

Advantech

«Решения для транспорта»

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Представительство компании
Адвантек в России*

Enabling an Intelligent Planet

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ARK - встраиваемые промышленные компьютеры – встраиваемые компьютеры

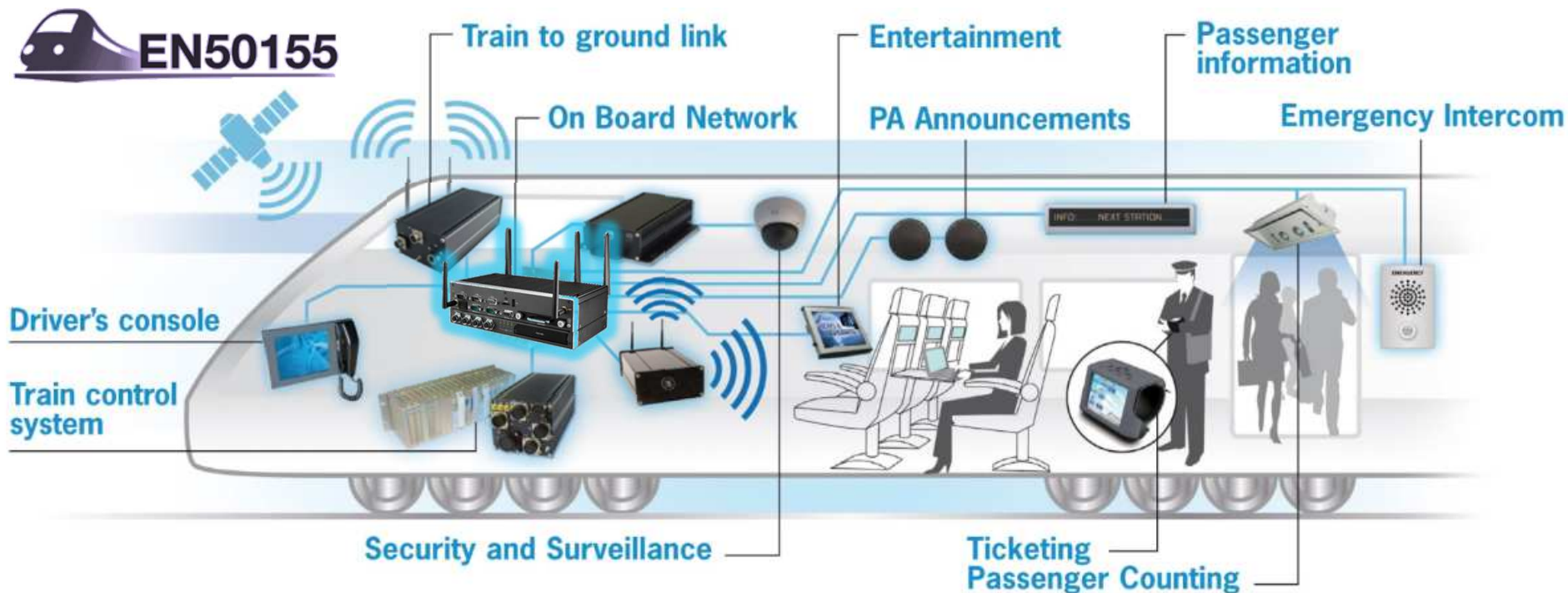
Серия ARK-2231R



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ARK-R область применения – ЖД транспорт



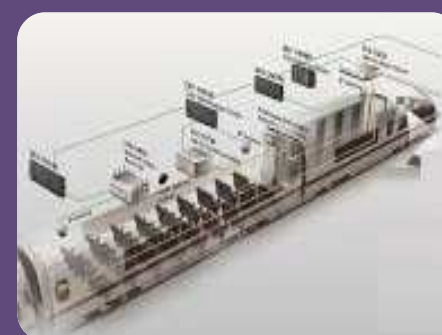
Сетевой видео регистратор



Информационная система



Развлекательная система



Терминалы данных

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ARK-R Продуктовая линейка

Опционально

Основная система

ARK-2231R-S9A1E

Intel Atom **E3845** 1.91GHz QC
- 24Vdc/USB3.0/GbE/COM/HDMI

Q1'17

ARK-2231R-U0A1E

Intel APL-I X7-**E3950** QC
- 24Vdc/USB3.0/GbE/COM/HDMI

Q3'17



Модули расширения

AMK-R100E : **4x GbE PoE+** ports (X-coded),
1x anti-vibration 2.5" drive bay

AMK-R104E : **4x 10/100Mbps PoE+** ports
(D-coded), 1x anti-vibration 2.5" drive bay



AMK-R101E : **8x GbE PoE+** ports (X-coded),
1x anti-vibration 2.5" drive bay

AMK-R105E : **8x 10/100Mbps PoE+** ports
(D-coded), 1x anti-vibration 2.5" drive bay



AMK-R102E : **2x Isolated COM**, 16Bit DIO,
1x anti-vibration 2.5" drive bay



AMK-R103E : **4x Isolated COM**, 16Bit DIO,
1x anti-vibration 2.5" drive bay

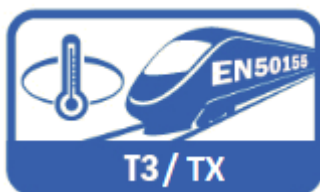


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ARK-2231R Основные особенности

Система предназначенная для применения на подвижном составе с гибкими возможностями по расширению



2017/Q1

Phase In

2023/Q4

Longevity

Excellent Computing/Graphic Power

Support up to 1080p 240fps

Intel Bay Trail E3845/Apollo Lake X7-E3950

DDR3L 1333MHz/DDR3L 1867, Up to 8GB

Flexible I/Os options for specific application

2*GbE, USB3.0, 2*USB2.0, VGA, HDMI, Audio, DIO, 2*COM

NVR Kit: 4/8 GbE PoE+, 1*2.5" drive bay

Terminal kit: 2/4 isolated COM, 16bit DIO, 1*2.5" drive bay

Diversity Communication and Sensor

Built-in: **GPS** and **G-Sensor**

Extensible: 3* Mini-PCle Slots (**WLAN, WWAN, BT**)

Anti-Vibration/Shock Proof

IEC 61737 Category 1, Class B

DC 24, 48, 72, 110V options

EN50155 S2C1

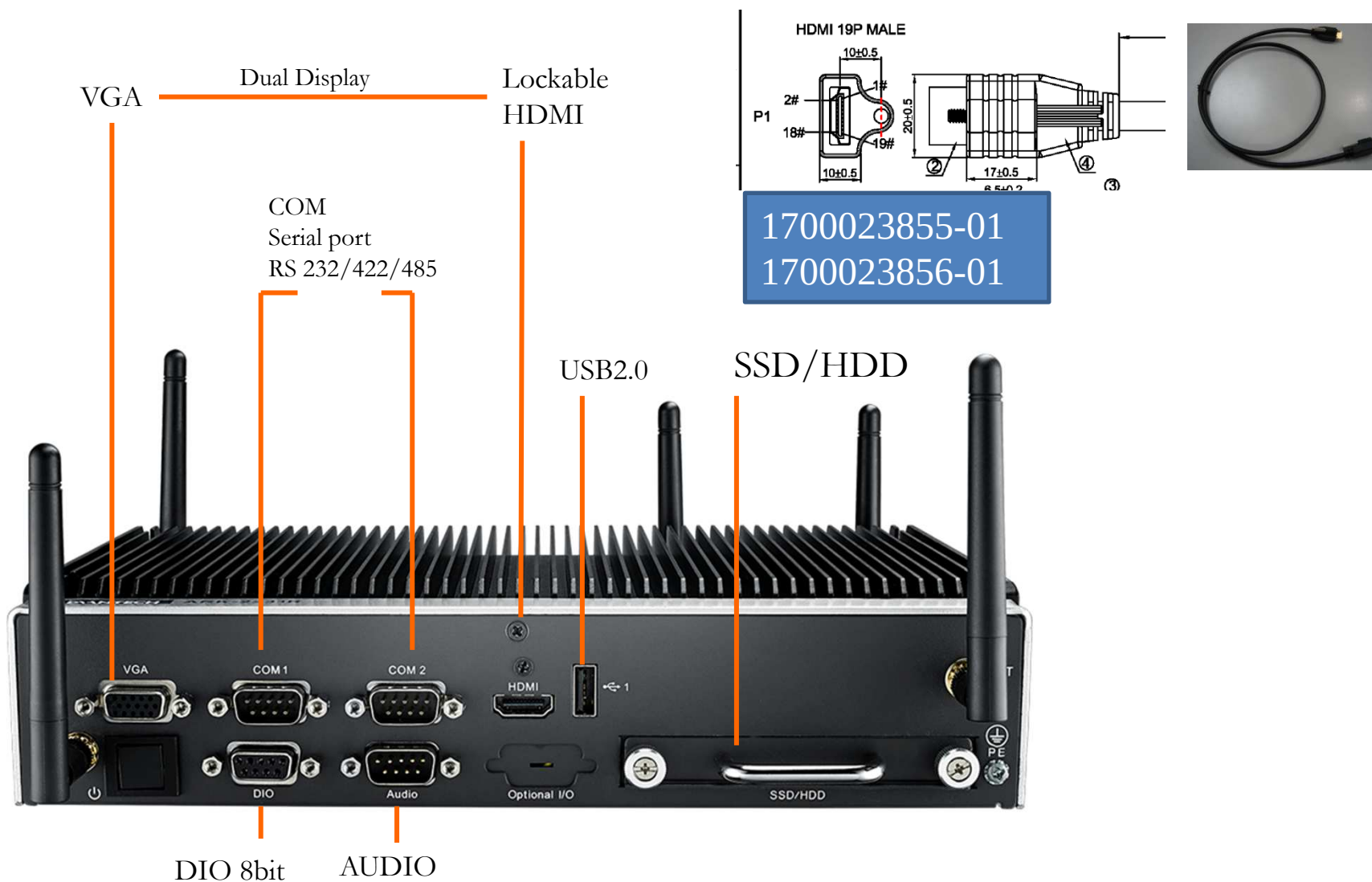
Certification

CE, FCC, CB, UL, CCC, BSMI, **EN50155**

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Блокируемый дизайн разъема видео выхода



Блокируемый прочный дизайн разъема

Remote control:
G/Reset/Power/HDD LED*2/Power LED

XARK-GV-MDR3400

3M WDR Pro Mini Fixed Rugged IP Dome
M12 connector

Giga LAN M12 X coded*2

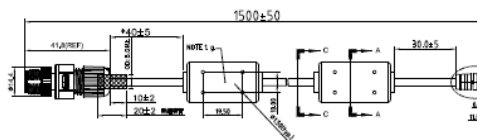
SIM slot



Power in with M12 D Coded

USB2.0 M12 A coded

Water Proof USB 3.0 Type A

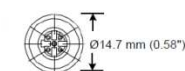


FSP180-AAAN2-4CI

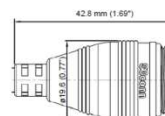


• LAN Connector

1. Waterproof M12 4-Pin Female Connector (for motor vehicles)

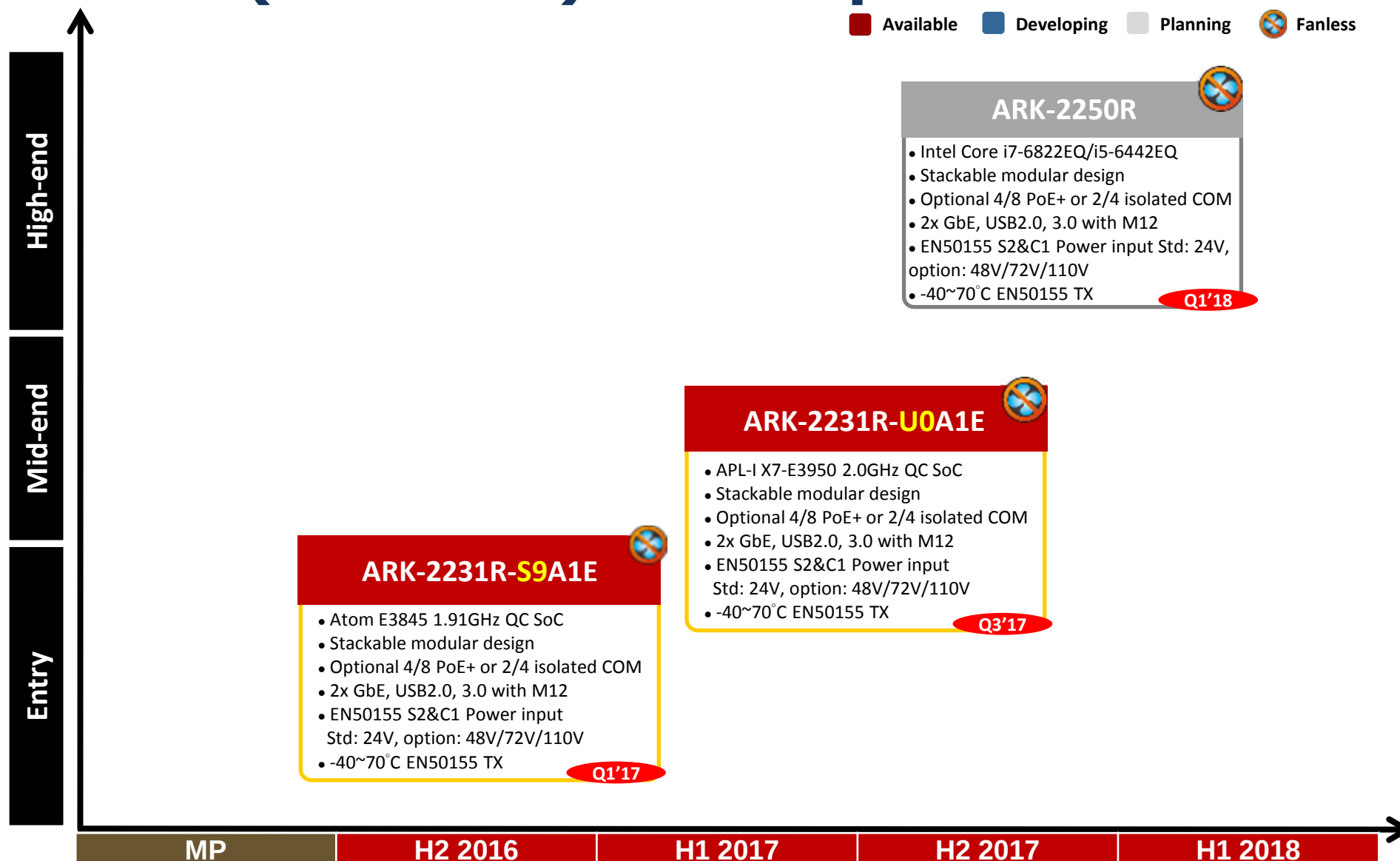


2. Small Waterproof Connector



ARK-R (EN50155) Roadmap

■ Available
 ■ Developing
 ■ Planning
  Fanless



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ARK- V область применения – **Автотранспорт**



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ARK-2121V \ 2151V \ 2250V Особенности



2020/2024Q4
Longevity

Sufficient Computing/Graphic Power

ARK-2121V: Intel Atom E3825 Dual Core 1.3GHz

ARK-2151V: Intel Celeron 2980U Dual Core 1.6GHz

DDR3L 1066/1333MHz, Up to 8GB

ARK-2250V: Intel 6Gen i76822EQ 2.0GHz

DDR4 Dual Channels up to 32Gb

Specific I/Os for In-Vehicle Application

Optional: 2* RS-232 (std) OR 2* CANBus 2.0 A/B

Isolated I/Os: 2*RS-422/485, 6*DI/2*DO, power input
2*GbE, 2*USB3.0, 2*USB2.0, 1*VGA, 1*HDMI, Audio in/out

Diversity Communication Abilities

On board: GPS and G-Sensor

Extensible: 1*WLAN and 2*WWAN (**Voice supported**)

Storage Support

1* **Removable** 2.5" Drive Bay (Data store)

1* mSATA (OS store)

Isolated In-Vehicle Power

9~36Vdc with 3kV Isolation, Vehicle Power Ignition

Roadmap серии ARS-P

Available Developing Planning

T1: -25~ 55°C

Панельные ПК



ARS-P3800

ES Ready
Q2'16MP

- 38-inch Display, **1920x495 resolution**
- AMD® GX-217GX Dual core processor
- 1xGbE(M12), 1xUSB 2.0 (M12), 1 x RS-232/485, 1x VGA/1x HDMI and Audio
- EN50155 T1



ARS-P2800

- 28-inch Display, **1920x358 resolution**
- AMD® GX-217GX Dual core processor
- 1xGbE(M1), 1xUSB 2.0 (M12), 1 x RS-232/485, 1x VGA/1HDMI and Audio
- EN50155 T1



Мониторы

ARS-P1900

Q1'16 ES
Q4'16MP

- 19-inch Display, 1680x1050 resolution
- TV Tuner support PAL and NTSC
- HDML and DVI input, 1 RS-485,
- Power input 110Vdc
- EN50155 T1



Y2016

Y2017

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Примеры применения

ARK-Vertical Целевые сегменты и применения

Наружное видеонаблюдение ARK-S

- Видеонаблюдение на дорогах
- Управление дорожным движением
- Автоматизированные парковки
- Видеонаблюдение в туннелях \ мостах

Для железнодорожного транспорта ARK-R

- Информационные системы для пассажиров
- Информационно-развлекательные Системы
- Видеонаблюдение на борту (NVR)
- Терминалы сбора данных



Для автотранспорта ARK-V

- Внутрисалонное видеонаблюдение
- Информационные системы
- Реклама \ Мультимедиа
- Связь \ Управление
- Мониторинг транспортных средств (Fleet Management)



Мониторинг транспортных средств (Fleet Management)

Применения

- Внутрисалонное видеонаблюдение, отслеживание, мониторинг транспорта в движении

Системные требования:

- Высокая вычислительная мощность
- Возможность подключения внутрисалонных IP камер
- Съёмный жесткий диск для доступа к видео файлам
- Встроенные функции: GPS и WIFI / 3G
- Возможность работы в суровых условиях

Advantech предлагает: **ARK-V**

- Высокопроизводительный CPU
- 4 x PoE ports с поддержкой IP Камер, до Full HD 30fps прямой трансляции
- Встроенный GPS/GNSS модуль, модули 3G/LTE, Wi-Fi
- 2.5" дюймовый SSD накопитель, с возможностью легкой замены
- Широкий температурный диапазон -40 ~ 60°C



eBus Развлекательная система

Применение

- Отображение информационных сообщений и видео для информирования и развлечения пассажиров

Системные требования:

- Высокая мощность вычислительных и графических возможностей для мультимедиа
- Возможность подключения 2-х экранов с помощью HDMI, VGA
- Отображение сообщений и видео для пассажиров, информирование в реальном времени
- Готовность к вибрации и ударам.

Advantech предлагает: ARK-V

- Выдающийся процессор и графические возможности для потокового медиа
- Блокируемый разъем HDMI кабеля, для избежания случайного высвобождения
- Устойчивость к вибрации и ударам IEC 60721-3-5 Class 5M3



Система видеонаблюдения в туннеле

Применение

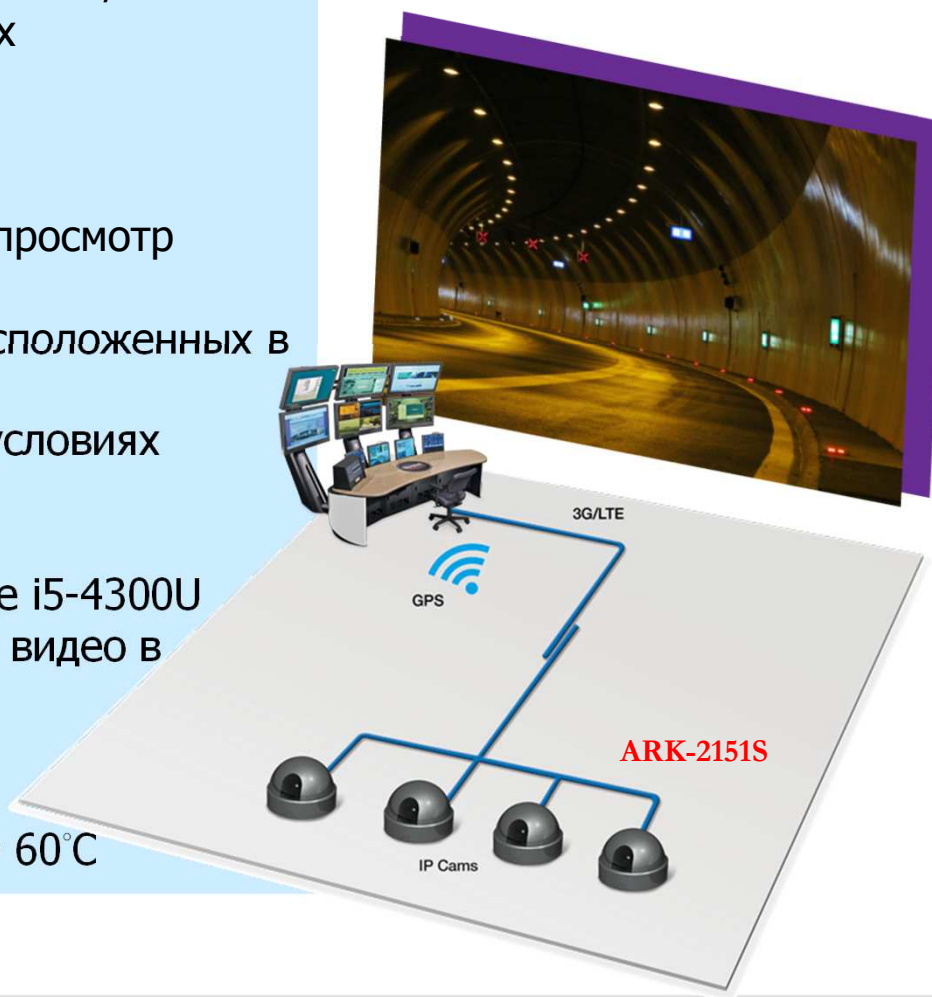
- Мониторинг транспортного потока в туннелях, а также анализа данных о дорожно-транспортных происшествиях

Системные требования:

- Высокая вычислительная мощность для просмотр видео в реальном и аналитика
- Готовность к подключению IP-камер расположенных в туннеле
- Способность работать в экстремальных условиях

Advantech предлагает: ARK-S

- Высокопроизводительный процессор Core i5-4300U вычислительная мощность для просмотр видео в реальном и аналитика
- 4 x PoE ports с поддержкой IP Камер, до Full HD 30fps прямой трансляции
- Широкий температурный диапазон $-40 \sim 60^{\circ}\text{C}$



Система видео наблюдения на подвижном составе

Применение

- Внутрисалонная система видео наблюдения

Системные требования:

- Компактный дизайн, чтобы поместиться в небольшом пространстве шкафа
- Возможность подключения IP камер расположенных в поезде
- Встроенные GPS и WI-FI модули
- Большой объем хранения данных для записи видео
- Сертификат EN50155

Advantech предлагает: ARK-R

- Компактный , модульный, гибкость конфигурации для выполнения требований заказчика
- Поддержка до 8 x PoE
- Встроенный GPS/GNSS , модули с поддержкой 3G/LTE , WI-FI
- Поддержка 2 x 2.5" SSD
- Сертифицирован по EN50155



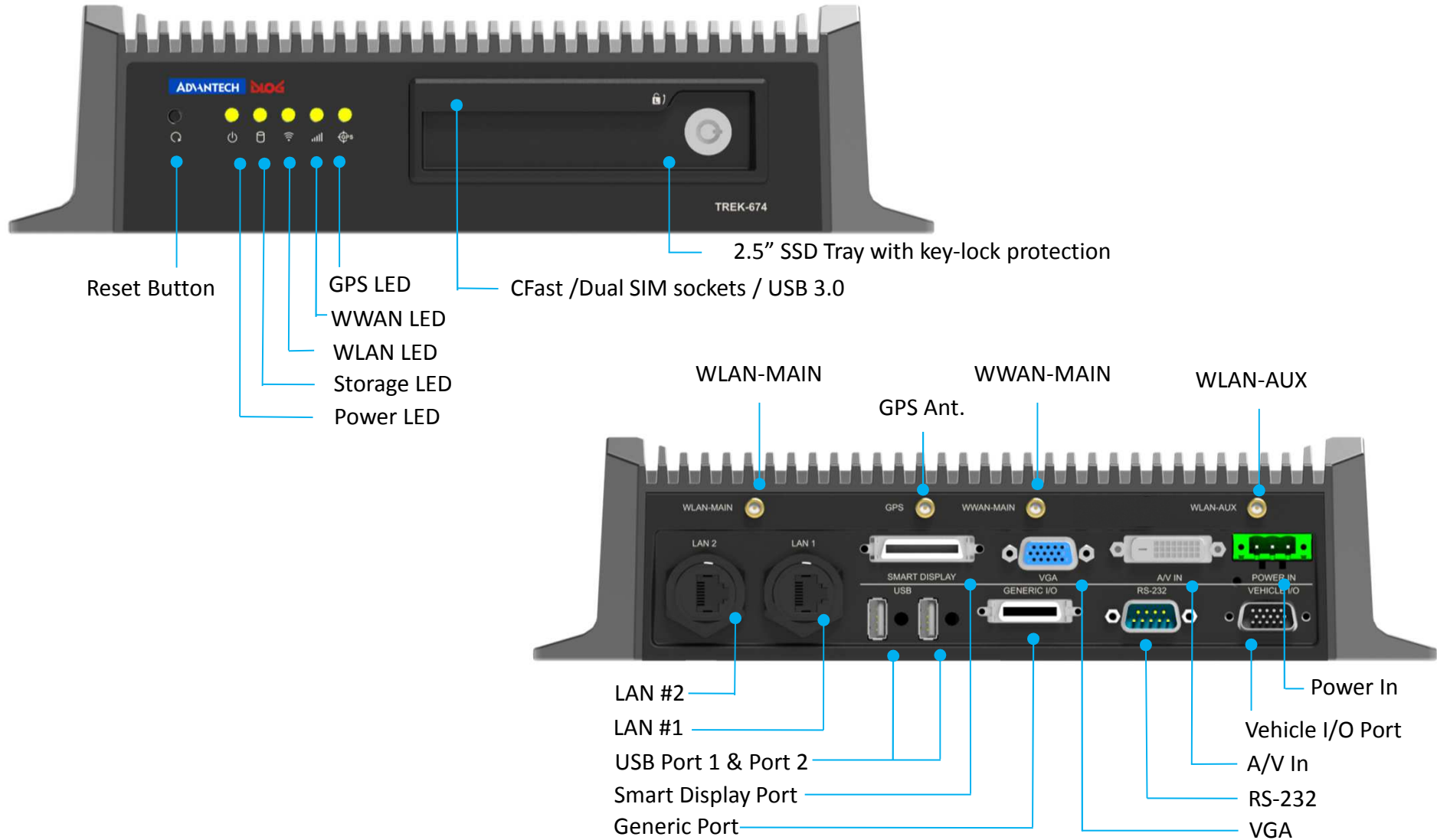
TREK-674

● Особенности продукта



- Intel **Atom E3827** SOC inside
- **One-Cable-Connection** to pair with **TREK In-Vehicle Smart Display** (e.g. TREK-303/306)
- Embedded **Stretch S7 video hardware encoder**, support up to **8-ch** analog video inputs (**H.264, D1 , 30fps/ch.**) and 4-ch audio inputs (G.711)
- External **accessible SSD** tray with key-lock protection
- Vehicle diagnostic interface with configurable protocols support: **CAN (J1939, OBD-II/ISO 15765) and J1708 (J1587)**
- Built-in GNSS, WLAN, Bluetooth and WWAN (**with SIM card**) modules
- **Intelligent Vehicle Power Management**: Ignition on/off delay, wake up event controls and system health monitoring and diagnostic.
- Beyond Vehicle grade Shock and Vibration Standard: **Pass MIL-STD-810G & EN60721-3(5M3) test criterion.**
- Wide working temperature (**-30 ~60° C**)
- 12/24V Car power system compliant (ISO 7637-2 compliant)
- CE, FCC, CCC, **E-MARK(E13).**

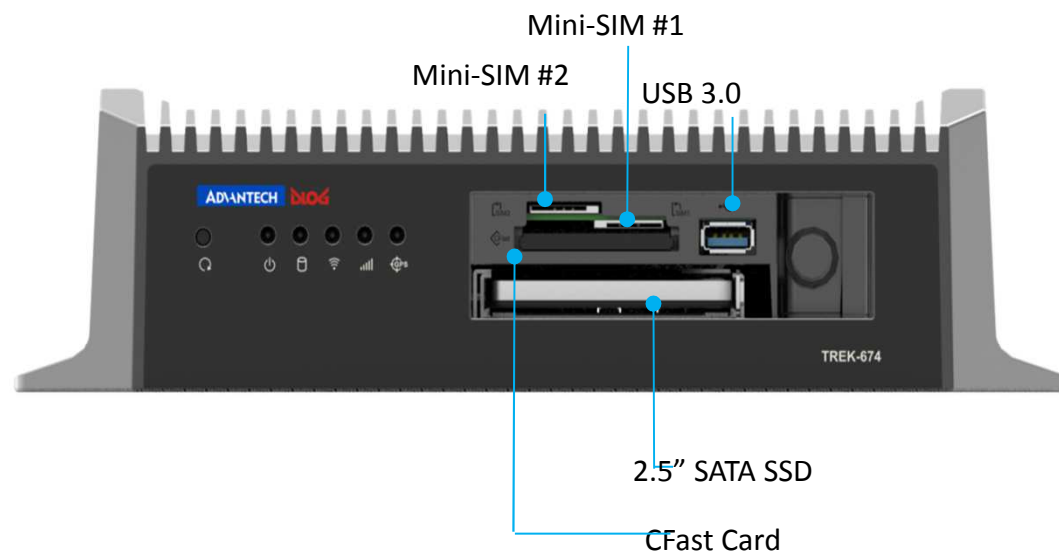
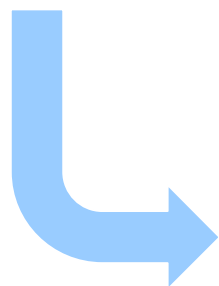
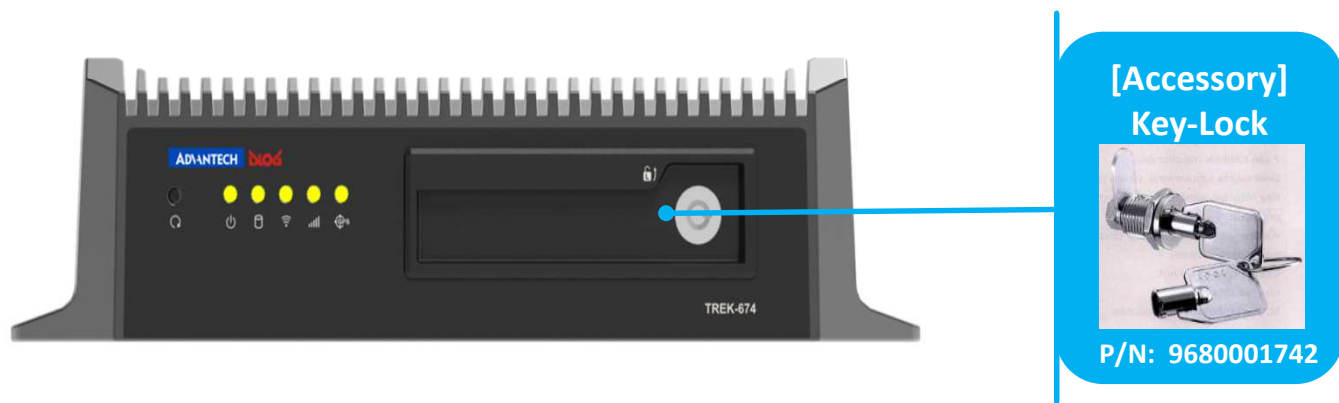
I/O коннекторы



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Запираемый отсек для SSD, CFast, и SIM карт



Надежное крепление кабелей и антенн

2.4GHz/5GHz WLAN Ant.



➤ P/N: 1750007723-01

3-in-1 Antenna (LTE/GPS/Wifi)



➤ P/N: 1750007724-01

Power Cable(with Fuse)



Connect to Car Battery directly.
➤ P/N: 1700019031 (2M)
1700020128 (5M)

Smart Display Cable



To pair with TREK-303/306
(In-vehicle Smart Display)
➤ P/N: 1700020007-11 (2M)
1700020008 (5M)

Vehicle I/O Cable



Vehicle
Communication
Interface: 2 x CAN Bus ,
1x J1708.
➤ P/N: 1700023051-01

Locking Kits for LAN



Cost-effective anti-shock
/vibration solution for
cat5e cable
➤ P/N: 1654011716-01

Cable Clip for USB



Cost-effective locking
mechanism for USB Ports
➤ P/N: 1990018848T000

Generic I/O Cable

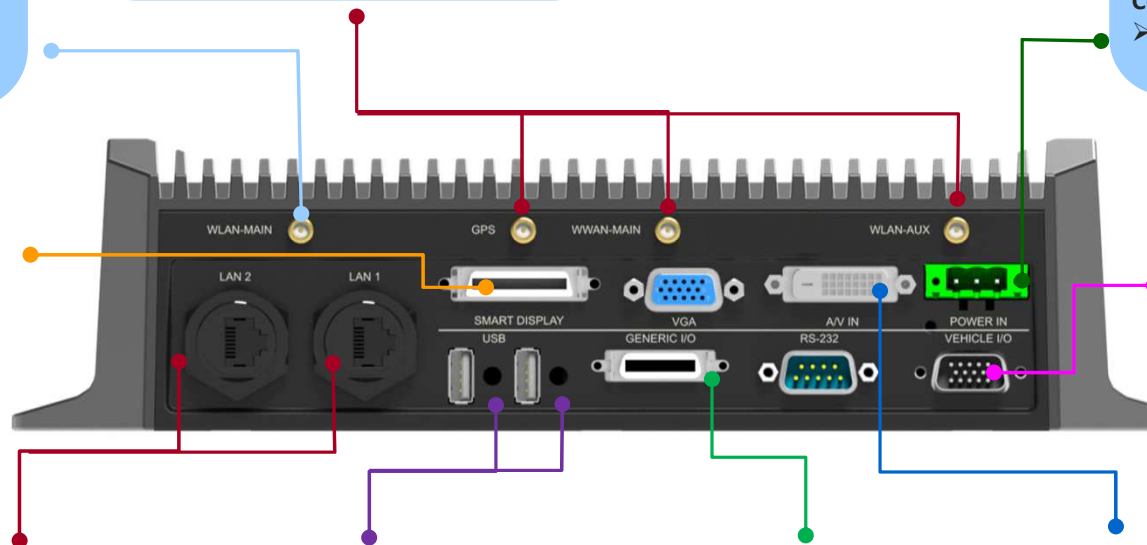


Generic I/O Control: 4 x DI,
2 x DO, 1 x 4-w RS-232, 1 x
RS-485, Mic In, Line Out.
➤ P/N: 1700023050-01

Video/Audio Cable



Analog Camera input: Up
to 8-ch Video, 4-ch Audio
input, w/o power supplied.
➤ P/N: 1700022702-01



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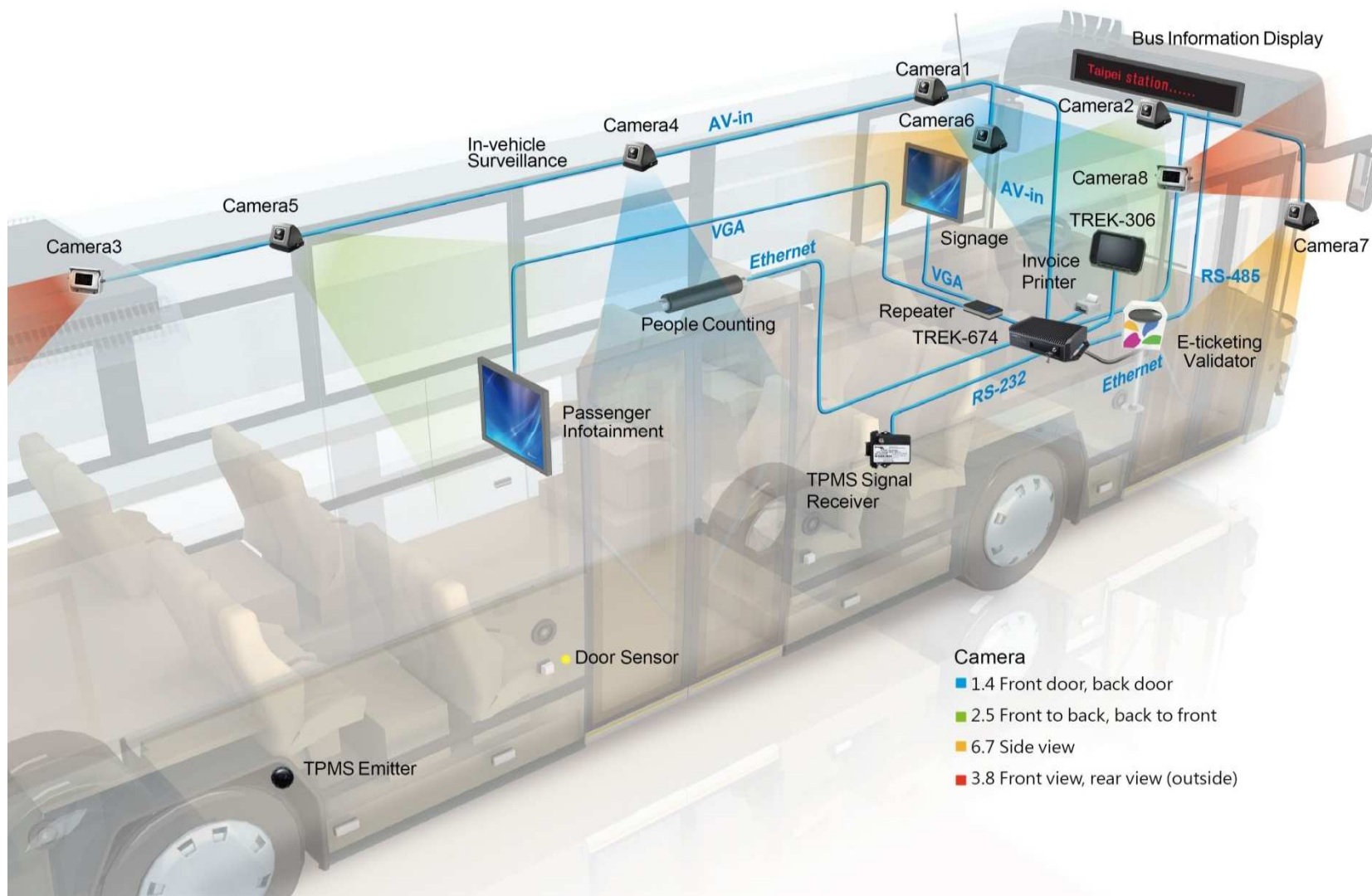
TREK-688



● Особенности продукта

- Intel **Haswell i7 Dual core** high performance processor for multitasking.
- Embedded video encoder supports up to **16 analog video inputs up to D1, 30fps** resolution (total 480fps) and 8 audio inputs
- **Dual external HDD/SSD tray** with key-lock protection.
- Easily paired with **TREK in-vehicle smart displays** via a single-cable connection.
- Intelligent vehicle power management system for ignition on/off/delay and power protection functions.
- Vehicle diagnostic interface with configurable dual CAN(J1939,OBD-II/ISO 15765) and J1708 protocols.
- Built-in LTE/GNSS/WLAN/BT (**with dual SIM cards**) modules.
- Advanced Shock & anti-vibration certified by MIL-STD-810G, EN60721-3(5M3)
- **Rich management & video SDK** , test utility for customer evaluation.

Пример применения для общественного транспорта



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Fleet Management and In-vehicle Surveillance Computing Box

Available Developing Planning

Fleet Management

TREK-570

- Intel Bay Trail-I E3826 Dual Core 1.46GHz
- WLAN, BT, WWAN (CDMA/HSPA+/LTE), 2 SIMs
- GNSS support GPS, Compass, GLONASS
- Dual CAN (J1939, J1708/J1587, ODB2/J15765)
- Real time Rear view monitoring
- Rich I/O interface
- Operating -30°C~70°C



TREK-572

- Intel Bay Trail-I E3815 Single Core 1.46GHz
- WLAN, BT, WWAN (LTE)
- GNSS support GPS with AGPS feature
- Dual CAN (J1939, J1708/J1587, ODB2/J15765)
- Compact Size Design (with limited I/O port)
- Support Smart Display output only
- Operating -30°C~70°C



TREK-530

- Qualcomm APQ809 Cortex-A7 4-Core 1.3GHz
- **Industrial Android 6.0**
- DDR3 2GB, eMMC 16GB
- BT / WLAN (802.11 a/b/g/n) / GNSS via **FAKRA**
- **Extension module** for WWAN LTE and Backup Battery
- ISO 7637-2 Car Power for 12/24V
- Operating Temp.: -20 °C ~65°C
- IP54 (I/O Cover) & MIL-STD-810G
- CE, FCC, CCC



TREK-470

- Compact light duty for main stream fleet management .
- CE, FCC, CCC



TREK-688

- Intel Haswell i3/i5/i7
- 12-Ch Video HW encode & 8-Ch Audio input
- 2x Giga LAN with M12 connector
- 2x Accessible 2.5" SSD tray
- WLAN, BT, GPS, LTE with 2 SIMs
- Dual CAN (J1939, J1708/J1587, ODBII/J15765)
- Operating -30 °C ~55°C



TREK-674

- Intel Bay Trail-I E3827 Dual Core 1.75GHz
- 4/8-Ch Video HW encode: H.264, D1/30fps/Ch.
- 2x Giga LAN with locking connector
- 1x Accessible 2.5" SSD tray
- WLAN, BT, WWAN (CDMA/HSPA+) w/ 2 SIMs
- GNSS support GPS, BDS, GLONASS
- Dual CAN (J1939, J1708/J1587, ODBII/J15765)
- Operating -30 °C ~70°C



TREK-676

- Com Express SOM CPU Board:
- ✓ Intel Apollo Lake -I (E39xx)
- ✓ Kaby Lake (7th Gen .Core i -U series)
- **Smart Display Port 2.0:** Thinner wire, up to 10-meter.
- **External RF Module:** (WWAN / WiFi / DSRC*)
- **Generic I/O 2.0:** Automotive type connector – GT25-40p
- ✓ Support both dry and wet contact input.
- ✓ More DI/O (6/4), RS232 /485(4//2)
- ✓ Support Dual Line Out / Mic In
- **Vehicle I/O 2.0:** Automotive type connector –GT25-16p
- ✓ Dual CAN bus and Single J1708
- **Support 8/16-ch 1080p AHD camera input** 8-port 802.3af PSE.
- **HDD**
- **Optional: 2x Giga LAN support passive PSE injector (up to 12W)**
- **Optional: 10W Audio Amplifier**
- **Optional : IP65 I/O Cover**
- Operating temperature: -30°C~70°C/ -20 °C ~ 50 °C



Jun'2019

In-vehicle Surveillance

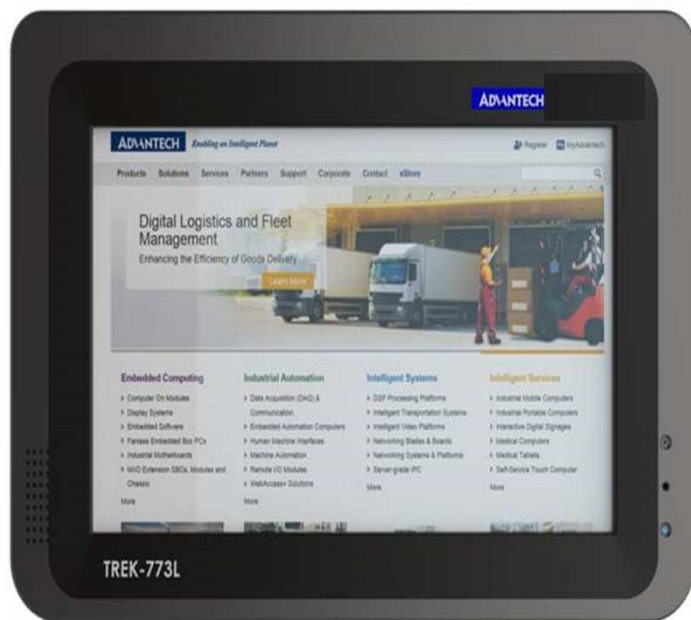
2018

2019

2020

Планшеты и панельные компьютеры для авто и ЖД транспорта

Мобильный терминал TREK-733L на базе процессора RISC



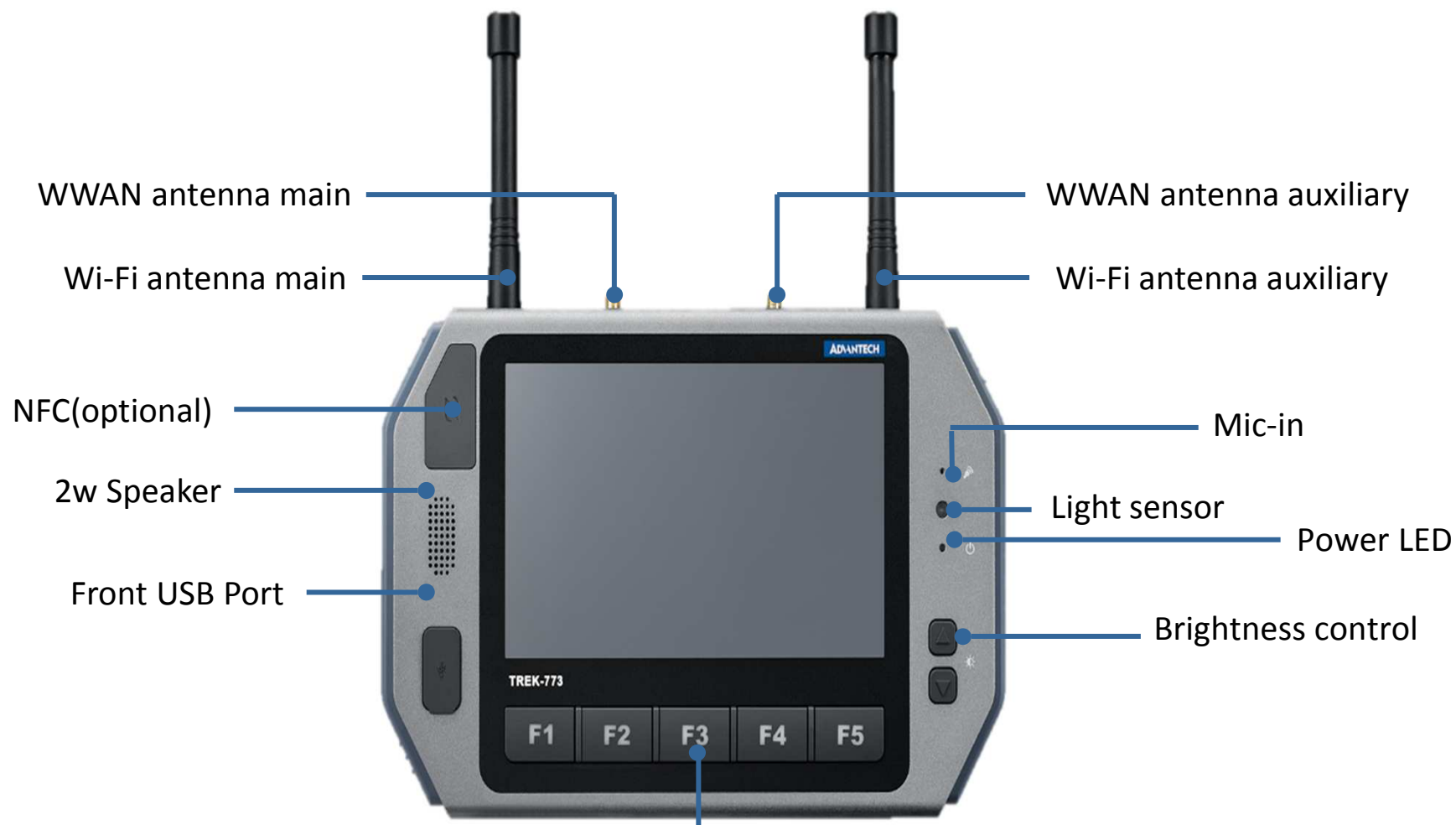
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I/O коннекторы



Мобильный терминал TREK-773 на базе процессора INTEL

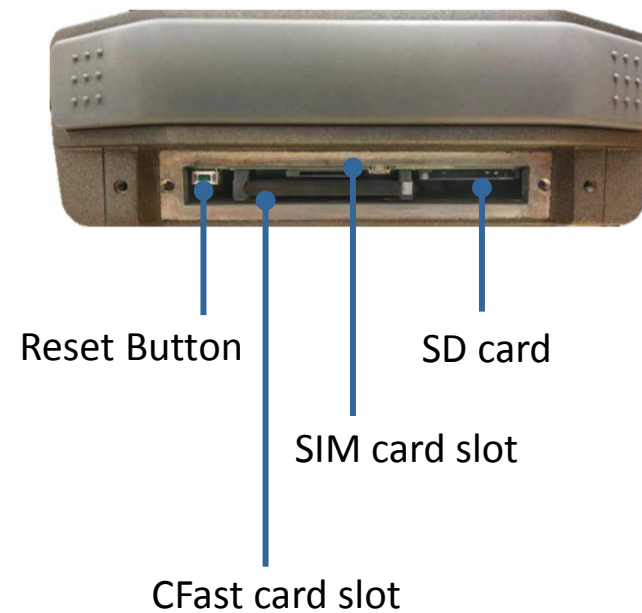


5 programmable **hot keys**

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Задняя панель



Обзор коннекторов



GPS

Extended I/O

RS232

USB 3.0

Power button

Power Input

RJ45

High Density Cable

High-Density Connector



CAN bus & J1708



Video in



USB2.0



Power



RS-485
4DI/4DO



RS-232



Line in
Line out
Mic in

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Варианты крепления и защита IP54



Vehicle Mounting kit



IP54 IO Cover

All-in-One Mobile Data Terminal and Smart Display

 Available
 Developing
 Planning

Performance

TREK-773

- Intel Atom Bay Trail E3827 Dual-Core 1.75GHz
- 7" WVGA (800x480), Enhanced Res. T/S
- BT / WLAN / WWAN LTE / GNSS (AGPS) / NFC
- Vehicle Bus CAN 2.0B / J1939 / OBD II / J1708 / J1587
- ISO 7637-2 Car Power 12/24/48V
- IP54 (I/O Cover) / MIL-STD-810F & 5M3
- Operating Temp.: -30 °C ~70°C



Value

TREK-733L

- Freescale i.MX6 Cortex-A9 2-Core 1GHz
- Android 4.4
- 7" WSVGA (1024x600), PCap. T/S
- DDR3 1GB, eMMC 4GB
- BT / WLAN (802.11 b/g/n) / WWAN LTE / GNSS
- ISO 7637-2 Car Power for 12/24V
- AV-In for Rear View Monitor
- Operating Temp.: -20 °C ~70 °C
- MIL-STD-810G
- CE, FCC, CCC, BSMI



TREK-734

- Freescale i.MX6 Cortex-A9 2-Core 1GHz
- **Android 5.1**
- 8" WSVGA (1024x600), PCap. T/S
- DDR3 1GB, eMMC 4GB (**DDR3 2GB, eMMC 8GB**)
- BT / WLAN (802.11 b/g/n) / WWAN LTE / GNSS
- ISO 7637-2 Car Power for 12/24V
- AV-In for Rear View Monitor
- Operating Temp.: -20 °C ~70 °C
- IP54 (I/O Cover) & MIL-STD-810G
- CE, FCC, CCC



Smart Display

TREK-306DH

- Paired with TREK-5xx/6xx
- **10.4" XGA (1024x768), 400nits, LED B/L**
- 5-Wire Resistive T/S
- Speaker, Hotkeys, USB 2.0, Light sensor
- **IP55 with I/O Cover**
- Operating -30°C~70°C



TREK-303RH/DH

- Paired with TREK-5xx/6xx
- **7" WVGA (800x480), 500nits, LED B/L LCD**
- 4-Wire Resistive T/S
- Speaker, Hotkeys, USB 2.0, Light sensor
- **IP54 with I/O Cover**
- Operating -30°C~70°C



TREK-306PH/D2

- TREK-306DH Revision.
 - keep most features the same as TREK-306DH.
- 10.4" XGA (1024x768), **500nits** LCD
- **TREK-306PH:**
 - **PCAP** (support multi-touch)
 - **Keep Smart Display 1.0**
- **TREK-306D2:**
 - **Smart Display 2.0 interface.**
 - ✓ Thinner connector and cable.
 - ✓ Support up to **10 meter** cable length.
 - ✓ To pair with TREK-676
- **IP55 with I/O Cover**
- Operating -30°C~70°C

Jun'2019

TREK-303R2

- TREK-303RH Revision.
 - keep most features the same as TREK-303RH
- **7" WVGA (800x480), 500nits, LED B/L LCD**
- Built in Light sensor for auto-dimming.
- **Smart Display 2.0 interface**
 - Thinner connector and cable.
 - Support up to **10 meter** cable length.
 - pair with TREK-676
- Speaker, Hotkeys, USB 2.0, Light sensor
- **IP55 with I/O Cover**
- Operating -30°C~70°C

Aug'2019

2018

2019

2020

Product Roadmap

Available Developing Planning



Cold Chain Solution.

Available Developing Planning

Advantech Cold Chain Solution Offering

Sensors



NFC reader



S/W Utility

Lora Gateway



Software Package



API/ SDK for data transfer to cloud server (windows & Android)



NFCread Utility/ app (Windows/Android)

TREK-120

- Wireless data transmissions via NFC and LoRa technology
- Integrated Temperature, Humidity, Free Fall detection sensor
- Integrated Battery for 2-years operation
- Rich accessories includes NFC Reader, LoRa Gateway,
- Software Package (API/SDK) and Utility for Windows & Android



Intelligent Sensors

2018

2019

2020

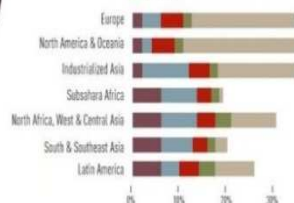


30% CEREALS FOOD LOSSES

In industrialized countries, consumers throw away 286 million tonnes of cereal products.

763 billion boxes of pasta

■ Agriculture ■ Distribution
■ Postharvest ■ Consumption
■ Processing

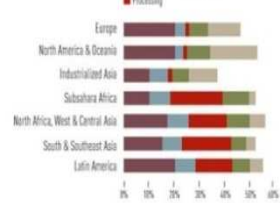


45% FRUIT & VEGETABLES FOOD LOSSES

Along with roots and tubers, fruit and vegetables have the highest wastage rates of any food products; almost half of all the fruit and vegetables produced are wasted.

3.7 trillion apples.

■ Agriculture ■ Distribution
■ Postharvest ■ Consumption
■ Processing

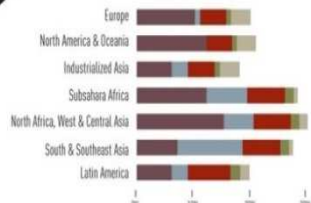


20% OILSEEDS & PULSES FOOD LOSSES

Every year, 22% of the global production of oilseeds and pulses is lost or wasted.

This is the same as the olives needed to produce enough olive oil to fill nearly 11,000 Olympic-sized swimming pools.

■ Agriculture ■ Distribution
■ Postharvest ■ Consumption
■ Processing

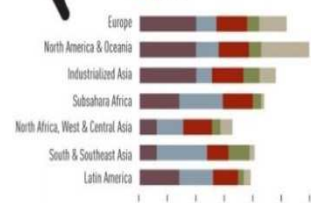


45% ROOTS & TUBERS FOOD LOSSES

In North America & Oceania alone, 5,814,000 tonnes of roots and tubers are wasted at the consumption stage alone.

This equates to just over 1 billion bags of potatoes.

■ Agriculture ■ Distribution
■ Postharvest ■ Consumption
■ Processing

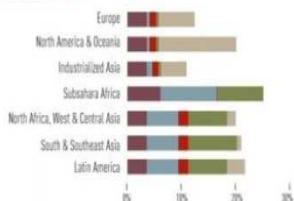


20% DAIRY FOOD LOSSES

In Europe alone, 29 million tonnes of dairy products are lost or wasted every year.

This is the same as 574 billion eggs.

■ Agriculture ■ Distribution
■ Postharvest ■ Consumption
■ Processing

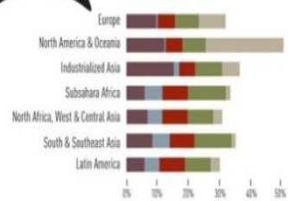


30% FISH & SEAFOOD FOOD LOSSES

8% of fish caught globally is thrown back into the sea. In most cases they are dead, dying or badly damaged.

This is equal to almost 3 billion Atlantic salmon.

■ Fisheries ■ Distribution
■ Post catch ■ Consumption
■ Processing

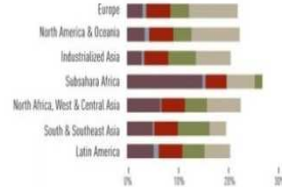


20% MEAT FOOD LOSSES

Of the 263 million tonnes of meat produced globally, over 20% is lost or wasted.

This is equivalent to 75 million cows.

■ Animal production
■ Slaughter ■ Distribution
■ Processing ■ Consumption



GFLI Balance Sheet

ПОТЕРИ

On-farm Post-harvest
Slaughter operations

Processing
Packaging

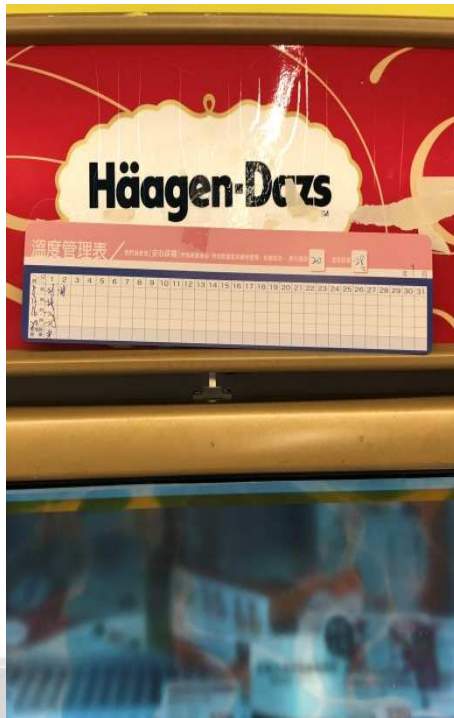
Transport
Storage
Distribution

30~40%

US \$1 Trillion

ADVANTECH

Что было до?



品質紀錄		冷藏/凍庫溫度&自主檢查紀錄表													
年度 107		月份 2													
項目		01	02	03	04	05	06	07	08	09	10	11	12	13	14
溫度紀錄	冷藏/凍庫溫度	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	檢查人員	王	王	王	王	王	王	王	王	王	王	王	王	王	王
	檢查日期	2018.02.01	2018.02.02	2018.02.03	2018.02.04	2018.02.05	2018.02.06	2018.02.07	2018.02.08	2018.02.09	2018.02.10	2018.02.11	2018.02.12	2018.02.13	2018.02.14
	檢查結果	合格	合格	合格	合格	合格	合格	合格	合格	合格	合格	合格	合格	合格	合格
自主管理	品質管理	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	衛生管理	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	安全衛生	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	設備管理	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
備註															



Cold Chain Solution в реальном времени



Cold Chain Solution – ситуационный центр

