



## **Logipard chooses Toshiba SoC solution to develop advanced ASIC for MPEG-4 and H.264 video processing applications**

**Process technology and local engineering support speed development of integrated ARM-based SoC for fabless semiconductor manufacturer**

Toshiba Electronics Europe (TEE) has announced the successful completion of an ASIC development project with video codec and image processing specialist Logipard, subsidiary of Anoto Group AB. The fabless semiconductor manufacturer has used Toshiba's renowned process technology and the company's local engineers to create an advanced, low power ASIC. This ASIC is targeted for video processing applications being developed by Logipard customers.

By using the Toshiba process and IP libraries, in conjunction with support from the Toshiba ELDEC (European LSI Design and Engineering Centre) facility in Dusseldorf, Logipard engineers were able to minimise development time and achieve a very short prototype TAT (turn around time). Toshiba's expertise and experience with analogue

design, and the availability of IP for DDR interfaces and programmable buffers also helped to simplify the development process.

Based on Toshiba's 130nm process technology and integrated into a PFPGA281 package, the Argus IV ASIC is a sophisticated video and image processing IC operating at 225MHz. The device features an ARM926ESJS processor core running with a core frequency of 225MHz and operates with a power consumption of just 800mW. Key features of the IC include MPEG-4 and H.264 encoding and decoding at SDTV resolution as well as VGA at 30fps. The ASIC also offers a 12-bit ISP pipeline with Bayer to YUV conversion and zoom and scale post-processing supporting up to 5MPixel sensors with a processing speed of 75MPixel per second, Multi-purpose, multi-level (1.8V, 2.8V, 3.3V) CMOS I/O, a mobile DDR interface with programmable drive functionality and flexible power up and power down modes are also incorporated into the IC.

Linus Wiebe, Logipard's CEO, comments: "The new device is an integral element of video processing applications developed by our customers. In order to provide such an advanced solution in the project timeframe the prototype TAT had to be kept to a minimum. We chose Toshiba because we knew that their combination of process technology, IP, design experience and local engineering support would give us the best chance to achieve our goal."

Armin Derpmanns, general manager of the SoC Business Unit at TEE adds: "This development illustrates how leading fabless chip makers such as Logipard can benefit from Toshiba's open and advanced IDM model and local engineering support infrastructure. We were able to provide Logipard with the technology and development services needed to meet key performance, power, and functionality specifications at the lowest possible cost in the shortest possible time."

Mr Tsutsui, senior manager from Toshiba Semiconductor Company, Custom SoC Group in Japan states: "Fabless chip makers are strategic to the growth of Toshiba's SoC business. The project with Logipard is yet another example of how we can support such companies at every stage of the design, development, prototyping and manufacturing process."

For more information visit Toshiba's web site at <http://www.toshiba-components.com/ASIC/index.html>

## **About Toshiba**

Toshiba Corporation is a leader in information and communications systems, electronic components, consumer products and power systems. The company's integration of these wide-ranging capabilities assures its position as an innovator in advanced components, products and systems. Toshiba operates a global network of more than 740 companies, with 198,000 employees worldwide and annual sales surpassing US\$76 billion.

Toshiba Electronics Europe (TEE) is the European Headquarters for the electronic components business of Toshiba Corporation, which is the world's fourth largest semiconductor vendor according to estimates by Dataquest.

Providing design, manufacturing, marketing and sales, TEE was formed in 1973 in Neuss, Germany. The company now has headquarters in Düsseldorf, Germany and subsidiaries in France, Italy, Spain, Sweden and the United Kingdom. Company president is Mr. Hitoshi Otsuka and the total number of personnel in Europe is around 400.

Toshiba Electronics Europe offers one of the industry's broadest IC and discrete product lines including high-end memory, microcontrollers, ASICs, ASSPs and display products for automotive, multimedia, consumer, telecoms and networking applications. The company also has a wide range of power semiconductor solutions.

For more company information visit Toshiba's web site at [www.toshiba-components.com](http://www.toshiba-components.com)

## **About Logipard**

Logipard's business focus is to supply its customers with the most proficient solutions for Video Codec and Image Processing - both as Silicon IP Core and stand-alone ASSPs.

Logipard ([www.logipard.com](http://www.logipard.com)) is located in Lund in the south of Sweden, close to Lund University, Lund Institute of Technology and IDEON Science Park. The Logipard team has been working on the hardware implementation of Image Processing and Video Technology since 1997, first within the company C-Technologies ([www.cpen.com](http://www.cpen.com)) and later Anoto AB ([www.anoto.com](http://www.anoto.com)).

Logipard AB is a subsidiary of Anoto Group AB, world leader in the first commercialized digital pen and paper technology. The Anoto Group AB share is traded on the Small Cap list of the OMX Nordic Exchange in Stockholm under the ticker ANOT. For more information: [www.logipard.com](http://www.logipard.com) and [www.anoto.com](http://www.anoto.com).

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