How Remote Control Brings Customers Closer

Avnet Embedded, Fortech, and the IoT-Enabled Carwash

Technology   Partnership

At a glance

The challenge - Transform the carwash from humble forecourt accessory into a remote-controlled value-add, delivering vital operational data, targeted marketing and content, and enhanced customer loyalty. Achieve this in a physically demanding retail environment.

The solution - Fortech chose Microsoft's Windows Embedded POSReady 7 operating system, supplied by Avnet Embedded's specialist software team in Italy. Together with other technologies and components (see below), it powers a Cloud-enabled touchscreen carwash terminal, Smartwash, that can be monitored, maintained, updated and supported remotely.

Relevant to - Automotive sector; oil and petrochemical industry; retail; Cloud services

The result - The oil companies that run the petrol stations can now benefit from greater customer loyalty and profitability, whilst spending less time, money and resource on system maintenance. The choice of POSReady 7 has resulted in approx. 40% lower overall software licensing costs and greater stability than would have been the case with a non-embedded Microsoft or embedded Open Source alternative.

The technology - Windows Embedded POSReady 7 operating system; Fujitsu D3313-S Mini-ITX motherboard; DASH Card (to enable remote access and control); 12.1" customized open frame monitor XGA display, with wide temperature range; infrared touch panel protected by 6mm anti-vandal glass.

Client profile

Fortech was founded in 2007 in Rimini, Italy, and in a relatively short time has delivered a wide range of IT and data services to thousands of petrol stations and their oil company operators, including industry giants like Eni, Fina and Shell. From mobile site management apps, to payment gateways, to remote reservoir monitoring and helpdesk services, Fortech has been pre-eminent in transforming petrol stations into connected, "always on" environments – to the benefit of operators, franchisees and individual customers alike.

The challenge

Fortech's extensive experience in IT services meant that they already had a solid connectivity base across their customers - but diversifying into the actual production of a physical terminal was new territory for them. In addition, the petrol station environment is not a forgiving one for sensitive electronic equipment. Roadside petrol stations often suffer from significant vibration from passing vehicles, the air carries corrosive hydrocarbons, and rough use by customers can easily damage vulnerable components like screens.

The weather variations between the north and south of Italy were also problematic; they cause extremes of both hot and cold temperature, with huge differences in altitude resulting in a wide spectrum of atmospheric pressures.

Roberto Dellavalle, Technical Coordinator at Fortech, explains: "We are expert in providing IT services and maintenance to petrol stations, in collecting and analysing the data that those services generate, and in developing apps. But hardware was a new market direction for us – so we needed quality advice from reliable partners." He continues "This was all the more critical because Smartwash handles not just operational and customer data, but highly sensitive payment data too."

The solution

Fortech chose a number of hardware partners to ensure that Smartwash could deliver what customers required of it. A display unit that was physically robust, but could also deliver high-quality graphics and sensitive touch operation, was a must. An industrial-standard motherboard that could operate reliably in challenging weather conditions was crucial.

But the software and operating system at the heart of the device's stability was a critical decision, too.

Cesare De Siena, who manages the relationship with Fortech, notes that Fortech were careful to research many different options. "Initially," he says, "what Fortech wanted was advice on all the hardware, software and components available. It was clear that they regarded these decisions as deeply strategic, and

we built a very strong relationship with them purely because of our knowledge of the various alternatives open to them. At that point, it was about guidance, not selling."

Fortech's final choice was Microsoft's POSReady 7, an embedded operating system designed specifically for retail applications. This highly customisable system features multiple security and lockdown options essential for fixed-function devices in public deployment.

"We got much better time to market and cost benefit with POSReady 7 than we ever could have with Linux," comments Dellavalle. "However, it's true to say that the Microsoft licensing approach is unnecessarily complex, and we also had some technical issues with the remote card. We were very glad that Avnet Embedded helped us through both these difficulties."

The results

When asked to sum up the results that Avnet Embedded have helped deliver to Smartwash, Stefania Rovereti, Fortech Marketing Manager, immediately cites Smartwash's killer differentiator – its remote capability.

She explains: "Smartwash enables almost every process to be actioned remotely. So the station manager, using a smartphone app, or the operator, from their HQ, can make changes to wash pricing, introduce new forecourt marketing campaigns based on printed vouchers and QR codes, and insert paid publicity from advertisers." "Instantaneously, you can control and update a whole range of revenue-generative activities; no direct intervention in the terminal is necessary."

Dellavalle, for his part, notes that Smartwash is also a supreme example of the way the Internet of Things (IoT) is transforming how hardware maintenance is managed. Smartwash's internal sensors transmit information to HQ on the device's operating temperature and condition, and issues can be resolved remotely, at no direct cost.

He comments: "The entire operating system and terminal is resilient enough not only to withstand the challenges of a petrol station environment, but also to be installed, maintained and updated from hundreds of miles away. And when Smartwash is first installed it can also be activated remotely, sparing the operator the expense of sending out field technicians."

Key benefits

Smartwash and POSReady 7 now deliver an extensive range of benefits to consumers, petrol station managers and oil company operators alike, whilst Fortech's relationship with Avnet Embedded has also brought unique impetus to the product development process.

- **Increased Revenues, Decreased Overheads** - Smartwash's remote, real-time updates mean that revenuegenerative marketing campaigns can be delivered rapidly to customers, and easily updated to suit their preferences and win loyalty. Choice and ease of payment method persuades customers to come back time after time, whilst the remote maintenance and upgrade capabilities slash technical support expense.

- **Low-Cost Licensing, Rapid Time to Market** - Because POSReady 7 is designed specifically for fixedfunction devices in public retail deployment, there is no requirement for extensive plug-ins, and driver availability is much better than with Open Source. This kept Smartwash's development time down and ensured more rapid time to market, whilst the POSReady 7 licences were up to 40% cheaper than nonembedded or embedded Open Source variants.

- **Enhanced Data and Analytics** - For the oil company operators, the ability to gather and analyse data from every part of their forecourt operations is indispensable. Smartwash provides a customer-friendly way of acquiring ever more precise customer behaviour data, based on components and hardware that are resilient enough to deliver optimum reliability.

- **Unrivalled Access to Industry Expertise** - The Smartwash experience proves what every marketer and technologist knows – that knowledge of the technical options available and their relative benefits and drawbacks is every bit as important as timely execution. The relationship with Avnet Embedded has helped ensure that both criteria were met, across operating system, software, hardware, components, and integration.

Learn more

If you'd like to learn more about how Avnet Embedded can help your business turn product challenges into business triumphs, contact us

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