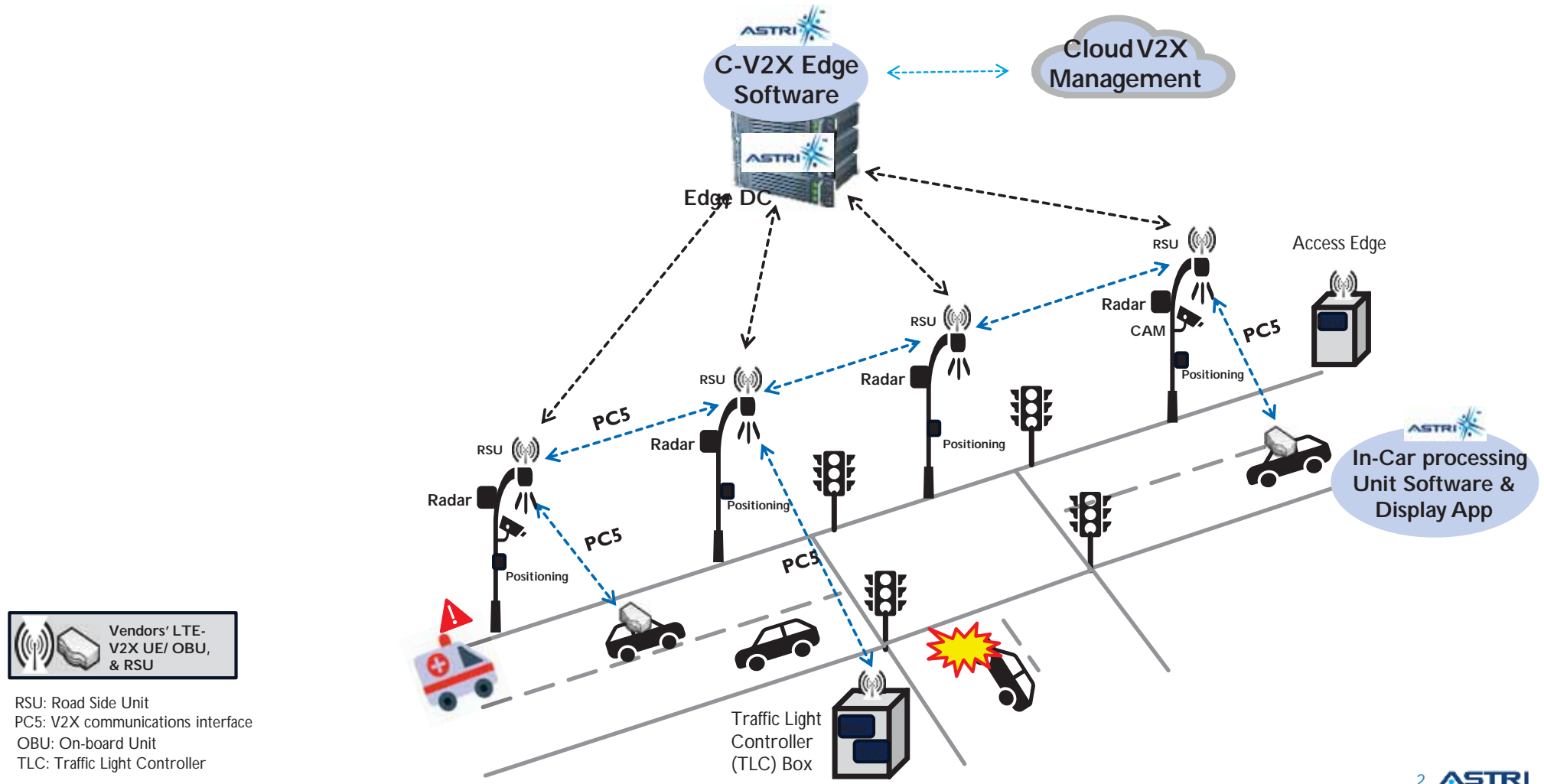
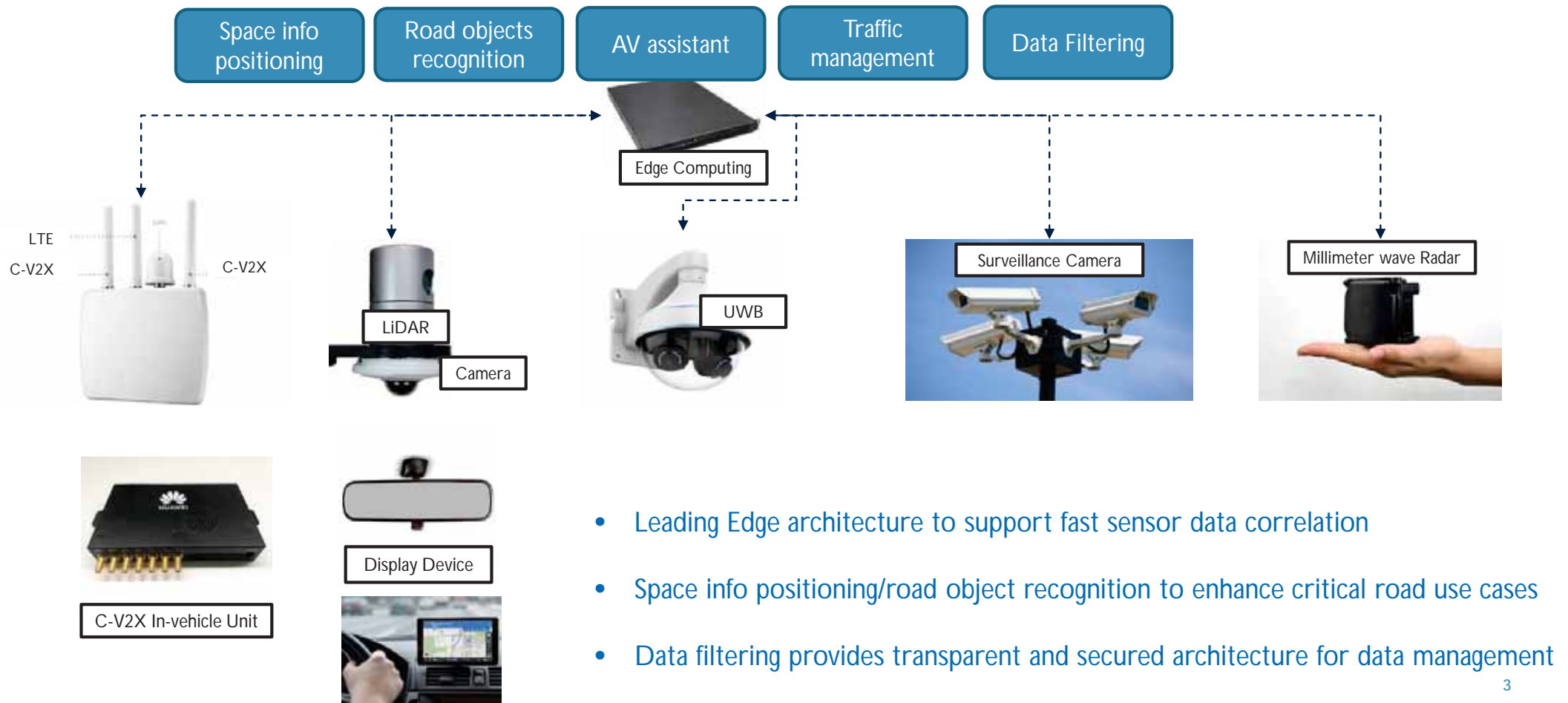

Topic: Next Generation Network Infrastructure to enable Smart Mobility
課題：服務智慧交通的下一代通訊技術架構

ASTRI's C-V2X System for Road Safety in City Public Road



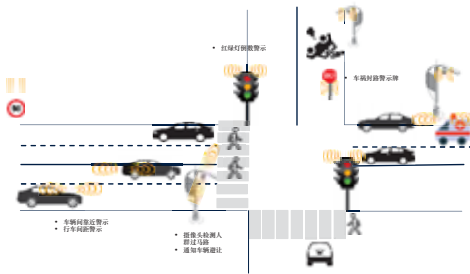
CVIS solution – Edge Based Sensor Fusion



ASTRI's C-V2X Service Scenarios & Roadmap

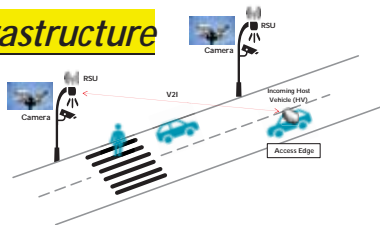
(enabled by ASTRI C-V2X System Architecture)

Road Safety



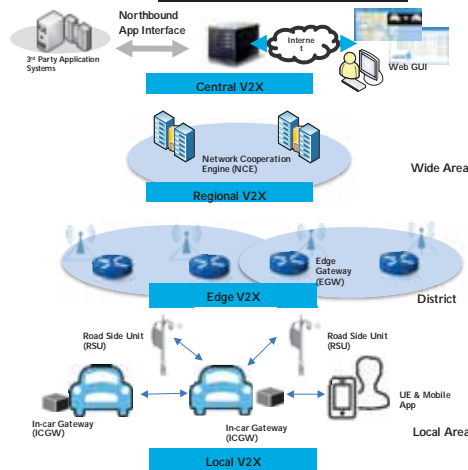
- Road Safety use case & algorithm (multi-tier)
- C-V2X Deployment in Hong Kong

Roadside Infrastructure

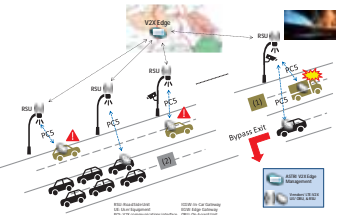


- Roadside Edge Computing (e.g. video & other analytics)
- Compliment to non-V2X road users interactions with V2X road users

V2X Multi-Tier Service Architecture & Deployment (Existing V2X Project)

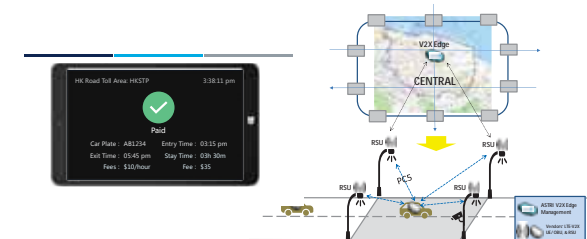


New Smart Mobility applications



Traffic Management

Highway Management



Electronic Road Pricing (ERP)



Autonomous Vehicle

ASTRI C-V2X System

In-Car Processing Unit (Hardware & software)

- In-car data gateway
- In-car decision maker



V2X Cloud Management

- Vehicle & Traffic Data Management
- Fast Alarm Decision & Notification
- Real-time Traffic Monitoring & Suggestion
- Traffic Data Analytics
- City Traffic Management & Planning



V2X Edge Computing

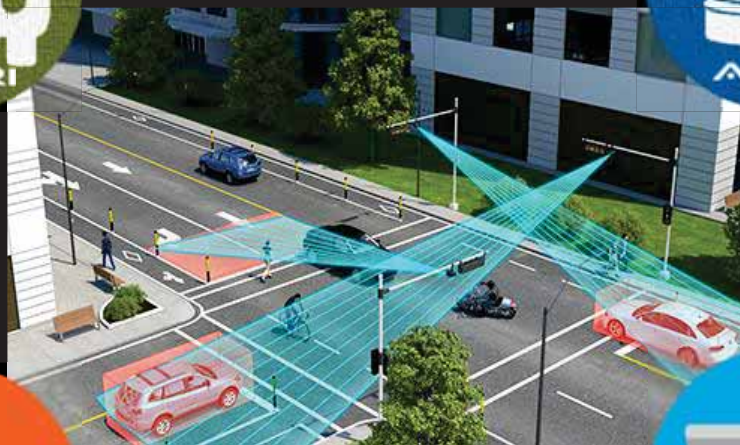
- Road Safety Alarm Algorithms
- Optimized Data Processing with Alarm Priorities
- Local Traffic Management & Planning



Vehicle & Roadside Infrastructure Cooperation

- Fast Roadside Sensing Data Processing
- V2X Edge Intelligence & Communications for Real-time Alerts

(ongoing)



Road Safety Scenarios Realized – Most Complete in Industry!



China First City C-V2X Deployment in Wuxi – World IoT Expo 2018 (Sep)

- Commercial Deployment on 6km city open roads & traffic with 17 V2V & V2I use cases



Demo Video

https://www.dropbox.com/s/elpb1rkp_hlwe5s8/MWC_2019_Wuxi_UseCases.mp4?dl=0



“Huawei and ASTRI Showcase Results of Joint Technological Endeavours through Successful LTE- V2X Demonstrations in Wuxi, China”

<https://www.huawei.com/en/press-events/news/2018/9/huawei-astri-lte-v2x-wuxi>



用例编号	用例名称	类型
1	前向碰撞预警	V2V
2	交叉路口碰撞预警	V2V
3	左转辅助	V2V
4	车辆盲区/变道预警	V2V
5	逆向超车预警	V2V
6	紧急制动预警	V2V
7	异常车辆提醒	V2V
8	车辆失控预警	V2V
9	道路危险状况提示	V2I
10	限速提醒	V2I
11	闯红灯提醒	V2I
12	基于信号灯的车速引导	V2I
13	车内限速	V2I
14	前方拥堵提醒	V2I
15	离优先权车辆让行/紧急车辆信号优先权	V2V
16	盲区行人穿越预警	V2I
17	匝道车辆汇入预警	V2I

路线说明:

1. 路线全长约6公里, 车辆正常行驶一圈需15分钟左右, 如果加入V2V场景的触发, 估计需要20分钟左右。
2. 共计10个红绿灯路口, 4个路口设置提示点需部署RSU, 路口RSU推荐安装在机动车道灯杆上, 备选安装在行人红绿灯杆上。施工标志提示等RSU安装在靠近的机动车红绿灯杆上。

Future Connected Autonomous vehicle plan

