



Providing more technological innovations in safety and exploitation for clients

Technological innovation is the strong future commitment for the group

Since we took the decision to become integral coach and bus manufactures, our innovation and technology dynamics have made great progress above all in the projects related to vehicle systems, management and integration of the same with all the coachwork components and the power train.

Following in this line, all the electronics and their management, the multiplexed systems of the entire vehicle have been developed providing much more simple and reliable maintenance of the same that can even be done by internet, the MMI (Man Machine Interface), as well as complete solutions for transport management and driving safety by Datik.

Datik is the technological company of the Group offering safer, more reliable, sustainable and quality solutions for transports and at the same time it is committed to each company having the key data to help them improve competitiveness reducing operational costs.

In the field of technological innovation in citizen mobility, we have the DCB (Datik Computing BoardBrain) with a strategy centered on Smart Data. These electronics are capable of reading any information generated by vehicles and the iPanel, a series of tools that use the most advanced technology so that any client has specialized central technical support.

Datik has the objective of transforming data and simplifying it so that it becomes useful for taking important decisions, offering complete solutions and adapting them to the needs of each client even complementary to other systems these may have for fleet management.

The **Magic Eye** is an advanced driver aid technological system that reduces risks of distraction and collision by means of detecting and prevision of situations through radar technology and artificial vision, which contributes to more reliable and safe driving. The driver fatigue detector is included in its configuration. A system capable of detecting tiredness of the drivers and warning them by means of seat vibrations; the lane change detector that allows warning and notifying the driver when there is a lane change that could be caused by driver distraction and the obstacle detector that warns the driver when there is a vehicle in front at less than the safety distance.

The fully customizable **IPanel** fleet manager offers the most advanced technology in order to optimize fleet performance and profitability, in addition to completely monitoring the costs and efficiency and providing driver safety.

Related to driving safety the manager includes a solution for monitoring driving hours that avoids fatigue risk and fines for infractions and monitoring compliance of speed limits along the route:

In the anti-vandalism aspects, IPanel has on board video surveillance cameras in permanent operation to register activity both inside and outside of the coach with intelligent labelling for quicker searching of the most relevant moments of the recording; a hidden panic button to activate it on case of danger, anti-theft device and a system that warns and records any extraction of fuel while the coach is stopped.

Regarding passenger information, IPanel facilitates information about routes, punctuality, incidents and publicity both on mobile phones of the guards, as well as on large size anti-vandalism multimedia screens in the stations and multimedia screen inside the vehicle.

For the driver, it allows the interchange of messages between the control centre and drivers to notify about incidents, route changes and all communication that can affect improvement of the system, offering timing information of the current route, and through **Ecoassist**, a system that allows reducing fuel consumption providing efficient driving indications that help the driver to reduce overall fuel consumption, showing fuel consumption efficiency data and carbon dioxide direct emissions, to take decisions and optimize resources.



New products will be presented in the Busworld trade fair like the new permanently connected navigation system with the possibility of making hands-free voice calls allowing the driver to communicate with the manager without releasing the steering wheel and having the timing information of his/her current service.

The traffic operator uses the manager to know the location of the fleet and the incidents that can affect to development of the service planning, monitoring the timing as a support for the configuration of the transport offer and interchanging messages between the control centre and drivers, to notify about all communication that can affect service improvement.

