

Next-generation multi-platform video analytics SoC results from collaboration between Imagination and ELVEES

ELVEES' new ELISE SoC targets ADAS, smart devices, IoT, augmented reality and more

LONDON and MOSCOW, May 2, 2016 – ELVEES NeoTek as a part of ELVEES companies group (ELVEES) and [Imagination Technologies](#) (IMG.L) report the tapeout of the ELVEES Image Semantic Engine (ELISE), a unique next-generation multi-platform SoC for a wide range of existing and future global video analytics markets.

The ELISE SoC from ELVEES introduces an innovative architecture to fulfill the needs of both high-performance mobile computing and video analytics, and is based on a high-performance, energy-efficient multimedia/video IP platform from Imagination. ELISE combines a wide range of rich functionality including blocks for pre-processing and post-processing of stereo video at ultra-high resolutions; a range of CPUs for high-, medium- and low-profile tasks; a high-end mobile GPU; and a multicore standard navigation engine.

Companies can use the new ELISE chip to develop a new generation of IP cameras with video analysis and a wide range of OEM modules. ELISE will bring this technology to a broad spectrum of multimedia devices, including tablets, communications products and navigation terminals.

Video analytics, the processing and understanding of video streams, is important for many emerging markets including:

- Smart cities – based on innovative IP cameras with real-time monitoring
- Retail/smarter shops – with augmented reality and next-generation security with safety everywhere
- Autonomous automobiles – featuring Advanced Driver Assistance Systems (ADAS)
- Mobile devices – for a myriad of applications from augmented reality and visual search to simply more feature-rich cameras
- Internet of Things (IoT) applications where the camera is a key 'sensor'
- Consumer multimedia, home entertainment and enterprise – where existing markets are evolving to embrace the potential of video analytics

The ELVEES/Imagination partnership

Video analytics hardware and software complexity are increasing exponentially, requiring quadrillions of operations per second, with more and more functionality. The strategic collaboration between ELVEES and Imagination was based on a shared belief that joint efforts will bring much stronger and more effective results for development of next-generation video analytics technology where application and domain knowledge are essential. The partnership is enabling both companies to drive innovation with more rapid deployment of key technologies and products.

The companies worked together to combine and leverage each other's skills:

- Imagination's proven, scalable IP, enabling ELVEES as a customer to create differentiated SoCs with low risk and fast time to market
- ELVEES' Semantic Video Processing Platform – technology that combines new video analytics algorithms and software libraries in a customizable IP platform

Says David McBrien, EVP, sales and marketing at Imagination: “We recognize the strength of ELVEES’ know-how and leading technologies in what we see as a key and growing market, and where we feel the companies’ collaboration can make a significant impact.”

Says Yaroslav Petrichkovich, president of ELVEES companies group: “Imagination’s comprehensive portfolio across processing, multimedia and connectivity enables us to deliver our expertise and technologies in a complete, state-of-the-art and highly competitive solution.”

Inside the ELISE SoC

For the new ELISE SoC which was manufactured in the TSMC 28 HPM process, ELVEES licensed a broad portfolio of Imagination’s IP and platforms including:

- An integrated PowerVR Vision IP Platform that combines a PowerVR GX6250 GPU, a PowerVR V2500 imaging processor (ISP), a PowerVR E4500 video encoder and a PowerVR D5500 video decoder, saving power and bandwidth for today’s camera applications
- A dual-core high-performance MIPS Warrior P5602 CPU, as well as an energy-efficient multi-threaded MIPS interAptiv CPU and MIPS Warrior M5150 MCU-class CPU – altogether delivering superior acceleration for compute-intensive video analytics applications and audio processing
- Enigma Explorer C4250 connectivity processors (RPU) which provide high-performance on-chip Wi-Fi and Bluetooth to support future wireless multi-dimension video analytics cameras

Imagination’s IP was complemented by the specialized, but programmable and powerful ELVEES 8-cluster video processor (Velcore2) with accelerator IP cores that provides the foundation for such capabilities as 4K rate stereo streams for facial recognition, augmented reality and more.

Unique hierarchical ELISE tools also have been developed, including libraries for the Khronos OpenVX™ API and the innovative VIPE tool for vision and general purpose algorithm development on mixed multi-platform CPU/Velcore/GPU SoC systems.

As part of the strategic partnership, Imagination has licensed GNSS technologies from ELVEES and ELISE has built-in multi-standard GNSS support (GPS/GLONASS/BeiDou/Galileo).

Availability

The new ELISE SoC will be available from ELVEES in the fourth quarter of 2016. Contact Andrei Pimenov at apimenov@elvees.com for more information.

About Imagination Technologies

Imagination is a global technology leader whose products touch the lives of billions of people across the globe. The company’s broad range of silicon IP (intellectual property) includes the key processing blocks needed to create the SoCs (Systems on Chips) that power mobile, consumer and embedded electronics. Its unique software IP, infrastructure technologies and system solutions enable its customers to get to market quickly with complete and highly differentiated SoC platforms. Imagination’s licensees include many of the world’s leading semiconductor manufacturers, network operators and OEMs/ODMs who are creating some of the world’s most iconic products. See: www.imgtec.com.

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About ELVEES companies group

ELVEES companies group (ELVEES NeoTek) is a Russian microelectronics industry leader in world-class ASICs with heterogeneous multicore SoC Architectures for video analytics. ELVEES has its innovative Semantic Video Processing Platform technology, combining new video analytics algorithms, IP-cores, and software libraries. ELVEES also provides smart analytics camera surveillance and already offers a broad range of solutions used by various industries, including equipment to ensure security at major airports and at fuel and energy facilities. See: www.elvees-nt.com

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