mm

**Weight**: 130 gr

**GSM Modem**

- **4 Band**
  - Class 4 (2W) @ 850/900 MHz
  - Class 1 (1W) @ 1800/1900 MHz
- **-107 dBm @ 850/900 MHz**
- **-106 dBm @ 1800/1900 MHz**

**GPS Receiver**

- **Internal**
  - Integrated, 50 channels, -160 dBm, 2.5m CEP
  - Compatible with GALILEO
- **Remote firmware updating**

**GPS Antenna**

**Internal**

**Inlet / Outlet Expansion Slots**

- **1 x Digital Input**
- **1 x Digital Output (OC)**
- **1 x RS232**
- **1 x '! eth'**s input**
- **1 x Circuit input**

**RS222**

- **GPS, GSM, GPRS led indicators**
- **8 V 20 V DC, 1.5 W average**

**Battery**

- **Li-Ion 3.7 V 700 mAh**

**Remote firmware updating with GPRS**

**G-Sensor**

**Memory**

- **Internal**
  - 64 Mb Entegre (max. 50,000 records)
  - -20°C and +60°C
  - CE, E-mark (e13)
  - Robust (vibration, strokes, burning)

**Operation Temperature**

- **Design**: Small dimensions
- **All antenna are integrated into a single unit**
- **Internal Li-Ion battery**
- **Remote firmware updating**
- **Galileo compatible 50 channel GPS receiver**

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### Technical Specifications

**Model**: imt.02

**Producer**: Arvento Mobile Systems

**Dimensions (Width - Length – Depth)**: 165x82x33 mm

**Weight**: 220 gr

**GSM Modem**

- **4 Band**
  - Class 4 (2W) @ 850/900 MHz
  - Class 1 (1W) @ 1800/1900 MHz
- **-107 dBm @ 850/900 MHz**
- **-106 dBm @ 1800/1900 MHz**

**GPS Receiver**

- **Internal**
  - Integrated, 50 channels, -160 dBm, 2.5m CEP
  - Compatible with GALILEO
- **External, Outdoor Environment**

**GPS Antenna**

- **Remote firmware updating**

**Power**

- **GPS, GSM, GPRS led indicators**
- **8 V 20 V DC, 1.5 W average**

**Battery**

- **Present**: Li-Ion 3.7 V 700 mAh
- **Remote firmware updating with GPRS**

**G-Sensor**

**Memory**

- **Internal**
  - 64 Mb Entegre (max. 50,000 records)
  - -20°C and +60°C
  - CE, E-mark (e13)
  - Robust (vibration, strokes, burning)

**Operation Temperature**

- **Design**: Extended I/O ports
- **Remote firmware updating**
- **Internal Memory (50,000 entries)**
- **Galileo compatible 50 channel GPS receiver**

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### Technical Specifications

**Model**: imt.52

**Producer**: Arvento Mobile Systems

**Dimensions (Width - Length – Depth)**: 19,5x9,5x6 cm

**Weight**: 1300 gr

**GSM Modem**

- **4 Band**
  - Class 4 (2W) @ 850/900 MHz
  - Class 1 (1W) @ 1800/1900 MHz
- **-107 dBm @ 850/900 MHz**
- **-106 dBm @ 1800/1900 MHz**

**GPS Receiver**

- **Internal**
  - Integrated, 50 channels, -160 dBm, 2.5m CEP
  - Compatible with GALILEO
- **External, Outdoor Environment**

**GPS Antenna**

- **Remote firmware updating**

**Power**

- **GPS, GSM, GPRS led indicators**
- **8 V 20 V DC, 1.5 W average**

**Battery**

- **Present**: Li-Ion 3.7 V 700 mAh
- **Remote firmware updating with GPRS**

**G-Sensor**

**Memory**

- **Internal**
  - 64 Mb Entegre (max. 50,000 records)
  - -20°C and +60°C
  - CE, E-mark (e13)
  - Robust (vibration, strokes, burning)

**Operation Temperature**

- **Design**: IP 67 standard compatible water proof, dustproof, and durable design
- **Internal Li-Ion battery providing 200 hours of operation management**
- **All antenna are integrated into a single unit**
- **Magnetic installation system**
- **A system detecting if the device is disabled**
- **A Galileo compatible 50 channel GPS receiver**
- **Internal Memory (50,000 entries)**

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**Design**: Small dimensions
- **All antenna are integrated into a single unit**
- **Internal Li-Ion battery**
- **Remote firmware updating**
- **Galileo compatible 50 channel GPS receiver**
Thanks to sensors and additional units installed on the instruments, it is possible to obtain further specific information in addition to standard system.

- Temperature of the vehicle can be checked.
- Vehicles can transmit warning messages in case of emergency.
- When the doors of the vehicle are opened or closed, it may be notified.
- It is possible to access and intervene the vehicles remotely in various ways when wanted.
- It is possible to monitor which vehicle is driven by which driver.
- It is possible to make audio communication and texting with the vehicles.
**LCM Messaging and Navigation Unit**
Thanks to LCD display, it is possible to make bidirectional communication between the vehicles and center. The system can optionally be used for navigational purposes if desired.

**Driver Identification Unit**
Thanks to this unit, it is possible to track which vehicle is driven by which driver for how long. The drivers insert their special ID cards on which a photo and corporate logo can be printed into this unit.

**Emergency Assistance Pedal**
Thanks to this unit installed within the vehicle, the driver can send an alarm to the center and mobile phones of the relevant persons by pressing this pedal in case of emergency.

**Temperature Sensor**
Thanks to temperature sensor, the temperature where the sensor is installed is regularly reported and when temperature drops below or rises above the desired levels, an alarm is sent.

**Listening Unit**
Thanks to a microphone installed within the vehicle, inside of the vehicle can be listened to remotely any time desired.

**Audio Communication Set**
Thanks to Audio Communication Set, bidirectional audio communication can be made. The vehicle can be called through phone and it can be set to a single number that the driver can call.

**Door Sensor**
Thanks to sensors installed on the doors, it is possible to track when and where the doors are opened and an alarm is sent when the door is opened and closed.

**Tank Cap Sensor**
Thanks to this sensor installed on the fuel tank caps, it is possible to check time and place where the tank cap is opened. It is possible to send an alarm if the cap is opened outside the defined areas as a measure against fuel theft.

**Impact Sensor**
Thanks to impact sensor, accident location is automatically notified if the vehicle has an accident.

**Emergency, Technical Assistance and Driver Identification Set**
This is a unit which combines driver identification unit with emergency and technical assistance buttons in a single box.
ARVENTO
STANDARD FEATURES

01. Vehicle tracking instruments bearing CE and E-mark certificates, documenting that the instruments are safe to be used aboard the vehicles
02. In addition to 2 years warranty period, indefinite software and instrument warranty lasting as long as subscription continues
03. Service and dealer network which is experienced and certified in their fields.
04. Standard battery for operating the instrument for approximately 7 hours as a measure against power failures and sabotage
05. G-sensor which measures movement and impacts much more accurately in comparison with GPS information
06. Odometer gauge which measures mileage of the vehicle much more accurately than GPS information and gives the same reading with the odometer of the vehicle
07. All instruments features a GALILEO compatible GPS receiver with 50 channels and a sensitivity of -160 dBm, having all available advanced features
08. All instruments have memory bank, capable of holding 50,000 records against communication loss due to GSM/GPRS coverage shortages
09. Capability to track location and address information of the vehicle over digital maps in real time
10. Retrospectively tracking the vehicle over the map, animated view and list reports in excel format
11. Tracking of the vehicle’s immediate speed, sending an alarm when speed limit is exceeded, defining separate speed limits such as freeway, state highway, etc.
12. Monitoring of the mileage the vehicle covered, by means of GPS satellites
13. Monitoring the location and duration of breaks the vehicle took, sending an alarm when defined durations are exceeded
14. Monitoring locations where the vehicle’s engine is idling and total duration of idling, sending an alarm when defined durations are exceeded
15. Monitoring location and time where and when the ignition key is first turned on during the day
16. Monitoring location and time where and when the ignition key is first turned off during the day
17. Monitoring total working time during the day
18. Defining regions over the map and monitoring the vehicles’ entry and exit into and from these regions
19. Setting a course over the map containing distances, and sending an alarm when the vehicle veers off from the course
20. Detailed address look up on the map
21. Company specific logo on the application
22. Opening multiple vehicle tracking windows and tracking the selected vehicles or groups on separate windows
23. Defining an infinite number of groups and subgroups and possibility to track the vehicles by these groups
24. Indicating stopped, moving, towed, idling, violating vehicles as well as those from which no information can be obtained over the map in different colors and groupings
25. Use of the program with at least 5 different authorization levels
26. Indicating the vehicles with symbols similar to the real vehicle over the maps
27. Tracking the vehicles by the registration plate, driver’s name, team number or instrument number
28. Distance measurements over the map in beeline or along the roads
29. Fuel monitoring software
30. Vehicle maintenance – service monitoring software
31. Monitoring of total mileage the vehicle makes by means of odometer
32. Monitoring the speed of the vehicle by means of odometer
33. Monitoring the sudden accelerations and decelerations
34. Sending alarms in possible spins or accidents
35. Sending alarm in case the vehicle is being towed
36. Sending alarm in case the vehicle is moving outside the defined hours
37. Memory capable of storing 50,000 position and alarm data where GPRS communication is not available
38. Two years warranty
39. Two years free server access, software and map updates
40. Web based vehicle tracking software
41. Desktop vehicle tracking software
42. PDA vehicle tracking software, BlackBerry vehicle tracking software
43. Vehicle tracking from mobile phone through texting (SMS)
44. Google satellite maps
45. In addition to Google satellite maps detailed digital maps of countries
46. Capability to track the vehicles in form of a list independent of maps
47. Capability to add building and region to the maps
48. In addition to 2 years warranty period, warranty of instrument, software and map updating lasting as long as subscription continues

ARVENTO
OPTIONAL FEATURES

01. Monitoring temperatures in real time and sending an alarm when temperature is above or below certain values (temperature sensor)
02. Remote listening inside the vehicle by means of a mobile phone
03. Audio communication with the vehicle through GSM network (audio communication set)
04. Texting with the vehicle (LCD messaging unit)
05. On board navigation system (LCD navigation)
06. Remote stopping a moving vehicle or blocking the stopped car (Vehicle Blocking)
07. Driver’s ability to send Emergency Assistance alarm by means of a button or pedal (Emergency Assistance Button/Pedal)
08. Sending warning message from the vehicle for technical assistance
09. Monitoring which vehicle is driven by which driver for how long (Driver identification unit)
10. Special card unit having company logo and photograph on it for the drivers
11. The vehicle sending the accident information automatically in case of a crash (Impact Sensor)
12. Warning the driver with audio warning when the vehicle’s speed exceeds speed limit (Buzzer)
13. Sending an alarm when fuel tank cap of the vehicle is opened (Fuel tank cap sensor)
14. Retrieving data online from vehicle’s computer about engine RPM, oil level, etc. (CAN bus integration)
15. Extension unit containing 6 pcs of additional inputs and 4 pcs of additional outputs for additional sensors and applications (Port Expander)
TEMPERATURE CONTROL AND MONITORING SYSTEM

By means of temperature sensors hooked to the instruments, temperature levels of the ice trucks and cold storage warehouses are monitored and reported in real time. In case of critical temperature changes, alarm messages are sent to the user both through the GUI and mobile texting (SMS).

READY MIX CONCRETE TRANSPORTATION AND FLEET MANAGEMENT SYSTEM

Thanks to this system, planning process for transportation between the job site and plant where the ready mix concrete shall be shipped is documented by means of web based special software packages developed and entire operations are managed online through web based GUI. Daily movements of mixer and pumps are tracked in real time.
In the special system developed for teams intervening the emergencies, such as ambulance, police, fire department, and command and control centers where such teams are directed, call center, voice recording system, operation management software, digital map applications, vehicle tracking and mobile data communication system operate in a fully integrated fashion. Thanks to this system, the process starting from the incoming emergency call until the conclusion of the operation is seamlessly managed.

PUBLIC TRANSPORTATION BUSES AND CITY MASS TRANSPORTATION VEHICLES MANAGEMENT SYSTEM

Thanks to this system, entry and exit times of the mass transportation vehicles to and from bus stops are automatically tracked, whether or not they comply with the predefined schedules is reported by the end of the day. Thanks to the special software developed, the course, all bus stops along the course, entry and exit times to and from these stops are defined and waiting and delaying times on such stops are reported and controlled by the system.
Through this system, periodic maintenance and service operations of the vehicles are checked and recorded. Maintenance times are automatically reminded by means of mileage data retrieved from the vehicle's odometer. The driving statistics of the vehicle such as spinning, sudden acceleration, deceleration, etc. are kept, all operations carried out in the service and records of the replaced parts are reported together with their costs.

FLEET PERIODIC MAINTENANCE AND SERVICE FOLLOW UP SYSTEM

Thanks to the system, parents of the students can see arrival times of the students at home and school and check whether or not the school bus violated speed limits. If desired, the system texts the mobile phone of the parent when the school bus nears the home, thereby preventing the parent from waiting outside unnecessarily. The school administration and school bus companies can automatically check the violations made by the vehicles, the route they took, whether or not they arrive at the school and home on time.

SCHOOL BUS TRACKING AND CONTROL SYSTEM
SAFE DRIVING CONTROL SYSTEM

When drivers exceed speed limit, they are warned with an audio alarm by means of special hardware. It is possible to set speed limits for highway, in-city and out-city locations separately. Those drivers who did not complete the necessary training and certifications are prevented from using the vehicles and when vehicles are driven outside the permitted areas and times, the managers are warned. Detailed driving reports, driving (traffic) violations, daily vehicle maintenance and control sheets are issued per drivers and such information is sent to the managers and drivers by means of an automatic email service.

TAXI / WRECKER MANAGEMENT SYSTEM

Thanks to this system, a taxi or wrecker nearest to the client is being directed from the special call centers or taxi centers. Through LCD aboard the vehicle, the address of the client is indicated, navigation can be done in the vehicle, time of starting and finishing working, and total mileage information is recorded with a job number and reported.
BASIC SET
Everything you need for vehicle tracking and fleet management system is offered in basic set.

- Arvento mobile data instrument
- Arvento vehicle tracking and fleet management system software
- Licensed digital maps
- 2 (two) years of subscription
- Installing aboard the vehicle
- Training
- Instrument and software warranty continuing for 2 (two) years of subscription