Greek motorways modernised by Datalogic - Datalogic

Datalogic is a world-class producer of bar code readers, data collection mobile computers and vision systems.

Thanks to Datalogic's DS1100 bar code readers and to the system developed by DATALEX S.A., Business Partner in Greece, inco-operation with the system integrator Singular S.A., the Greek National Roads.

DATALEX S.A., a Greek company specialised in AIDC Technology since 1984, was contacted by Singular S.A., an Athens IT company to provide the Greek motorway system with an efficient solution for reading toll road tickets, as part of a much larger project to modernise all the motorways in Greece. The project presented a series of challenges: first of all, the hostile environment in terms of pollutants from cars and trucks, extremely high (+55 C) and low (-10 C) operating temperatures, exposure to rain and dust, easy use by all the untrained motorists passing through the toll stations every day, high system reliability (24 hrs/365 days operation), interface of two readers per host PC station, easy maintenance and a tight budget. For this kind of application the reader had to be reliable, aggressive and able to read the code from wide Pitch and Skew angles.
The overall size had to be small so that the enclosure would not protrude from the toll booth wall and be liable to be hit by protruding big truck mirrors. Furthermore, it was necessary to provide double wedge interface capability, as in each lane two readers are installed at different heights to be able to be reached by both passenger and truck drivers. Datalogic's ultra-thin industrial laser reader DS1100 was the best choice to meet such tough requirements. Moreover, the competition was not able to provide a complete solution which fulfilled the special needs of the end user.

Datalogic's DS1100 readers were installed at all the non-automated exit lanes of the major motorways, which involved a first phase of about one hundred reading points, with a foreseen expansion later on. In this "manual mode" where no "Telepass" or "smart card" system is used by the motorists, a ticket with a bar code is issued by a direct thermal printer at each motorway entry toll station. Some modifications had to be undertaken to adapt the reader to certain requirements, like the wedge connection possibility and the high and low operating temperature. After fitting the DS1100-1111 (standard resolution, 90 degree model with raster) to Datalex's "Gate Reader" metal box, the double wedge issue was solved by incorporating a DPS8000 decoder as the "keyboard wedge" part. DPS8000 is a wedge decoder capable of being connected to two readers simultaneously and with keyboard emulation. The toughest aspect to consider after resolving the basic component mix was the environmental aspect. Datalex's engineers conceived of the use of an electronic device called TEC, the acronym standing for Thermo Electric Cooler (and heater!). It was decided to mount on the DS1100 this small flat surface which can sustain temperature differences of up to 70Â C, and monitor the "isolated" temperature environment inside the box by thermal sensors. This ensures, via the heat/cool dissipation of the TEC, the well being of the laser diode and all the other components of the DS1100 which are certified for an operating temperature range of 0 C to +45 C. The end user, TEO (the Greek National Motorways Fund) was successfully provided with a reliable and effective solution to their toll road ticket reading problem. It is ensured that all vehicles using the Greek motorways "pay the ticket" and considering the high volume of vehicles using the roads on 24/365 basis, the resulting

savings are substantial.

DS1100 LASER BAR CODE READER

The DS1100 is Datalogic's ultra-thin fixed-position scanner, the best cost-effective solution for OEM applications. It features very narrow dimensions and light weight (less than 100 grams), as well as Datalogic's recognised excellent scanning performance. Moreover, the DS1100 is equipped with an IP65 rugged industrial housing, and is also available as an embedded module for specific applications. It has a high read rate and accuracy even on damaged or poorly printed bar codes.

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