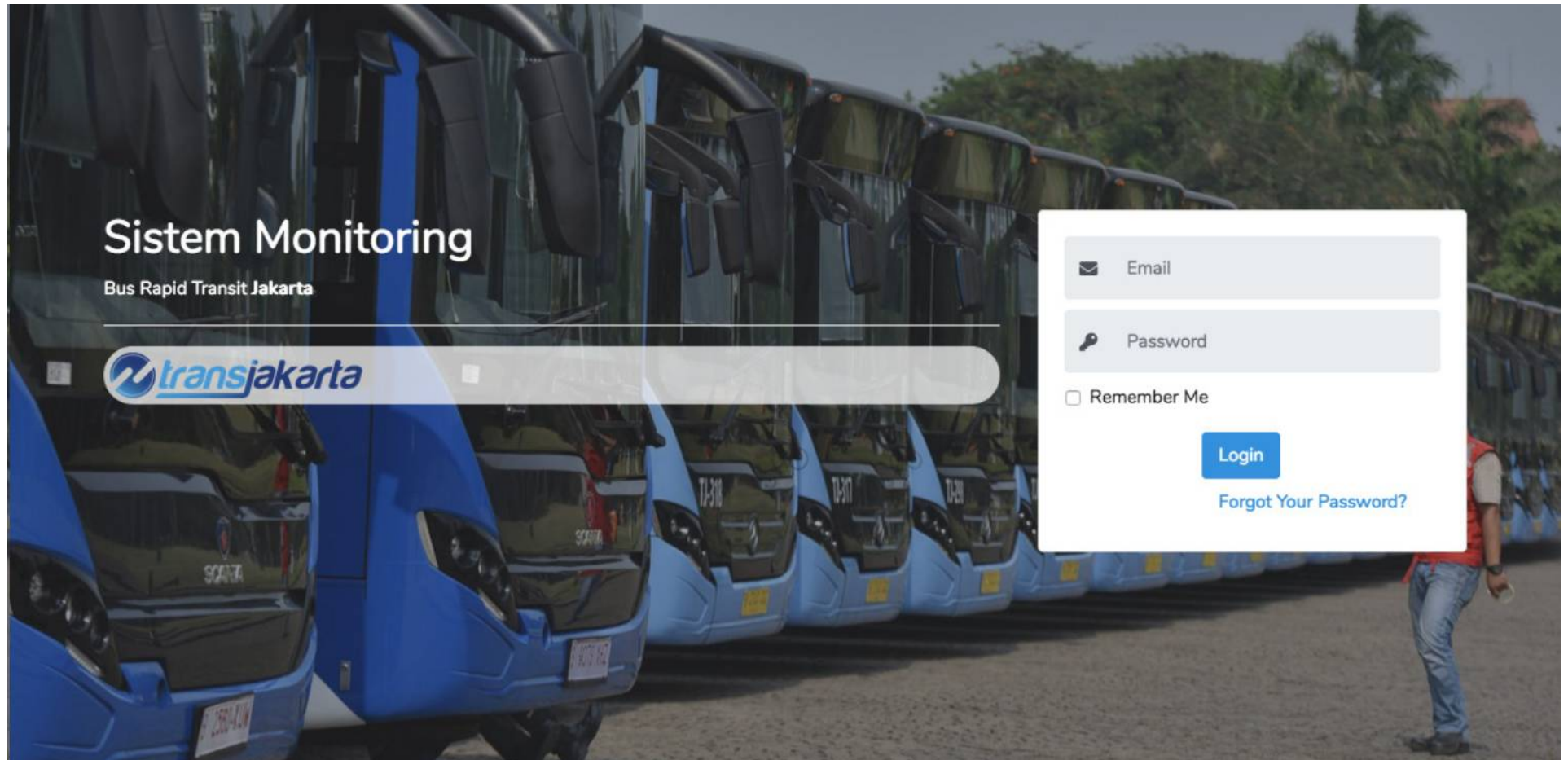
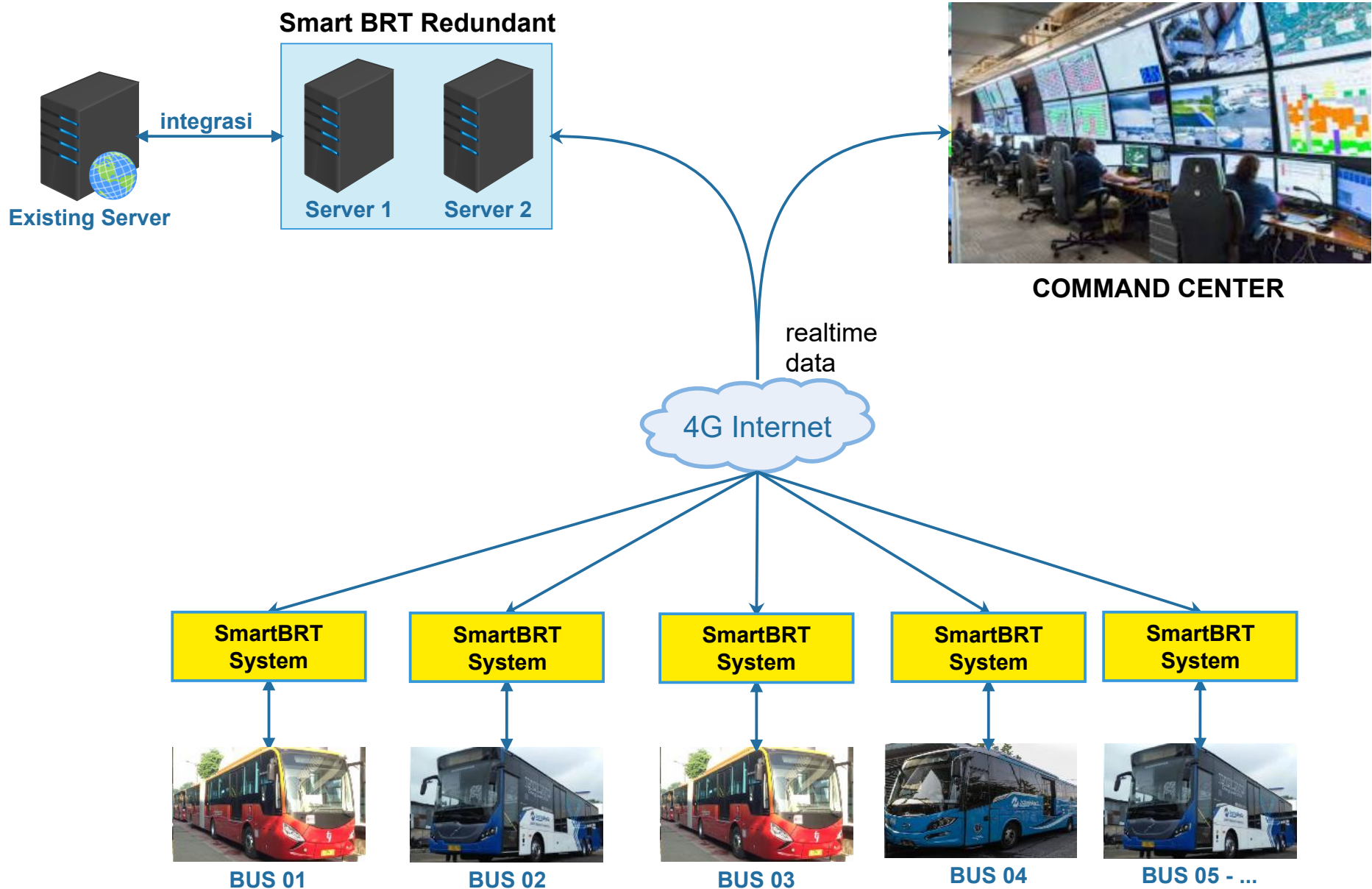


PROTOTYPE SMART-BRT SYSTEM

online - realtime - multi interface unit



A. SKEMATIK UMUM SMART-BRT



B. SMART-BRT ONBOARD UNIT



web interface command center



10.1" rugged tablet

multimedia CPU



ENGINE ECU



RUNNING TEXT CONTROLLER



TV-LED IKLAN CONTROLLER



BUS SPEAKER ANNOUNCER HALTE



BUS DVR SYSTEM

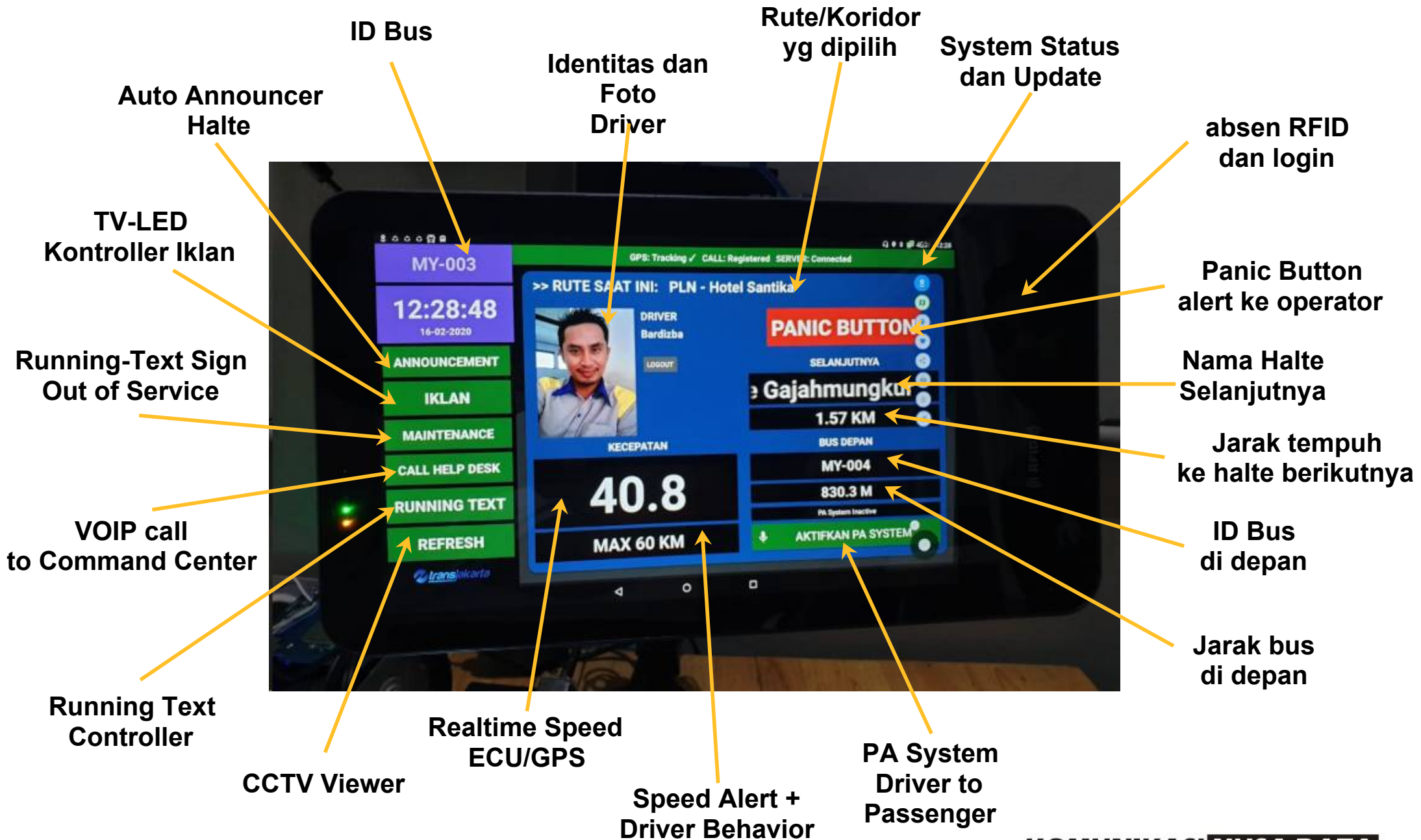


SENSOR
ROOM TEMPERATURE
ROOM HUMIDITY
GPS SENSOR
ACCELEROMETER



DRIVER
MIC+SPEAKER SYSTEM
VOIP/ANNOUNCER

C. OBU INTERFACE DRIVER



FITUR SISTEM	A	B	C
Pengelolaan			
Over the air control	v	v	v
Software auto update atau manual update	v	v	v
Login dan absensi berbasis kartu RFID		v	v
Login berbasis PIN Code	v		
Absensi berbasis QR Code	v	v	v
Sistem Rute & Halte Otomatis			
Perubahan rute online	v	v	v
Auto detect near halte / bus stop	v	v	v
Display halte berikutnya	v	v	v
Display jarak ke halte berikutnya	v	v	v
Display jarak dan nama bus didepan	v	v	v
Support skenario "isi BBM", "Bus Tambahan", "Pindah Urutan"	v	v	v
Terkoneksi dengan Running Text dan PA system	v	v	v
Auto Announcer			
3 sesi per halte (sebelum, saat, sesudah)	v	v	v
Terhubung ke Sistem Rute dan Halte Otomatis	v	v	v
Terhubung ke PA sistem eksisting	v	v	v
Smart Running Text			
Update Smart RT module pada papan running text eksisting	v	v	v
Terhubung ke Auto Announcer	v	v	v
Terhubung ke Sistem Rute dan Halte Otomatis	v	v	v
Smart Alert			
Panic button	v	v	v
Speed limit alert	v	v	v
Smart Communication			
1 touch VOIP call ke operator	v	v	v
Driver Talk, driver dapat bicara ke penumpang via PA system	v	v	v
Voice Codec yang efisien (8-80 Kbps)	v	v	v
Sistem telepon "hunting" di sisi operator	v	v	v
Content Management System			
Display konten iklan via TV LCD		v	v
Perubahan konten iklan secara online		v	v
Auto play, dengan fitur disable / enable		v	v
Smart Maintenance			
Monitor odometer bus		v	v
Jadwal servis bus online		v	v
Jadwal penggantian spare part online		v	v
Smart Sensor			
Sensor monitoring suhu dan kelembaban kabin		v	v
Sensor pintu		v	v
Sensor monitoring voltase 24V DC		v	v
Can Bus Onboard Diagnostic System**			
View kecepatan bus dan jarak tempuh		v	v
view engine RPM, engine load		v	v
view konsumsi BBM realtime dan rata-rata		v	v
Monitor engine fault / trouble code		v	v
Smart Driver Behavior Monitoring**			
Monitor lama mengemudi		v	v
Monitor akselerasi mendadak		v	v
Monitor pengereman mendadak		v	v
CCTV Monitoring*			
View CCTV from OBU*			v
CCTV snapshot from DVR to OBU storage*			v

Keterangan :

* Untuk DVR yang support

** 90% kompatibel dengan protokol Canbus dipasaran

SPESIFIKASI OBU	A	B	C
10.1 inch IPS/AFFS 1200 x 1920 FHD industrial 1200 CD/m2, sunlight readable			v
7 inch IPS/AFFS 1200 x 1920 FHD industrial 600 CD/m2, sunlight readable	v	v	
ARM Cortex A53 Quad Core 1.5G Hz x4	v	v	v
USB2.0 HOST x2 /USB type-C / RS232 x2 ;RJ45 x1	v	v	v
Internal RAM 4GB RAM, 32GB ROM, micro SD slot max 128GB	v	v	v
WI-FI Dual-band (2.4GHz/5Ghz) single stream 802.11 a/b/g/n MAC/BB/RF	v	v	v
HF RFID/NFC 13.56M HF support ISO14443A/B/ISO15693 readable		v	v
OBD II Supports CAN2.0A and CAN2.0B protocols and conforms to ISO/DIS 11898		v	v
GPS u-blox M8 engine, GPS , QZSS L1 SAIF, GLONASS L1OF, BeiDou B1I, Galileo E1B/C	v	v	v
Shake-proof 1-19Hz/1.0mm; 19-200Hz/1.0g	v	v	v
Dropproof MIL-STD-810G/Method516.6/Procedure IV	v	v	v
Waterproof Class 7 (IEC 60529)	v	v	v
Dustproof Class 6 (IEC 60529)	v	v	v
Reliability MTBF>50000h ; MTTR<0.5h	v	v	v
Operating temperature -20°C to 70°C	v	v	v
Vesa Bracket 9mm	v	v	v

SPESIFIKASI MULTIMEDIA CPU	A	B	C
Quad Core 1.2GHz Broadcom, 1GB RAM	v	v	
Quad Core 1.5GHz Broadcom, 4GB RAM, 128GB Storage			v
1x ethernet 10/100 Base Ethernet	v		
4x ethernet 10/100 Base Ethernet, industrial grade		v	v
6x GPIO interface		v	v
1x 485/232 communication	v	v	v
1x HDMI		v	v
2x HDMI (support dual TV display)			v
3 Port 3.5mm audio mixer with pre amp		v	v
4G LTE / Quadband GSM/GPRS/EDGE, 3 dbi antenna	v		
4G LTE / Quadband GSM/GPRS/EDGE, 28dBi high gain antenna		v	v
Wireless AP Router Up to 300 Mbps with 802.11n clients	v	v	v
6063 Aluminium, powder coating finish	v	v	v