# CPT320

GPUCPU AI FUSION COMPUTER

- MIL-STD-810 Thermal, Shock, Vibration,
- Intel® 9th Core i7-9700TE, 8C/8T, 1.8/3.8GHz, 35W
- 2x DDR4 SO-DIMM up to 64GB
- NVIDIA®GTX1660S GPU (6GB RAM , CUDA 1408) or
- NVIDIA RTXA2000 GPU (8GB RAM, CUDA 2560)
- 4x RJ45 LAN, 4x USB, 5x DP
- 2x 2.5" SSD/HDD
- 12V DC-IN
- Extended Temperature -20°C to 60°C

Introduction

- **Advances in unmanned vehicles technologies**

Unmanned Vehicle Technology integrates high-power processing computers, intelligence, drive-by-wire technology and perception sensing technologies. The trucks are equipped with LiDAR, RADAR, GPS, Vision, Advanced Algorithms, and, of course, very powerful computing capabilities. Generally a certain level of autonomous flight capability is required for the vehicle to achieve its mission. The basic autonomy level is to maintain its stability following a desired path under embedded guidance, navigation and control algorithm. The UGV technology trends indicate that to cope with the more stringent operation requirements, the UGVs should rely less and less on the skill of the ground pilot and progressively more on the autonomous capabilities dictated by a reliable onboard computer system.
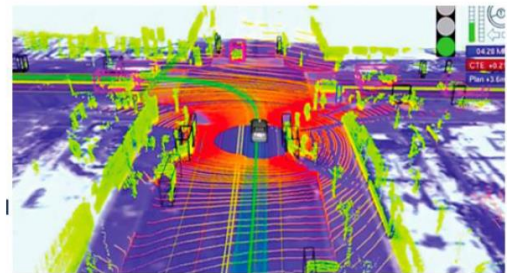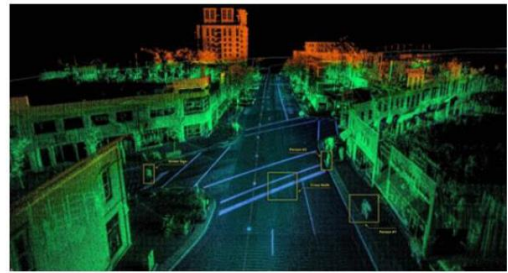
- **Advances in unmanned vehicles technologies**
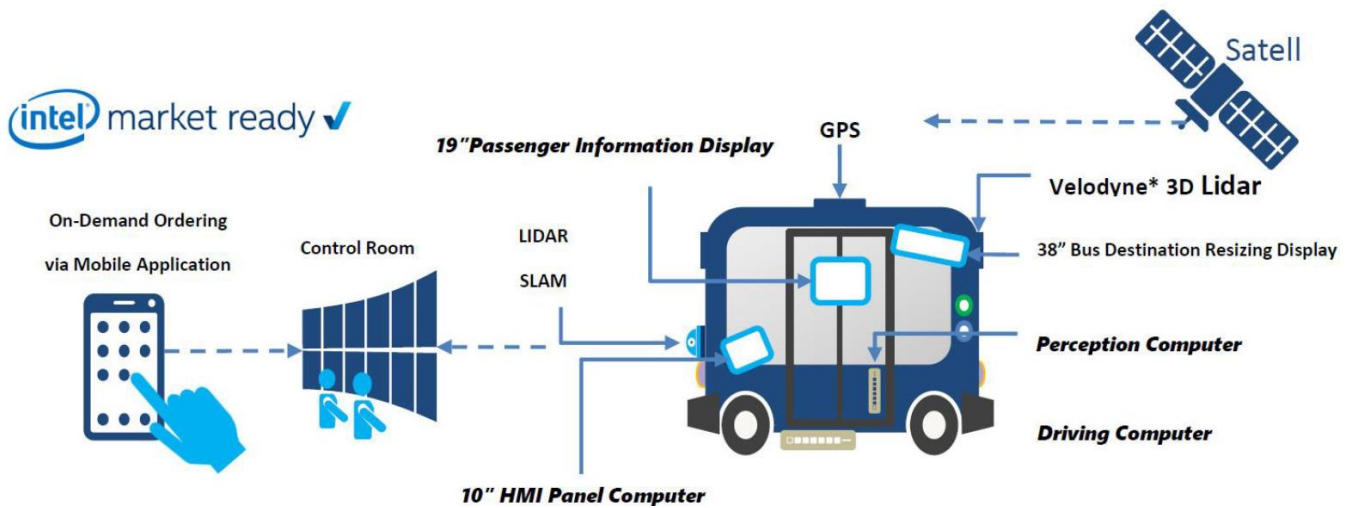
• Architecture of UGV IT Diagram
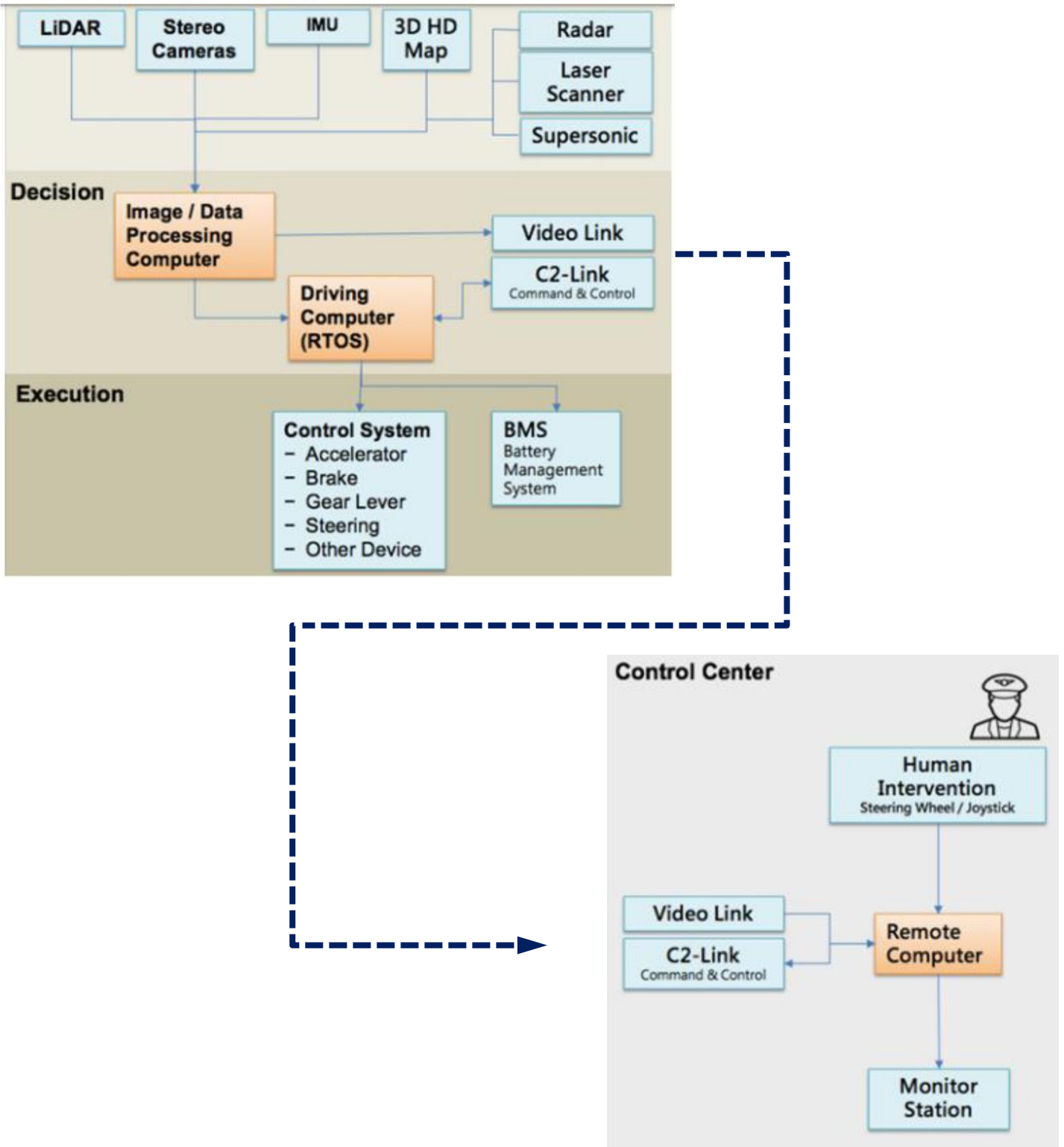
Specifications

System

CPU	Intel® 9th Gen Core™ i7-9700TE (Frequency 1.8GHz, Turbo Boost Frequency up to 3.8GHz), 8 Corest, 12MB SmartCache. Build-in HD Graphics 630 for excellent 3D, Turbo Boost Technology 2.0, VPro and Hyper-Threading support
Memory type	2x SO-DIMM DDR4 2400/2666 MHz up to 32GB
Chipset	Intel® Q370 Chipset providing integrated USB3.0 and supporting 8th/9th generation Intel® Core™ processor families
Expansion slot	1x M.2 (KEY E, 2230) with PCIe x1 and USB2.0 for Wireless 1x M.2 (KEY M, 2242/2260/2280) with PCIe x4 and SATA3 for SSD

Display

GPU	NVIDIA GTX1660 Super, NVIDIA 1050Ti
Display Port	5x DP, Resolution up to 4096 x 2304 60@Hz

Storage

M.2	Up to 1TB
SSD	2x 2.5" Drive Bay

Ethernet

Ethernet	I2 x Intel Gigabit Ethernet LAN Interfaces (10/100/1000Mbps)

Rear I/O

Display Port	4x DP
Ethernet	2x RJ45 Gigabit Ethernet LAN Interfaces
	4x RJ45 Gigabit Ethernet LAN Interfaces (option)
Serial Port	2x RS232 (Optional)
Power Button	1x Power Button with LED
DC-IN	1x 4P Rugged Terminal connector, DC 12V
Indicator LED	1x HDD/SSD Active LED

Applications, Operating System

Applications	Commercial and Military Platforms Requiring Compliance to MIL-STD-810 Embedded Computing, Process Control, Intelligent Automation and manufacturing applications where Harsh Temperature, Shock, Vibration, Altitude, Dust and EMI Conditions. Used in all aspects of the military
Operating System	Windows 10, Ubuntu18.04

Physical

Dimension (WxDxH)	250 x 225 x 98 mm
Weight	5.5 Kg
Chassis	SECC + Aluminum Alloy, Corrosion Resistant.
Finish	Anodic aluminum oxide (Color silver)
Cooling	Natural Passive Convection/Conduction. No Moving Parts
Ingress Protection	Dust Proof (Similar to IP50)

Environmental

MIL-STD-810G Test	Method 507.5, Procedure II (Temperature & Humidity)
	Method 516.6 Shock-Procedure V Non-Operating (Mechanical Shock)
	Method 516.6 Shock-Procedure I Operating (Mechanical Shock)
	Method 514.6 Vibration Category 24/Non-Operating (Category 20&24, Vibration)
	Method 514.6 Vibration Category 20/Operating (Category 20 & 24, Vibration)
	Method 501.5, Procedure I (Storage/High Temperature)
	Method 501.5, Procedure II (Operation/High Temperature)
	Method 502.5, Procedure I (Storage/Low Temperature)
	Method 502.5, Procedure II (Operation/Low Temperature)
	Method 503.5, Procedure I (Temperature shock)
Operating Temperature	-20°C to 60°C (ambient with air flow)
Storage Temperature	-40°C to 85°C
EMC	CE and FCC compliance

Ordering Information

CPT320

Fanless Rugged Server with Intel® 9th gen. Core i7-9700TE, GTX1660S GPU(CUDA Cores: 1408), Dual LAN, Operating Tempterature -20~+60°C .

CPT320L

Fanless Rugged Server with Intel® 9th gen. Core i7-9700TE, NVIDIA GTX1060M, Quard LAN, Operating Tempterature -20~+60°C .

Dimension