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Multiple display solution

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INDUSTRIAL VEHICLE OEMs CAN STREAMLINE MACHINE DESIGNS BY INSTALLING A SINGLE COMPUTER THAT IS ABLE TO HANDLE MULTIDISPLAY SYSTEMS, INCLUDING 360° SURROUND VIEW, ON A CHOICE OF TWO OPERATING PLATFORMS

Following trends in the automotive industry, off-highway OEMs are increasingly asking their Tier 1 suppliers to provide them with systems able to control multiple displays, or to connect to operations centers in order to activate, monitor and operate features or implements connected to the vehicle. This approach represents an attempt to meet users' needs, as it helps to dramatically reduce operating costs and downtime during service, while providing added safety during operations.

The portfolio of solutions related to onboard multimedia technologies and connectivity offered by MTA takes a decisive step forward in this field with the implementation of a complete in-vehicle system called SIC. SIC can be developed for agricultural vehicle applications and features an intelligent central unit that can handle a multidisplay system.

Thanks to its specialization in electromechanical and electronics components for OEMs, MTA has developed a unit based on a flexible and powerful architecture that makes use of a latest generation multicore microprocessor with a very high computing power.

The unit can handle up to four full HD displays inside the vehicle, as well as collect and convey the information coming from the vehicle, and the images from cameras through BroadR-reach technology and data from wireless connectivity. The presence of this 'electronic heart' makes the display and the central dashboard become separate devices on the system, enabling OEMs to replace them easily in the transition from one vehicle application to another.

Furthermore the unit is ready to be adapted for additional functions based on specific customer requirements, such as the 360° Surround View function. This is enabled using four digital cameras with image processing libraries to give 360° on the cab display. This system eliminates blind spots for increased safety.

Two platform options

MTA is able to supply the customer with two different solutions – a Linux-based and an Android-based software architecture.

The Linux platform is very flexible and allows the products to be developed according to the specific needs of the customer's application. However, such flexibility does not come at the expense of compliance with stringent software development standards, as the company is working on its infotainment systems according to the Automotive Spice process required by leading OEMs.

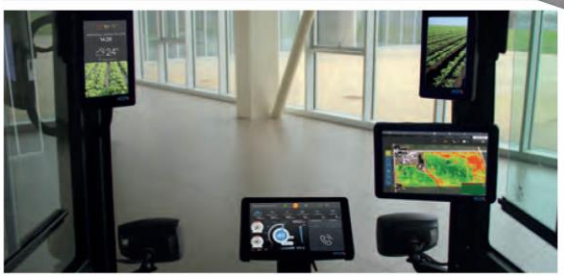
The second solution, based on the Android automotive operating system for graphical applications handling, largely allows the integration of customers' functionalities, thus increasing the full potential of the system.

This original solution is made possible thanks to the agreement MTA signed with Elektrobit, a global supplier of embedded and connected software products and services for the automotive industry.

The Android solution has also led to the development of an innovative architecture that uses an additional core of the microprocessor for increased safety and security.

The system brings together the latest infotainment functionality and digital instrument clusters, allowing maximum performance. It can simultaneously run an Android premium class infotainment system and a 3D instrument cluster.

To show customers its offer related to onboard multimedia technologies and connectivity, MTA has also developed a show-cab, equipped with this central unit and four displays, showing the live performance of this evolved electronic system. **iVT**



ABOVE: **MTA's SIC is a complete in-vehicle system**

LEFT: **The central unit can drive up to four displays within the cab**

This article is a summary of a presentation made at iVT Expo 2019 by MTA technical director for electronics R&D, Stefano Casari