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**MAP-FINDER A GIS APPLICATION INTEGRATING CARTOGRAPHY,
GPS, ROAD NETWORKS AND PORTABLE COMPUTERS
FOR FLEET MANAGEMENT**

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Tellus S.r.l. is a company developing vertical applications in the field of Geographic Information Systems. It also works as a consultant for logistics and geomarketing.

In the last years the main working field has been logistics and the result of the programming efforts and the market requests is MAPfinder the fleet management application of Tellus.

MAPfinder is the new complete, modular and customisable solution for the route planning, the vehicle control and the geomarketing.

It integrates data coming from GPS with data coming from portable terminals, from the company Informative System and with socio-economic data.

MAPfinder is composed by three modules: SATfinder, PATHfinder and MARKETfinder.

1. SATfinder

It gives the opportunity to collect all the data regarding the routes of the vehicles using the GPS (Global Positioning Systems). The main functions are:

- real time localisation of the position of the fleet's vehicles
- storing of all the information regarding the routes (length, stops, average speed, driving time, ...) on a memory card
- geocoding of all kind of information (customers, sales, ...) using portable terminals or a keyboard connected to the system
- security services preventing robberies
- transferring of the data automatically into the Informative System of the company

With SATfinder the responsible of logistics is able to visualise the routes, to evaluate the distances and to modify the future routes in view of the information collected.

Monitoring the vehicles in real time gives also the opportunity to activate the closest vehicle to a certain event (fire brigade, ambulances, ...) or to follow the vehicle in case of robbery.

The marketing responsible will have a flexible instrument to analyse the distribution of the sales, customer, potential customers, ...

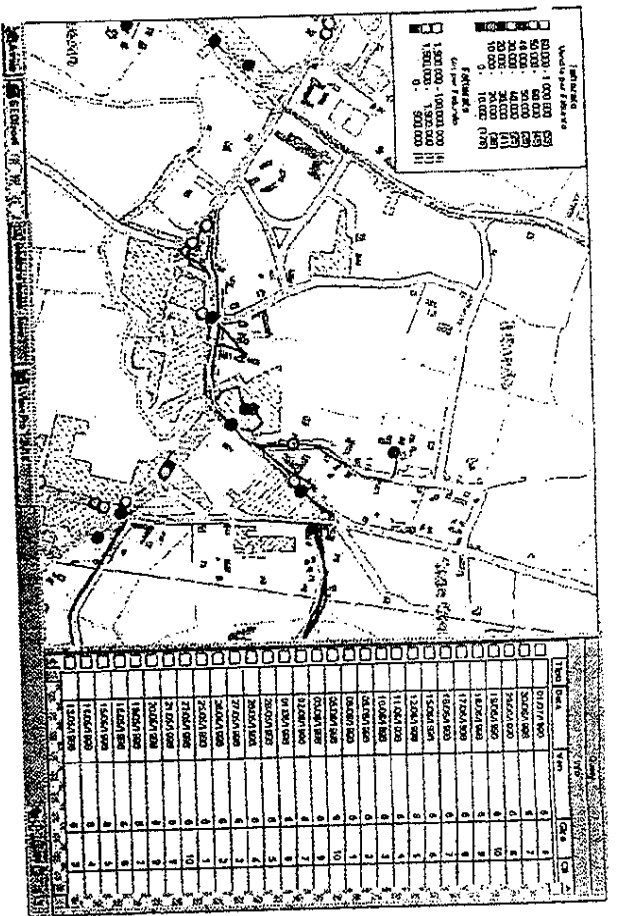


Fig. 1. Example of tracking of vehicles and sales

2. PATHfinder

It gives the opportunity to plan and optimise the routes of the vehicles respecting different kind of constraints. The main functions are:

- visualisation of the maps and road networks with all the information connected (driving time, house numbers, traffic constraints, ...)
 - visualisation of the points to be visited (customer, delivery place, technical intervention, ...) with all the connected information (delivery time constraints, type of product to be delivered, type of intervention to be done, ...)
 - automatic assignment of the delivery to the vehicles respecting all the constraints (maximum number of kilometers, maximum number of stops, time constraints, working time of the drivers, ...)
 - for each vehicle automatic calculation of the best route respecting all the road constraints (forbidden turns, one or two way streets, ...)
 - printing of the list of the deliveries and of the map of each route
- PATHfinder is used by companies in need of managing their fleet of vehicles to deliver goods or to do technical interventions.

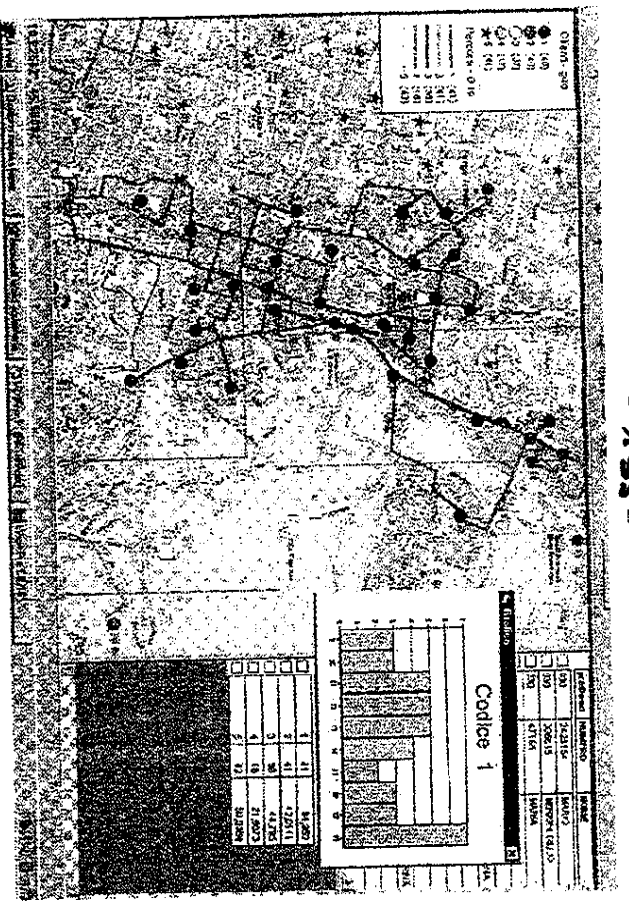


Fig. 2. Example automatic calculation of the best route, histogram of scheduled number of stop per hour, table with number of kilometres per vehicle

3. MARKETfinder

It allows the visualisation on the maps of the data stored in the Informative System of the company and to analyse them together with external socio-economic data. The main functions are:

- use friendly interface
 - possibility to be adapted to the customer needs
 - use of any kind of map of any scale
 - automatic geocoding of data (customer, agents areas sales, ...)
 - creation of thematic maps in function of the variables and the analysis required from the company
- The information which are synthetised with traditional methods (tables, histograms, ...) are more readable if represented on the cartography.

