MyAdvantech

The Magazine for Global Advantechers and Partners

Autumn **2012 No.11**

The Future of Intelligent Surveillance

Intelligent Oil Field Production and Management Optimization

Water Conservation Monitoring with Advantech WebAccess Automation

Investing in Energy-saving Designs and Manufacturing to Embrace a Greener Future

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Golden Decade of Intelligent Surveillance

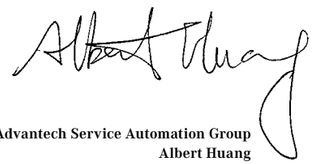
In Maslow's hierarchy of needs, security is the second need only after physiology. Once human demands of food and clothing are met, security quickly becomes the social focus. In particular, the terrorist attacks that have been frequently reported in the past few years has meant that security issues have increased again. Thus, video surveillance has become a major focus in many countries. To effectively prevent criminal activity, surveillance systems must repeatedly innovate with new technology, and judging by recent trends, integration with the Internet of Things (IoT) will be the direction in the security and surveillance industry going forward.

Looking at surveillance technology development over the years, many changes can be seen. At first, surveillance systems consisted of basic analog video recording machines with simple indicator lights to show their recording status. Years later after the advent of PCs in the 1980's, CRT screens and camera surveillance systems heralded the next generation of video surveillance. These systems not only allowed you to monitor single things, but became more advanced and allowed you to see an entire "event" with more cameras and more screens. As the internet began to mature in the 1990's, surveillance systems began to be upgraded again. Through network links, cameras and back-end systems became digital and remote controlled. The import of networking technology eliminated the problem of distance and expanded the surveillance range with multiple cameras and multiple video channels provided extensive coverage.

Today, surveillance technology faces another wave of changes, which will bring a completely new definition to surveillance. The key driver of this transformation comes from IoT and cloud-based services. With advances in DSP technology, communication and smart sensing chips are now directly embedded into devices and cameras. Surveillance progresses from simple image capture and digital image processing to real-time video capture and analysis. The integration of smart sensors and communication modules allows us to not just rely on images from the surveillance system, but to ascertain "states" of an object such as movement, proximity and temperature.

These more complex digital surveillance systems generate huge amounts of data which can be data mined and analyzed for useful application such as face recognition or motion detection. Also, the information will no longer have a fixed interpretation or purpose, but can also flow to other subsystems for new applications. For example, furnaces in a steelworks must be monitored by a surveillance system to carefully keep track of their condition in such a hazardous environment. A data sensor module on the furnace instantly transmits operating status and if any abnormalities occur in the iron making process, the system can automatically judge the situation using recorded data and make corrective decisions. The surveillance system can also be set to diagnose and take action to correct different conditions by implementing appropriate values in accordance with the accumulated data.

The rise of IoT has not only changed operations in many industries, but also changed the perception of surveillance as a passive system. Advantech's goal is to be the "Enabler of an Intelligent Planet", therefore, Advantech's embedded computers and automation products will be applied to help the surveillance industry move towards a more intelligent future. The goal and vision of an intelligent planet driven by the Internet of Things and Industrial Cloud Services, will lead us into a golden decade of intelligent applications. The waves of change have already arrived!



Vice President of Advantech Service Automation Group
Albert Huang

Passionately Committed to Automation

By Martin Marshall and Photo from I.C.P.C.

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Despite limited natural resources, Israel has intensively developed its industrial sector over the past 30 years, and they are largely self-sufficient in many sectors. But because they still depend on imports of raw materials, Israel has a strategic interest in developing their own stable energy supplies including green energies such as solar and wind energy, as well as security and defense systems. Israel has one of the world's most technologically literate populations and over 100 major international companies have setup R&D centers there, which is testament to the number of high quality engineering graduates passing through their universities, which in turn lays the foundation for Israel's future economic success. This economic success is driven in part by the productivity gains achieved through industrial automation, and automation has made a notable impact in a wide range of industries beyond just manufacturing.

ICPC and Advantech Help Customers Overcome Challenges

With over 20 years in the business, ICPC is a leading distributor of industrial automation solutions in Israel. Mr Avi Friedman is their CEO and he talked to us about their business in Israel and the commitment and passion they put into everything they do. Their main market focus is in Industrial Automation, Process Control and Embedded Systems, with recent successful projects in green energy and security and defense solutions which has earned them a reputation based on quality, reliability and providing the best design solutions to customers in Israel. Mr Friedman is very passionate about his business as well as being very "hands-on". He said, "We try to meet market demands and give customers the best solution and service we can. That is why I insist on being involved in finding a solution with every project that has a complex technical spec. This is also why we like working with Advantech, we communicate with their professional engineering teams directly to thrash out technical specifications." Recently they were awarded an important security project involving Advantech's ARK-3440 i3/i5/i7 Fanless Embedded Box PC. Their customer needed to integrate a number of additional communication cards that connected with several devices but at first the cards were not recognized. Time was of the essence, so ICPC's engineers and Advantech's worked night and day to come up with a special BIOS customization which eventually overcame the problem. Mr. Friedman explained, "Because we've worked with Advantech since 1989, we've built up a strong and lasting understanding. That's why we've always kept working with Advantech as our main partner because we liked their product diversity, their strong technical support and industry experience. It's very important to know the exact nature of the customer's project so we can provide all technical and sales support, plus Advantech always tries to be flexible which really helps. We always try to build close relationships which usually makes the difference between successful project deployment or not."

Looking Ahead to a Brighter Future

With massive infrastructure investment going on in Israel and manufacturing output on the rise, the future looks bright. ICPC has evolved and diversified over time to meet the challenges. They now have strong system integration capabilities with a staff of passionate and committed engineers, sales and marketing personnel. ICPC are expanding in many directions, but green energy and security and defense is still a big focus. Mr Friedman told us, "We need to remain competitive so we need to consider some changes to our approach. We plan to do some re-structuring, to be more customer orientated, more active online with a more efficient call center as this is such an important part of our service for our customers. We need to be prepared for more competition in the market, so we need to be more committed and we need to be more inventive, and these are exactly the areas where Advantech can help us with efficient and flexible technical support and services."

Furthermore, Mr Friedman commented on the trend towards smarter applications driven by the so called Internet of Things and empowered by cloud-based services. Mr Friedman predicted that more and more computing power will become available to many more kinds of networked devices, with bandwidth between them getting wider and wider. He stated, "We need to meet and serve that trend. We want provide our customers with all the components, systems and solutions they need to build this smarter future, backed by our passionate commitment to offering our customers ongoing consultation and support every step of the way." ■

Intelligent Transportation-

Bus Stop Security Communication System

To address the security concerns of bus passengers, in particular more vulnerable passengers like old people and woman, a town in Italy implemented a bus stop surveillance and monitoring system throughout their region. Now, passengers who feel insecure waiting for buses late at night are just one click away for immediate assistance.

By Martin Marshall and Photo from Advantech

Bus stops are not always the safest places to be waiting for buses, especially at night. They are sometimes located in remote and dark areas that aren't centrally located without a lot of pedestrian traffic nearby, which means they can be targeted by criminals looking to take advantage of commuters. But as many public transport systems are being modernized, added security measures can easily be included to ensure improved safety and security. Various strategies have been undertaken in an attempt to provide safer and more secure bus stops for passengers. Careful examination and planning of locations and design of bus stops are important to creating a safe and secure environment. Some passengers are more vulnerable in terms of their safety and security at bus stops. Women, children, senior citizens, and the disabled often have additional or different needs and preferences than the population at large. Because these groups constitute a large portion of bus travelers, it is important to address security options concerning the safety and security of this vulnerable demographic.

One-click Security Reassures Passengers

Several technologies have been developed specifically to enhance the safety and security of bus stops. Real-time information systems using GPS and AVL, solar-powered lighting, auditory signage and other directional systems, and "smart" shelters offer many features that are often adaptable to individual needs and budgets. Advantech's partner, Erreuno, was looking to update 40+ bus stops across Avellino in Italy with modernized security systems that could provide commuters with one-click emergency alert to security located at the HQ. Security personel monitor each bus stop via cameras and microphone to provide immediate help if necessary. The system required a dependable and rugged network that could be linked to IP cameras, VoIP phones, safety buttons, and HMI interface devices with super reliable network capabilities. The system covered all bus stops in the region with cameras and emergency access to security.

Always Available for Travelers in Need

ErreUno is a system integrator based in Avellino Italy, working in the telecommunication and networking field, specialized in providing innovative technology solutions, especially in the railway, transportation, and highway infrastructure fields. ErreUno applied a practical simple system to the 40 plus bus stops which consisted of a camera and a microphone, each with a local HMI device integrated with Advantech's EKI-7659CI 8+2G Combo Port Gigabit Managed Redundant Industrial Ethernet Switch. The switches are installed in the security system column, and are activated by a simple press of a button to reach an operator in a control room that can provide information, help and emergency assistance if need be. The redundant X-Ring created by the connected switches ensures that the network is always operational and ready to assist travelers in need.

Roberto Riccardi is managing director and described the project. He said, "For this project we needed a highly redundant Ethernet Switch and we did several tests with different vendors. Because public confidence is so important, we can't have systems failing in emergency situations. Network redundancy is crucial because it eliminates or dramatically reduces the potential for downtime from malfunctioning equipment and disconnected or broken cables. Using Advantech's EKI-7659CI redundant industrial Ethernet switch, we connected our devices with managed switches in an X-ring topology that ensures communication even when one of its segments is broken, thus, preventing data loops and traffic congestion. The key advantage was the technical support offered by Advantech, we did several tests with their EKI switch in X-Ring modality and found it the most reliable and cost effective."

This remotely managed security system provides reliable communication from bus stops around town to a central security center, allowing passengers to travel with peace of mind as security and assistance is only a click away. The system is intended to be a highly visible deterrent to muggers and opportunist criminals and evidence shows that these surveillance cameras do indeed have a deterrent effect. ■

Intelligent Oil Field Production and Management Optimization

Yadan Petroleum and Advantech Jointly Develop Intelligent Oil & Gas Application

By Xiaojing Yu and Photo from Advantech
Interview with Beijing Yadan Petroleum Technology Co., Ltd General Manager Chaodong Tan

Yadan Petroleum Technology Co. and Advantech jointly developed an intelligent oil field application by transforming a passive management system into an active productivity tool that's in harmony with the environment.

To optimize production an intelligent Oil & Gas application was developed for an oil field in Xinjian China. All parts of the system were networked to the Internet to provide real-time access, and remote sensing and monitoring. Host software and powerful analysis tools actively provided information and data used to implement intelligent decision-making and smart management. With the news that this first intelligent oil field application was launched in Xinjiang in 2010, China's oil & gas industry entered a new age of intelligent applications inspired by the new Internet of Things (IoT) model.

For the oil and gas industry who perform drilling operations in complex and challenging environments, an intelligent oil field management system was constructed using sensing, network and application layers that helped master field conditions in real time, but also enhanced product management, reduced cost overheads and improved efficiency. Tan Chao-Dong, the General Manager of Beijing Yadan Petroleum Technology Development Co., Ltd. described the so-called intelligent oilfield application. He said, “Oil fields of the past just presented oil well data statistically with numbers. But now, our application is much more active and analyzes data and simulates the actual production processes based on real-time data, and proposes optimization improvements to maximize oil and gas production.”

Intelligent Application in Harmony with Nature

Yadan Petroleum Technology Co., Ltd is an independent and long established petroleum technology development company. With research in oilfield automation, and industrial IT, it has independently researched and developed more than a hundred system platforms and software applications which have received recognition from the industry, and have been given national patents. Recently, wireless applications and IoT functions have been integrated into solutions in order to provide more advanced services to the oil and gas industry. All the company’s oil field operation management systems have been widely applied in North China, Dagang, Daqing, Xinjiang and thousands of other oil wells, becoming the model of choice for oil field production productivity.

Although engaging in innovation and technology research, Yadan doesn’t forget its mission to protect the environment. “The industry developed from market demands for oil & gas and this does have some adverse influences on the environment. So to balance the needs of industrial development and ecological protection, we have to find better ways to realize a harmonious coexistence between ourselves and nature, and our intelligent oil field system is an excellent way forward“, says Mr Tan.

Joint Development of IoT Applications

Mr Tan went on, “Intelligent oil field applications can’t rely on a single company’s development effort, only by collaborating with others can we achieve the goal of improving productivity and protecting the environment. So Advantech, whose mission is “Enabling an Intelligent Planet”, became an important strategic partner of ours. Last year I attended the WPC conference held by Advantech in Taipei, and was deeply impressed by it. Advantech not only provides stable products and total solutions, but also has an excellent business culture which influenced our decision to cooperate with Advantech more deeply and closely.”

So, soon after he returned to Beijing in December 2011, Mr Tan and Yadan Petroleum Technology Development Co., Ltd. signed a strategic partnership agreement in Beijing so that with their advantages in energy extraction, they can jointly develop oil and gas production projects, and further drive intelligent oilfield applications incorporating comprehensive sensing, network transmission, and intelligent management.

In fact, cooperation between Yadan and Advantech did not just begin last year. In 2010, Yadan used Advantech’s UNO series in oilfield projects. But Mr Tan explained that this was done purely to assess Advantech’s industrial products in terms of product features and risk assessment. After the products appeared in the market, their stability impressed Yadan and they became a major supplier for them. At present, Advantech’s ADAM series data acquisition modules and controllers, IPC and WebAccess control software, as well as high-end solutions that integrate UNO and ADAM are applied in a number of oil field projects being developed by Yadan.

Great Minds Think Alike - Cooperation Creates Business Opportunities

As new large projects are bid for in China, Yadan and Advantech’s partnership enhances the competitiveness of both. Mr Tan explained, “In actual projects, Advantech always offers product upgrades or technology improvements based on our feedback that meets our special needs. In future, both parties will carry out extensive cooperation in this regard toward better product development aimed at the application level. In addition, we share the same view of the future of the industry. We think it is an inevitable trend to move towards smart application development and IoT. We share a common philosophy, and I believe, the cooperation between the two parties will be able to create even more business opportunities and benefits in the future.” ■

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Water Conservation Monitoring with Advantech WebAccess Automation

Water is an indispensable element of everyday life. Clean water supply is crucial to the regular functioning of our homes, work and industry. In every city around the world, there is always a local river running through it to meet the needs of its residents. Huangpu River in Shanghai is rightly hailed as the “mother river” as it contains such significance to the people of Shanghai, now and in the past.

By Lin Long and Photo from Advantech

Huangpu River is the biggest and most important river in Shanghai. To avoid disaster, flood prevention walls were built along the riverbanks. The height of most channel gates is preset and they are designed to lower when water levels rise, but if the gates cannot be lowered quickly enough there could be serious water leakage which not only affects flood control but could also fail to block tidal intrusion leading to even more serious flooding. Because of this, real-time monitoring of the flood prevention walls and the status of the tidal gates is of the upmost importance.

Having said that, the Huangpu River is 113 km in length with more than 1500 flood prevention walls and tidal gates. Even with the injection of huge resources in manpower and time, efficient monitoring cannot be fully implemented. So in 2005, Shanghai authority planned the construction of an automated river flood management system using Advantech’s Human Machine Interface and image control WebAccess software to monitor the status of the river’s flood walls and tidal gates.

Automated Monitoring Systems Reduce Water Costs and Time Management

Senior engineer of Gao Cheng Shanghai GC Technology, Duan Shi-Min pointed out that the purpose of building an automatic flood control system for the Huangpu River is to monitor real-time water level changes of the river and the main river estuaries. The status of the tide gates and the coastal flood prevention walls along the riverbanks trigger automatic warning alerts of rising water levels or of damaged flood prevention walls. The system performs several other functions such as external communication and information exchange, database and data recording, day-to-day management, operation reports, and system maintenance notices.

Management organization is divided into a sub-control station and a control center located in the center of Shanghai to collect and compile information from the various monitoring points. Under this, 5 to 6 sub-control stations link with the WebAccess back office software in the control center, and setup is based on each administrative region’s monitoring information and requirements.

Mr Duan Shi-Min further described the system, “First, sensors on the scene are responsible for collecting information such as water levels, gate level altitude, climate, distribution, rainfall, and auxiliary control equipment. Information is then transmitted to the back-end WebAccess management platform through the Internet. Managers in the control center can notify site engineers to assess and decide whether to open or close the gates according to the received monitoring data. Usually, monitoring inquiries will be done once a day to confirm whether the data is within normal ranges. But during flood season, the frequency of the monitoring will be more intensive such as 1 to 2 times a day because of the increased risk.

Using Advantech's WebAccess human-machine interface and image control software, the automatic monitoring of the Huangpu river flood prevention system is achieved with the important benefit of higher reliability and lower labor costs to Shanghai GC Technology. In the past, people in each sub-control station had to collect on-site information. Now, all that can be centralized to the control center and the information from various sub-control stations can be aggregated and utilized. Field engineers will be on hand and be responsible for any problems should they arise.

Advantech WebAccess Remote Internet Monitoring

This WebAccess water conservation project is not only limited to the Huangpu River. Duan Shi-Ming mentioned that WebAccess was implemented in a project to connect Taihu lake and Tai Po river basin segments of the Huangpu river as early as 2001 to automatically monitor the real-time status of the 26 flood prevention wall tide gates along the Tai Po river coast. Management was divided into remote monitoring and control centers. Because of the project's successful results, the scope of the project was expanded to the Huangpu river basin in 2009.

At the beginning, different manufacturers of man-machine interface products and image control softwares were compared during the planning stage and Advantech WebAccess was ultimately chosen. Duan Shi-Min said that this was mainly down to the following features:

1. Flexible control management configuration: Administrators can set the permission for the users of Master Control Center or Sub-Control Station to view the SCADA interface which demanded.

2. With the web interface, information can be remotely monitored and viewed: Some SCADA software was developed with C/S framework, and it only can be viewed in the local areas, but with WebAccess all monitoring information can be viewed from anywhere. This greatly enhances management flexibility.

3. Friendly interface design: monitoring information displayed by the GUI was very clear and easy to understand and it allowed us to master it quickly.

Furthermore, Advantech is a company with a great reputation and has a high degree of brand awareness in mainland China, and their trustworthiness was also one of the factors we considered. In addition to Webaccess, the industrial host and conversion modules used in this automatic monitoring system are made by Advantech. This means there will be less integration issues since the hardware and software are supplied by the same manufacturer.

In addition to their hardware products, Advantech provided a considerable amount of support during the entire project. Their engineers provided excellent technical assistance in a timely fashion.

Since Shanghai has to manage more than 1,000 km of river embankments and ancillary facilities, the burden of flood control is enormous regardless of the manpower and time management. Through automation, real-time monitoring and control of thousands of flood gates and tide gates along the Huangpu River can be safely managed and all information can be uploaded to Advantech WebAcess management platform to allow managers to take instant and appropriate action. The "Mother River" is now well looked after in its old age. ■

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Advantech WebAccess Express is an automated graphical remote control application program that automatically discovers all the ADAM modules and serial ports, generates a database and brings real-time data online with prebuilt monitoring graphics with a single click. Users can easily get real-time ADAM I/O devices data from remote smart devices with just one click. And what's more it's free with 75 ADAM I/O points.

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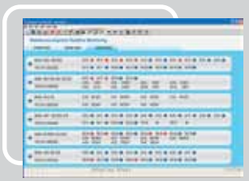

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The Future of Intelligent Surveillance

Video surveillance technology has been around a while, but early systems contained only stand-alone and single location monitoring. With the introduction of the PC and network technology, surveillance systems repeatedly evolved. In addition to a large number of digital video streams from several decentralized cameras, surveillance technology has teamed up with other technologies to offer an intelligent vision of the future.

By Wange rand Photo from TPG

The need for defense and security has never ceased. Terror attacks have increased in many regions and the terrible events at the beginning of the century, led to a rapid increase in global security and massive development in surveillance technology. Technologies are constantly changing, so what are the next-generation surveillance systems likely to look like?

The Evolution of Surveillance Technology

At first, surveillance systems consisted of basic analog video recording machines with simple light indicators on the exterior case to indicate the status and operation of the machine. After the advent of PCs in the 1980's the technology matured and we saw CRT screens with multiple images and multiple cameras. The system allowed you to monitor more than just one thing and enabled you see the entire system. As the internet began to mature in the 1990's, surveillance systems began to be upgraded again. Through network links and embedded sensors, cameras were now everywhere and back-end systems became more remotely controlled. The advance of networking technology eliminated the problem of distance and expanded the surveillance range from a few local cameras into multiple widely distributed cameras which can pan, tilt and zoom to paint an even fuller picture.

The rise of Internet was the second wave of change in security surveillance. This world-wide network eliminated the last distance limitations, so that the surveillance systems could now break out of industrial applications and be used to monitor anything anywhere. There are two distinct functions over previous systems in today's web-based security surveillance systems, the first is multi-point surveillance that uses up to 32 channels from a single image capture card, meaning that a host can be equipped with 32 cameras each with 32 screens for monitoring. The second is remote control, which emerged with the advent of IP cameras which can send and receive data via the network and can be operated independently or dependently through a control center.

The Third Revolution

What will be the third wave of the surveillance revolution? Systems with built-in intelligence will become more and more common. But what is meant by an intelligent system? As the name suggests, it means the device has built-in logic and capability to identify itself to other devices and thus make decisions, But machines will always be machines. They can not think and judge like a human do - at least for now. So the functions of an intelligent surveillance system can be divided into two categories, the first gives the device an intuitive, smart and user-friendly interface and functions, and the second is a system's ability to carry out independent decisions under special conditions.

For the first part, intelligent software for surveillance has been around for several years and was used mostly for the military in the early stages, and the technology gradually shifted to civilian use. Intelligent monitoring software allows operators to set up special warning conditions whereby events on screen trigger actions for example: if someone leaves luggage in a sensitive public place like an airport or train station, the system will notice that an unattended object has appeared on the screen and it will automatically trigger an event and inform security check it in out. Another example are art objects in a Museum whereby an intelligent surveillance system can detect the presence - or not, of an object and will automatically alert security if something goes missing.

The second category of an intelligent surveillance system endows a system with more independent functions such as a digital signal processor (DSP) built-in to the camera that can record and process digital video in advance, they can then store them locally on hard drives or network attached storage, or transmit them to the back end, which not only reduces performance overheads but also helps with bandwidth management. Another feature of the camera is a damage report function. Criminals might try to damage or destroy a camera to avoid leaving any video evidence after they've committed an offence. Cameras with this feature will alert security so that they can react accordingly.

IoT Triggers Revolution in Intelligent Surveillance

As for the future direction of intelligent surveillance systems, the rise of the Internet of Things (IoT) and Industrial Cloud Services will enable a whole new range of applications. Thanks to the inevitable progress of silicon technology, embedding sensing or communication chips into any device is not difficult. Through these chips, all equipment and devices can be interconnected into a network of devices that can communicate with each other. IoT will allow surveillance systems interconnect with each other and deploy useful functions for use in factory automation, security, transportation and many other familiar and new industries. These connected surveillance systems will also generate huge amounts of data for online analytical processing (OLAP), data mining and other useful applications such as face recognition or motion detection. ■

Beyond Intelligent Surveillance

High-quality intelligent video surveillance has been the trend in the security industry. With the introduction of new advanced technologies, the functions of today's surveillance systems are becoming more complex and smarter. We now see clear multi-window surveillance screens and sophisticated image processing with powerful management and tracking and sensing capabilities. With the integration of several technologies: networking, multi core processing, digital signal processing, image processing, and high capacity storage, intelligent surveillance systems have gradually replaced older systems and we are seeing them in more and more places.

By Wanger and Photo from TPG
Interview with Liu Yu-Cheng, Product Planning Manager of Advantech

Current and Future State of Intelligent Video Surveillance

Advantech's Product Planning Manager Mr Liu Yu-Chen said that, "Security surveillance systems can be roughly divided into several elements such as cameras, communications, storage, image processing, and management and back-end. Starting with the camera, today's surveillance cameras are moving toward the high-definition era. Whether it is an IP camera that has become widely accepted or HD-SDI cameras broadcasting in high-definition, they both are able to provide up to full 1080p HD resolution surveillance images. Providing crystal clear images is the primary purpose of intelligent surveillance, so top quality image capture is vital so the information provided by the camera can be processed accurately. Therefore, high-quality cameras have become an vital component for surveillance system vendors. But cameras are just one part of the overall surveillance system, and even if more and more cameras and video encoders are integrated, advanced and complex image analysis is still performed on the back-end, often utilizing cloud-based processing services." Liu Yu-Chen further pointed out that most of the intelligent image analysis systems are actually applied to homeland security, urban security, and transportation management, so system platforms must be highly reliable with powerful processing capabilities that can handle high-definition cameras and massive amounts of data," Mr Liu Yu-Chen said.

The value of intelligent surveillance systems is to increase the effectiveness and management of security, and response to events. However, intelligent surveillance systems still have to overcome several challenges before they fully supersede traditional video security systems. We have mentioned the importance of image quality but there are other features that need to get better such as image processing algorithms which are constantly being improved to distinguish movement and detect individual features like faces and types of objects. As these algorithms become more sophisticated so the scope of intelligent surveillance will expand.

Liu Yu-Chen said, "Video surveillance systems, in addition to upgrading to HD resolution with image analysis capabilities, are being integrated with other industrial automation systems for intelligent application in fields like manufacturing, access control, transportation, fire and police services, and many other fields so that surveillance cameras become a part of the Internet of Things. In the future, surveillance will become more integrated with other systems and take on greater roles in our society."

Carefully Choose Cooperation Partners

To realize the full potential of intelligent surveillance systems, the system integration capability of vendors is very important. Professional knowledge and technical expertise must be high as it is difficult to have comprehensive interdisciplinary knowledge, so the importance of close cooperation between system integrators and hardware vendors becomes vital. A competent hardware vendor needs to not only be able to provide the best possible product, but also have more than enough expertise in the field of system integration if they want to stay competitive.

Liu Yu-Chen took Advantech as an example. For surveillance, Advantech provides a flexible software Development Kit (SDK) in addition to providing high-definition HD-SDI and video capture cards with on-board digital signal processing (DSP). Advantech works closely with system integrators, so that they can build a dependable and faultless system while meeting time and cost constraints. Advantech's provides much more than just the hardware platform, they offer cloud based software services and remote system management tools to allow system integrators to focus all their attention on their hardware and software integration. So, making the right choice of partner affects the overall quality of intelligent surveillance system.

Advantech has been around for over 25yrs, and the accumulated experience we have in surveillance makes it a trustworthy and dependable partner to seek advice from when starting a project. Advantech understands that building trust with system integrators is the way to enable the vision of an intelligent planet. ■

A New Era of Fleet Management

In-Vehicle Video Surveillance Computers Enhance Security

Advantech has cultivated the automotive market for a long time. We listen to the needs of fleet owners and develop many kinds of in-vehicle computers which can manage driver behaviors and process vehicle information. Advantech in-vehicle computers not only carry out vehicle diagnostics but also perform video surveillance and other functions that can meet all requirements from fleet owners.

By Wang Shi-Mei, Bai Yan-You and photos from Advantech
Interview with Advantech's Product Manager for In-Vehicle Division, Wang Yi-Hua.

Managing and Protecting People and Assets

In-vehicle computers were first used for location tracking. Nowadays, many fleet companies use in-vehicle computers to manage their work force and assets with software to measure mileage, journey times, record locations and also track clocking-in times of staff. In 2011, the Taiwan government listed "Intelligent Transportation Systems (ITS)" as an important national development project with a forecast for huge business opportunities which means that companies with advanced and rugged product offerings can lead the field. Wireless technology is maturing and has been used to enhance video surveillance functions using in-vehicle computers. Furthermore, for real-time accident prevention, cameras mounted fore and aft means drivers are able to avoid accidents and blind spots, and video data can also be used as evidence when accidents occur.

In-vehicle Computers Equipped with Video Surveillance Upgrade Security

When fires break out, firefighters must get to a scene quickly and rapidly determine if a building contains trapped people and how best to direct them towards escape routes. In-vehicle computers equipped with cameras in fire engines can send video of a fire back to base. Furthermore,

if fire fighting appliances are embedded with in-vehicle computers and cameras, images can be relayed to base for senior officers to analyze, and using all their experience they can advise on-site firefighters on appropriate actions. This collective intelligence avoids potential disaster caused by inexperience and misjudgment. Other emergency services such as police and ambulance vehicles could also use similar equipment to monitor accidents and record questioning of victims to avoid post event disputes and help in applying the law and achieving correct verdicts.

Traffic safety for children is a concern for parents so some school buses have cameras installed to monitor driver behavior to encourage safe driving. They can also record traffic and other drivers and provide evidence in the event of accidents.

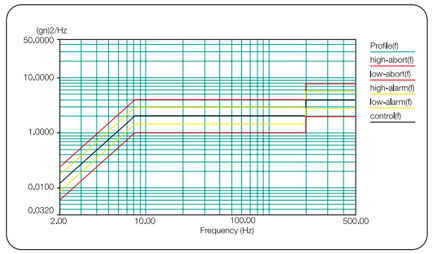
Many Mass Rapid Transit Systems have cameras installed by front and back doors in each carriage to allow the driver or controller to easily monitor the situation via their in-vehicle computers in the cab or control room. The cameras provide views of potentially unexpected situations such as passengers being mistakenly caught by doors, theft, sexual harassment etc, with emergency teams ready respond if necessary.

Overcoming Temperature and Vibration Restrictions

Product Manager Wang Yi-Hua of Advantech's industrial mobile computer business says TREK-668 in-vehicle computers can support up to 12 analog cameras based on the project demand and each IP Camera can support D1 resolution and be self-powered to provide emergency power in case of power shortages.

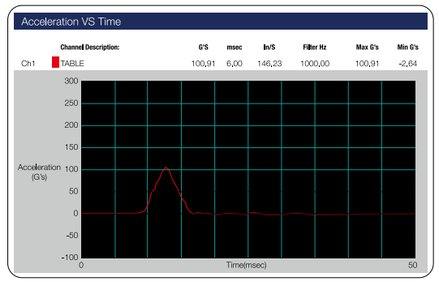
In addition to mobile DVR abilities such as vehicle monitoring and recording, TREK-668 in-vehicle computers have diverse functions such as GPS positioning, wireless, and location tracking, and they have wide temperature and vibration support.

TREK-668's effective operating temperature range is between -30˚C to 60˚C, covering most average types of environment. The external structure is a solid steel chassis and we screwed the HDD or SSD trays in place so they won't come loose no matter how big a pothole a vehicle hits. On the inside, the HDD/SSD bays have dampers that protect against shock and vibration. For storage, the TREK-668 supports SSD and MHD: Mobile Hard Drive disks. Although SSD is more expensive, it is more anti-shock resistant which needs less follow-up maintenance and saves on long-term costs. For long-term overall cost (initial hardware procurement costs and after-purchase maintenance costs), SSD is recommended. We devoted a lot of effort to overcome environmental shock and impact to vehicles and this product has met the requirement of SAE J1455, MIL-STD-810G and EN60721-3-5 class 5M3 standards. 5M3 class certification requires products to withstand vibration and shock three times that of the equipment that complies with just MIL-810F military regulation rating.



EN 60721-3-5 Class 5M3 Sine Vibration Test (4G)
2~8Hz: 7.5mm displacement, 8~200Hz: 2G,
200~500Hz: 4G, 1hr/per axis

Vibration Test Curve



EN 60721-3-5 Class 5M3 Shock Test – Level II (100G /6ms)

Shock Test Curve

Keep Goods Fresh in Cold Storage

ADVANTECH DLOG

Competence in Mobile Computing

Precision Engineering, Quality Assured

Advantech offers rugged in-vehicle computers for forklift and cold-chain delivery applications. Our robust design perfectly fits all requirements in warehousing and logistics industries.

ITS/Telematics Excellent 100

MTC-6
Vehicle-Mount Terminal for Warehouses

- 10", 12" & 15" LED technology
- Fanless Intel® Atom™ processor design
- 802.11 a/b/g/n with diversity antenna
- Operating temperature -30 ~ 50° C
- IP66/IP67 rated supply
- Galvanically isolated power supply

NEW

TREK-722/723
RISC-based Mobile Data Terminal for Local Fleet

- 5" & 7" LCD (800 x 480) with resistive touchscreen
- Operating temperature -20 ~ 60° C
- Vehicle grade ISO 7637-2, SAE J1113,SAE J1455 compliant
- Built-in GPS with AGPS feature, BT, CDMA/GPRS/HSXPA
- Rich I/O capabilities (CAN, COM, USB, DI/DO,SD)

ITS/Telematics Excellent 100

TAIWAN EXCELLENCE 2012

TREK-753
RISC-based Mobile Data Terminal for Long Haul Fleet

- 7" 16:9, 800x480 resolution display with
- touchscreen
- Built-in GPS, BT, CDMA/GPRS/HSDPA
- Operating temperature -30 ~ 60° C
- Vehicle power grade ISO 7637-2 compliant
- IP-54 water and dust proof with I/O coverplate

www.advantech-dlog.com

Windows Embedded Linux

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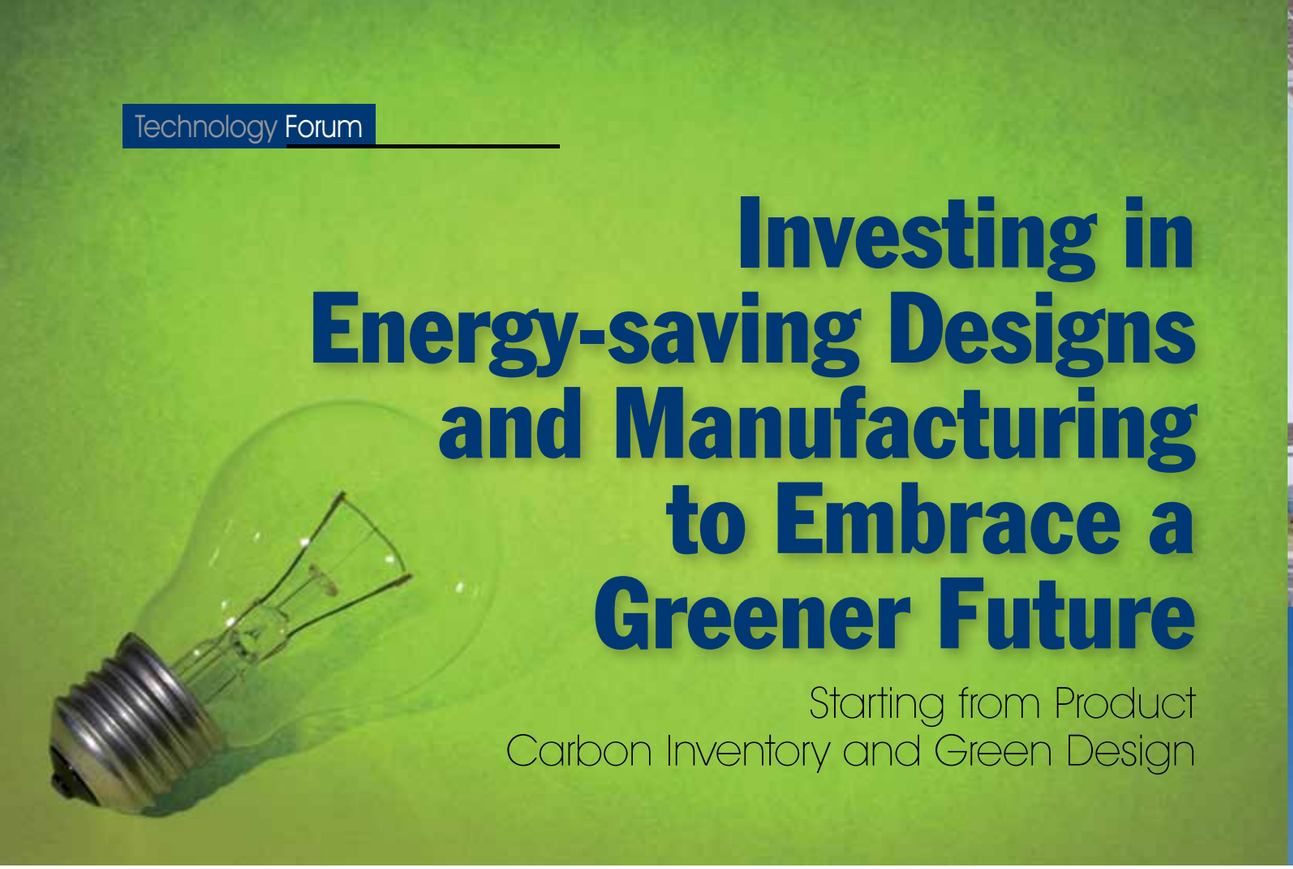
Email:sales@advantech.com.tw

Investing in Energy-saving Designs and Manufacturing to Embrace a Greener Future

Starting from Product Carbon Inventory and Green Design



After PPC-L128 gained a Carbon Footprint Certification this April, Advantech Panel PCs Team continued to focus on promoting energy and carbon saving initiatives starting from front-end product design, to implementing green designs into panel products as well as fulfilling its business mission of creating sustainable operations and green manufacturing.

By Sharlene Yu and Photo from Advantech
Interview with Peter Tseng, Director of Advantech Corporate Engineering Service; Tom Su, Senior Engineer of Advantech Corporate Engineering Service; Joseph Yang, Product Manager of Advantech eService & Applied Computing Group

Do you know how much energy your cell phone consumes and how much carbon dioxide is emitted when you brew a cup of coffee? To get rid of the old way of thinking that only visible smoke from chimney stacks causes pollution, many enterprises take action to safeguard the environment by doing a carbon footprint inventory to demonstrate their commitment to preventing damage to the ozone layer. From a business perspective, a carbon footprint is a means of determining the carbon dioxide released directly and indirectly from a product in the process of raw material acquisition, manufacture, and assembly.

Practicing Corporate Social Responsibility.

In order to fulfill their corporate social responsibility, in November 2011, Advantech decided to perform a carbon footprint investigation of their Kunshan Manufacturing Center. The Director of Advantech Corporate Engineering Service, Peter Tseng said, “In fact, we have always invested the necessary resources in environmental protection, and our green production has always been responsible for the control of harmful substances. But, at the invitation from Kunshan’s government, this is the first time Advantech has performed an inventory of their carbon footprint.”

The Senior Engineer responsible for this project, Tom Su added that Advantech has multiple product lines and most of them are “hidden” devices rather than end products so, “we selected the PPC-L128 which uses a wide range of materials and is representative of industrial touch-screen computers as an inventory subject to verify its product carbon footprint,” he said.

Pulling Together in the Carbon Disclosure Project

Performing a carbon inventory is extremely intensive in terms of labor and materials . Therefore, Peter Tseng stated that it must be driven by skilled people to convey the complicated details through training courses which have to be compliant with the PAS 2050 international standard. By gathering information about raw materials and production lines it’s possible to finish the whole process within a few months. Based on Advantech’s persistent invitation, there were more than a dozen partners willing to participate in this project.

Tom Su stated, “The inventory data was not just from our Kunshan factory. Because PPC-L128’s main panel comes from Taiwan’s Chi Mei (CMO), they specially prepared carbon emission data for us and said that Advantech was the first company in the industrial computer field to ask CMO to provide such data.” With the cooperation of all suppliers, Advantech finished the project and gained a Product Carbon Footprint Certification Statement from the China Environmental Certification Center of MEP (MEPCEC) this April.

Even if PPC-L128 is successfully certified, Peter Tseng stated that Advantech won’t take this as final and will continue to ensure that their products are environmentally protected based on the customers’ needs and product planning. Joseph Yang, the Product Manager of Advantech eService & Applied Computing Group, said that Advantech will introduce more green manufacturing ideas and take streamlined design and adoption of low-power components as central to Panel PC green design.

Introducing Green Design into Industrial Panel PC’s

Joseph Yang further explained that, based on the principles of Reduce, Reuse, and Recycle, Advantech Panel PCs will produce more simplified designs. To suppress electromagnetic interference (EMI), many panel PCs are coated internally with a conductive paint or plating to provide shielding. The problem is that traditional designs lead to more procedures to remove these additional materials when the computer is disposed of.

Therefore, Panel PC engineers decided to change the position of high EMI parts so as to reduce the impact of EMI to other components and make recycling easier. Joseph Yang said, “To reach the goal of achieving a simplified design and meet the product spec, the electronic, EMI, and layout engineers must be proficient to find the optimal design through careful circuit board reviews.” As a result, this new approach not only significantly reduces the product’s cost but also decreases the use of composite materials. Furthermore, with its additional benefits, the recycling of disused products is much easier than before.

Saving the Maximum Amount of Energy

The industrial PC group is used to ensuring that its products work in harsh environments so they must meet more stringent specifications than general products. By choosing a low-power CPU, it not only helps with system cooling and reduces power consumption but also encourages a fanless design. In accordance with EU environmental standards: power consumption must be less than 1W when the system is in standby mode, AdvantechPanel PCs therefore adopt an energy-saving IC to enable more accurate power control while reducing system power consumption in sleep mode.

Joseph Yang also pointed out that the LCD panel is the most power-hungry part of a panel PC, therefore Advantech is going to use the panel with an LED backlight module for all of its PPC product lines. “Through the use of a set of light sensors which is set up in front of the frame to detect changes in the ambient light, our panel products automatically adjust the backlight brightness to provide a comfortable reading experience and also achieve a real-time energy-efficient target”, Joseph Yang said.

In the next stage, we will add more power-saving features. For example, if no one uses the computer within a certain amount of time, the system will automatically adjust the backlight to the lowest level of recognition to further save unnecessary power consumption. Advantech also believes that thinking about the entire cradle-to-grave lifespan of products during the design phase is the best way of achieving energy saving and carbon reduction targets. ■

Ultra High Brightness Displays for Outdoor Applications

In response to the trend for high-definition displays in the surveillance and monitoring markets, Advantech's new video capture cards with DSP provide plug and play, image analysis, high resolution, and other excellent features to meet today's application demands.

By Sharlene Yu and Photo from Advantech
Interview with Ting-Yang Wei, Product Manager of Advantech Networking and Communications Group

The scope of applications for industrial displays is always increasing such as in factory automation, ATMs, ticketing kiosks and many more places. Nowadays, industrial displays are everywhere. Traditionally, industrial displays function only to display information, but because of developments in touch screen and cloud technologies, industrial displays have been transformed into interactive Human Machine Interfaces (HMI), and as a result, we see more and more outdoor applications appearing.

Specifications for outdoor applications are totally different from general displays. For outdoor displays, many different environmental factors need to be considered. For example, when we use a mobile phone (normally 350 nits) outdoors, the screen usually looks washed out or becomes invisible under strong sunlight, the reason being that ambient light is too strong (normally 10,000 nits) causing strong reflections that reduce readability of the screen. Outdoor applications also suffer extreme temperature fluctuations which mist up the screen between the two glass layers (LCD & touch sensor) making the image unclear. So to address these issues, we provide a 1200 nits ultra high brightness display solution - IDK-2000, which is perfect for outdoor and semi-outdoor applications.

1200 nits Ultra High Brightness Provides Excellent Viewing

Advantech IDK-2000 is designed with a 1200 nits high brightness display which is bright enough to be read in direct sunlight. With a high level of brightness and wide viewing angles, IDK-2000 series provides optimal readability, whether in direct or indirect sunlight conditions. Since the backlight brightness has increased, it also enhances color saturation levels and provides better uniformity for all round better optical performance and visibility under bright sunlight conditions.

High Performance, Low Power LED Backlight Built-in

IDK-2000 uses in-house designed high brightness LED backlight technology which has high performance and low power advantages. The series uses an LED light bar in place of CCFL as the backlight source. This, coupled with optical films, advanced reflection pattern design on the light guide bottom, and special radiation technology enable it to achieve 1200 nit brightness with a low-power backlight source. With our advanced LED backlight design, the IDK-2000 series achieves excellent power saving; about 20% less energy than competing products with the same level of brightness. For example, a 17" LCD at 1000 nits usually consumes 35W while our IDK-2000 series only consumes 29.47W, resulting in displays that run cooler with maximum reliability. Normally, when the backlight brightness increases, heat issues increase also. To solve this, we developed special thermal technology to allow lower temperatures of less than 45°C on the display surface at start up.

Smart Auto-Dimming Function

Power management is an important issue for applications that run 24/7 to ensure long life and extended use, so we designed a smart auto-sensor on the LED backlight module, so the display can automatically adjust its brightness to the external environment. The auto-dimming light sensor can detect ambient light in the external environment, and increase the display brightness when the ambient light gets stronger and decrease the brightness otherwise, which can significantly save energy up to 50%. Because outdoor applications usually face fluctuating temperature changes, IDK-2000 series supports -20~70°C operating temperature, ensuring the device can work properly even in unforgiving environments.

Advantech provides a full range of 1200 nit industrial displays from 8.4" to 31.5" with flexible customizable touchscreen solutions and optical bonding; and all are compatible with our embedded boards and systems. In future, more and more outdoor applications will emerge in a multitude of application fields, such as information displays in train stations, drive-through digital menus outside fast food restaurants, gas station kiosks and more, which represents a huge potential market. To meet this demand, we have developed a comprehensive range of high brightness display products with integrated value-added solutions to make your embedded development faster and more efficient. ■

Product Offering

Model	IDK-2108	IDK-2110	IDK-2112	IDK-2115	IDK-2117	IDK-2119	IDK-2131
Size	8.4"	10"	12"	15"	17"	19"	31.5"
Resolution	800 x 600	800 x 600	800 x 600	1024 x 768	1280 x 1024	1280 x 1024	1366 x 868
Colors	262K/16.2M	262K/16.2M	262K/16.2M	262K/16.2M	16.7M	16.7M	16.7M
Contrast Ratio	600:1	500:1	700:1	700:1	1000:1	1000:1	3000:1
Brightness	1200 nits	1200 nits	1200 nits	1200 nits	1200 nits	1200 nits	1200 nits
Operating Temperature	-20~70 °C	-20~70 °C	-20~70 °C	-20~70 °C	0~50 °C	0~50 °C	0~50 °C
Power Consumption	5.35W	7.1W	9.46W	16.06W	29.47W	36.64W	61.9W
Touch Option	4-wire Resistive	4-wire Resistive	5-wire Resistive	5-wire Resistive	5-wire Resistive	5-wire Resistive	N/A

Digital Signal Processing Powers Advanced Intelligent Surveillance Applications

Advantech's Introduces an Exciting New Range of High-end DSP Video Surveillance Products

In response to trends in the high-definition video surveillance markets, Advantech's new video capture cards with powerful Digital Signal Processor chipsets combine plug and play ease, intelligent video analysis, high resolution input and output, and many other excellent features to meet the demands for advanced video surveillance applications.

By Sharlene Yu and Photo from Advantech
Interview with Ting-Yang Wei, Product Manager of Advantech Networking and Communications Group

As a powerful specialized microprocessor, Digital Signal Processors (DSP) are one of the fastest growing products in the electronics industry and are now widely used in Automated Optical Inspection (AOI), telecommunication networks, entertainment, medical imaging, digital surveillance, and many other fields. Advantech began by specializing in x86 and Network Processing Units (NPU) but became involved in DSP-related solutions by chance after an order from a well-known telecommunication company. For that project, Advantech provided a high-density video processing platform with 20 DSPs which, due to their excellent features and stability, not only won high praise from the customer but also gained attention from Texas Instruments (TI), a major manufacturer and supplier of DSPs. Since then, Advantech has built up a long-term partnership with TI.

DSPs Lead the Wave of High Definition Applications

The Product Manager of Advantech Networking and Communications Group, Ting-Yang Wei said, "To provide such a sophisticated and complex DSP solution was quite unique at that time. Once our R&D team's strength had been proven, we started to participate in TI's product testing program and were put in charge of the design and production of its Evaluation Module (EVM). Today we have officially become a TI Worldwide Strategic Partner and have access to the very latest technical data and roadmaps. With this advantage, we are actively investing in the high-end audio and video application markets to extend our DSP market territory".

Being optimistic about the growing market for digital communication, multimedia, and image processing, Advantech introduced a new series of high-end DSP video capture cards. Mr Ting-Yang Wei said, "Making optimum use of the excellent performance of DSPs can effectively reduce the CPU workload. In recent years, high-quality and low-noise imaging applications have become standard, so we launched three high-end products with TI's powerful video processing SoC chips for advanced video surveillance and audio-visual broadcasting applications."

Plug-and-Play Simplicity Satisfies the Need for Expansion

With the powerful TI DM365 DSP chip at its core, the DSPC-8601-USBE is designed for special industrial applications. This USB 2.0 video capture card supports H.264 video hardware compression to lower the CPU workload with all the advantages of small size & low power consumption. Ting-Yang Wei stated, "Due to space limitations and cost considerations, there are often no available expansion slots for additional cards such as for image capture, so when a system needs to add extra functionality it can't. Therefore, Advantech designed a plug-and-play USB card which not only solves this problem but also saves time on complex setups for networks and firewalls (compared with IP video devices) as well as shortening image lag times."

Application Examples

A European long-distance bus company installed DSPC-8601-USBE devices into each bus which can be used to record driver actions as well as provide a video entertainment service for passengers, broadcasting live television programs via a satellite TV connection.

Traditional speed cameras use a laser trigger to take a single picture. Using the DSPC-8601-USBE, sections of video can be recorded, thereby improving evidence against speeding motorists and reducing disputes between law enforcement agencies and drivers.

Getting Smarter Through Intelligent Video Analysis

The second product in the intelligent surveillance range is the DSPC-8661-PCXE PCI Express (PCIe) video capture card with built-in TI DM8168 SoC which supports 16-ch D1 analog inputs, video capture at 30 fps, H.264 video compression as well as being equipped with an HDMI connector to provide high definition (1080p / 60fps) video output. This PCIe card with 1GHz DSP chipset can execute intelligent video analysis while the system is performing several concurrent high-speed tasks.

For image analysis, the DSPC-8661-PCXE provides camera tampering detection, high-frequency noise detection, and self-diagnosis for all channels simultaneously. Its fast image analysis offers a variety of benefits such as user alerts for public environments such as railway station platform waiting areas, detection of unknown objects in monitored areas, valuable items on display, empty parking space management, as well as people flow calculation and analysis. DSP resources can even be deployed to focus on higher-end computing applications such as license plate recognition and face detection. What's more, Advantech cooperated with software vendors to develop innovative features like stereo vision and gesture control. Because a DSP's image processing won't consume PC CPU resources, a DVR with DSPC-8661-PCXE is more scalable and its outstanding performance is significantly better than existing image capture cards on the market.

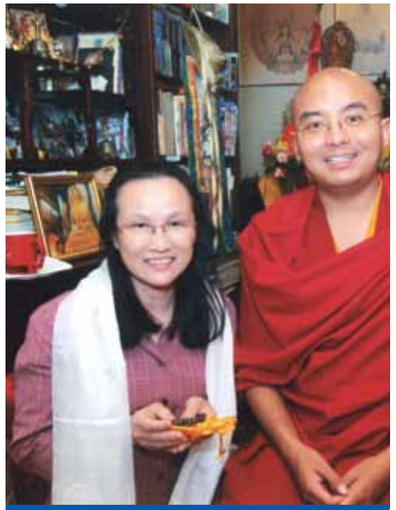
Another innovative characteristic is that the DSPC-8661-PCXE doesn't need to be installed on a PC since TI DM8168 features video input and output, Giga LAN network port, USB OTG and SATA2 so it can in fact independently operate as a small embedded Internet device by adding a chassis and power supply. These features make it unique in the industry.

DSP Cards with an SDI Interface

For our last product – DSPC-8662-PCXE, we leveraged the potential of a high-density DSP platform by maximizing and combining four TI DM8168 chips with two FPGA's for a super PCIe video acquisition card that supports 8-ch SDI audio and video inputs. This product, with 3G-SDI interface provides high image processing with a full HD 1080p resolution at 60fps in each channel, making it suitable for all kinds of high-resolution applications. Ting-Yang Wei explained that the surveillance market is eager for high quality solutions. In addition to SDI cameras, the SDI interface has become important in the surveillance field as another set of industry standards. As long as the user, using traditional analog CCTV surveillance cameras, upgrades to an SDI camera with the DSPC-8662-PCXE chip inside, the system can send high-definition signals by using the existing coaxial cable without changing any other hardware so they can significantly enhance their security levels. Thanks to TI's DM8168 1GHz DSP, the DSPC-8 662-PCXE can offer 4GHz DSP computing resources for use with many kinds of intelligent computing applications.

DSPC-8662-PCXE serial cards introduces another option for video walls in large-scale surveillance centers which support 4-ch HDMI video / audio output with 4-ch SDI video / audio input (DSPC-8662H-PCXE). As well as the surveillance market, all series of DSPC-8662-PCXE are suitable for high-end solutions such as IPTV high-definition broadcasting, high-definition audio and video equipment for cloud applications, and commercial television walls and more.

Advantech's intelligent surveillance products each have their own unique features that can fulfill a wide range of requirements. Additionally, Advantech offers a Software Development Kit (SDK) that supports Linux, Windows, and other operating systems to help System Integrators meet their specific application needs and save valuable development time. ■



Lisa Niu

Manager of Warehouse & Shipping
Advantech America's Service Center

Greetings from Advantech America's Service Center. My name is Lisa Niu and I'm in charge of warehouse and shipping management at AASC. Many of you may have known me through various logistic operations, as I've been with Advantech for the last 18 years. In 1994, there were only 22 employees in Advantech America and I was the only person who handled warehousing, shipping and kitting. Back then, Advantech America would have a BBQ party in a little parking lot whenever we hit 1 million dollar quota per month. As time passed, AASC has grown to have 130+ employees and is a major part of Advantech North America. With stable and continuous growth, we've come to average 23-25 million dollars in ANA revenue over the last couple years and have one of the biggest service centers in Advantech.

Our growth has given me such unique experiences. Most co-workers describe me as the most disciplined, strict and energetic. With the current amount of revenue, day in and out transactions have to be precise and accurate to ensure smooth overall operation.

In recent years, I've been studying and practicing Buddhism, and that has helped me a lot. Most importantly, I am grateful to be successful, and it is contributed to by the wonderful support from my family, my team, and management. Without any of their understanding and support, I would not be this successful.

All in all, I appreciate that Advantech has provided me with a place to learn and grow for the past 18 years. If you get a chance to visit AASC and see a lady running around in the warehouse and shipping area, that lady is me.

Bright Choi

Senior Key Account Sales Manager
Advantech Korea

Hi, I'm Bright Choi, an embedded system key account team manager in Korea. It has been twelve years since I joined Advantech. I started my career in marketing, and gained work experience in the Industrial automation market & sales. After two years, I moved to Advantech HQ, as a Regional Sales Manager from 2003 to 2004. In those days, I was the only person who could speak Chinese in AKR. After finishing training at HQ, I went back to Advantech Korea where I worked as an Embedded System/Applied Computing PSM till Y2009. It was an interesting and challenging job and not many companies could have given me such a chance. I really enjoyed my PSM job function. In 2009, I was promoted as Key Account Team Manager as ES sector leader in Korea.

There have been a lot memorable things at Advantech, and i don't have enough time to tell them all but once when I was in Advantech HQ, HR specially prepared kim-chi for me in their B1 restaurant. Even though it was not 100% that same taste as Korean kim-chi, at least they tried and i love them for it. In my spare time I like riding my motor cycle in Taipei with my wife on weekends. I also like watching Hollywood movies with Chinese subtitles. I'm very proud to have been a member of Advantech during these twelve years, and there are many colleagues and friends around me who make me feel part of the Advantech family.

Janice Chou

Account Manager
Advantech

Hello everyone, I am Janice Chou, account manager for Middle East region I joined Advantech in 2000 and love this big family very much.
In life, we always have challenges in life and work is a process in which problems need to be solved continuously. I am inspired by our team that "never gives up easily" and always thinks positively. I think the beauty of working in Advantech is the spirit of teamwork! I really appreciate my colleagues' support and assistance which helps me grow and achieve my targets.

Secondly, when I first joined Advantech I just had one baby. Now, she is a teenager and has another two sisters! My contribution is not only to the company but this country, especially now with it's declining birthrate. We have great and very stable working environment. I am very lucky and conscientious about my work and family.

In leisure time, I practice with Advantech's music band composed of Advantechers from different divisions. We learn music from each other as well as about each other's attitudes to life. Thirdly, people here are very talented and I am happy to put in the effort to make myself better by learning from my friends around me.

Thank you!

Stephen Cavanagh

Hardware Manager
Advantech Innocore

A big Geordie 'aalreet' to everyone from Advantech Innocore.
Advantech Innocore is a sector based product division with its HQ in Newcastle upon Tyne in the UK. Following the acquisition of Innocore in Nov 2010, we have been busy building a dedicated Advantech Innocore gaming team with members located in Taiwan(ACL DMS), the US, Holland, and the UK, as well as a 36 strong RBU based sales team.

I joined Innocore in June 2005 as the Hardware Engineering Manager, and have since accumulated 7yrs experience within the global IPC gaming market. Growing the business has been an interesting and challenging journey, not only from an engineering product development side in satisfying market and customer needs, but also in working with our culturally diverse, internationally based customers and suppliers. I have often had the opportunity to visit Taipei to work with our ACL design teams and key suppliers, this is certainly one of the highlights of my role. I find that the 'work/social life integration' lifestyle that goes with living and working in Taiwan suits me very well.

In my spare time I am gradually learning the Chinese language,(要學好中文,還有好長的路要走啊); trying to get some flight hours in light aircraft and gliders when I can; and doing voluntary STEM (Science Technology Engineering and Mathematics) work in the local community to try to improve the profile of STEM in schools. With my family, work and leisure activities, it all contributes to a very busy life..... but I wouldn't have it any other way.

If you are in Newcastle at any time, drop by and say hi, we look forward to meeting you.

Advantech Japan –
A Role Model in a High-Tech World

Advantech Japan is located in “Asakusa” on the north-east fringe of central Tokyo. Asakusa is a historical town which prospered as a center of Edo culture and contains many famous cultural icons and traditions such as the Kabuki theatre of classical dance and drama, and the Asakusa Entertainment Hall (Engei-Hall) theatre. “Sensoji” temple is a very famous and popular Buddhist temple built in the year 600 and is the oldest temple in Tokyo. The “Tokyo Skytree” building was completed in 2012 and is the world’s highest broadcasting tower combining cutting-edge Japanese high technology such as overall light-emitting diode (LED) illumination, ultrafast speed elevator (600 meter per minute) and earthquake-resistant design. The Tokyo Skytree proves very popular with locals and tourists alike.

Advantech Japan has fifty multinational employees including Japanese, Taiwanese, and several other countries. The office is a 6-story building with the function of sales, marketing, and service center (including CTOS, FAE, RMA and Quality Assurance). From start to finish, Advantech Japan provides a full range of products and services to customers.

With organization and capability, Advantech Japan conducts business in one of the world’s largest economies with GDP $5 trillion U.S. dollars. In Japan, there are many world leading high-tech industries concentrated in manufacturing, service, distribution, transportation, energy conservation, entertainment, and medical industries. By supporting such a broad array of industries, Advantech Japan is a role model for “Enabling an Intelligent Planet”.

Advantech Japan provides the highest quality products and services, so customer’s expectations are very high. “If we can succeed in Japan then we can succeed anywhere in the world,” said Mike Koike, currently president of Advantech Japan with 19-years of international IT management expertise with several leading companies. Mike also mentioned that, “For more than 15 years, Advantech Japan has been performing successfully in manufacturing by meeting customer’s expectations and has successfully built up the Advantech brand in that area. Now, we keep on expanding that brand business in the other industries as well, and I am confident of our success because there are so many business opportunities in service, energy, transportation, medical and many other industries.”

In spite of such a large scale economy, many Japanese manufacturing companies now stand at a crossroads – whether they should own R&D and manufacturing? or should they outsource them to focus their resources onto their core competencies to survive in the global marketplace? Advantech has full capability to offer OEM/DMS service to those customers in order to respond to such demands, and they can be a gateway for customers to expand their business globally. “We will ride the wave and increase our design-wins in the Japanese market, this way we will hit all our targets,” said Mike.■

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