Inside Canon Inc



With its first camera in 1936, Canon has journeyed forward innovating and expanding, setting the benchmark in the industry. Focusing on both the input as well as the output, Canon provides the total solution in imaging technologies where its business spans three categories; Imaging System, Office and Industry and Others. At Canon Inc Headquarters in Shimomaruko, Japan the top management of Image Communication Product Operations (ICPO) spoke about Canon technologies, latest innovations and the global giant’s expectations for Asia, which they consider as one of their key markets.

By Udeshi Amarasinghe

Masaya Maeda, Managing Director and Chief Executive-ICPO
The primary strategy of Canon Imaging is to expand its image capturing domain where the best quality images can be taken under any condition. With the most advanced optical technology, products are not limited to Digital SLR cameras, interchangeable-lens compact system cameras, compact cameras, camcorders and EOS Cinema series but also includes printers, copiers, surveillance and medical equipment. Through the launch of innovative and attractive products while placing

an emphasis on profitable solutions and services, Canon aims to reach the number one position in all categories.

From research, planning and development to design, production and quality assurance, the entire process is completed within Canon, in other words “100 percent in-house.” The key components of Canon are the lens, imaging sensor and imaging processor. There is a fine balance maintained between these three components to ensure the highest quality. With new technologies Canon products have become lighter and more portable, while there is greater versatility for high-end users. As with all products Canon fulfills the requirements at entry, mid-range and pro (high-end) levels.

The Asian Market Has Grown From Ten Percent In 2005 To 30 Percent In 2013, Which Is Equivalent To Europe And Usa. As Such, Canon Has High Expectations To See This Market Grow Further…
The Asian market has grown from ten percent in 2005 to 30 percent in 2013, which is equivalent to Europe and USA. As such, Canon has high expectations to see this market grow further where they see that a larger number of people have the desire to take photographs. Currently the strong markets in the Asian region are identified as India, Singapore, Indonesia, Vietnam and Thailand. With the market in developed countries reaching a full cycle, entering the repurchasing mode, the emerging Asian markets have great potential with changing lifestyles of the population, where there is a greater demand for Canon products.

While the debate between smartphones and cameras-especially compact cameras-remains, Canon believes though smartphones are almost part of infrastructure, the need for cameras will not diminish as a smartphone cannot provide the total solution required. With a diverse selection of cameras, Canon caters to all levels of customers. Furthermore, with the introduction of features such as Wi-Fi and easy portability, the camera has become easier to use.

A totally Japanese product, recent developments globally saw some of Canon’s overseas production returning to Japan, where both domestic and overseas strengths were utilised to produce a comprehensive production system. Furthermore, the stability of foreign exchange as well as the Business Continuation Plan had to be taken into consideration where flexibility was required to determine

whether production has to be done overseas or in Japan. This was the reasoning behind the decision.

Positioned as both business and consumer products, Canon targets to be the number one in terms of sales in Asia as well as number one in service in the world. To achieve this goal, customers are provided with timely solutions; for example depending on the country, a fixed camera is returned within three days. Therefore Canon places the utmost importance in delivering the best to its customers.

With a history of almost 80 years, Canon's success lies in its corporate DNA; respect for humanity, emphasis on technology and enterprising spirit. The enterprising spirit on which Canon was started and the relentless drive to distinguish itself through technology have continued to propel the global giant to produce greater advances.

Canon's EF Lens Production Reached 90 Million Units In 2013. The Aim Is To Reach 100 Million Units In 2014… Continued Development In Attractive Technologies Come Together To Create High Quality Sharp Images.

Masato Okada, Executive Officer, Deputy Chief Executive ICPO and Group Executive ICP Group 1: EF Lens

The core of Canon's EOS System is its lenses. Currently with a portfolio of 87 EF lenses, which includes 73 lenses of the EF series and 14 lenses of the EF Cinema series, Canon's EF lens production reached 90 million units in 2013. The aim is to reach 100 million units in 2014. With continued development in attractive technologies, the aspherical lens made of fluorite (not glass), hybrid image stabiliser and STM (stepping motor for silent and smooth movement) come together to create a high quality sharp image. The aspherical lens ensures precision where spherical aberrations are avoided and thus even minute points are clear. Furthermore, the lens distortion is corrected as well. Lens are manufactured at the Utsunomiya Factory. The latest evaporation coating machines are used, while highly skilled lens-meisters produce the lenses. Canon is the only manufacturer to use aspherical lens technology.

Hybrid IS (image stabiliser) is essential for macro shooting and rectifies angle camera shake and shift camera shake. With new products for movies being

produced, the newly designed focusing system with STM (stepping motor) has the advantage of generating silent and smooth AF and Compact footage; that is no motor noise is recorded in the movie. The camera can be taken close to the object without disturbing it and there is smooth movement, which is essential for movies.

The design and development of EF Canon lenses are done in-house using optical design software, which includes optical, mechanical and electronic design. A prototype is manufactured where simulations are done to test shock and strength and a physical evaluation is done to thoroughly check the product.

EF lenses born from a dedication to quality in every aspect, from design to material selection, grinding and polishing; and an array of accessories form the core of the EOS system.

Go Tokura, Group Executive ICP Group 2: DSLR
The first analog EOS (EOS 650) was produced in 1987, with the advent of DSLR in early 2000, the number of units produced have increased steadily with Canon targeting 70 million EOS units in 2014. The DSLR market is growing steadily worldwide with Canon leading with 44 percent in terms of the number of units and 47 percent in value. This has been achieved not with discounted prices, but by producing high quality products. The Asian market has grown significantly, nearing USA and the EU, with 41 percent in terms of number of units and 47 percent in terms of value. Looking at DSLR shipments to Asia, it has increased to 30 percent.

Through The Step Up Strategy What Is Expected Is For A Halo Effect To Be Created At The Pro Level, Which Trickles Down To The Other Levels.

In actual fact what has occurred is that with smartphones a greater demand has been created for DSLR, where people are keener on entry-level products. The EOS line-up consists of entry, mid-range and pro levels.

A Step Up Strategy is adopted, where Canon is looking at ways to encourage people to move up the ladder by focusing on their requirements. A person who owns a digital compact camera or smartphone may not purchase from the same category,

but will step up to either entry or mid-range. Mid-range level products are very important as they come with many accessories. Through the step up strategy what is expected is for a halo effect to be created at the pro level, which trickles down to the other levels. However, selling a large number of entry-level products is not sufficient, as such a flagship product is necessary and the pro level products- EOS-1D C and EOS-1D X, fulfill that requirement. The core Canon technology of optical lens unit (EF lens), imaging sensor and imaging processor are utilised in the DSLR.

The four categories of users are as important as the others and it is difficult to select in which category more effort should be made. The halo effect actually works only when there is a flagship product; a very high quality top-end product. This will create the reliability as well as the value of the brand that has an effect that trickles to the next levels. Furthermore, while the halo effect is a mindset, the same applies to the technology, where the flagship product has the technology that has an effect on products in the other levels as well.

The history of EOS Movie began with EOS 5D Mark II in 2008, the world’s first full high definition movie camera.

Constantly Evolving And Always Striving To Achieve More, Canon Continues To Conduct Research And Development To Upgrade Its Products. The Basic Components Of The Camera Are The Optical Technology, Image Processing Technology And Mechanical Performance Within The Camera. Canon Strives To Provide Greater Value With Reasonable Cost To Provide The Best To The Customers.

EOS offers the enjoyment of shoot, see and share with still and movie product categories. This is through the introduction of features such as Wi-Fi and Bluetooth as well for products such as printers for photograph printing.

The latest products in the DSLR category are EOS 70D at pro level and EOS 1200D at entry level. The benefit of having Dual Pixel CMOS AF is faster and accurate still photography as well as smoother and accurate movies. There is sensory control and synergy effect with the STM lens. The CMOS sensor configuration and dual pixel

CMOS AF structure has taken DSLR to the next generation of tracking live view AF. The EOS experience is heightened with EF lenses.

With Asia becoming an important market for both EF lenses and DSLR, Canon has established a strong brand that has a common theme around the world. As such each country will be utilising and leveraging that strength in their marketing strategies, though country specific marketing strategies are a must as well.

Mitsuo Matsudaira, Group Executive-ICP Group 3: Compact Cameras
The digital camera market showed growth in 2000 and peaked in 2010. With the advent of smartphones where their sales grew rapidly; 1,000 million in 2013 as opposed to digital camera sales of 123 million.

The High Zoom Capabilities Of The Powershot Series Of Canon Have Been Extended To 2400mm.

However, the compact camera will not be driven out of the market as it is a specialised product performing a mono function. High quality images are produced using a synergy of technologies; high performance lens, sensor and DIGIC imaging processor.

The high zoom category has seen an increase, year on year, especially in the Asian market. The high zoom capabilities of the Powershot series of Canon have been extended to 2400mm. Furthermore, the premium category too has seen a year on year growth. What customers appreciate in this category is that there are a large number of sensors enabling high quality images. It creates the atmosphere without the necessity of a flash. The IXUS 265 is able to produce high quality images, which are produced even in the dark due to its optical zoom, macro and other various shooting modes as well. As such this category of cameras are more versatile than smartphones.

Canon believes that it is important to differentiate digital cameras from smartphones. The advantages of the compact camera is that it can make use of the zoom lens with high magnification by using large sensors enabling the user to shoot despite the darkness. By using that technology, Canon is focusing on expanding the

image-capturing domain, which includes the distance, brightness and timing.

Creative Shot is a feature where a single image can be presented in five different ways. This is to encourage artistic expression. To enhance the experience filters, crop and rotate functions can be used. Star mode is another such feature where the night photography can be done using Star Nightscape, Star Trails, Star Time-Lapse Movie and Star Portrait, which is the latest feature.

PowerShot N100 is the newest product, where from the images a story is created. The memory card stores the images and using an algorithm based on the users selection, a movie is created. Another special feature is that both the subject as well as the photographer can be captured in the image.

Canon has a strong insistence on usability where the large and easy to see UI displays, unique operability and functional design provide an experience that only Canon can offer. Furthermore, with a focus on capturing natural colours as seen with the naked eye, Canon pursues image quality of photos rather than depending too much on digital technology.

There are two categories of photographers; the light user and the heavy user who loves to take photographs. Light users are those who want to take snapshots and as such they will mainly use the smartphone. Canon will continue to make products that cater to this segment as well, by developing cameras that will enable users to take photographs that they cannot take with smartphones.

Canon cameras have an advanced network with mobile device connect button, NFC support and remote shooting. The new products are PowerShot G1 X Mark II and PowerShot N100.

The Reception To The Selphy Printer Has Varied Across Countries, Where Each Country Has Different Uses For The Selphy.

It is expected that by 2016, three trillion images will be captured and saved. The Selphy, compact photo printers are easy to use, portable, produce lab-quality photo

print from any device and at any location. The SELPHY CP910 has a wireless facility with built-in access points and removable battery. The SELPHY CP820 is the same as the CP910, but does not have a wifi function. It is a price point item for emerging markets.

The reception to the Selphy printer has been varied across countries, where each country has different uses for the Selphy. In the US and in Japan people usually install this printer at home to take printouts of the photographs they take. In India, Selphy printers are used to print ID photos as well as by tourist photographers in the tourism industry. It is a business as well as a consumer product.

Canon will continue to introduce new innovations for the compact camera and printer segment, where it will add value to ensure the stability of the market.

The Camcorder Market Share Increased Year By Year In The USA And Western Europe… Though The Market In Asia Has Not Shown Significant Growth, It Is An Important Market For This Product Group.

Hiroo Edakubo, Group Executive–ICP Group 4: Video Product Group
Canon has over 50 years of history in the video camera industry with its first, Cine 8-T in 1956. Following the introduction of High Definition products, all key components are developed in-house. This allowed for the optimisation of each component resulting in the highest image quality in the industry.

The Canon Pro camcorder line-up includes the EOS Cinema line for movies and the ENG line for close communication such as news. The camcorder market share increased year by year in the USA (38 percent) and Western Europe (31 percent). Though the market in Asia has not shown significant growth, it is an important market for this product group.

With the Cinema EOS System, the lens, CMOS sensors and imaging processor, which are original Canon technologies are all developed in-house and are the core to creating high quality shots.

There are three types of EF Cinema lenses; top-end zoom, compact zoom and prime lens. Lens camera communication is performed by the digital interface through the EF mount where the lens data is recorded and displayed. There is also peripheral lens correction for light distribution.

The Cinema EOS system initially targeted cinema production, but is used for a variety of functions surpassing the expectations of Canon. It has provided efficient and low cost operations where the system is used for cinema, TV drama, music video, commercials, weddings, short movies, documentaries and promotional videos.

The Origin of Canon

Japan's first 35mm focal-plane-shutter camera was known as Kwanon in prototype form. Kwanon is the Buddhist Goddess of Mercy. The name and symbol embodied the dreams and passions of the founders who set out to create the world's finest camera. The Kwanon name was changed to Canon to facilitate global recognition. The Canon consumer camcorder line-up in this group includes high-end HF-G and Legria Mini and Mini X, which is a new concept developed for new markets.

The market for camcorders in the commercial sector is shrinking. And if you take the conventional type camcorder, sales have dropped. Addressing this issue has been challenging. However, the commercial type of camcorders, that is the professional video cameras have an established market. This has been the focus area for Canon and the biggest technical move that they have made is the introduction of the EOS cinema series. However, a stronger sales drive is required.

A camcorder in the EOS cinema series that is a C300 or a C100 can use EF lenses, because it is compatible. Therefore people who are shooting videos using 5D could easily convert to the EOS Cinema models. There is an additional advantage in using a C100, as it carries an auto focus function.

Though the market for small camcorders has decreased, it is stable and the market remains. With products such as the Legria that has multiple functions Canon is catering to the evolving needs of the customer. "We know that the market still exists, so we add value to cater to that need."

The Legria Mini is simple and convenient and has a flexible shooting style with ultra wide angle lens, vari-angle LCD monitor allows shooting from various angles and built-in stand that supports hands-free shooting and self shooting. This product provides high image quality and high quality sound despite its compact size and features 12 megapixel high-sensitivity CMOS sensor that provides high quality video and images, combined use of mechanical shutter and high quality stereo microphone.

The Legria Mini X has high video and audio quality through its built-in large stereo microphone, linear PCM (16-bit/48 kHz) audio, full HD (1920 X 1080) movies and manual audio features. It gives the additional ease of freedom of shooting using ultra wide angle lens, vari-angle LCD and built in stand and on touch switching between wide and close-up mode. Being easy and convenient to use the Mini X supports both MP4 and AVCHD (50i) recording, EIS reduces camera shake in handheld video and also has more advanced Wi-Fi functionality with live remote streaming. The Canon camcorders are versatile and are compatible with the camera pan table. Canon will continue to innovate and introduce new products in this segment.

Canon while innovating and introducing new technologies to the industry is active in ensuring quality control, environmental initiatives, excellent customer service, enforcing compliance, human resource development and contributing to society.




THE CALL OF
WILD
SRI LANKA
Priyantha Talwatte