

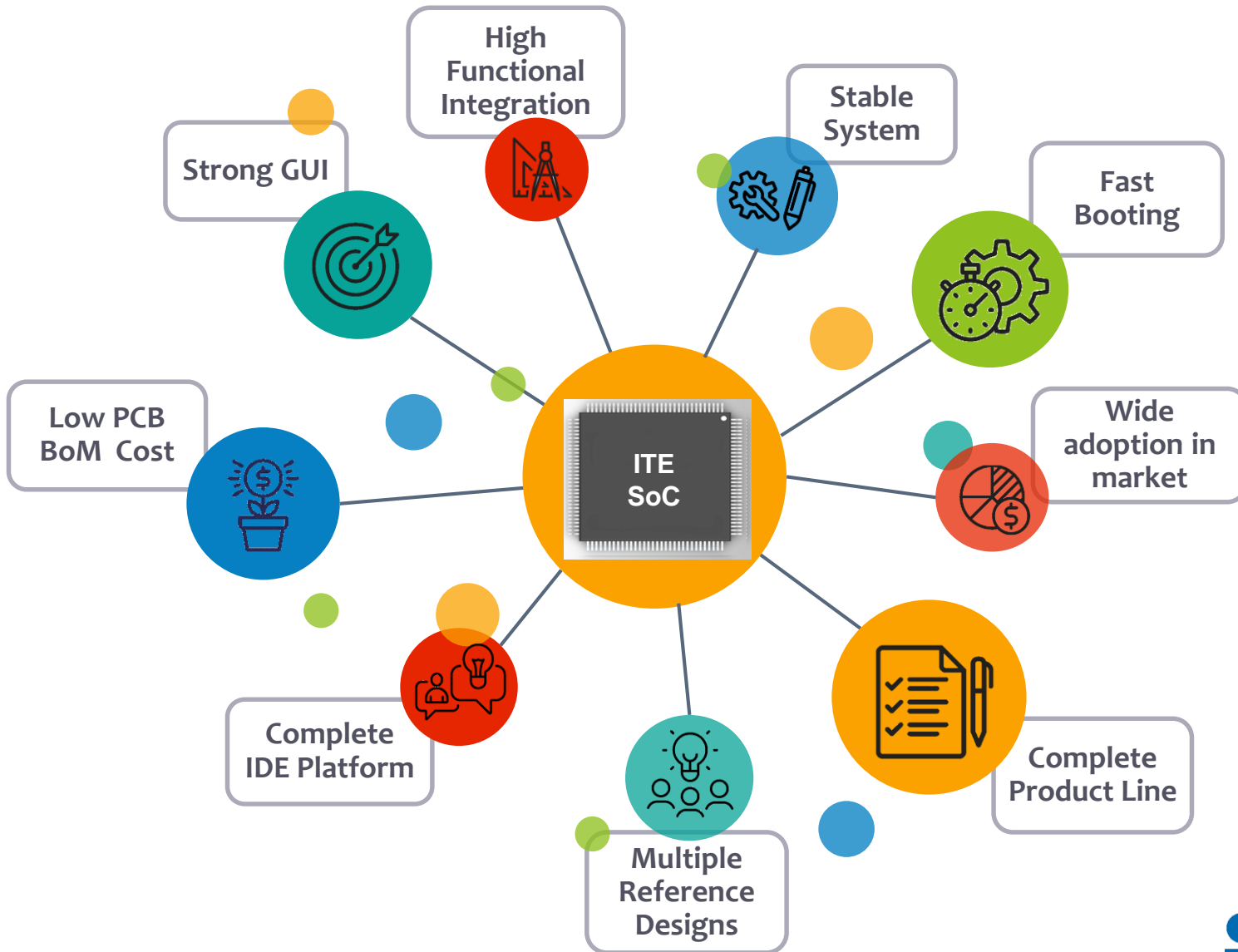


# Introduction to ITE SoC of Automotive Smart Display

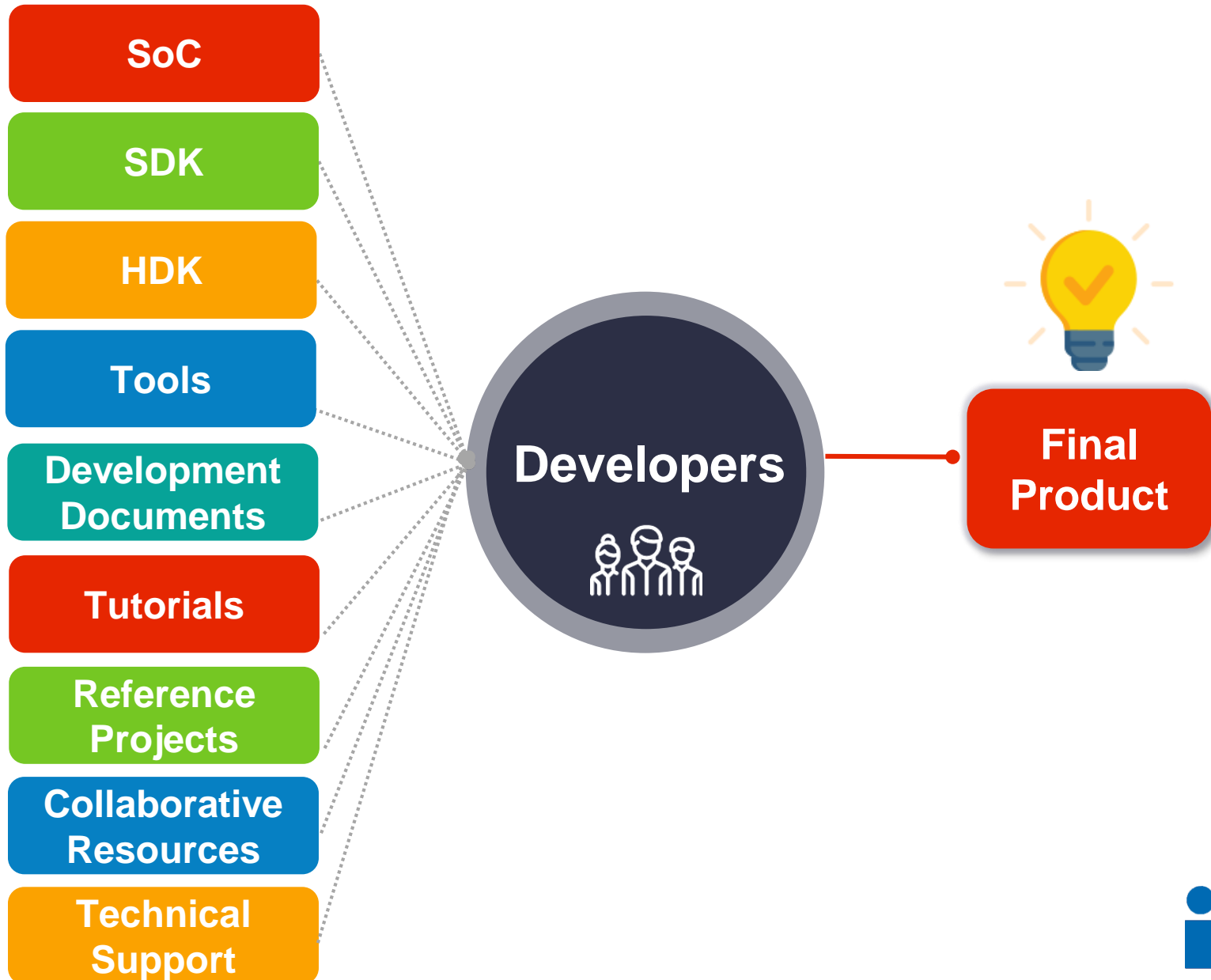
**SoC: System on chip**  
**IDE: Integrated Development Environment**



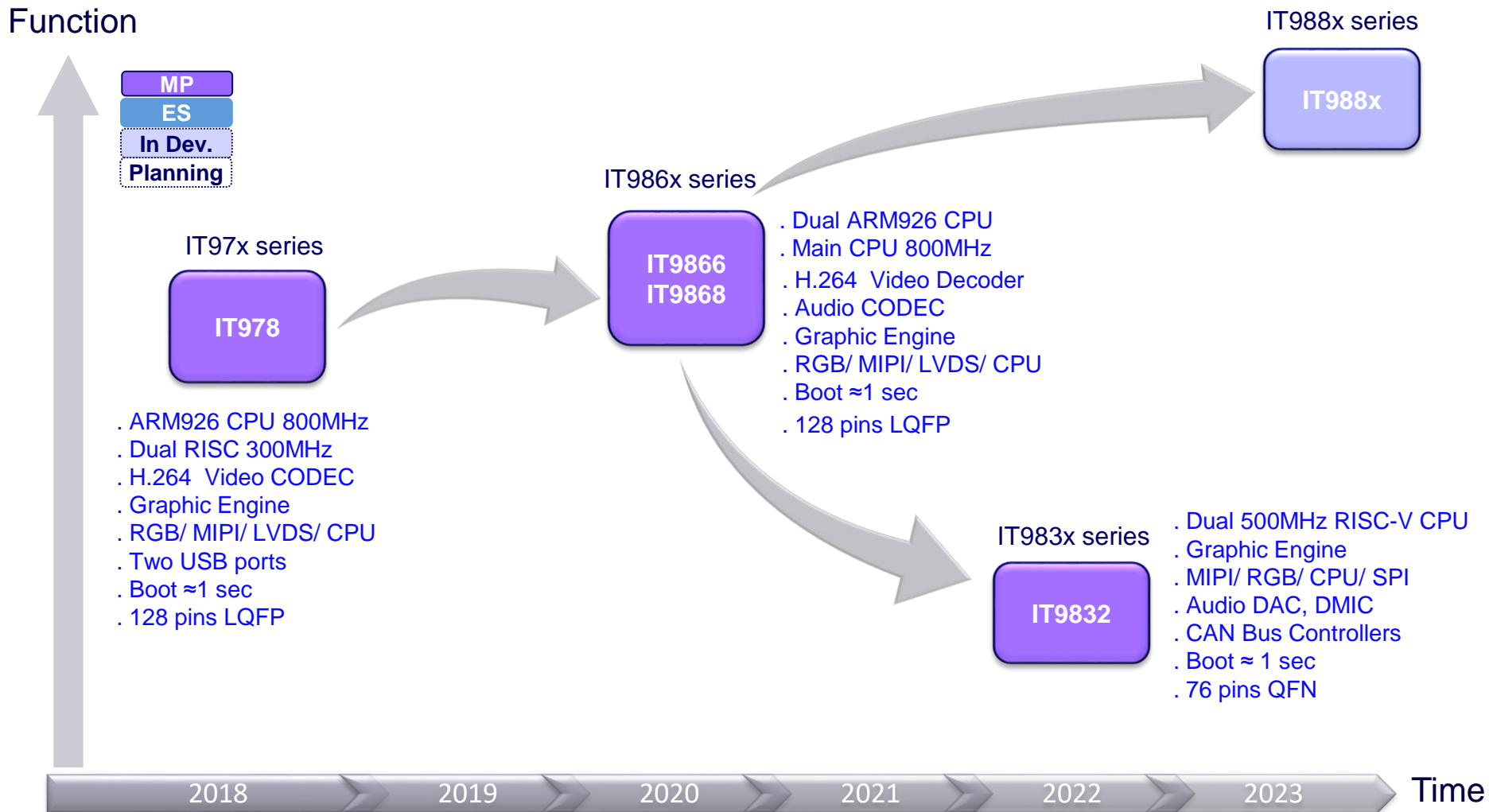
# ITE SoC Product Line Features



# ITE SoC Developer Resources



# ITE SoC (Industrial Grade) Roadmap



# ITE SoC (Automotive Grade) Roadmap

Function

- MP
- ES
- In Dev.
- Planning

- . AEC Q100
- . Dual ARM926 CPU
- . Main CPU 800MHz
- . Second CPU 400MHz
- . H.264 Video Decoder
- . Audio CODEC
- . Graphic Engine
- . RGB/ MIPI/ LVDS/ CPU
- . Two CAN Bus Controllers
- . Boot  $\approx$  1~2 sec
- . 128 pins LQFP

IT9868-AT

IT9836-AT

- . AEC Q100
- . Dual 500MHz RISC-V CPU
- . Graphic Engine
- . MIPI/ RGB/ CPU/ SPI/ LVDS
- . Audio DAC, DMIC
- . CAN Bus Controllers
- . Boot  $\approx$  1 sec
- . 76 pins QFN

IT988x-AT

- . AEC Q100

2021

2022

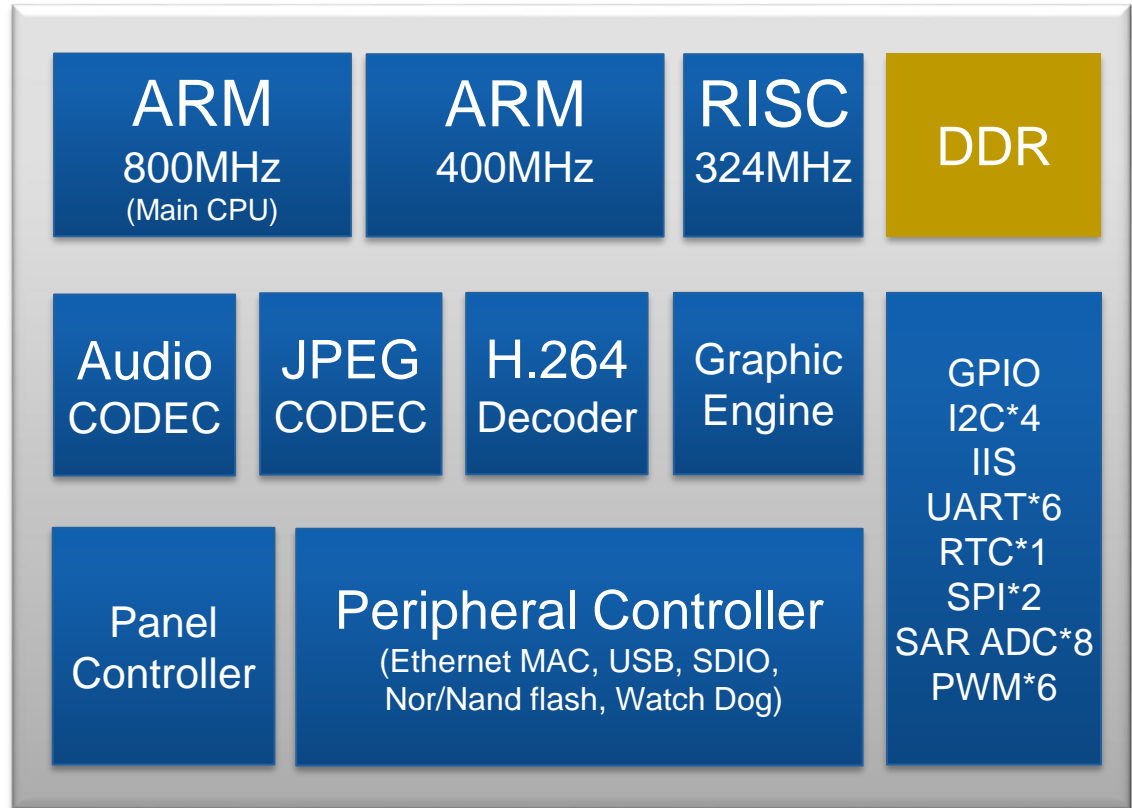
2023

2024

Time

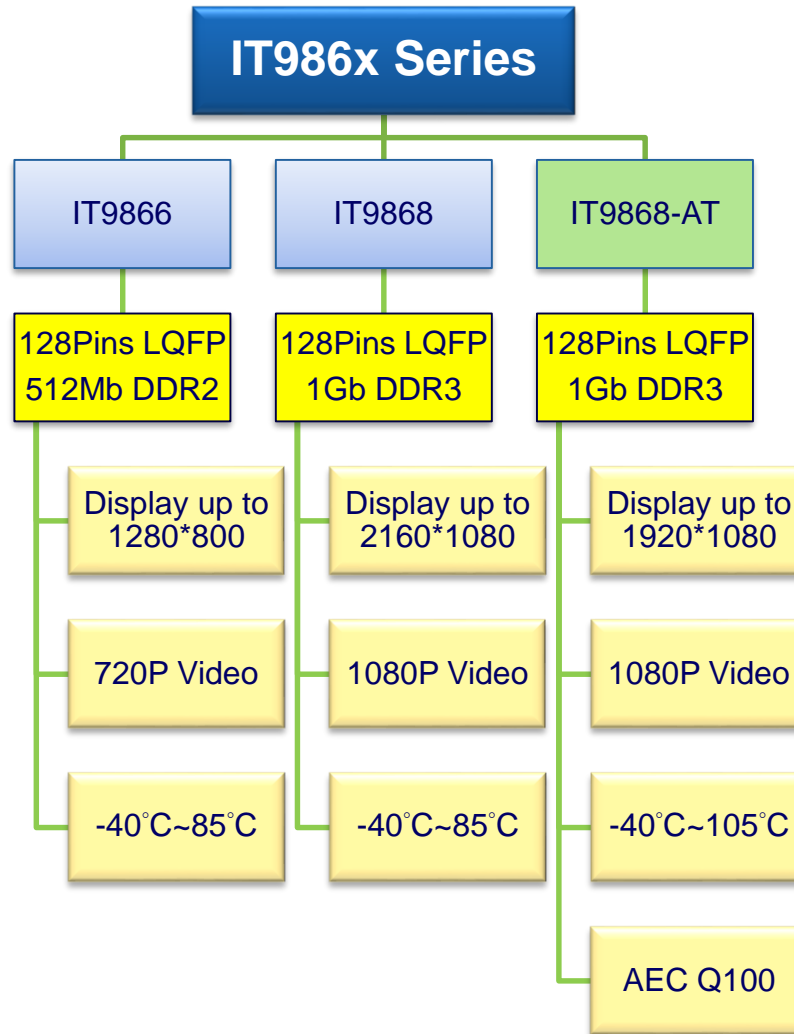
# IT986x Function Block

- Dual ARM CPU
- Main CPU 800MHz
- H.264 Decoder Up to 1080P
- Panel Interface:  
RGB/ MIPI/ LVDS/  
CPU
- Panel resolution up to  
2160\*1080
- Graphic Engine
- 128 Pins LQFP



# IT986x SoC Series Application

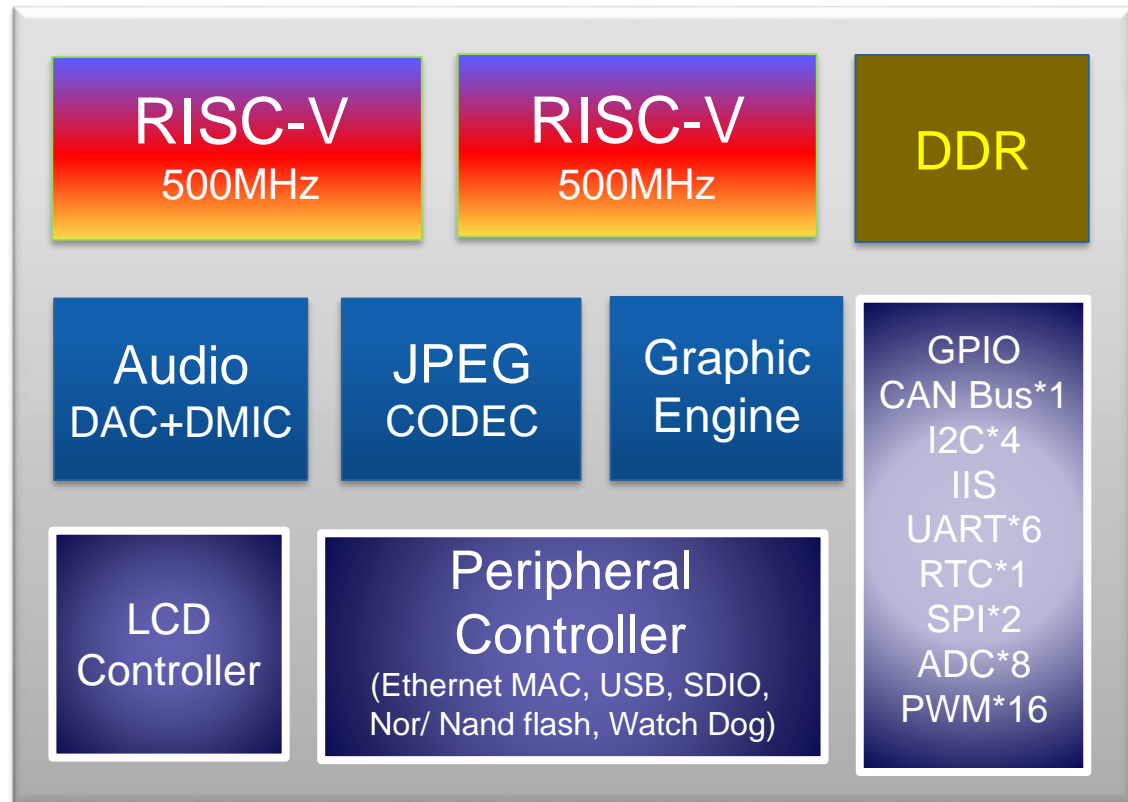
IT986x All Pin compatible



※ Resolution depends on the complexity of UI design.

# IT983x Function Block

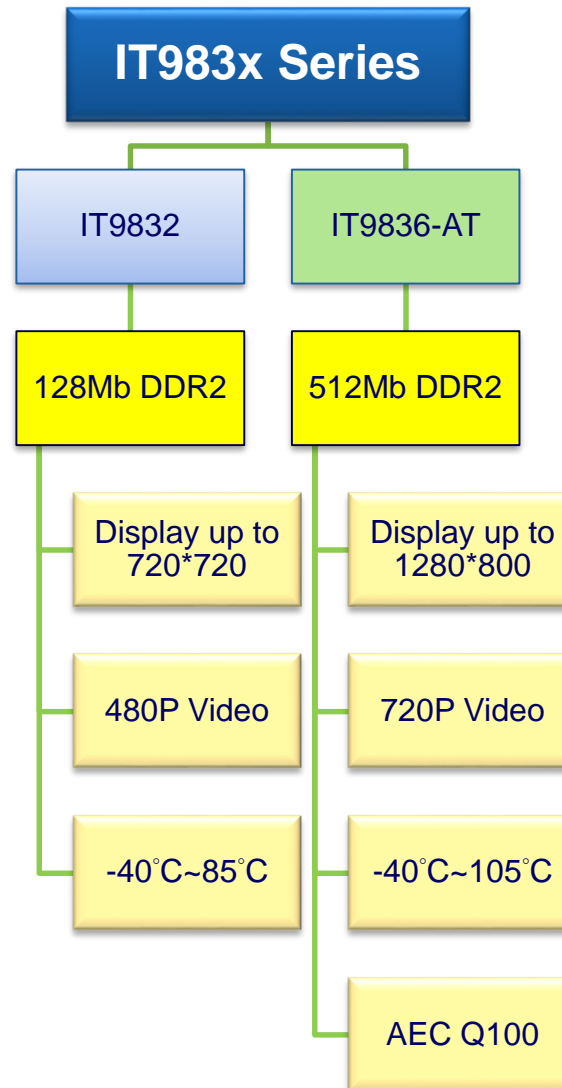
- Dual CPU
- Panel Interface:  
MIPI / RGB / SPI/ CPU/ LVDS
- Panel resolution up to  
1280\*800
- Panel longer side resolution  
up to 2560
- Graphic Engine
- eFuse for security
- 76 Pins QFN





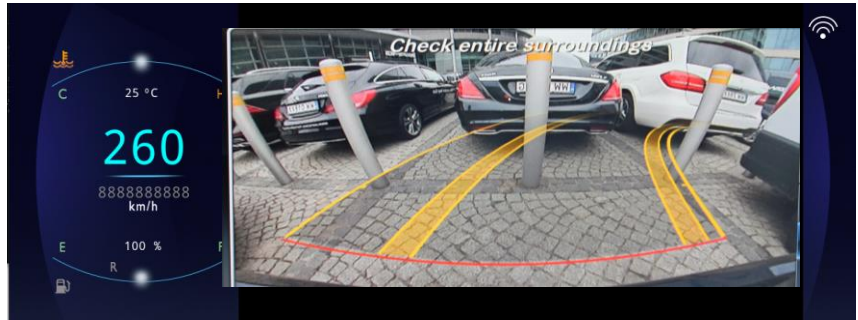
# IT983x SoC Series Application

IT983x All Pin compatible



\*Panel resolution will be determined by the complexity of the UI interface.

# Application(1): Instrument Cluster



**Motorcycle**



**E-Bikes**



**Car**



**Truck**



**Bus**



**Engineering Vehicle**

※ The photos are for reference only

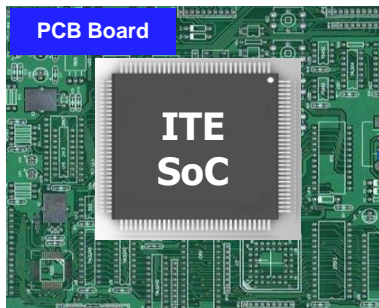
# Application(2): HUD (Head-Up Display)



Standalone device



Windshield display



HUD Device



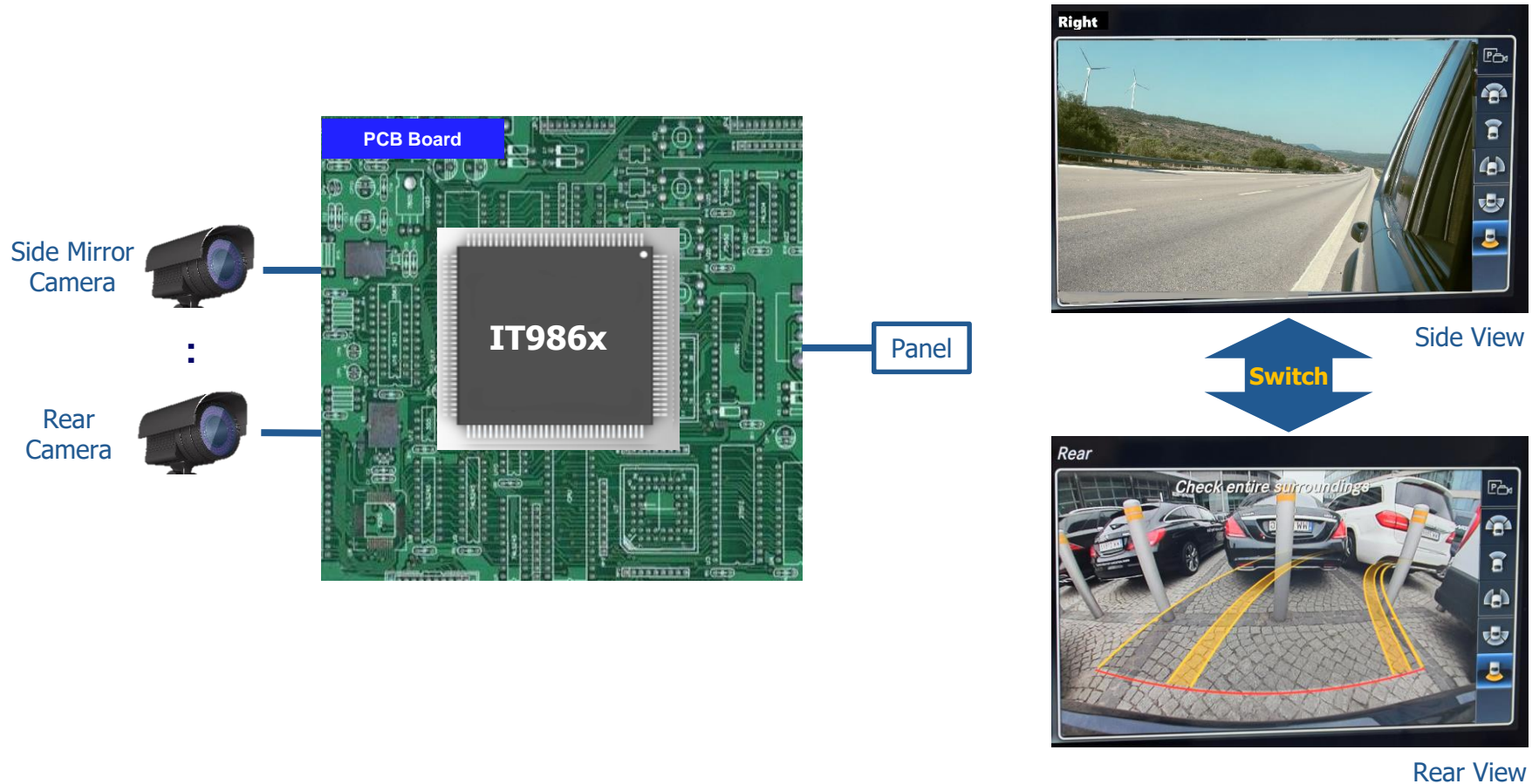
Automotive Head Unit



Smartphone

※ The photos are for reference only

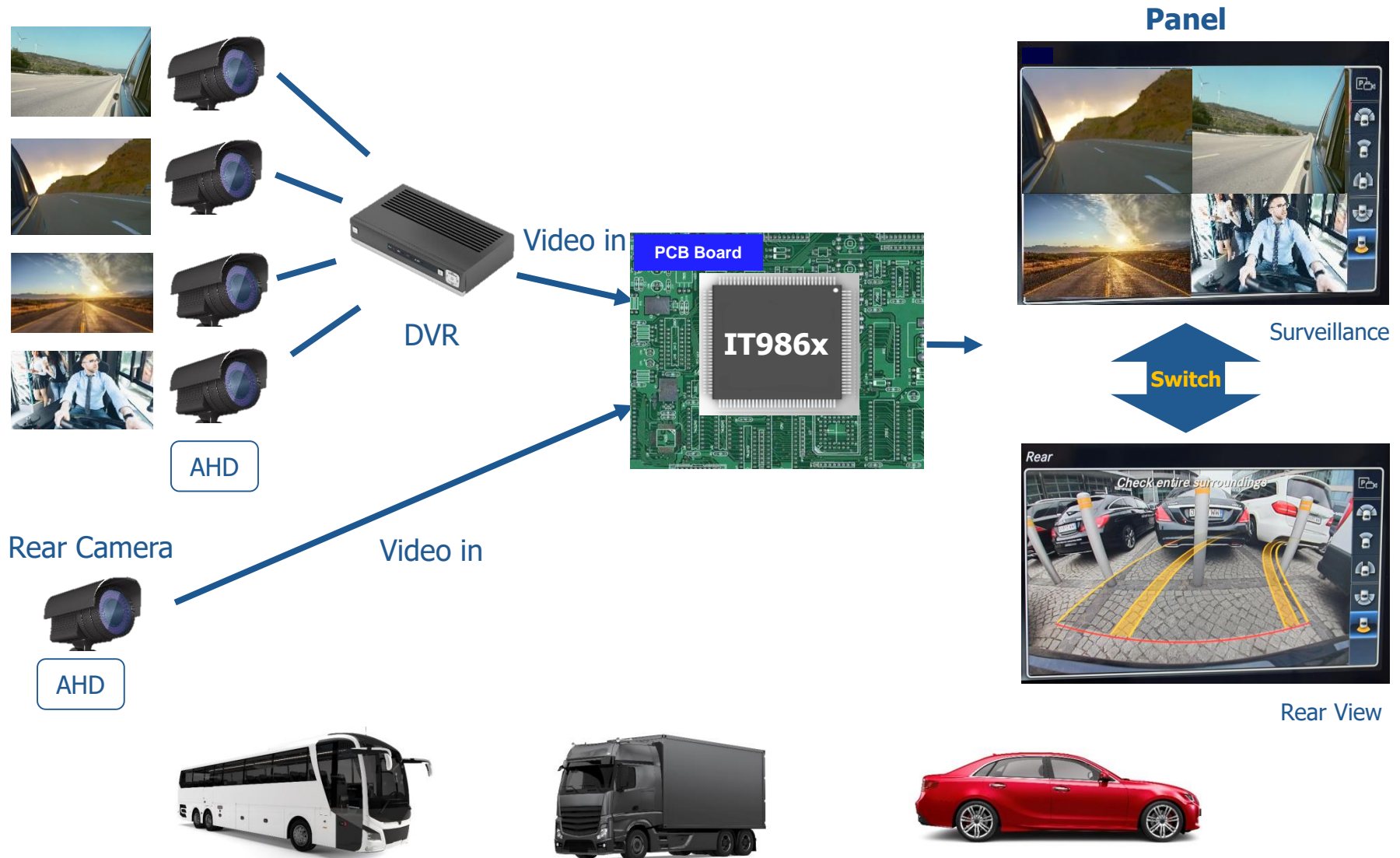
# Application(3): Display SoC of Vehicle Backup Camera



※ The photos are for reference only



# Application(4): Display SoC of Automotive Surveillance System



※ The photos are for reference only

# Application(5): Automotive Smart Display



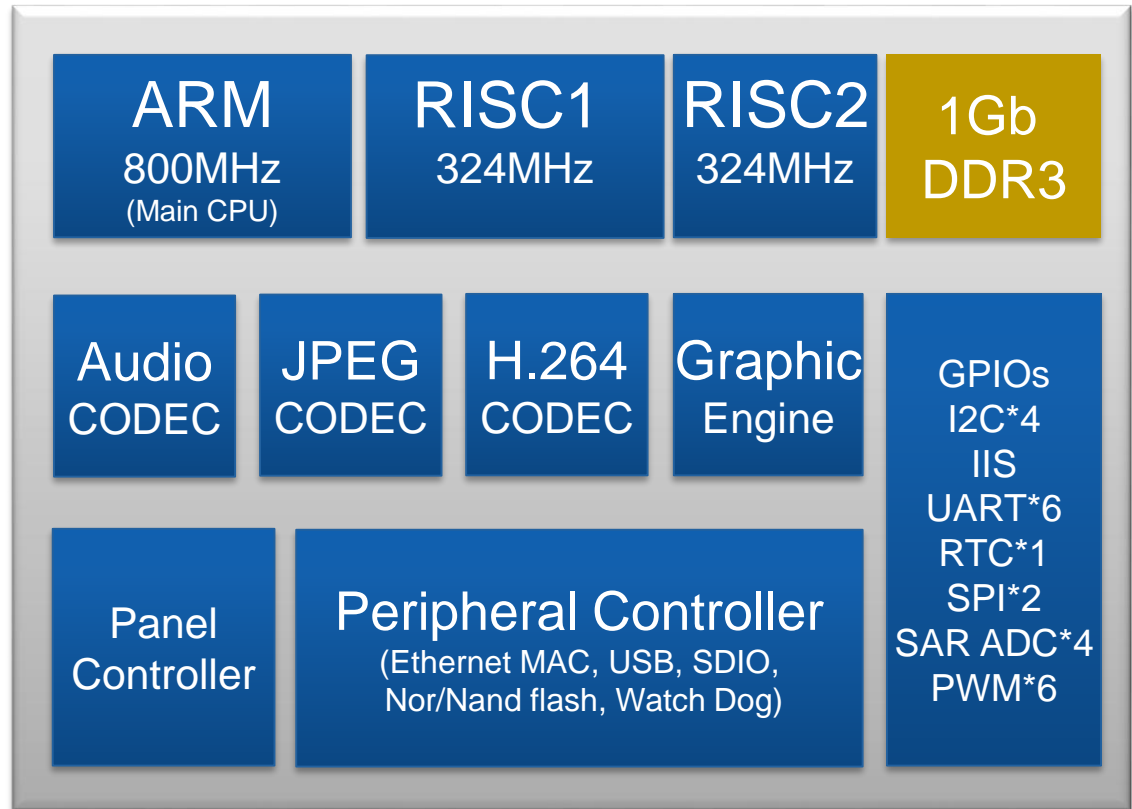
Center Console Monitor



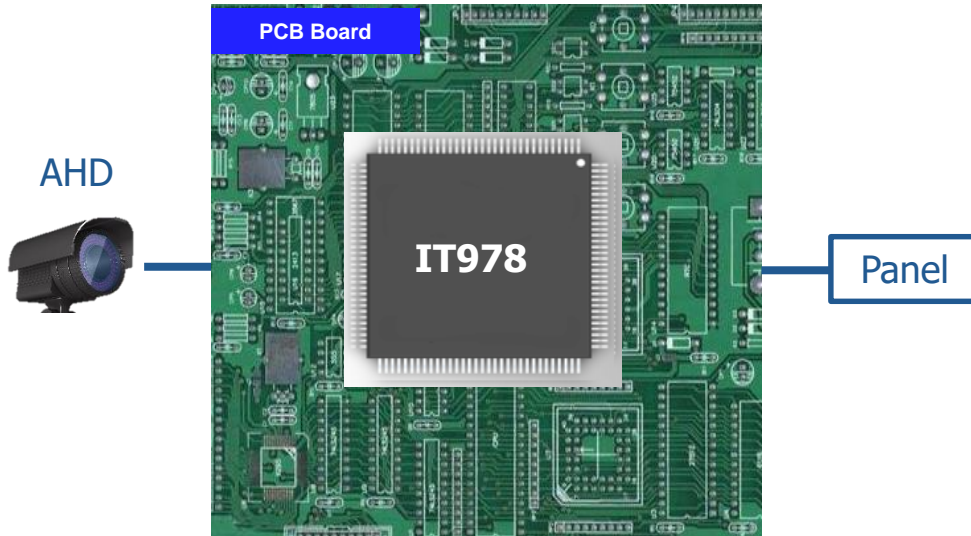
※ The photos are for reference only

# IT978 Function Block

- Main CPU 800MHz
- H.264 Video Codec
- Panel Interface:  
MIPI/ RGB/ LVDS
- Graphic Engine
- 128 Pins LQFP



# Application(6): Video Recording on Automotive Smart Display



IT978 has video encoder and allows recording video from one camera at a time.



A. Instrument Cluster with Dashcam



B. Vehicle backup camera display & recording



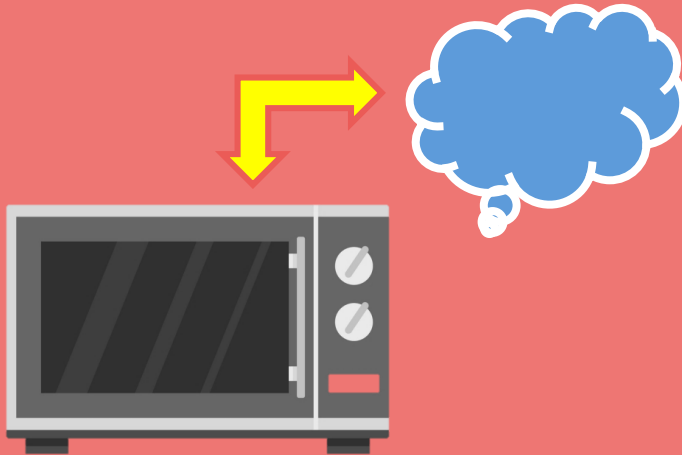
※ The photos are for reference only



# Advanced Functions(1)

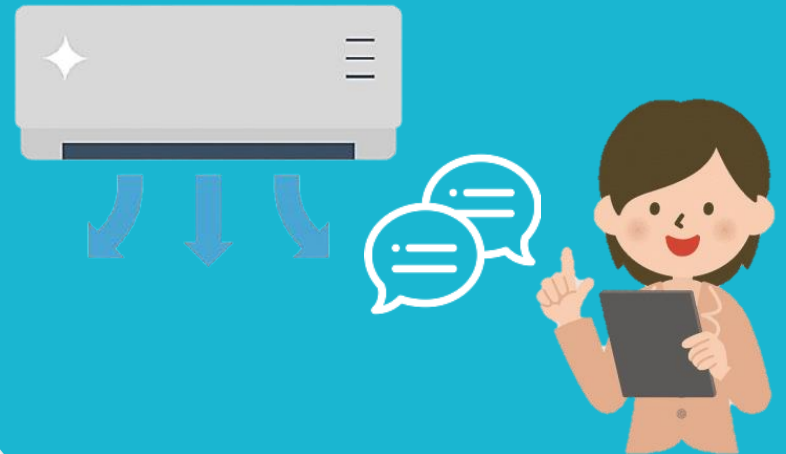
## Cloud Service

OTA  
Data & Image Transfer  
Recipe Recommendations



## Speech Recognition

Online & Offline  
Speech Recognition

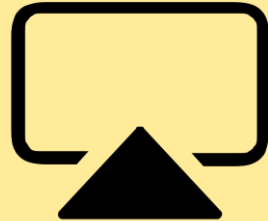


# Advanced Functions(2)

## Screen Mirroring (Smartphone)



APP

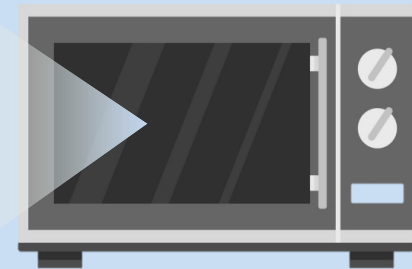
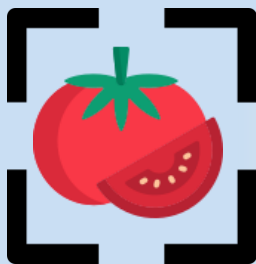


Airplay



Miracast

## Food Image Recognition



# ITE SoC Advantages

High Performance, Low Cost

Fast Booting ( $\approx 1$  to 2 sec)

Panel Interfaces (MIPI, RGB, LVDS, SPI)

Operating temperature (Industrial Standard):  $-40^{\circ}\text{C}\sim 85^{\circ}\text{C}$

Operating temperature (AEC Q100 Grade 2):  $-40^{\circ}\text{C}\sim 105^{\circ}\text{C}$

Supporting wireless modules (WiFi, Bluetooth, 4G...)

Powerful Graphic Engine

Complete IDE, Easy to develop

# ITE SoC Automotive Customers





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R.O.C.**

**<http://www.ITE.com.tw>**

***Thank You***

