

In addition to ASIC and FPGA engineering services, DCT also offers professional design service for embedded software projects.

Over the past 15 years, our achievements include many successful projects in consumer electronics, telecommunications and automotive industries, focusing on, but not limited to, image processing and video encoding and decoding.

One of Dream Chip Technologies key competence is the development of multimedia applications for streaming video and audio through wired and wireless networks like WIFI and LTE. We also enhance and customize video codec's for sub-frame latencies for e.g. safety critical imaging applications or live broadcast.

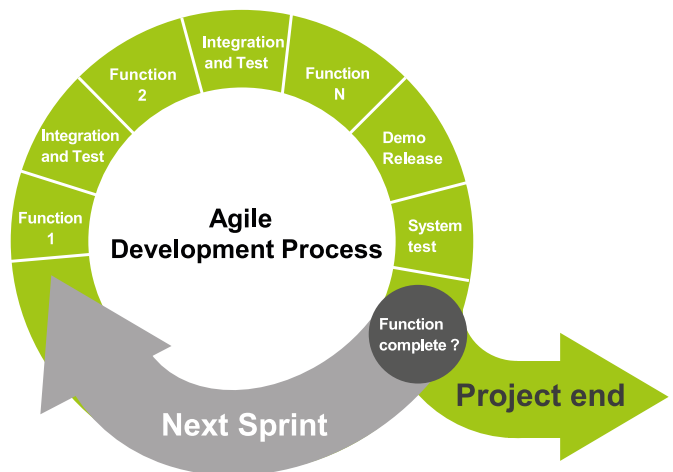
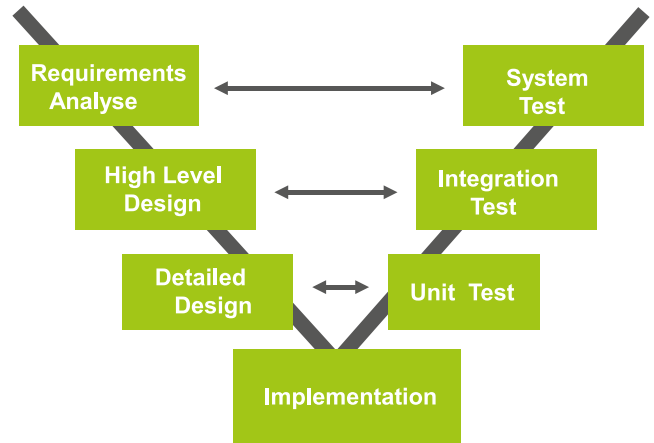
With our strong background in ISP (Image Signal Processing) development, Dream Chip Technologies also develops and customizes image processing algorithms e.g. for object detection and tracking applications.

We implement efficient solutions for any kind of resource limited embedded system or microcontroller. Examples are 8-, 16- and 32-bit microcontrollers in automotive applications implemented in assembly language and C, including ASIL B rated safety critical applications.

Our Linux porting and system integration offering includes boot loader porting, kernel porting and creation of optimized root file system for your application software. DCT also develops and debugs Linux drivers and adapts generic drivers to customer specific hardware. Hardware bring up and on target debugging from first electrical tests to the running user application is offered as well.

Dream Chip Technologies is design network partner of TI, but also supports devices from other companies like Infineon, ST, Intel, Freescale and Nvidia to name a few.

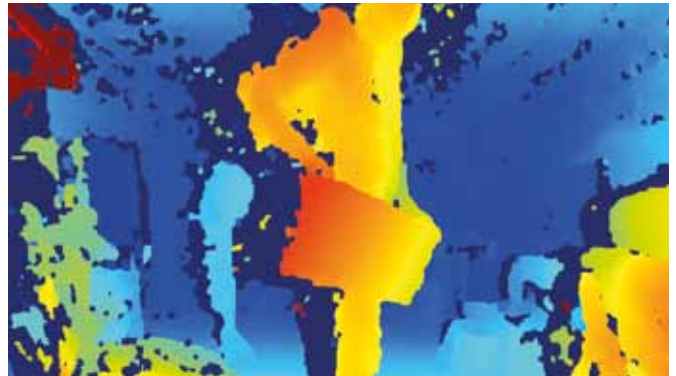
Employed Software Development Processes



Project Examples:

Stereo camera application:

- Uses combination of 3D-algorithms like SGBM and point cloud and 2D-algorithms, e.g. Hough transform
- Using OpenCV 3.3 and PCL point cloud library
- Plattform is based on Nvidia TX2-SOM
- Running Yocto-Linux
- CUDA port of core algorithms
- Using IMX290 image sensors



Automotive Safety Know-How regarding ISO 26262:

- Aurix TC233, TC234 and TC275
- AUTOSAR (Elektrobit TRESOS) and OSEK
- Functional Safety regarding ASIL B
- Configuration of Processor/MCAL/AUTOSAR OS via TRESOS-Studio
- Configuration and Adaption of the Software-Platforms
- Re-unification of the Safety Controller e.g. TLF35884 incl. Safety Lib



LTE video streaming device:

- Based on DM8148
- Compression Algorithm: Baseline, Main and High Profile H.264
- Bit Rate: 200 Kbps to 30 Mbps
- Built in Video Scaler and Deinterlacer
- Supports LTE 700MHz, 800MHz, 900MHz, 1,7 GHz, 1,8 GHz, 2,1 GHz and 2,6 GHz
- FDD and TDD



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Product specifications are subject
to change without notice.

