HORUS330-X1

1.5U Fanless Rugged Server with Intel. 7th gen Core i7 Processor

- Intel® 7th Gen. Core i7-7820EQ
- DDR4 32GB RAM
- Nvidia GTX1050Ti Graphic Card support (4GB RAM, 768 CUDA)
- 2 x RJ45 LAN, 6 x USB
- Dual CANbus
- 1 x 1TB SSD, 1x 64GB SSD(MLC)
- Extended Temperature -20~+60℃

MIL-STD 810   intel CORE i7 7th Gen   NVIDIA GEFORCE GTX 1050 Ti   Extended Temperature

Introduction

To achieve Artificial Intelligence Security in Traffic field, high performance GPUCPU structure is an essential element. HORUS330-X1 plays a critical role in Sensor Fusion framework, which is fundamental of Traffic surveillance and management system. 3D LIDAR Enforcement, a gradually recognized and matured surveillance device, using LIDAR cameras technique to reach accurate and efficient traffic monitoring and detection. Moreover, the Sensor Fusion Capability makes HORUS330-X1 can be widely used for different situations, UGV or Smart City.

How Autonomous Vehicle Works

Sensors are key components to make a vehicle driverless. Camera, radar, ultrasonic and LiDAR enable an autonomous vehicle to visualize its surroundings and detect objects. Cars today are fitted with a growing number of environmental sensors that perform a multitude of tasks. The control system integrated sensors for AV encompasses three parts: perception, decision and execution.
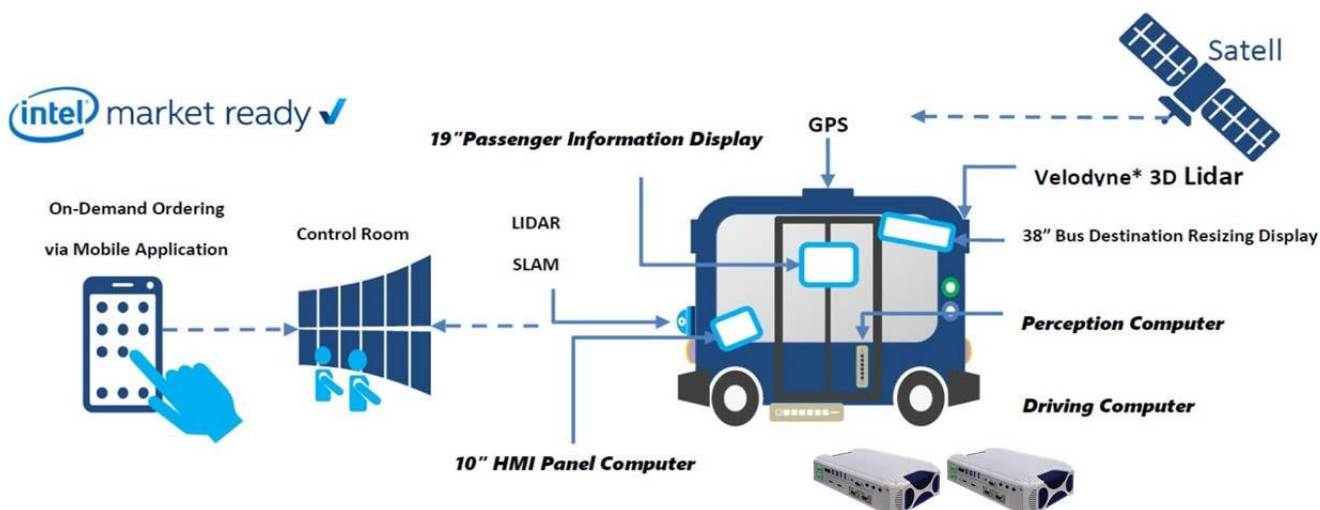
1. PERCEPTION LAYER

Perception enables sensors to not only detect objects, but also acquire and eventually classify and track objects surround.

2. DECISION LAYER

Decision-taking is one of the most challenging tasks that AVs must perform. It encompasses prediction, path planning, and obstacle avoidance. All of them performed on the basis of previous perceptions.

3. EXECUTION LAYER

Execution layer consists of interconnection between accelerator, brakes, gearbox and so forth. Driven by Real-Time Operating System (RTOS), all these devices can carry out commands issued by Driving Computer.
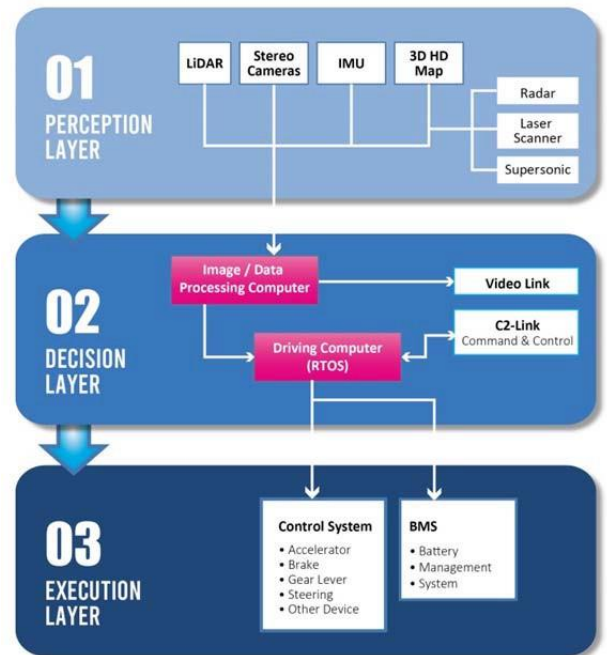
Required High Performance Computing Power

In response to an exponential increase in the usage of the autonomous vehicles across the globe, 7StarLake continuously develops suitable products for self-driving cars. 7StarLake's GPGPU AI Fusion computers provide complete structure for image processing and driving with remarkable durability for various unpredictable conditions and perfect adaptation for multi-usage. It can process variant vision sensor data synchronously, and offer a high-performance solution for automated driving that supports all relevant sensor interfaces, buses, and networks.

Depending on environmental condition and application, AV requires different facility composition and system organization. In recent innovating and examining process, AV is commonly used in three main fields: Load lifter, Shuttle bus, and Battle MUTT. To learn more details about the operation, please check out the highlight solutions below.
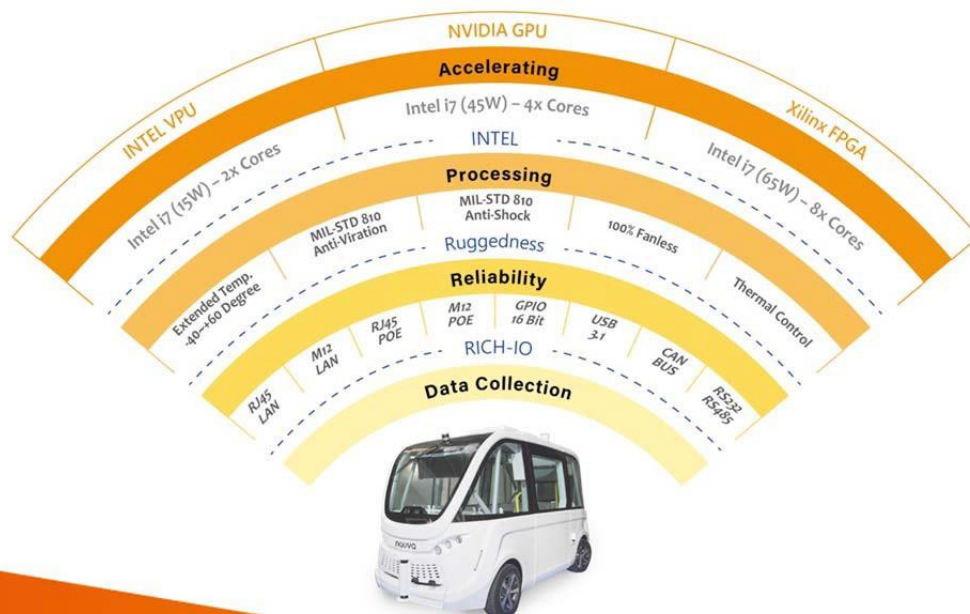
Specifications

System

CPU	Intel® Kabylake-H Mobile Processor
Memory type	32GB DDR RAM
Storage Device	2 x 2.5" Easy swap HDD/SSD Tray
Expansion Slot	2 x mPCIe slot (1 supported with mSATA)

Rear I/O

USB	4 x USB 3.0
Ethernet	2 x RJ45 GbE
Audio	Mic-in, Line-out
DisplayPort	2 x DisplayPort from CPU
Antenna	3 Reserved for 4G/Wi-Fi/GPS
I/O Expansion	2 x I/O Expansion

Front I/O

USB	2 x USB 2.0
2.5" SSD/HDD Tray	2
Power button	1 with backlight
HDD LED	1
Handle	2

Mechanical and Environment

Power Requirement	9~36V DC-in
Operating Temperature	-20 to 60°C (ambient with air flow)
Storage Temperature	-40 to 85°C
Relative Humidity	5% to 95%, non-condensing

Dimensions