

Cherub saves time to market

Introduction

Cherub is the latest ITS BV innovation, a compact and versatile Electro Optical and Long Wave Infrared camera fusion core. In this core a 3.1MP CMOS low light level sensor and a QVGA or VGA



Cherub camera core

microbolometer can be operated either stand alone or in a multitude of low latency fusion modes. It is available as a module to be integrated into ruggedized housings to quickly conquer the (military) vehicle camera market with an affordable fusion camera. The core also allows for tethering if manufacturers want to integrate it into a long range surveillance platform or binocular for example. The use of larger optics can be facilitated in this way as well.

therefore latency is neglectable to only a maximum of 2 lines. It also runs embedded Linux and through the 100 pin connector additional data input is possible, for example laser range finder input, tactical data input or keypad input. Multiple outputs are available on request but the core comes standard with an HD-SDI, full HD output.

The core runs a powerful Cyclone 5 FPGA which takes care of the image fusion and

The core's LWIR camera has been developed by ITS as well as the CMOS camera. The LWIR camera utilizes a shutterless Non Uniformity Correction (NUC) and is free of Fixed Pattern Noise (FPN). Smart, in house designed algorithms make the quality of the image one of a kind! Never before you have witnessed a picture with less noise than the picture ITS BV is providing to you.

Easy integration

For OEM's looking to develop a multi-spectral or fusion camera system it is always a burden to integrate both cameras into a housing and if that has succeeded, develop the fusion algorithms as well. It is of this burden that most systems on the market today don't facilitate fusion or offer a poor fusion solution. The module that ITS BV has developed takes away this burden and allows OEM's enormous flexibility in their designs. It is easy to integrate because of the smart (mechanical) design and system developers only have to take care of the housing and optics to develop an end user system. Everything else has been done for them by ITS BV. This shortens time to market and could gain an advantage to win camera tenders in the high amount of vehicle (upgrade) programs that are running all over the world. In only 5 weeks ITS has built a demonstrator to be able to show the power of Cherub to the world during Eurosatory 2018. The video footage can be found here:

<https://www.youtube.com/watch?v=eQ29dL2sSs&t=4s>

Applications

Multi sensor fusion can be used in a variety of applications in defence, security and industrial markets. Some of the applications/systems that could benefit are for example:

- Vehicle cameras
- Surveillance platforms

- Wearable systems
- Weapon sights
- Mono- or Binoculars
- Remote weapon stations

Low cost

Due to the fact that both camera's in the Cherub core are developed by ITS BV, no "expensive" camera cores have to be used and therefore the core comes for an acceptable price. If you are interested in integrating the core into your (new) end user products, just contact one of the ITS sales managers at sales@its-hightech.nl or give us a call at 0031 (0) 50 2113869.