





When Jeffrey Wu stepped into the home camera industry, he immediately stood out among Taiwan makers. Coming from a telecommunications background, he uses his past experience to build cameras that combine ease-to-use and sophisticated integrated solutions-two essential factors to succeed in the smart home market.

SMART HOME SOLUTION ON A CAMERA



So far, StarVedia has been focusing on OEM and ODM services. StarVedia prides itself as a one-stop shop for buyers looking for a complete solution. "We provide the back-end infrastructure, the front-end GUI, and everything in between for our OEM and ODM customers," Wu said.

"My background in telecommunication has taught me two things: the networking know-how require to make reliable IP-based systems and the realization that ease of use is critical. When we started our home camera business, I knew our cameras had to be plugand-play," Wu said. "That is always one of the things at the very top of our list. Creating cameras that can be easily installed and operated without any technical knowledge is our mission, and it has proven to be a main differentiator for us in the market."

Although the home cameras market is

quite a crowded space, it is not quite mature yet in terms of delivering products for nontechnical users. Most users still struggle to understand poorly written user manuals and confusing UIs. "All StarVedia cameras support Wi-Fi, which in and of itself is nothing special. The beauty of it is that setup is truly plug-and-play. You don't need a computer to configure the camera—all you need is a smartphone or tablet."

SOFTWARE TROOP

Most camera makers in Taiwan are heavily hardware-oriented, but StarVedia is taking a different approach. "We are actually a software-savvy troop. We know how to design the software and efficiently integrate it with the hardware to achieve true plugand-play, Wu said. "All of our software is developed in-house. We have extensive experience developing software for various operating systems, such as iOS, Android, Mac OS X, Microsoft Windows and others, and mobile is in our culture."

The ubiquity of smartphones is a major driver for the home camera market. "We began developing software for mobile devices since Symbian was the dominant platform," Wu said with a smile. "In a way, I am happy the battle between mobile platforms has left us with just two: Android and iOS.



"WE PROVIDE THE BACK-END INFRASTRUCTURE, THE FRONT-END GUI, AND EVERYTHING IN BETWEEN FOR OUR OEM AND ODM CUSTOMERS."

Our engineering team can focus on the apps and improve user experience, rather than spending significant time and resources on adapting and adjusting our software for numerous platforms."

Wu further defined what he thinks it means to be "software-savvy." It requires a deep understanding of networking technologies and integration knowhow. Wu used StarVedia's peer-to-peer video streaming technology as an example: "the video stream does not pass through any servers, so it reduces latency compared to other approaches, and end-users do not have to worry about the servers being hacked."

Cloud storage is another front Wu is proud of. He thinks Dropbox is probably one the best solution at this time: "It is flexible, mature and feature-rich. Dropbox supports most platforms, including PCs and most smartphones and tablets. Its pricing ranges from free to cheap. It offers automatic backups, instant file sharing, robust permission settings, integration with a whole ecosystem of third-party apps and much more," Wu said. "Many people already use Dropbox in their daily workflow. Rather than reinvent the wheel, we wanted to use these advantages of Dropbox to enhance our cameras." Dropbox support is now

built into every Starvedia camera that offers a private cloud-based DVR solution, which turns the camera into a complete home security system with no additional recording hardware needed.

During his six years in smart home cameras, Wu has come to realize that interoperability is just as important as user-friendliness when it comes to home users. StarVedia's proprietary system and software is based on industry-standard communication protocols to avoid interoperability problems. Moving forward, StarVedia plans to offer cameras that support Z-Wave, which has an ecosystem of products that aligns with the company's goal to create the "easiest smart home products".

DUAL POWER

In addition to making reliable and easy-to-use software, StarVedia's innovative culture also manifests in its hardware. "Video performance and image quality are highly dependent on the processor used in the camera, but there are other ways to enhance a camera's performance besides choosing the most powerful chip," Wu said.

One feature Wu is especially proud of is that all StarVedia cameras have two "eyes." According to Wu, StarVedia is the only home camera maker that offers



Smart Cloud Storage

recording

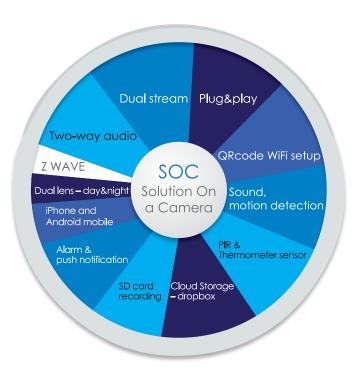


playback.....









dual-lens cameras. "Many buyers are curious about the purpose of this design. It's not a gimmick—the dual-lens design helps overcome flaws inherent to mechanical IR-cut filters," Wu continued. "The wavelength of daylight and night-time infrared condition requires different focuses for clear video. The additional lens provides functionality similar to an IR-cut filter, but increases stability and durability. It also helps to make the camera more compact, since lenses with ICR function usually require larger space in the camera."

Wu also wants to focus on developing products that provide features that can impact users' lives in a positive way. A new product in the pipeline is a camera equipped with an infrared thermometer and speakers. "You can monitor the temperature of the environment and ask the babysitter to turn on or off the air conditioner through the built-in speaker. You can also configure the camera to trigger an alarm when the temperature falls out of a specified range."

Speaking of application-driven designs, Wu explained: "We pay a lot of attention on the details to maximize a product's value and performance. For example, our cameras are built with Wi-Fi directly onboard. We do not use a module, instead embedding the Wi-Fi chip and antenna on the camera board itself so that we can make our products more compact and easier to integrate while controlling costs more efficiently." Scheduled to launch in June, the IC711 series is a new lineup featuring a smaller size and more functions.

MARKET SENSITIVITY

StarVedia's customer base is primarily in Japan, the U.S and South East Asia. Wu sees huge potential in the smart home market, which is strongest is the U.S., but has also picked up significantly this year in Europe and China. On a smaller scale, StarVedia products are also distributed all over Asia and Europe, mainly in Germany and France. Market conditions in China are different, however-Wu thinks the company is better off marketing its own brand there, and has done

IC711W CAMFRA

- · Plug & Play by ID/password, no IP address or **DNS** settings
- H.264 video compression
- Megpixel, 1280x800 resolution at 30 fps
- Dual lens for day and night separately
- Two way audio with internal speaker
- · SD card slot with 5 seconds of video pre-recording
- 802.11 n wireless with WPS support
- Connect up to 20 users simultaneously
- Bundle with free video management software CamView
- Push notification on iPhone/iPad and Android for sound and motion detection
- Video recording on NAS device



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so through a subsidiary.

With rich cooperation experience with branded customers who usually sell products in various retail channels, Wu knows which checkboxes to tick in different geographical markets. For example, in Japan, product quality and reliability are two must-have factors to take into consideration in choosing manufacturing partners.

Wu also points out the differences between the European and the US markets for network cameras. The US market is price-sensitive, but tends to accept new products and



Smart TAS System

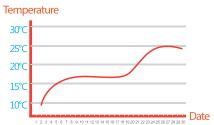
nfrared Thermometer

Alarm When Temperature Out of Range

perature Out of Range emperature History Report Temperature 30°C







solutions. The U.S. is the first market to promote on a large scale smart home applications and related protocols, including Z-Wave and ZigBee.

He sees Europe as a different market. European retailers are more brand-oriented, and emphasize on brand management. Wu said European retailers are used to enhancing value and consumer loyalty through brand power.

Retailers have different concerns compared to commercial security system integrators and distributers. "Retailers care about products that are easy to use, have low return rates, offer a stunning user experience, and distinct features that sets it apart from an ocean of me-too products," said Wu.

Equipped with expertise and experience in software development and system integration, StarVedia is one of the few companies working directly with telcos in China and Japan. The company sees cooperating with telcos as a major way to expand the smart home market. Wu thinks Asia is a promising area, especially Southeast Asian countries like Malaysia, the Philippines and Singapore.

SMART HOME SOLUTIONS ON A CAMERA (SOC)

Looking ahead, Wu sees three trends for smart home devices: more integration, wireless deployment and affordable pricing. He has clear plans for riding these waves. "Putting an infrared thermometer inside the camera is just the beginning. After that, we'll have a single unit that integrates video recorder, audio speaker, thermostat and PIR body sensor. Eventually, we will offer cameras that serve as an all-in-one smart home gateway, using Z-Wave to extend our current home security offerings to include other smart home features."

This platform—a smart home solution on a camera (SoC), as Wu calls it—"requires a high degree of software integration, but it is a great resolution for us as well as users. They do not need to purchase various devices and endure complicated installation

services. For instance, the PIR sensor enables accurate intrusion detection, which can trigger a push notification to notify police and homeowners if necessary, negating the need for a separate sensor in the home." The camera itself becomes a complete smart home solution.

StarVedia Quick View

- · Company: StarVedia Technology Inc.
- Year of Founding: 2007
- Employees: more than 30% in R&D
- Business Type: 100% pure OEM/ODM manufacturer
- · Strength: Network and server technology
- Product: Smart home cameras
- · Company Specialties:
 - Plug-and-play installation
- Peer-to-peer video streaming
- Dual lens
- Alarm notification
- Smart thermometer and temperature alert system
- DropBox cloud storage
- IP66 for outdoor applications
- VMS software
- Global Service System Server (GSSc Server)
- Stylish design
- Flexible OEM/ODM capability
- 27-month product warranty



• Mega-pixel 1280x800 / Built-in microphone Dual-lens day&night / SD card recording
Passive PoE, 50m cable / 802.11n WiFi + WPS

- - Dual-lens day&nightSD card recording / 802.11n WiFi + WPS

IC717HD

- Mega-pixel 1280x800
- Two-way audio
- Dual-lens day&night / PIR + Thermometer
- SD card recording / 802.11n WiFi + WPS



StarVedia Products



IC727w • IP66 water proof

IC737w

IC737w

- Mega-pixel 1280x800 / Two-way audio

 Dual-lens day&night / SD card recording

 PIR + Thermometer / 802.11n WiFi + WPS

IC717w

- Dual-lens day&night
- PIR sensor
- SD card recording / 802.11n WiFi + WPS



IC502w

IC502w

- DI/DO interface
- SD card recording



IC727w Outdoor

Winner of d&i awards

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