

# 2020 AI Solution

## Exploring Smart AI Solution & Post-COVID-19 Trend

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# Agenda

- **IEI Successful Story**
- **Case Study 1 : AI-based Automatic License Plate Recognition**
- **Case Study 2 : AI-based Solution for Post COVID-19**
- **IEI AI Ready Embedded Systems**
- **IEI AI Roadmap**



# IEI Successful Story



## Smart Building



- Application: Access Control, Intrusion detection , people counting
- Location: Singapore



## Face Recognition



- Applications: Face recognition access management
- Location : Japan



## Smart Transportation



- Applications: Driver Safety & Truck Fleet management
- Location : USA



# Case Study 1

AI-based Automatic License Plate Recognition



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# How AI Improve LPR Applications

AI can solve the problem of waiting in line at the entrance and exit by overcome the problem caused by weather or lighting due to the limitations of the traditional recognition system.



Fig. 9. Examples of car license plate detection.

Factor	Traditional	AI Implement
Lighting/Weather	Poor	Excellent
Viewing angle	Fixed	Multiple angle
Process time	Slow	Fast
Vehicle speed	Stop	moving





# AI LPR Applications in Parking Lot

Parking Lot AI LPR system help to:

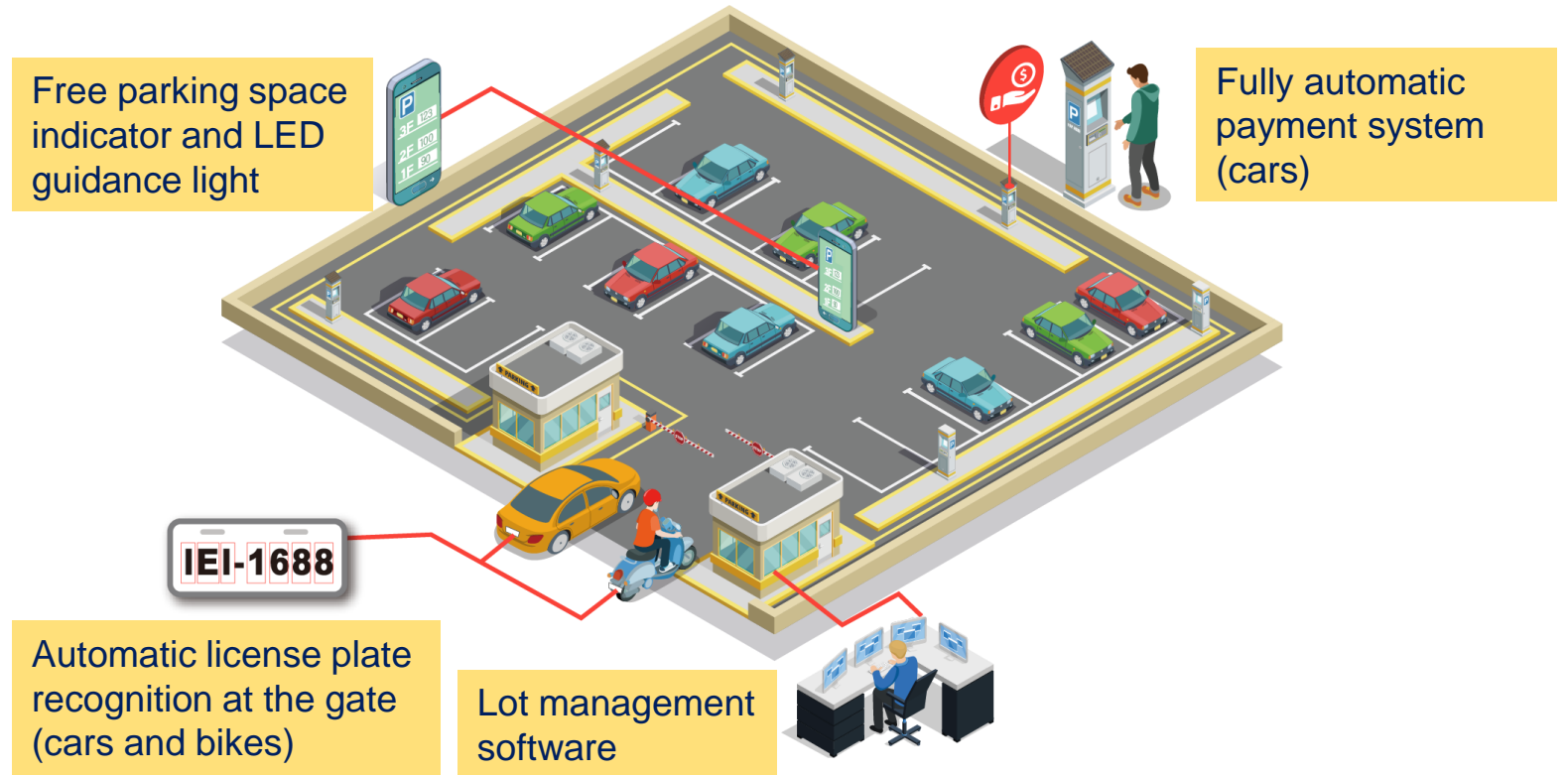
- Reduce long queue in entrance & exit
- Low error rate
- No token (missing issue)



# AI LPR Applications in Parking Lot

## Parking Lot AI LPR System Including:

- IP Camera
- AI LPR Edge BOX PC
- LED Digital Sign
- Gate
- Toll machine
- LED Guidance Sign





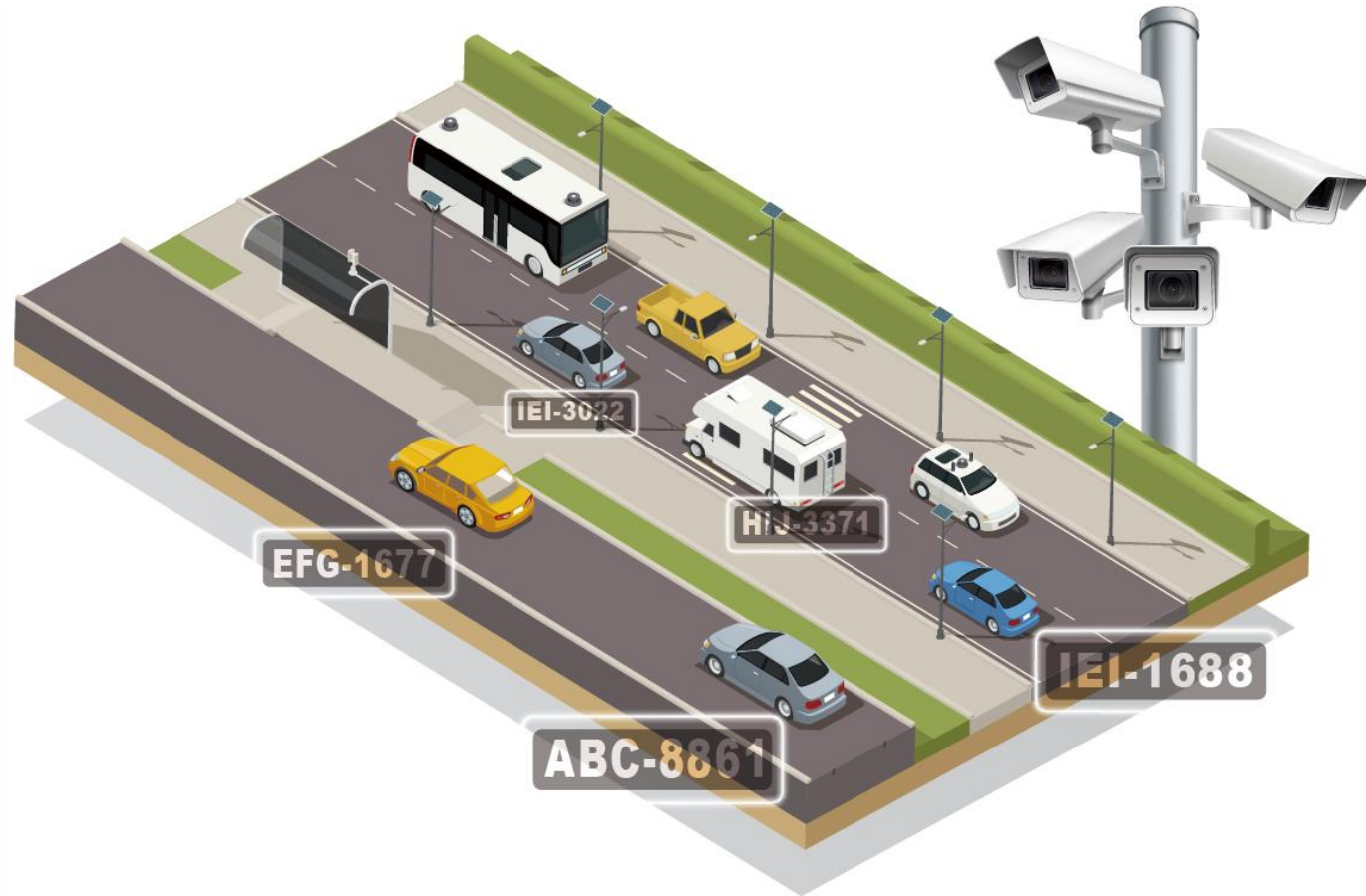
# AI LPR Applications in Smart City

## Fixed Camera:

- Traffic monitoring
- Suspicious black list

## In Vehicle Camera:

- Driver safety
- Suspicious black list





# Case Study 2

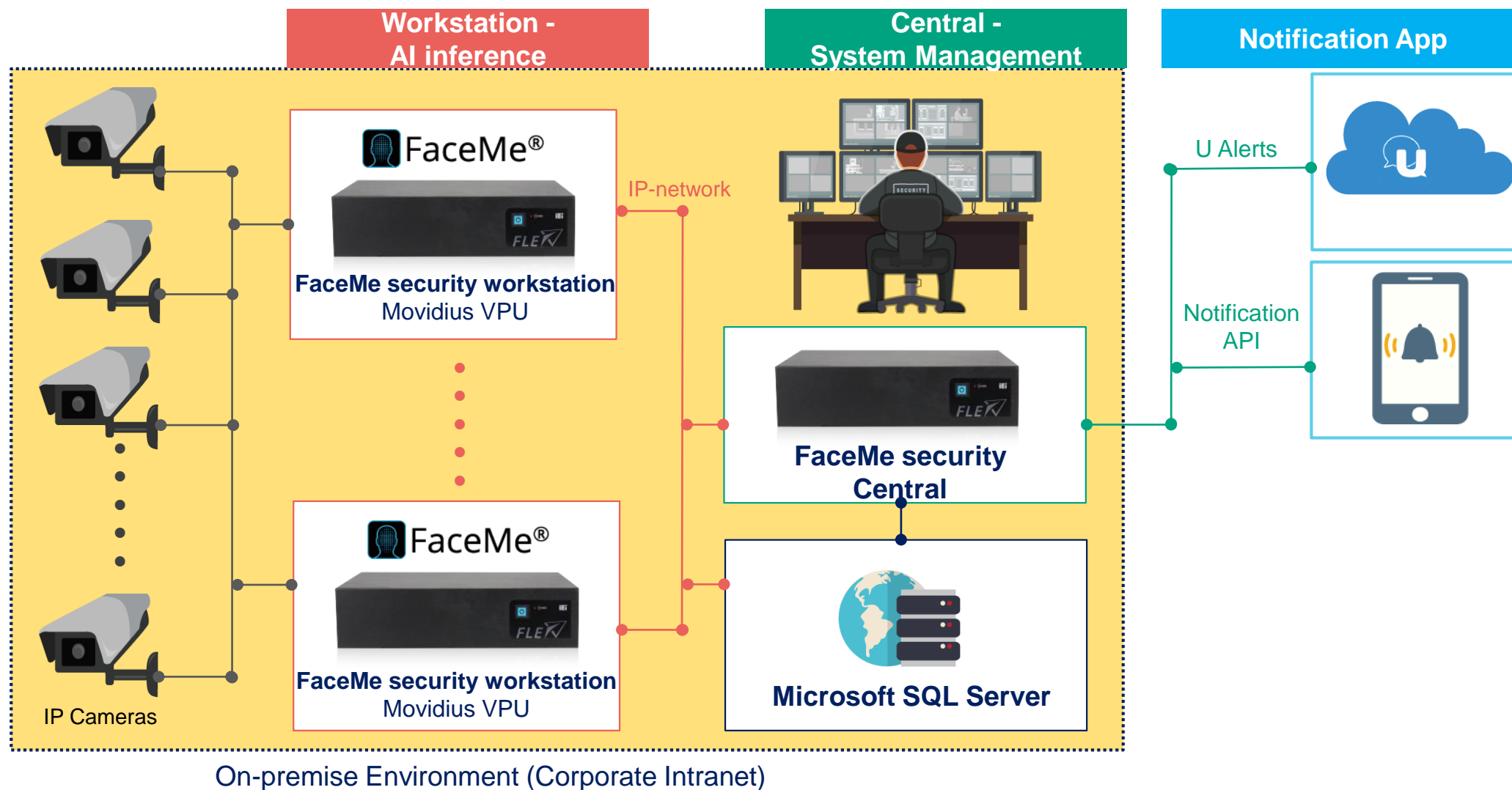
AI-based Solution for Post COVID-19



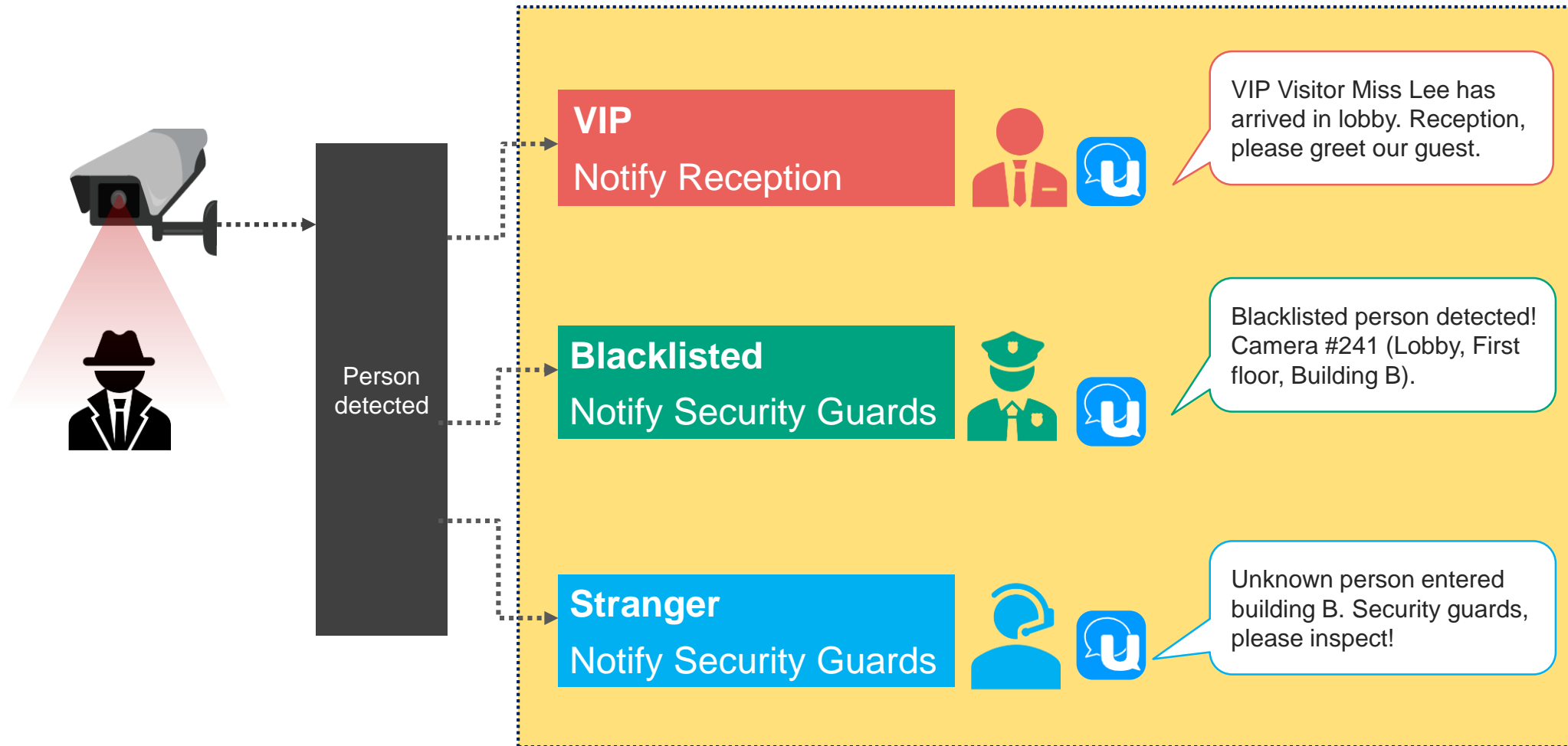




# System Structure



# FaceMe® SECURITY + U Alerts



# FaceMe® Security & U Alerts

## U Alert

In Smart Security or Smart Retail scenarios, FaceMe® can identify VIP or Blacklist, with FaceMe® SECURITY system integrated.

Compare result  
between live photo  
and database

5 seconds  
video



### FaceMe+U: Integrated Alert (21)

Fri, Feb 15

FaceMe SECURITY

⚠ Alert! A person in Blacklist appeared just now

Name: Mark  
Camera: CL 16F Entrance Gate  
Time: 17:36:24  
Date: 8/13/2019

Note:  
He is Project Manager in CyberLink.

4:20 AM

Live

Database



00:05





# Post COVID19 – Mask, Face, Body temp detection



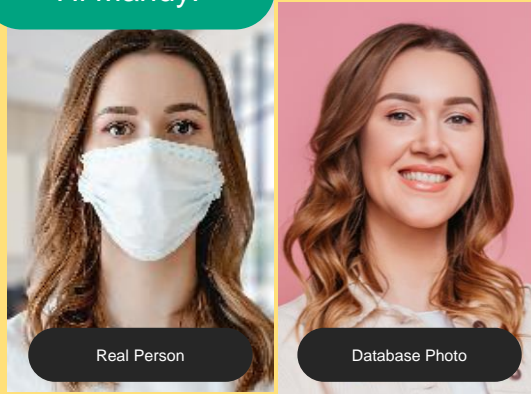
FaceMe®



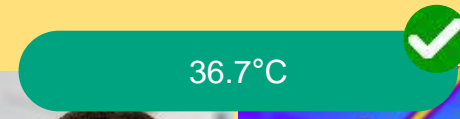
Mask detection



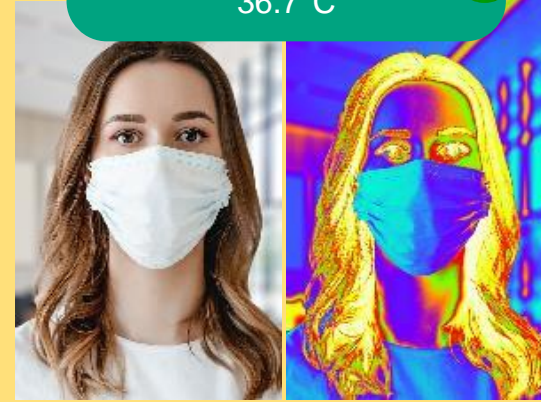
Hi Mandy!



Face recognition with  
Mask



36.7°C



Thermal camera support

# FaceMe® Security Use Cases

## Business access management



- Access system
- Visitor access control
- Employees clock in and out management
- Identification of visitors, employees, blacklists, etc.

## Retail, Restaurant, others



- Visitor access control
- Employees clock in and out management
- Identification of visitors, employees, blacklists, etc.
- Control area access management

## Factory Field monitoring



- Security control of factories and construction sites
- Visitor access control
- Employees clock in and out management
- Control area access management



# IEI AI Ready Embedded Systems



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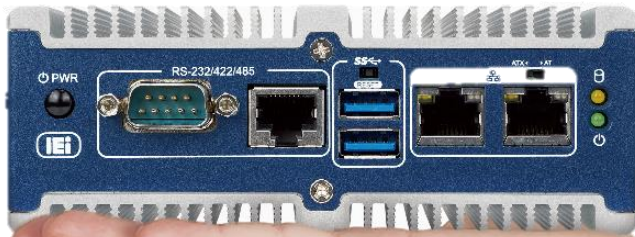


# FLEX-BX200 AIoT Dev. Kit



- Pre-install Mustang-V100-MX8
- Pre-validated Ubuntu 18.04 Operating System
- 2U AI Modular PC with 9th Generation LGA 1151 Intel® Core™/Xeon® processor with Intel® Q370/C246 chipset and DDR4 memory
- Support PCIe 3.0 by 4 and PCIe 3.0 by 8 slots
- Support up to 4 x Mustang-V100-MX8 PCIe accelerator Cards for enhancing AI/DL workloads
- M.2 2280 PCIe 3.0 x4 NVMe™ SSD support
- Support Wi-Fi 802.11 AC dual and Bluetooth V5.0 (pre-installed)

# ITG-100AI



- Intel® Atom™ x5-E3930 1.3GHz (up to 1.8 GHz)
- Pre-installed a Mustang-MPCIE-MX2 that has two Intel Myriad X VPU's for AI deep learning workload consolidation
- Two GbE LAN ports
- Two RS-232/422/485
- M.2 A-key slot for expansion



# Mustang VPU Series



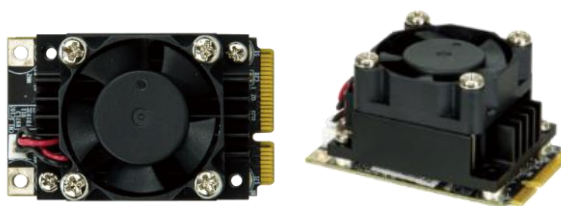
Mustang-V100-MX8  
(HHHL, TDP: 25W)



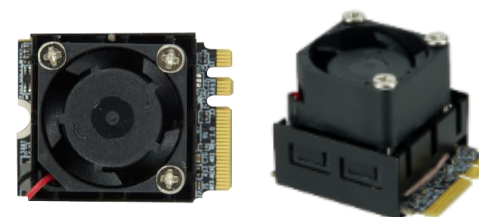
Mustang-V100-MX4  
(HHHL, TDP: 15W)



Mustang-M2BM-MX2  
(M.2 22x80, TDP: 7.5W)






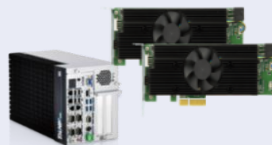


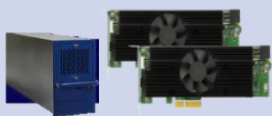
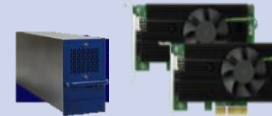
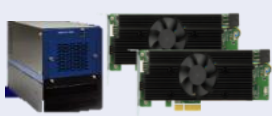
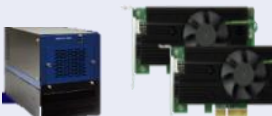

Mustang-MPCIE-MX2  
(MiniPCle 30x50, TDP: 7.5W)



Mustang-M2AE-MX1  
(M.2 22x30, TDP: 5W)



# IEI AI Ready Embedded Systems

	VPUx8 PCIe Gen2x4	VPUx4 PCIe Gen2x2	VPUx2 minipcie	VPUx2 M.2 B+M	VPUx1 M.2 A+E	Max.Camera CH In Cyberlink Solution
<a href="#">FLEX-BX-200-Q370</a> <a href="#">Intel® Coffee Lake AI Modular Box PC</a>						Up to 16
<a href="#">TANK AIoT Dev. Kit</a> <a href="#">Intel® SkyLake AI Dev. Kit</a>						Up to 8
<a href="#">RACK-500AI</a> <a href="#">Intel® Coffee Lake AI Modular PC</a>						Up to 8
<a href="#">PAC-400AI</a> <a href="#">Intel® SkyLake AI Modular PC</a>						Up to 8
<a href="#">ITG-100AI</a> <a href="#">Intel®Atom™ x5-E3930 Embedded System</a>						Up to 2



# IEI AI Roadmap



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# IEI 2020 AI Dev. Kit Roadmap

Schedule	2019		2020				2021	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Intel® Vision Accelerator Design Integrated Systems	TANK AIoT Dev. kit Mustang-V100-MX8 (Myriad X)		FLEX AIoT Dev. kit Mustang-V100-MX8 (Myriad X)				FLEX AIoT Dev. kit Mustang-V200-KB3(Keem Bay)	


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Qualified device





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Qualified device





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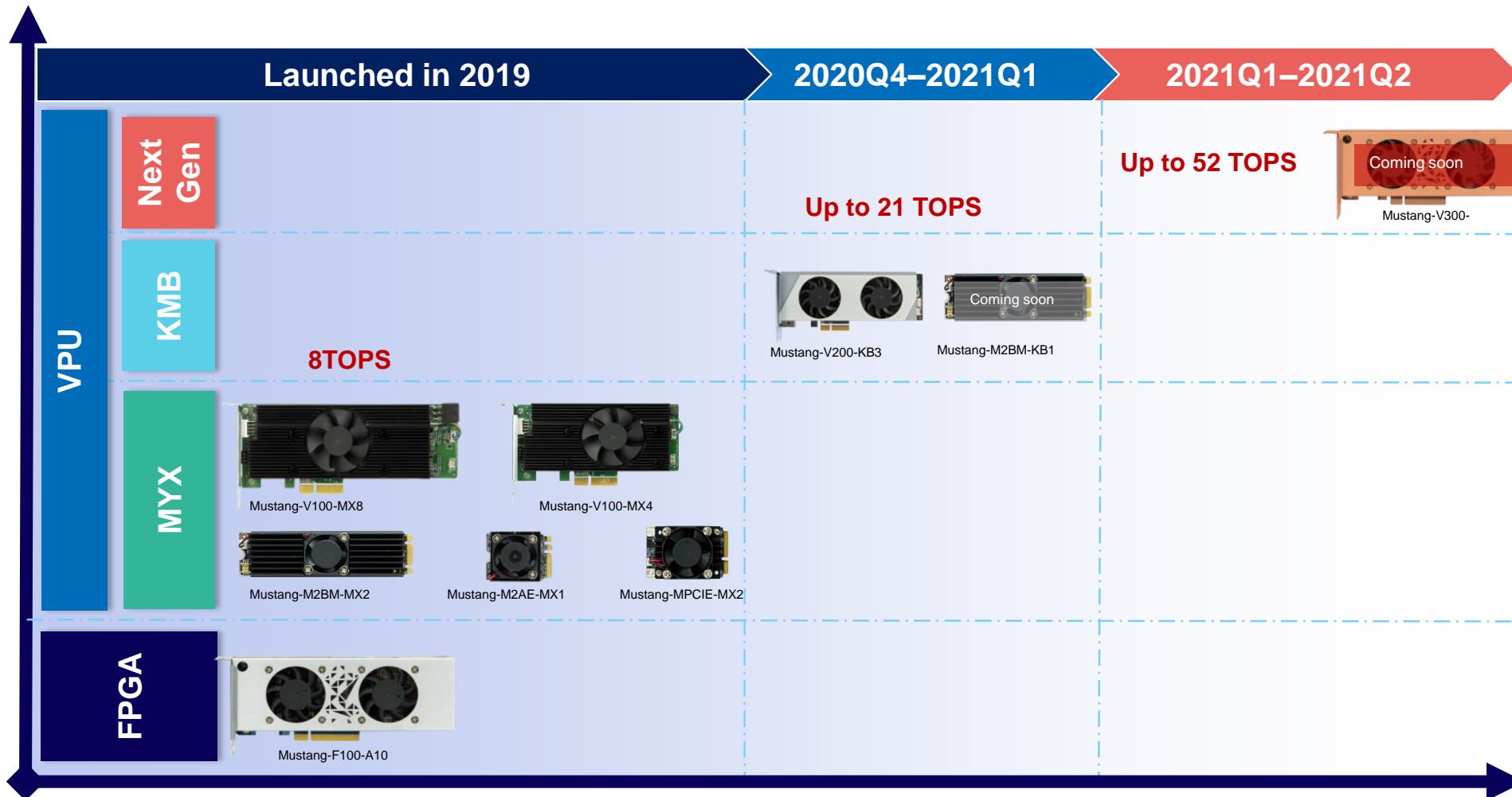
Qualified device








# IEI Mustang Product Roadmap



# Thanks for your attention



AI Ready Solution



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