

Cognivue Corporation is a privately-held fabless semiconductor company developing programmable Image Cognition Processors (ICP) to enable real-time embedded image and video analytics applications in smart cameras for markets such as automotive and video surveillance/monitoring.

Market Focus

Many markets benefit from Cognivue technology. Our strategic focus is on developing programmable image and video cognition based semiconductor solutions for automotive, portable consumer and IP video surveillance markets. A growing number of applications such as cameras used in cars for enhancing driver safety and cameras for video surveillance demand sophisticated video analysis for pattern detection, recognition and classification features. Cognivue programmable processors are well-suited to these smart camera based markets.



Market Potential

- Annual production of automotive camera modules is expected to hit 60 million units by 2014;
- Emerging driver-assist automotive applications will require complex detection and analysis of image data captured by several embedded cameras. Some examples are back-up camera, driver monitoring camera, lane detection, driver monitoring, car video recorder (black box) and collision avoidance stereoscopic camera;
- As more hybrid cars and electric cars are introduced, low power consumption will be required of all new semiconductor solutions introduced to new automobile models;
- Intelligent video surveillance and monitoring cameras are emerging as a new trend for various sectors including retail, transportation and healthcare.

Products

- ☐ Programmable, low power Image Cognition Processors (ICP) for smart camera based systems
- ☐ Low power technology for emerging portable 3D display based market
- ☐ Programmable multimedia processors supporting all standard image, video and audio codecs

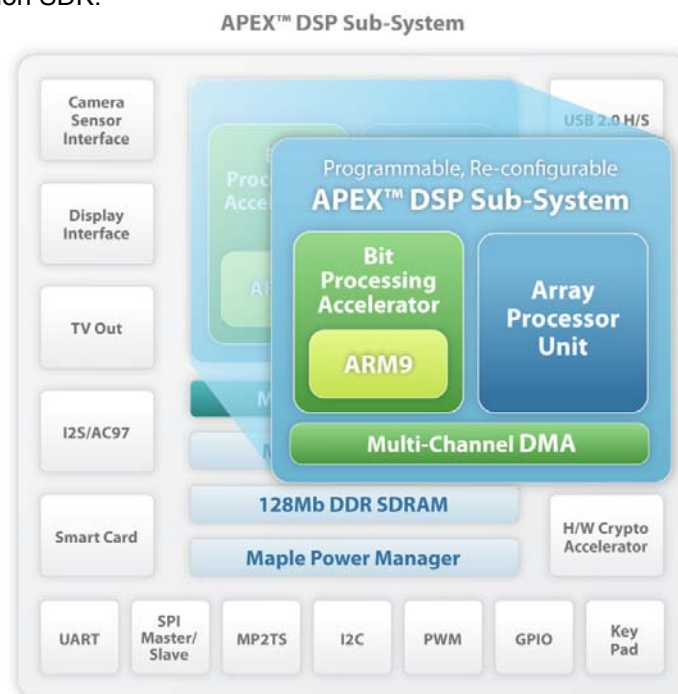
Technology

At the heart of Cognivue technology is a massively parallel, highly scalable, low power processing system called APEX[™]. The APEX technology is used to run compute-intensive applications requiring efficient high-performance processing. Current generation of APEX consists of:

- ☐ First ever commercially successful massively parallel SIMD Array Processor Unit (APU) made up of a configurable number of Computational Units (CUs) each with dedicated memory;
- ☐ A comprehensive multi-channel DMA engine devised for efficient data movement into and out of APEX;
- ☐ Hardware acceleration blocks for entropy encoding/decoding and bit-level processing;
- ☐ General purpose RISC processor – ARM9

By locating working memory on chip inside the APU, APEX can offer power and speed advantages over traditional Harvard architecture or VLIW based DSPs. In APEX data is fetched from external memory and streamed into the local APU memory. All processing is performed locally before being stored back to external memory, resulting in less data movement and less power. Since there are many more CUs operating in parallel than the largest number of functional units or ALUs in a DSP, the operating frequency is lower as well, thereby reducing power.

In addition, APEX is scalable enabling an implementation in silicon to be scaled to match performance needed for a specific implementation. APEX-2 will build on proven performance of APEX and increase performance and efficiency, add significant new features including MIMD type processing, high-level programming tools and comprehensive image cognition SDK.



Contact Information

Tina Jeffrey, tjeffrey@cognivue.com
819-595-4999 x229