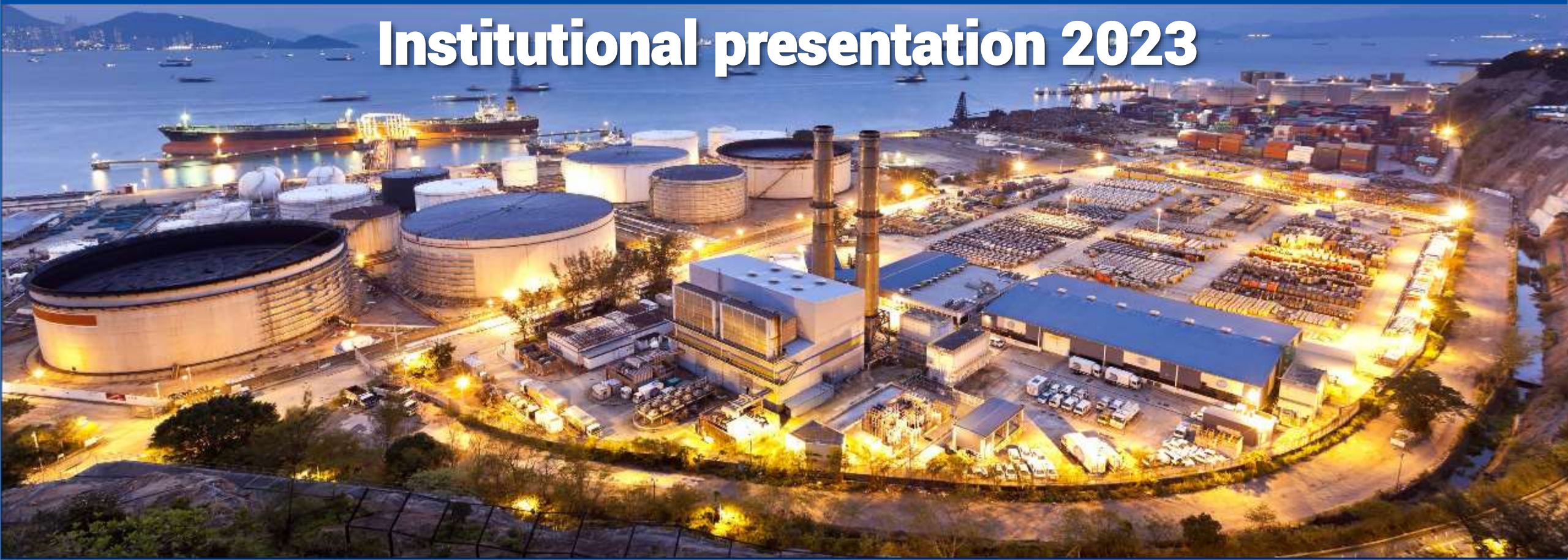




Institutional presentation 2023





With 25 years of expertise, Automation Solutions is a reference in providing cutting-edge technology for the industrial segment, with turn-key solutions



Main Market Segments



Mining



**Road Monitoring
(NTCIP)**



**Cement
Steel Mill**



**Paper And
Cellulose**













**Petrochemical
and Gas**



Energy



Business Segment of the company

-  Industrial process monitoring system and property security (CCTV);
-  Monitoring system in special applications (drones, explosion proof/thermal cameras for SE's);
-  Corporate access control system (digital/facial/biometric controllers/readers, RFID, gates/turnstiles, integrated with CCTV);
-  Industrial communication system (High/Low Voice and Telephony) with industrial telephones;
-  Detection and alarm system, fire fighting with clean agents and passive protection;
-  Emergency signaling system, autonomous blocks and escape route signaling;
-  Manual and automatic fire suppression system for off road machines and trucks;
-  Camera system (01 to 05 units) and mobile DVR, with anti-collision radars for mining machines and trucks;
-  Sound and alarm system, early notification with special horns for dams and critical operations;
-  Turn-key supply, from design to installation, commissioning, start up and after-sales maintenance contracts in the Mercosur area.



**Cameras, NVR's
and Analytical Video**



**Switches and
Radios 2.4Ghz e 5.8Ghz**



**Fire Suppression
and Off-Road Cameras**



**Mobile unity
with Solar Panel**



**Sirens for
Critical Operations**



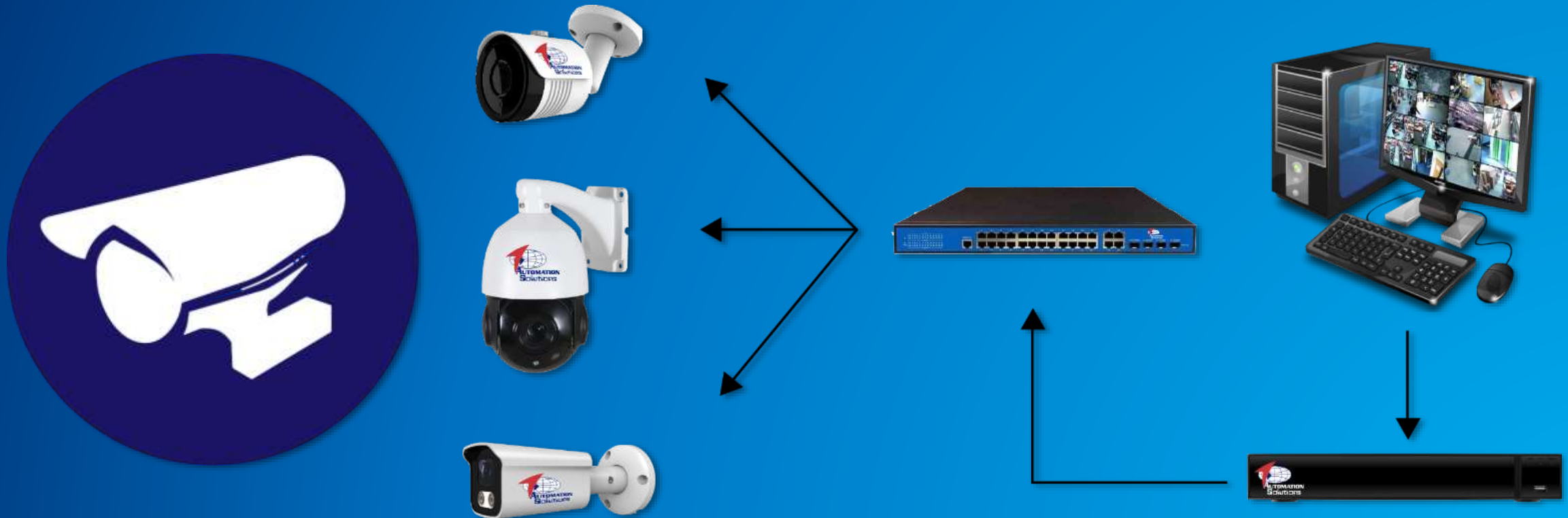
**Detection and
Fire Fighting**



**Homologation with the
Fire Department - AVCB**

Automation Solutions Technologies

Industrial process monitoring system and property security (CCTV)





AUT- KL200-IPR25

Camera Bullet 2MP IP67



AUT- BAKE200-IP

Camera Bullet 2MP



AUT-LBH30GC200

Camera Bullet 2MP IP67



AUT-BMMBRL200

Camera Bullet 2MP IP67



AUT-PT7K118XGL500

Speed Dome 18X IP66



AUT-PT10G136XGL500

Speed Dome 36X IP66



AUT- AH18XHHL200-PT4

Speed Dome 18X IP66



AUT- AM22XHHL200-PT5

Speed Dome 22X IP66



AUT112-4252

Speed Dome IP69K



AUT192-HDIP

Speed Dome IP



AUT834-V6-18/36

Cameras PTZ Explosion Proof



AUT834-IR-TM

Cameras PTZ Thermal



AUT-HLIV01M20SAF

Camera LPR 2MP



AUT-HFIF06M50CG

Camera FishEye 5MP



AUT-AC90-4G

Camera 4G 2MP



AUT42IP-JL-36BW

Industrial PTZ Cameras



AUT-RSU422FIT-KS201A

Laser Speed Dome Cameras



AUT-EX834-36

Professional Cameras

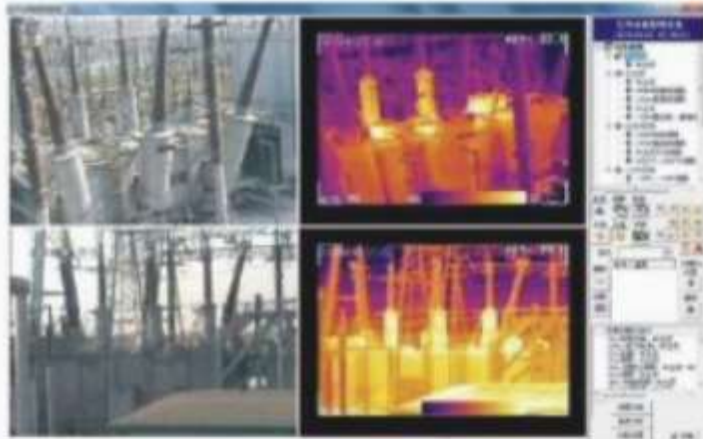
Automation Solutions Technologies



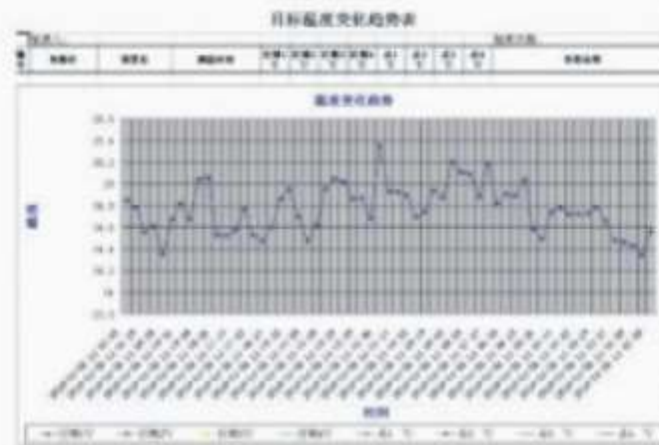
AUT834-TM-F



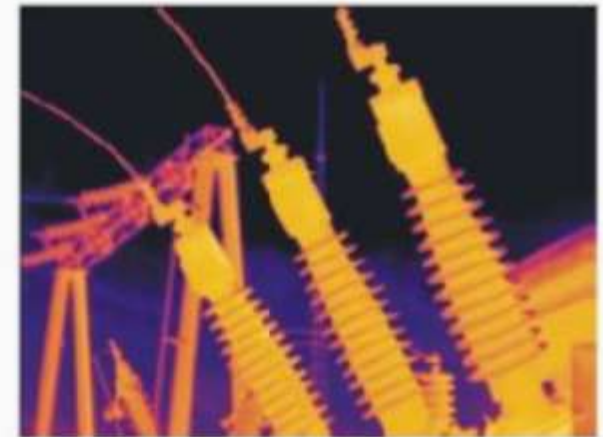
AUT133-TH54



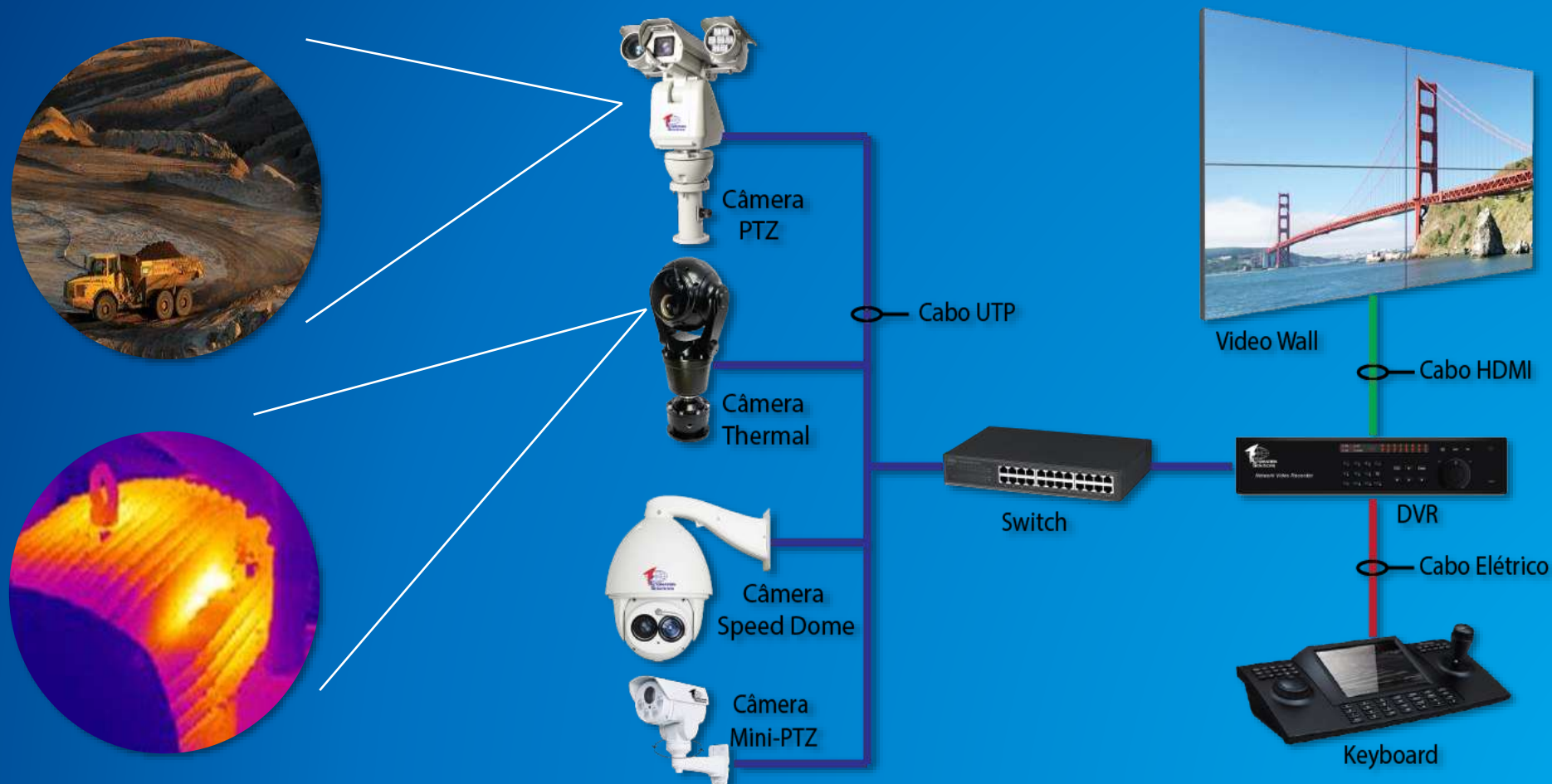
The main interface



Temperature Reports



Automation Solutions Technologies



Automation Solutions Technologies



Automation Solutions Technologies

Monitoring system for special applications





Special Applications

- ✓ Indicator-message displays;
- ✓ Real Time Clocks / FTP Thermometers – IP;
- ✓ Alarms for electrical cables / theft and lack of phase – GPRS;
- ✓ Sensor cable perimeter fences – TCP-IP – GPRS;
- ✓ Microwave Perimeter Barrier;
- ✓ Body cameras – 4G-Wi-Fi – Bluetooth – SD card;
- ✓ Drones for mine monitoring – works;
- ✓ Video monitoring of furnaces and boilers.

Automation Solutions Technologies



Mobile solar/wind trailer



Drones



Camera for ovens

Automation Solutions Technologies



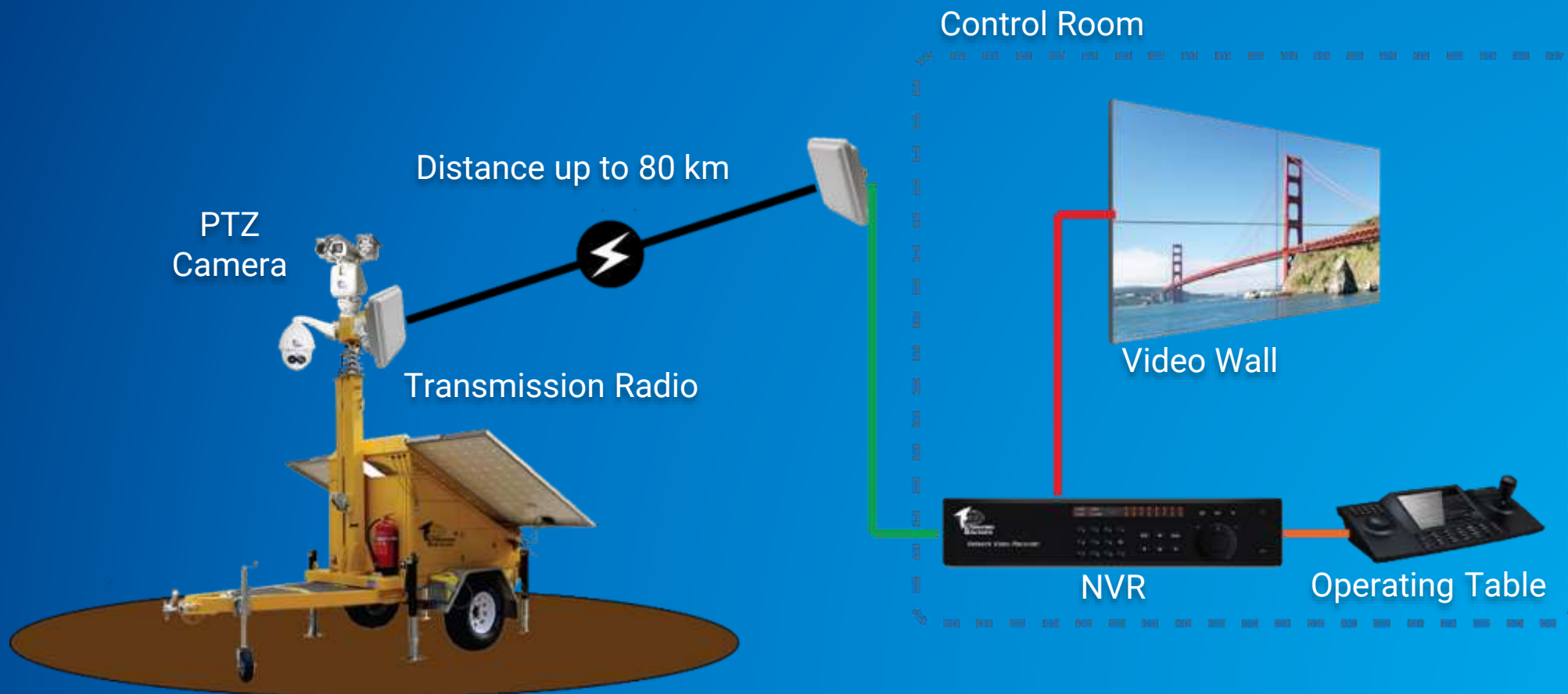
Mining monitoring and special areas





Automation Solutions Technologies

Monitoring and lighting system with off-grid solar energy and 2.4 or 5.8 GHz transmission





Autonomous power and light unit off-grid AUT-UAFL-01

The autonomous power and light unit AUT-UAFL-01 is a piece of equipment whose main purpose is to bring emergency lighting, as well as A.C. Its main application is in heavy industries, mining, road maintenance, catastrophic and emergency situations in floods, windstorms, earthquakes, etc.



Main features:

- ✓ Trailer-type cart;
- ✓ Four "way LED" model lights, and/or radios and cameras up to 80W each;
- ✓ Programmable LED road signage;
- ✓ A retractable and retractable pole;
- ✓ Two photovoltaic panels;
- ✓ Single-handed mobile trailer
- ✓ Batteries with a capacity of 240Ah, at 24 volts;
- ✓ Photovoltaic solar panels with a power of 500W;
- ✓ DC - AC inverter
- ✓ High definition cameras, sensitivity and range for remote monitoring;
- ✓ Battery chargers that can be:
 1. Direct from the mains when it is collected;
 2. Directly from the vehicle that is transporting it;
 3. Through photovoltaic solar panels
 4. Optionally it can contain a mini wind generator.

Dimension:

- ✓ Length: 1430mm
- ✓ Width: 1000mm
- ✓ Height: 8 meters

Weight :

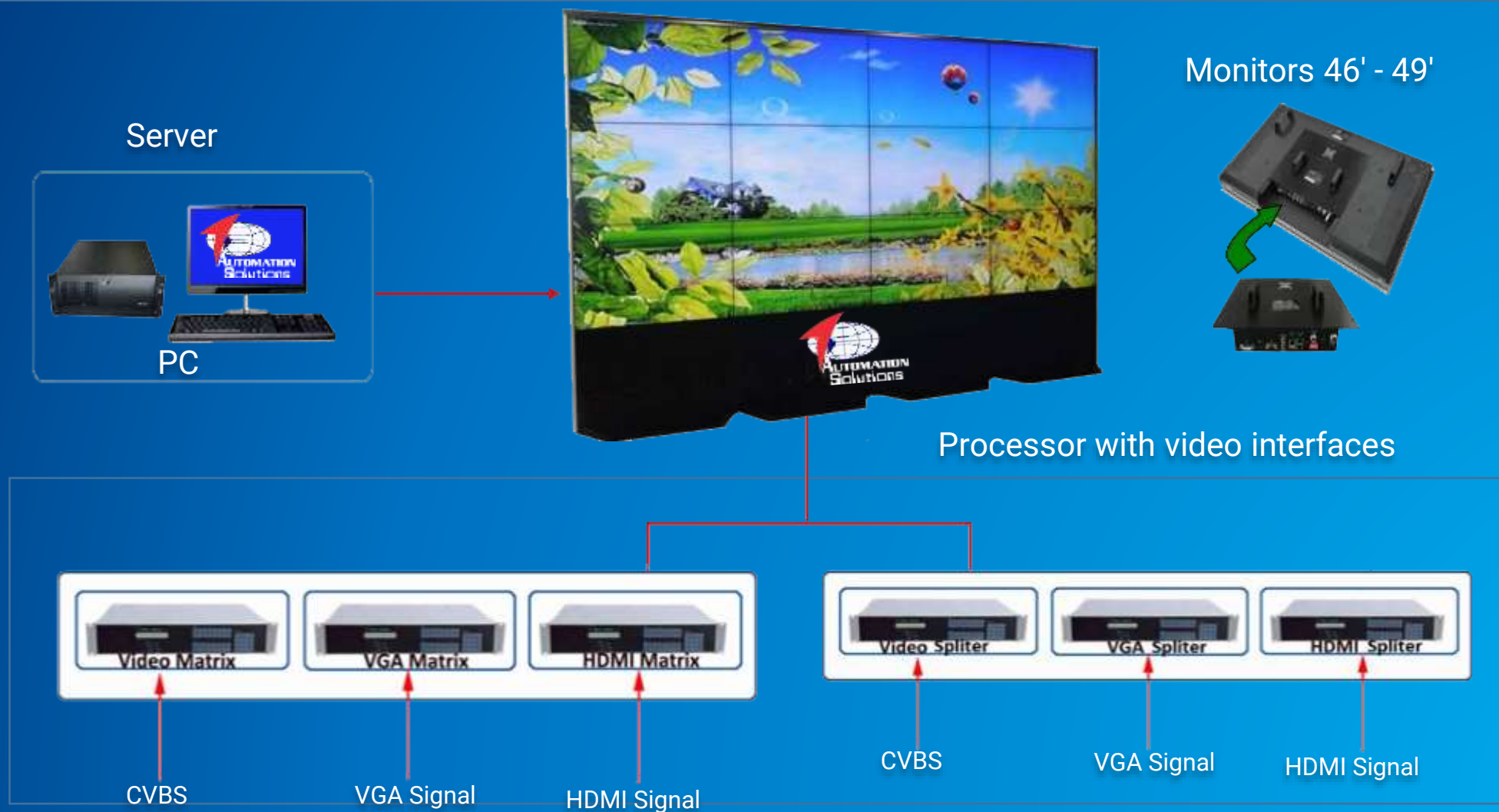
- ✓ 400Kg

Configuration for transport



Automation Solutions Technologies

Videowall System - Topologies



Automation Solutions Technologies



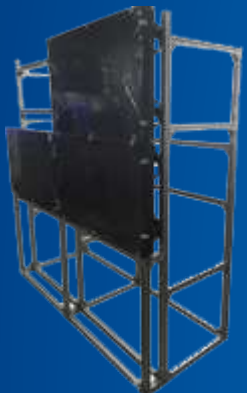
Videowall System - Support options



WALL-MOUNT TYPE - I



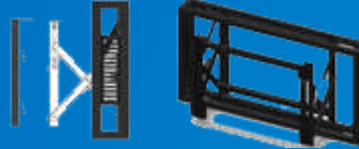
GABINET-STAND TYPE



FLOOD-STAND TYPE



PRESS-EJECT TYPE



WALL-MOUNT TYPE - II



OPTIONAL



Automation Solutions Technologies

Body cameras



AUT-CPD43

- ✓ Sensor: 5MP OV4689 CMOS
- ✓ Chipset: Ambarella A12
- ✓ Recording Angle: 160 degrees
- ✓ Waterproof: IP67
- ✓ Battery Capacity Built-in 4000mAh Lithium
- ✓ WIFI / Bluetooth
- ✓ Audio code: TLV320AIC3268 (supports noise suppression)



AUT-CEH37

- ✓ Sensor: 5MP CMOS
- ✓ Recording Angle: 140°
- ✓ Waterproof: IP 65
- ✓ Storage Capacity: 16G/32G/64G (Standard 32GB)
- ✓ Video Format: H.264 MPEG4
- ✓ Audio Format: WMA
- ✓ Photo Format: 4608*3456 JPEG

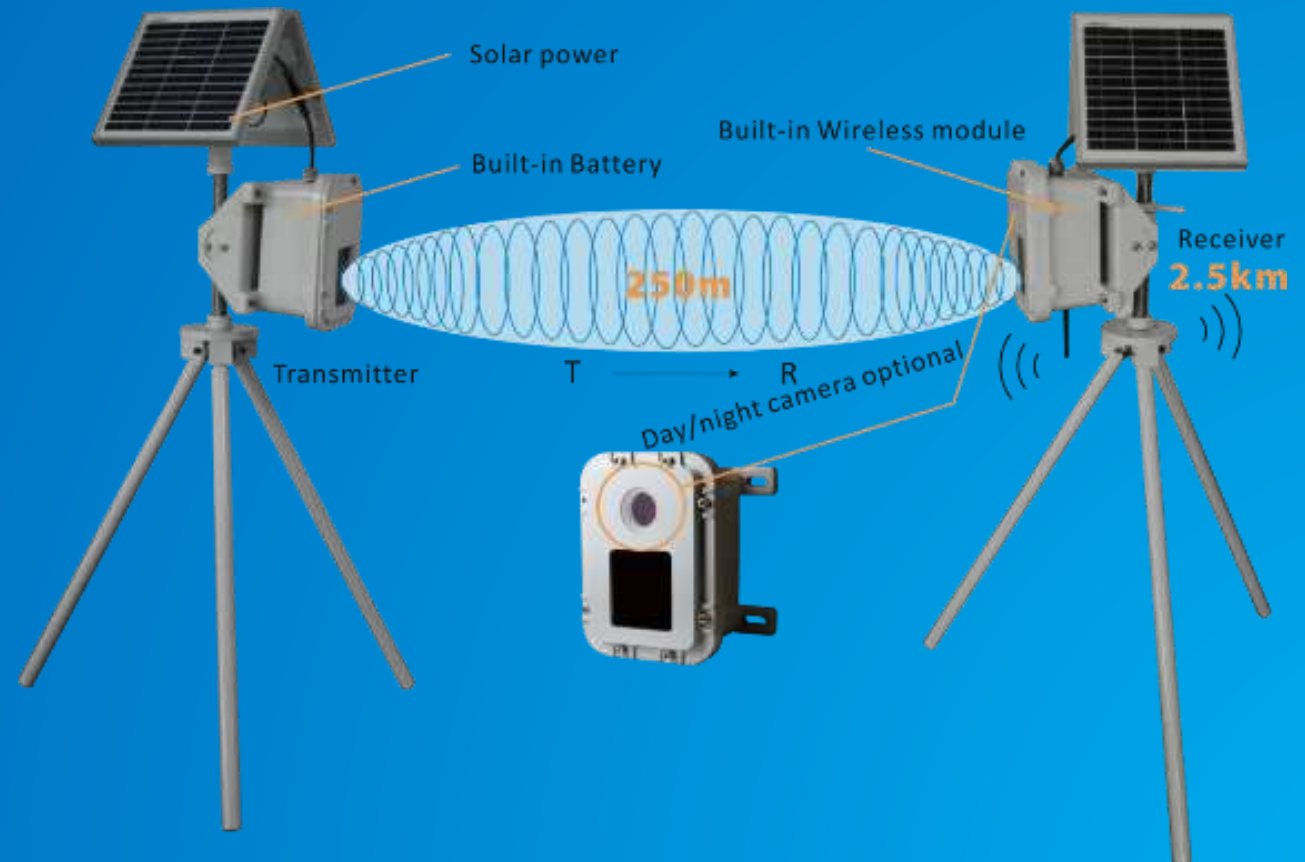
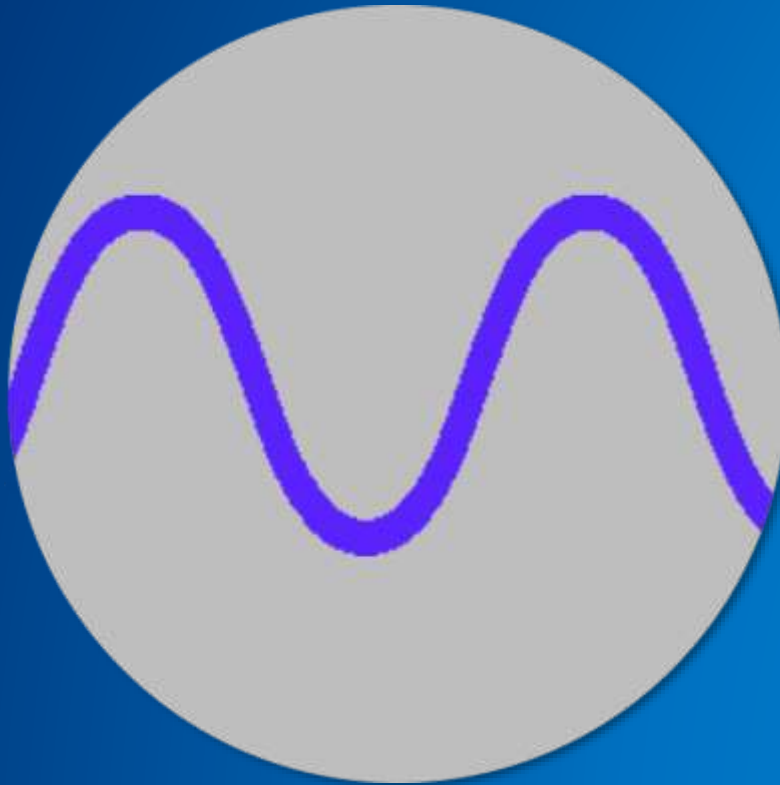


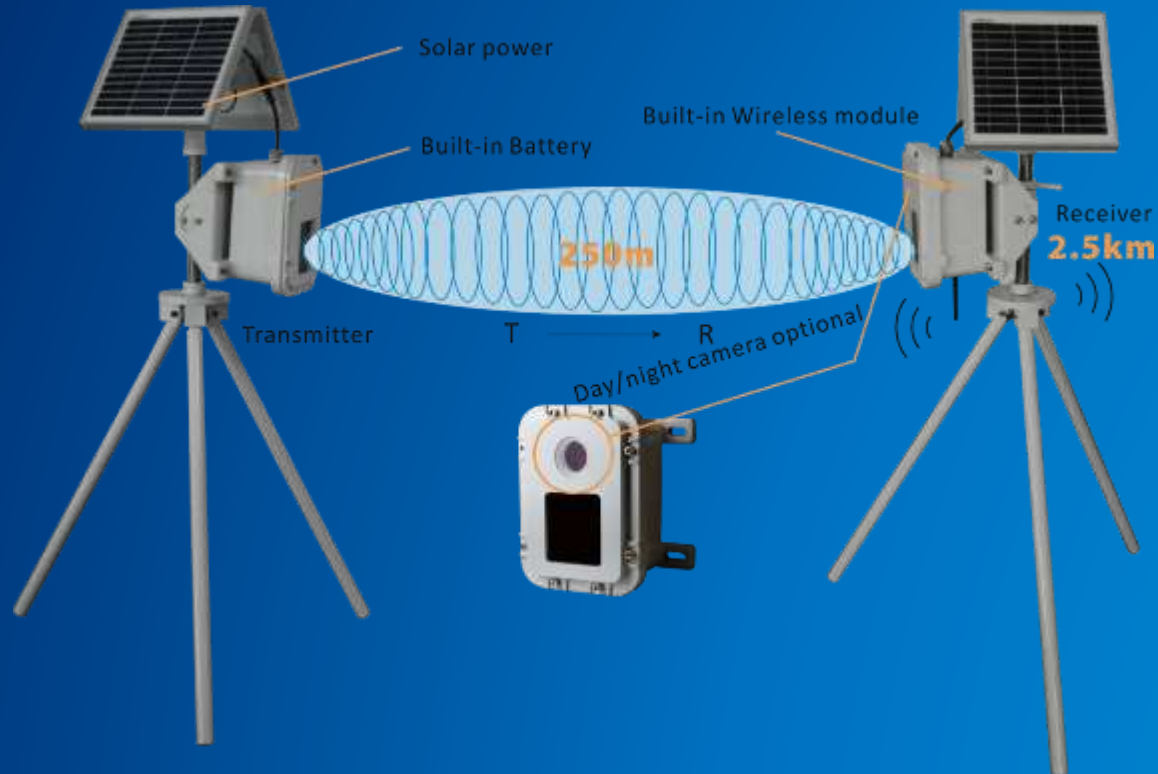
AUT-SP7126GWX

- ✓ Ambarella solution with 5M CMOS sensor
- ✓ 130 degrees wide angle
- ✓ Max. 128GB storage capacity
- ✓ 10 meters to see people Facial Expressions;
- ✓ 20 meters to see the outline of the human body;
- ✓ Camera Frame: 60fps or 30fps
- ✓ Over 10 hours battery life in continuous recording
- ✓ GPS, WIFI, 3G / 4G
- ✓ Bluetooth Optional
- ✓ Built-in 2 inches HD LCD display
- ✓ HDMI output
- ✓ Multi language
- ✓ Drop Resistance for 2 Meter
- ✓ IP67 Waterproof

Automation Solutions Technologies

Control system and perimeter barrier with microwave transmission, solar energy and camera





Perimeter Barrier with Microwave

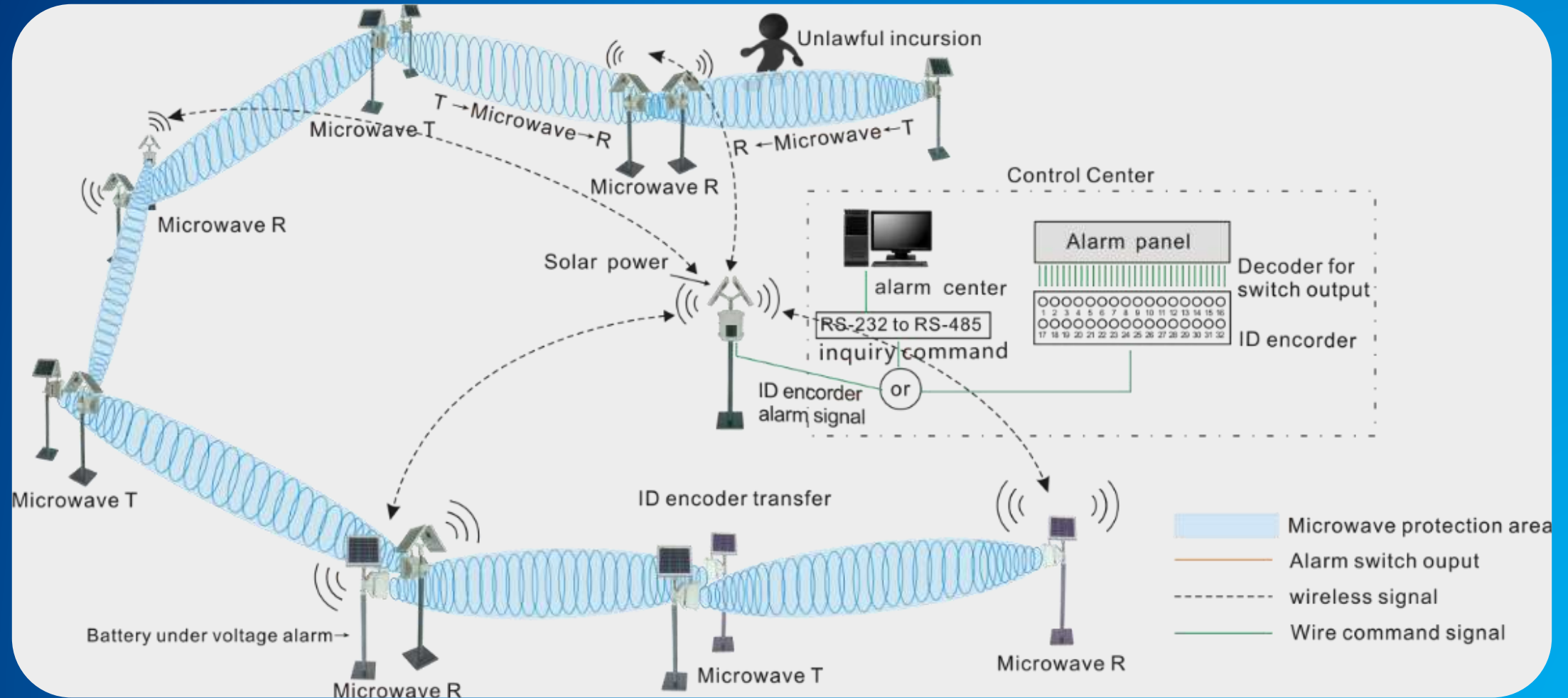


AUT-MWB-250



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Perimeter barrier with microwave



Automation Solutions Technologies



Perimeter barrier with microphonic sensor cable



KITs composed of:

- ✓ Control center;
- ✓ 540m of sensor cable;
- ✓ Fastening straps;
- ✓ Wind correction anemometer;
- ✓ IP66 enclosure;
- ✓ Splice kits and EOL resistors (off-line end).



NOTE: This system can be associated with a conventional intrusion alarm system, TCP-IP modules, fiber optic converters, GPRS, and CCTV with pre-configured presets



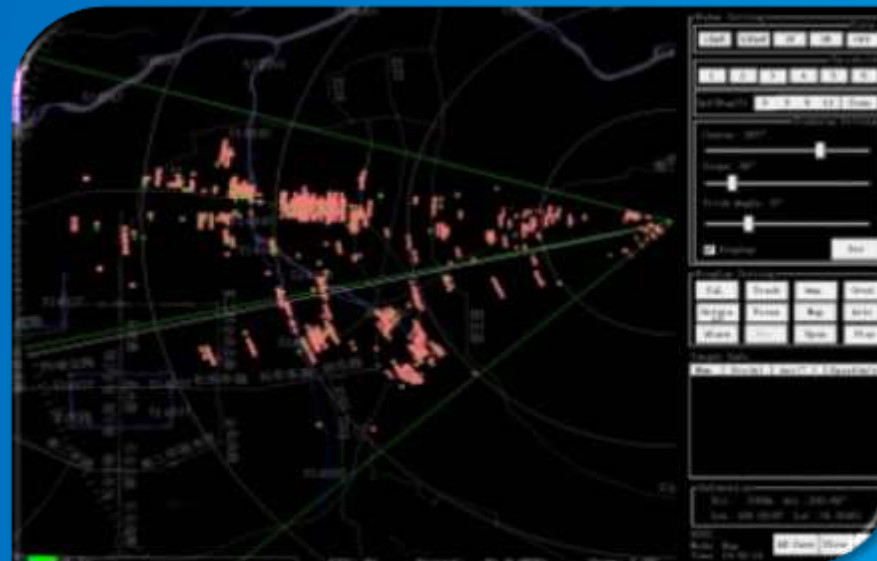
Automation Solutions Technologies

Radar (perimeter detection and monitoring)



System principles

- ✓ Advantages of radar over optical systems:
- ✓ Operation in the dark, through clouds and over long distances
- ✓ Much more accurate location indications
- ✓ Possibility of using electronic circuits and software to process signals.



BANDS OF THE RADAR SYSTEM

Band UHF	0,3 - 1 GHz
Band L	1 - 2 GHz
Band S	2 - 4 GHz
Band C	4 - 8 GHz
Band X	8 - 12 GHz
Band Ku	12 - 18 GHz
Band K	18 - 27 GHz
Band Ka	27 - 40 GHz

Automation Solutions Technologies

Access control system, (CCTV + Intrusion + Fire Alarm)



Automation Solutions Technologies





Access Control for Highways/Gateways/Parking Areas



Automation Solutions Technologies

Access control by license plate reader

LPR – License Plate Recognition

The access control system with license plate recognition (LPR) automation is composed of:

- ✓ Special dedicated cameras with WDR (wide dynamic range), brightness and contrast adjustment according to the environment; HLC (high light compensator), anti glare; slow shutter for adjusting shutter speed for moving vehicles; I/O (input / output) for interlocking gates and flags.
- ✓ Cables (patch cords);
- ✓ LPR server;
- ✓ monitoring station;
- ✓ Infrared sensors;
- ✓ Inductive loop sensors;
- ✓ Identification by tags and RFID tags and biometrics.



Automation Solutions Technologies

Access control by license plate reader

LPR – License Plate Recognition



AUT-HLIV01M20SAF

Image sensor	1/2.8" Sony
Resolution	1080P
effective pixels	1920(H)*1080(V)
Compression	H.264/JPEG/AVI/MJPEG
TV system	PAL/NTSC Adjustable
Speed	0-180km/h; 0-30km/h
focus length	6-22/2,8-12mm
focus control	Manual/Automatic
Píxeis	2MP
infrared LED	LED IR: 4pcs IR Array
infrared distance	80m
Ethernet	RJ-45 (10/100Base-T)
ONVIF	ONVIF 2.4 support
P2P	YES, support QR Code
POE	Optional, support IEEE 802.3af

WIFI	Optional
TF card	Optional
Main Stream 1	1920*1080@15fps>
Sub Stream 1	720*480@15fps>
Tri Stream	352*288@15fps>
Smart Analysis	Optional (Support Target Counting, Area Detection, Left/Lost Prompt, Line Crossing Alarm)
Recording Mode	NVR/NAS/CMS/Web
Housing	Metal, IP66
Operating Temperature	-10°C ~ +50°C RH95% Máx.
Storage temperature	-20°C ~ +60°C RH95% Max
Power supply	DC12V±10%, 950mA
Dimension	225(L)*105(L)*95(A) mm
Weight	2050g



Tripod Turnstiles – RFID / Biometrics / Controller



AUT-1000

AUT-1200



AUT-2000

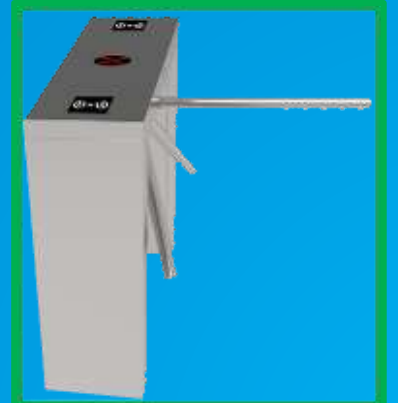
AUT-2100



AUT-3000

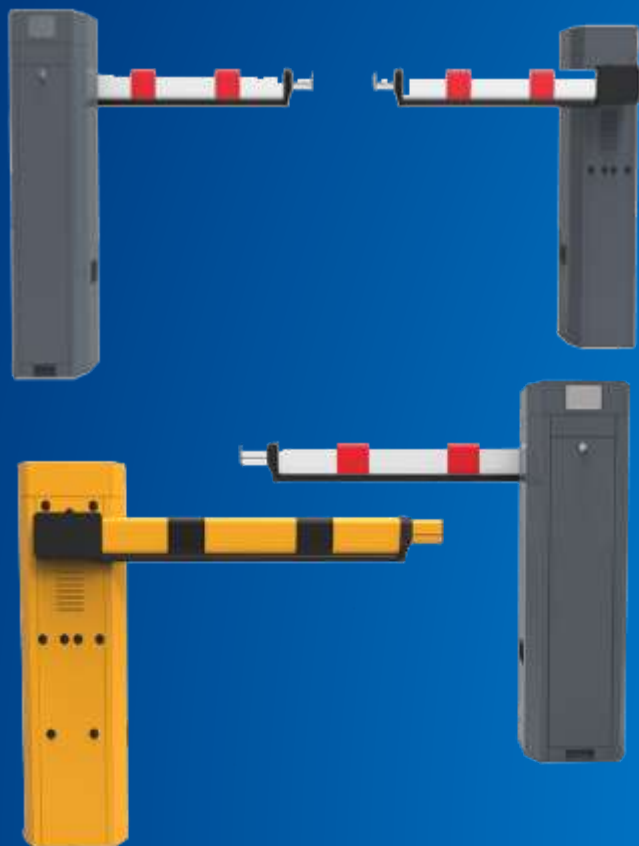


AUT-2200



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Parking and crossing gates



MODEL	AUT-1010L/R	AUT-1030L/R	AUT-1060L/R
Lane Width	3M, up to 3.8M with telescopic boom	4M, up to 4.8M with telescopic boom	5M, up to 5.8M with telescopic boom
Opening / Closing Time	1S	3S	6S
Supply Voltage	110V AC or 220V AC	110V AC or 220V AC	110V AC or 220V AC
Power Consumption Max.	200W	200W	200W
Frequency	50-60Hz	50-60Hz	50-60Hz
Cabinet Material	Powder Coated Steel	Powder Coated Steel	Powder Coated Steel
Boom Material	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy
Base Frame	Cast Iron	Cast Iron	Cast Iron
Temperature Range	-20°C~+60°C	-20°C~+60°C	-20°C~+60°C
Humidity Range	≤90%	≤90%	≤90%
Ingress Protection	IP54	IP54	IP54
Housing Dimensions (W x D x H)	240 x 250 x 980mm	240 x 250 x 980mm	240 x 250 x 980mm
Packing Dimensions (W x D x H)	400 x 440 x 1120mm	400 x 440 x 1120mm	400 x 440 x 1120mm
Net Weight (Without Boom)	47KG	47KG	47KG
Gross Weight (Without Boom)	52KG	52KG	52KG



UHF-RFID Terminals – Long distance – 6 / 12m.

AUT-UHF1-5/UHF2-5



AUT-U1000E/U1000F



AUT-U2000E/U2000F



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Connectivity between systems and infrastructure





Electro-Optical Converters



Switches



2.4/5.8 Ghz radios

Automation Solutions Technologies

2.4/5.8 GHz radio transmitter



Working frequency: 5150~5825MHz

Transmission power: Up to 29 ± 2 dBm

Power dissipation: <6W

Types of chips: Atheros AR7240+ AR9280

Working standard: 802.11an

Transmission bandwidth up to: 300Mbps (2T2R)

Wireless antenna type: Built-in 23dB directional antenna

System safety: 64-bit/128-bit/152-bit WEP encryption.

Wireless modes: bridging mode, point to point and multipoint

Working temperature: -30 ~ +70°C

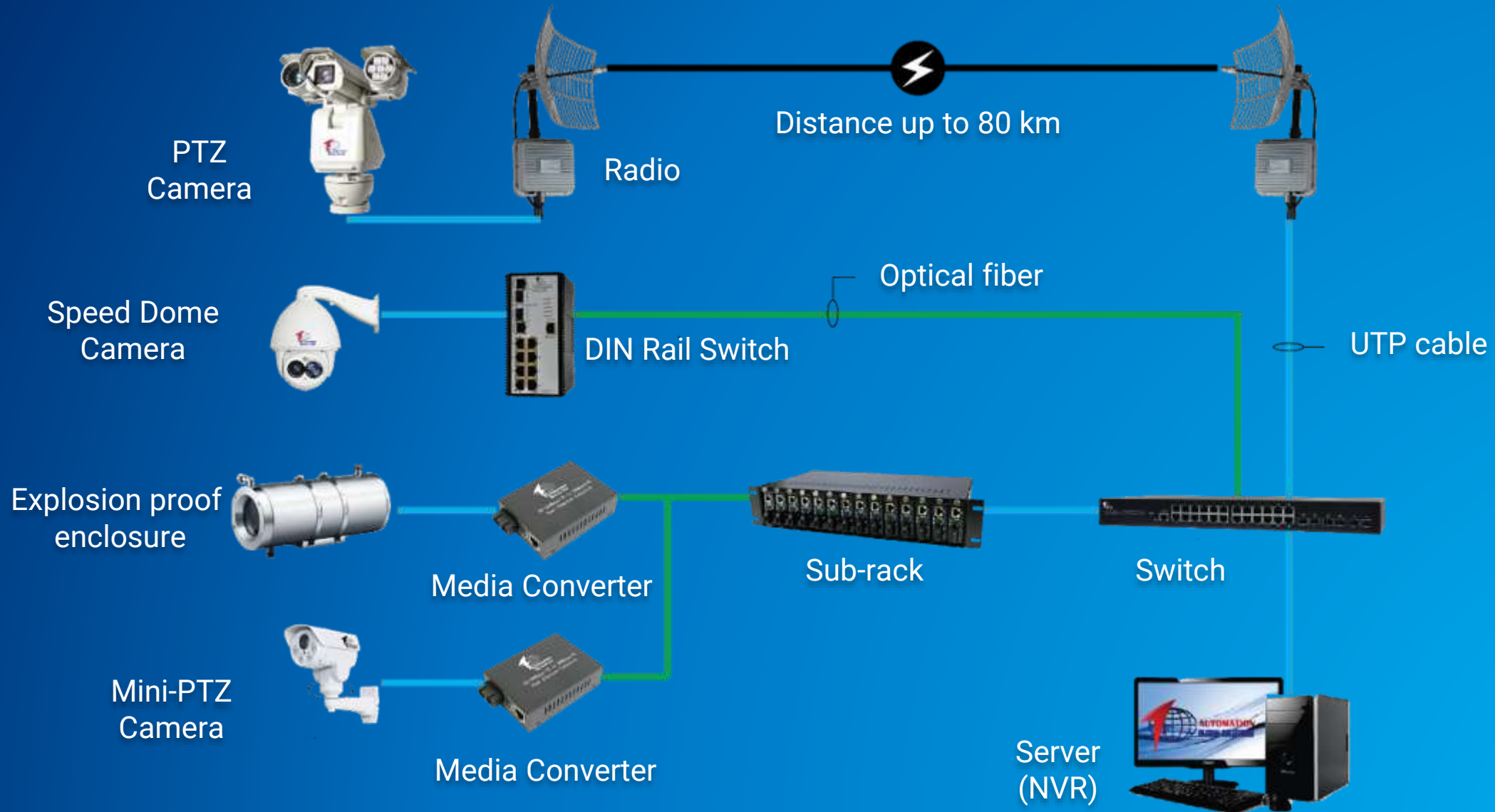
Dimension: 268mmX268mmX60mm

SDRAM Memory: 32M Byte ;FLASH memory: 8M Byte.

Transmission distance: 5-10KM (LOS)

Power supply: DC12~24V

Automation Solutions Technologies

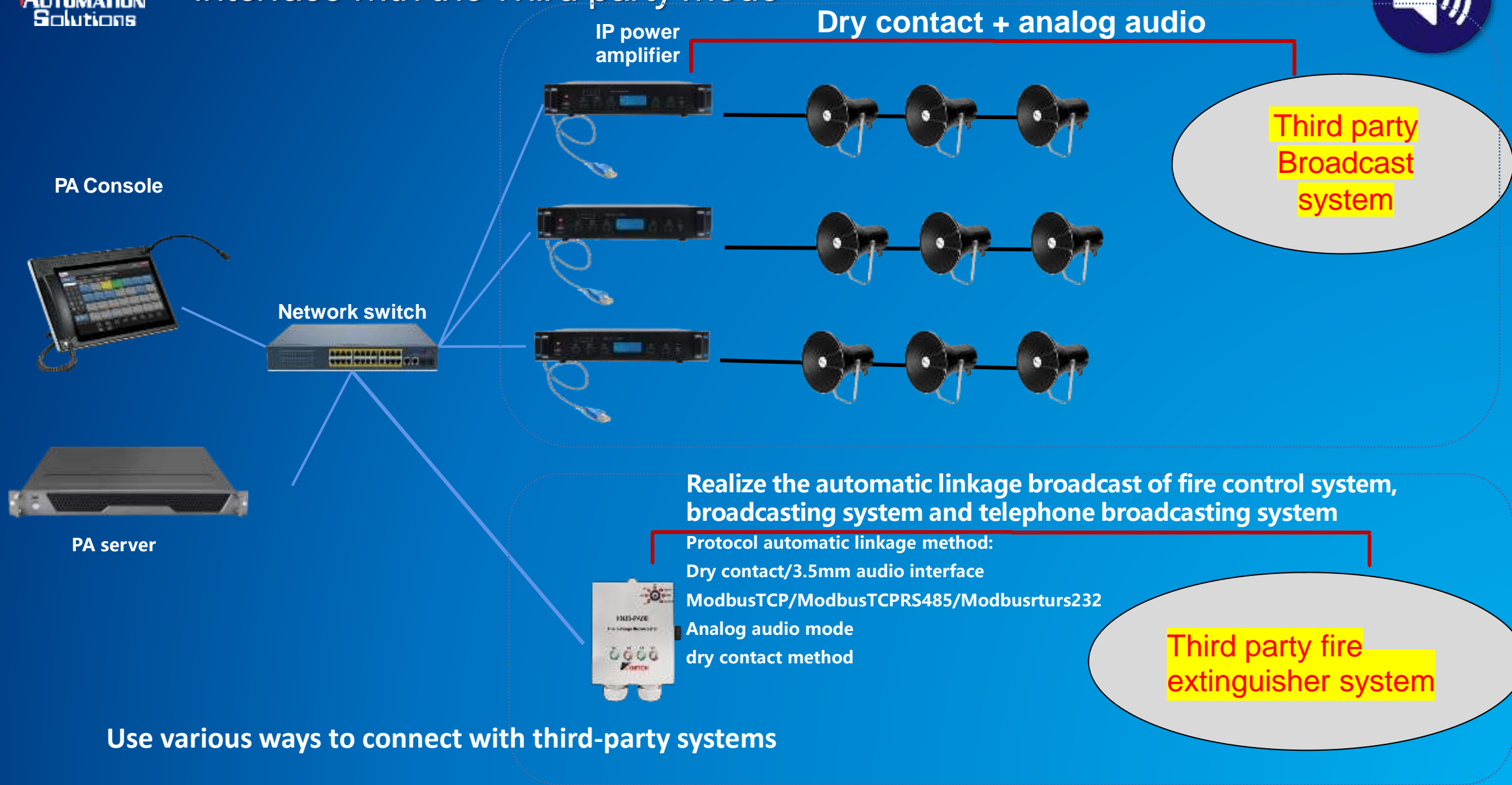


Automation Solutions Technologies

Industrial communication system
(High/low voice and telephony)

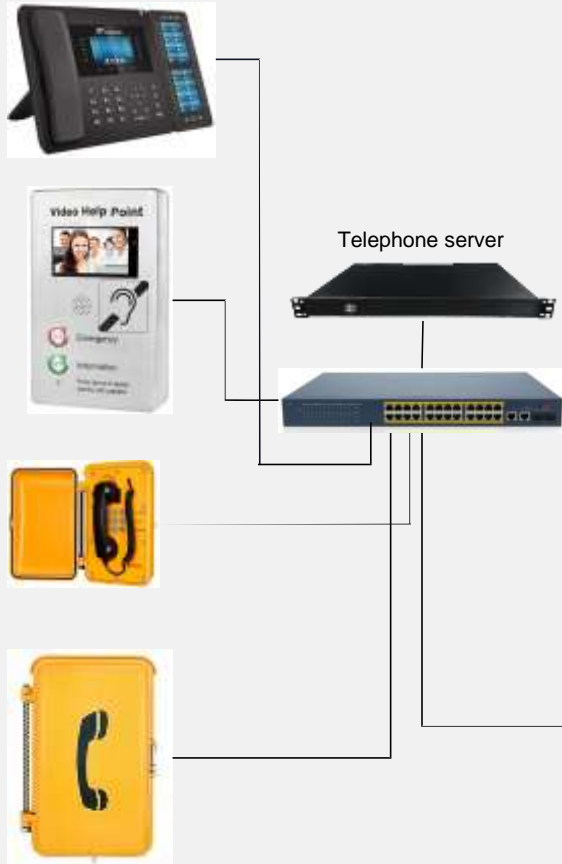


Interface with the Third-party Mode





telephone system



PA system

AUT-KNPA08-TEL
with software



KNPA server



IP power amplifier 1



IP power amplifier 2



IP power amplifier 3



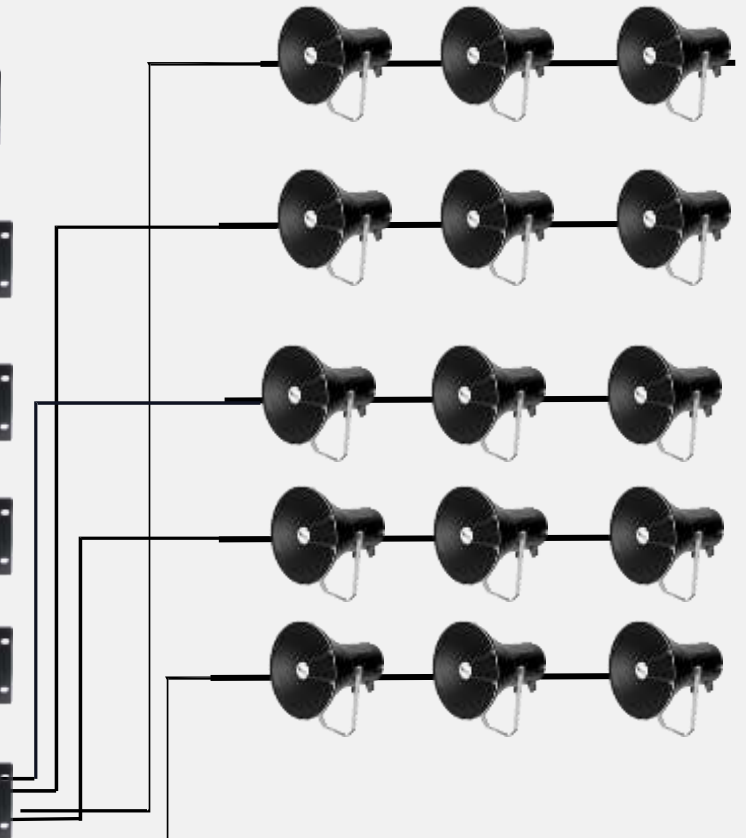
IP power amplifier 4



IP power amplifier 5



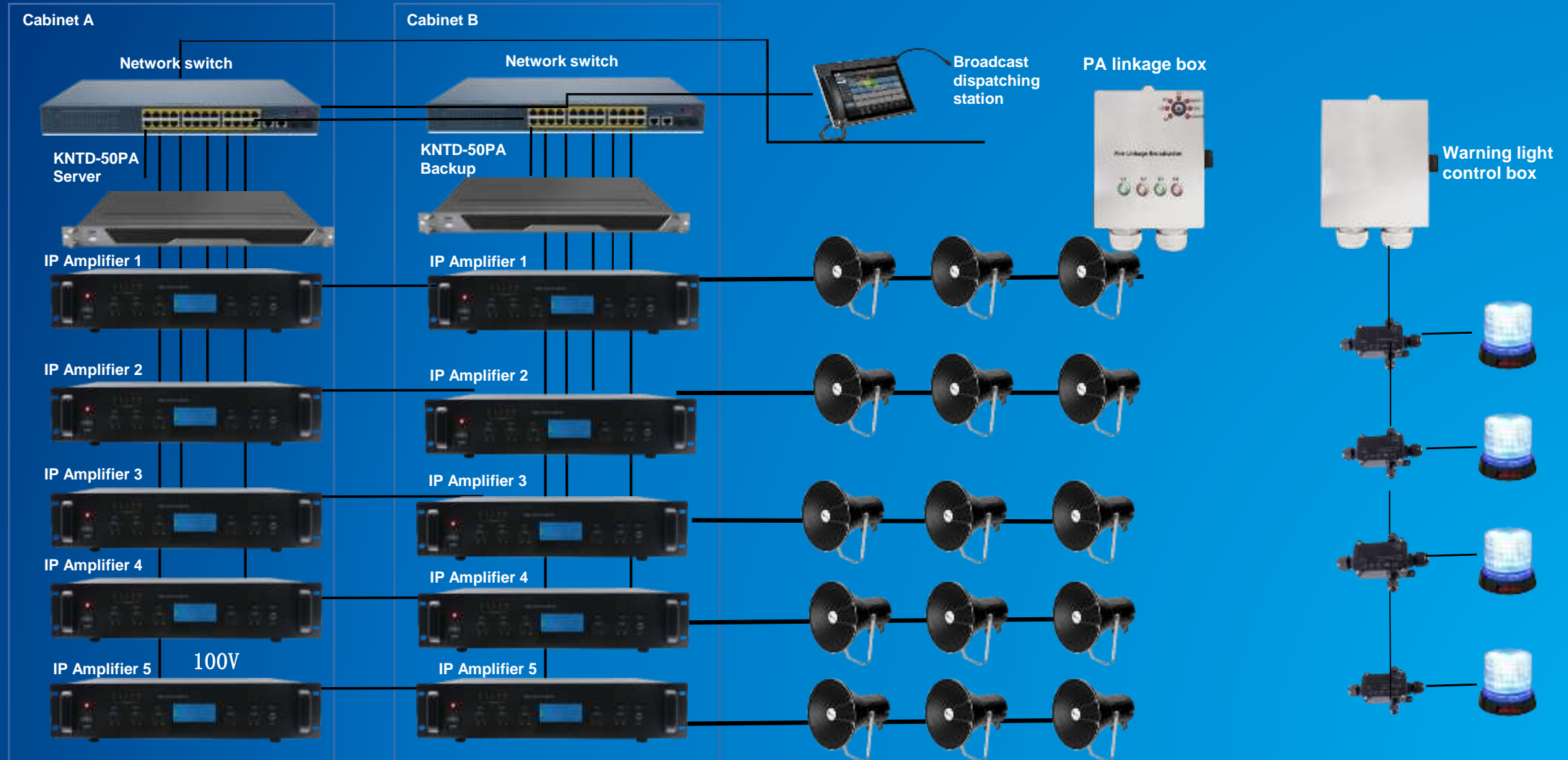
Back up IP power amplifier



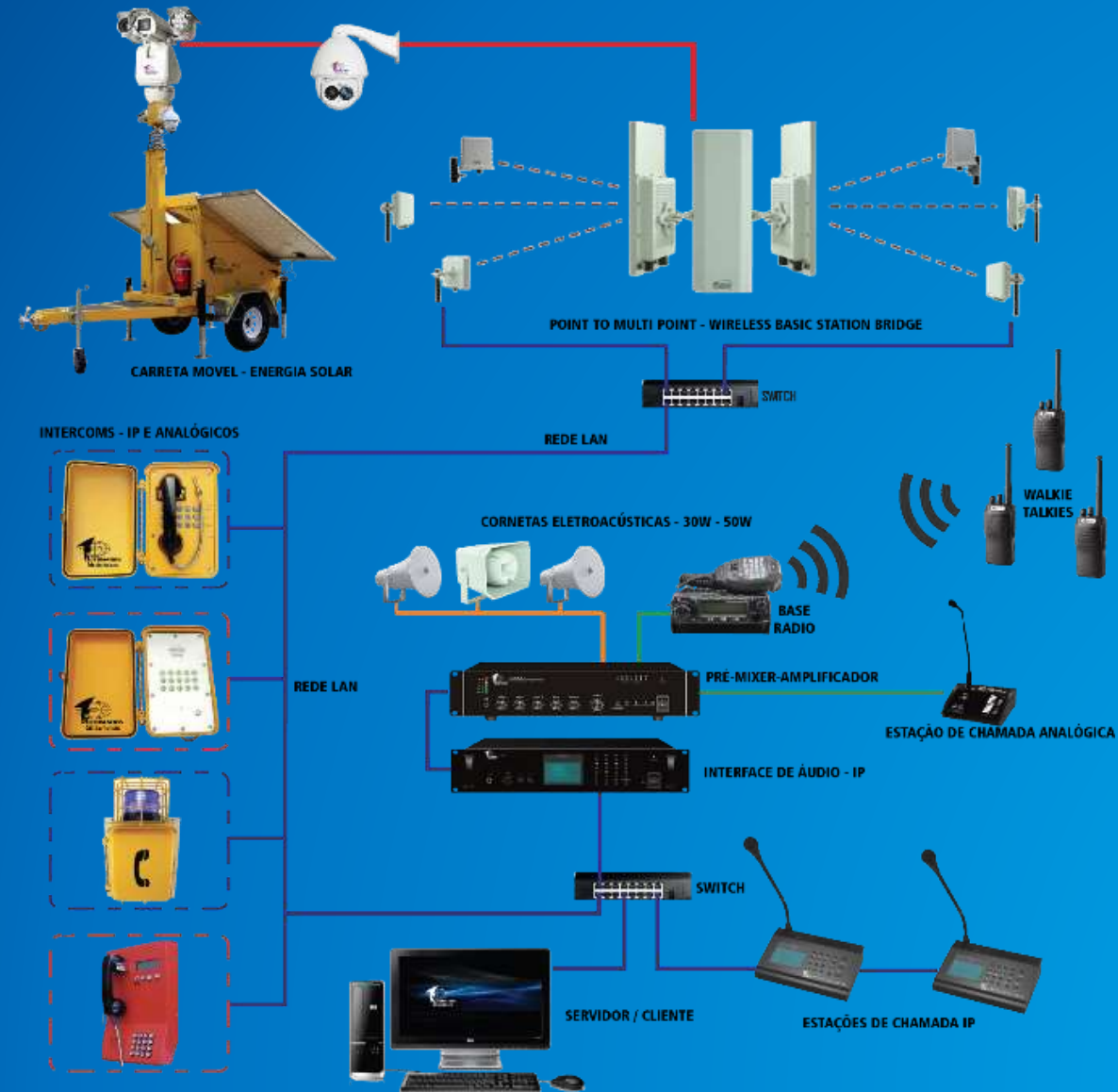
PA interface with industrial telephone system AUT-KNPA08-TEL

A + B system

1. A/B system host active backup hot backup.
2. A/B active and standby power amplifier hot backup.
3. The speaker cable is connected to the spare power amplifier. The main power amplifier works normally. When the main power amp fails, it will automatically switch to the backup power amp.
4. All power amplifiers are IP power amplifiers.
5. The dispatcher and the main and backup IP power amplifiers are automatically connected to the A/B host, and when the A host fails, it will automatically switch to the B host.
6. The warning light control box supports that when the broadcast is started, the warning lights are turned on, and when the broadcast is ended, the warning lights are turned off.
7. A single smart speaker uses the original audio circuit to perform fault self-detection and report actively
8. Speaker circuit loop detection.



Automation Solutions Technologies



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Detection, alarm and fire fighting system using clean agent, passive protection in basements of electrical cables and fire door





Fire detection and alarm systems

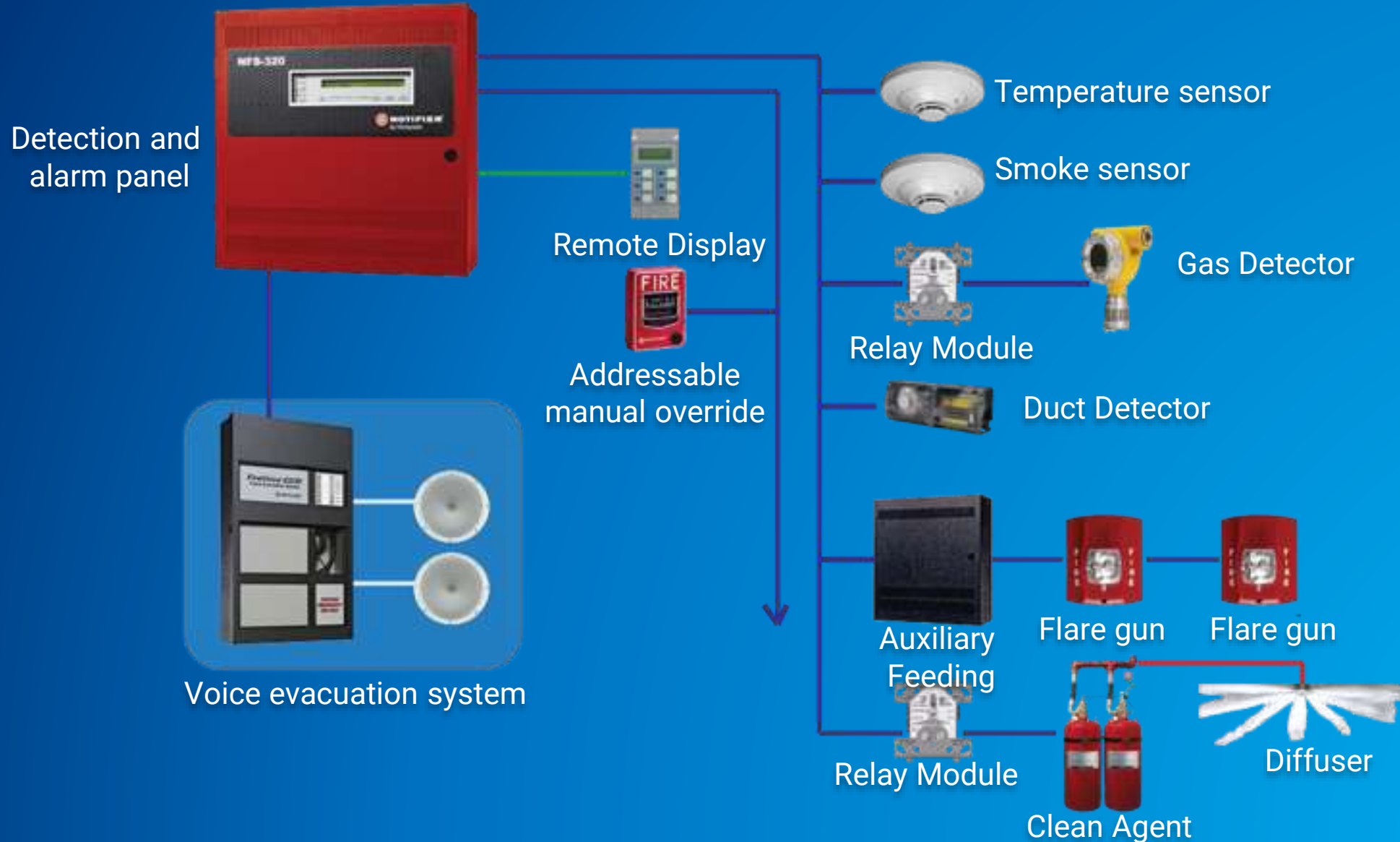
- ✓ smart system
- ✓ Conventional system
- ✓ Linear temperature sensor cable
- ✓ By VESDA aspiration

Gas systems

- ✓ Suppression by NOVEC 1230/FK-5-1-12
- ✓ FM-200 Suppression
- ✓ Inergen suppression
- ✓ CO2 suppression

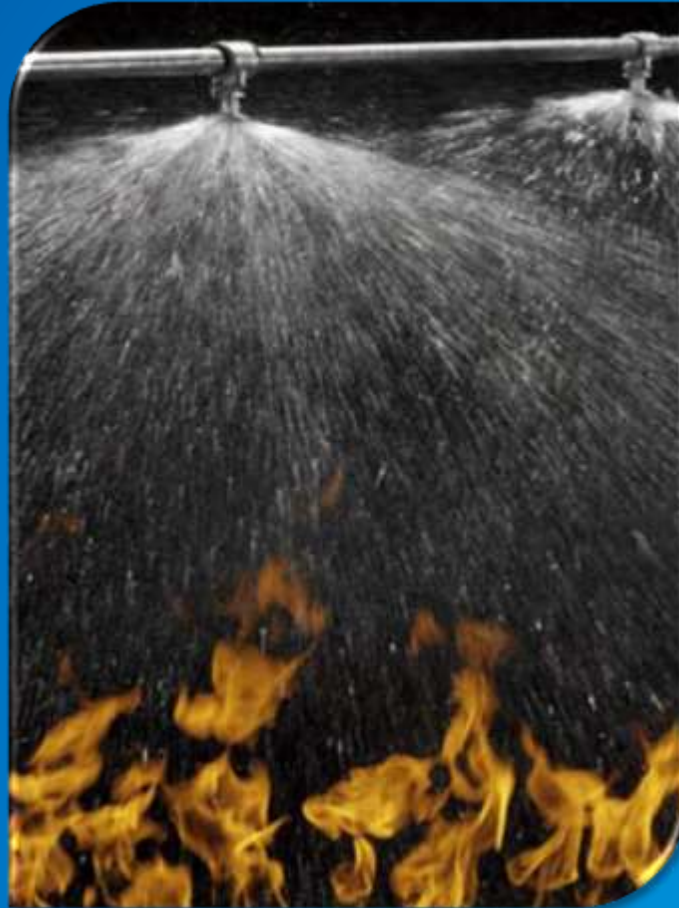
Passive protection and fire door

Automation Solutions Technologies





Clean gas NOVEC/ FK-5-1-12/FM200



Water suppression (Sprinklers)



Suppression with CO2



Projects, implementation and regularization of AVCB, extinguishers, fire pumps/hydrants, signage, autonomous blocks



Automation Solutions Technologies

Emergency signaling system, autonomous blocks and escape route signs





Emergency signaling system, autonomous blocks and escape route signs



Emergency lights



Backlit warning signs



Photoluminescent signage



Manual and automatic fire suppression system for off-road machines and trucks



Automation Solutions Technologies

Manual and automatic fire suppression system for off-road machines and trucks



Chemical powder cylinders



Control Panel



Diffuser and Temperature Sensor

Automation Solutions Technologies

Anti-collision radar and camera system for off-road machines and trucks





Radar sensor for heavy vehicles RODS-MC



Radar sensor for light vehicles RODS-LC



Integrated radar with RC-06C camera



Radar sensor for RM-06C radar monitor



Radar Sensor for Radar Monitor RM-02C

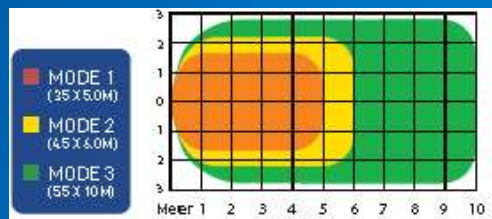


7 inch Radar Monitor AUT-WLM-733HDRC

Automation Solutions Technologies

Radar Object Detection Sensor

AUT-RODS-MC (0830)



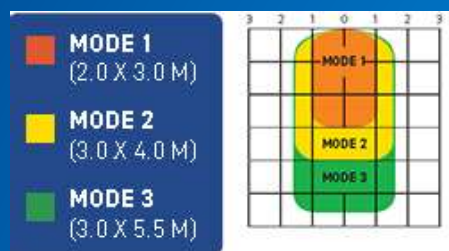
- ✓ Mode 1: 5.0 (L) x 20 meters (L)
- ✓ Mode 2: 6.0 (L) x 24 meters (L)
- ✓ Mode 3: 8.0 (L) x 30 meters (L)
- ✓ Detection Zone: 5
- ✓ power status LED
- ✓ CDS sensor dimmer
- ✓ Volume button to adjust the volume level

PARAMETER	Value	Units	Situation
Transmission frequency	24.06 ~ 24.22	GHz	FCC, CE
Modulation	FMCW (Frequency Modulated Continuous Wave)		
Supply voltage	12 ~ 32V	V dc	
Current consumption	300	mA@12V	No alarm
call in time	300	ms	
Detection Time	200	ms	
Communication	CAN-Bus		
Operating Temperature	-40 ~ 85	°C	
IP protection rate	69	K	
Vibration	15	G	
carcass material	polycarbonate		
Dimension	108 x 110(H) x 34(D)	mm	
Weight	390	g	No support
	720		With support

Automation Solutions Technologies

Radar Object Detection Sensor

AUT-RODS-L6



- ✓ Mode 1: 2.0(L) x 3.0(L)
- ✓ Mode 2: 3.0 W) x 4.0 (L)
- ✓ Mode 3: 3.0 (L) x 5.5 (L)
- ✓ 24GHz compact radar sensor
- ✓ Modulation: FMCW
- ✓ Detection zone: 3 zones
- ✓ Provide visual and audible alerts to the driver.
- ✓ Waterproof and robust design

PARAMETER	Value	Units	Situation
transmission frequency	24.05 ~ 24.25	GHz	FCC, CE
Modulação	FMCW (Frequency Modulated Continuous Wave)		
supply voltage	12 ~ 24V	V dc	
current consumption	300	mA@12V	
call in time	300	ms	
Detection Time	200	ms	
Communication	CAN-Bus		
Operating Temperature	-40 ~ 85	°C	
IP protection rate	69		
carcass material	polycarbonate		
Dimension	43.6(W) x 43.6(H) x 33.1(D)	mm	
Weight	175	g	No support
	240		With support

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Radar Object Detection Sensor

AUT-RC-06C



Characteristics

- ✓ All-in-one radar camera
- ✓ Provide image and audible warning signal
- ✓ 24GHz FMCW technology
- ✓ 1080P (Full HD)/F.O.V: 140°
- ✓ Night vision (IR LED and CDS sensor)
- ✓ TDN: True Day and Night
- ✓ Directional sensor to minimize false alarms
- ✓ Waterproof and resistant design

Model	AUT-TC-06C
Image sensor	1/2.9" SONY progressive scan CMOS image sensor
Total pixels	2000(H) X 1121(V)
Number of effective pixels	1984(H) X 1105(V) , 2.19MP
Video Signal System	AHD, Internal, Option (CVBS ,960H)
Maximum video resolution	1080p@30fps/25fps
Minimum lighting	0 Lux (with IR LED), 6Lux: LED ON, 25Lux: LED OFF
Lens	F2.0 , 2.9mm 140°

Automation Solutions Technologies

Camera system and MDVR (Mobile DVR)
with HD or SD Card for industrial machines



Radar



Monitor 7"



IP69K cameras

Automation Solutions Technologies

Camera system and MDVR (Mobile DVR)
with HD or SD Card for industrial machines



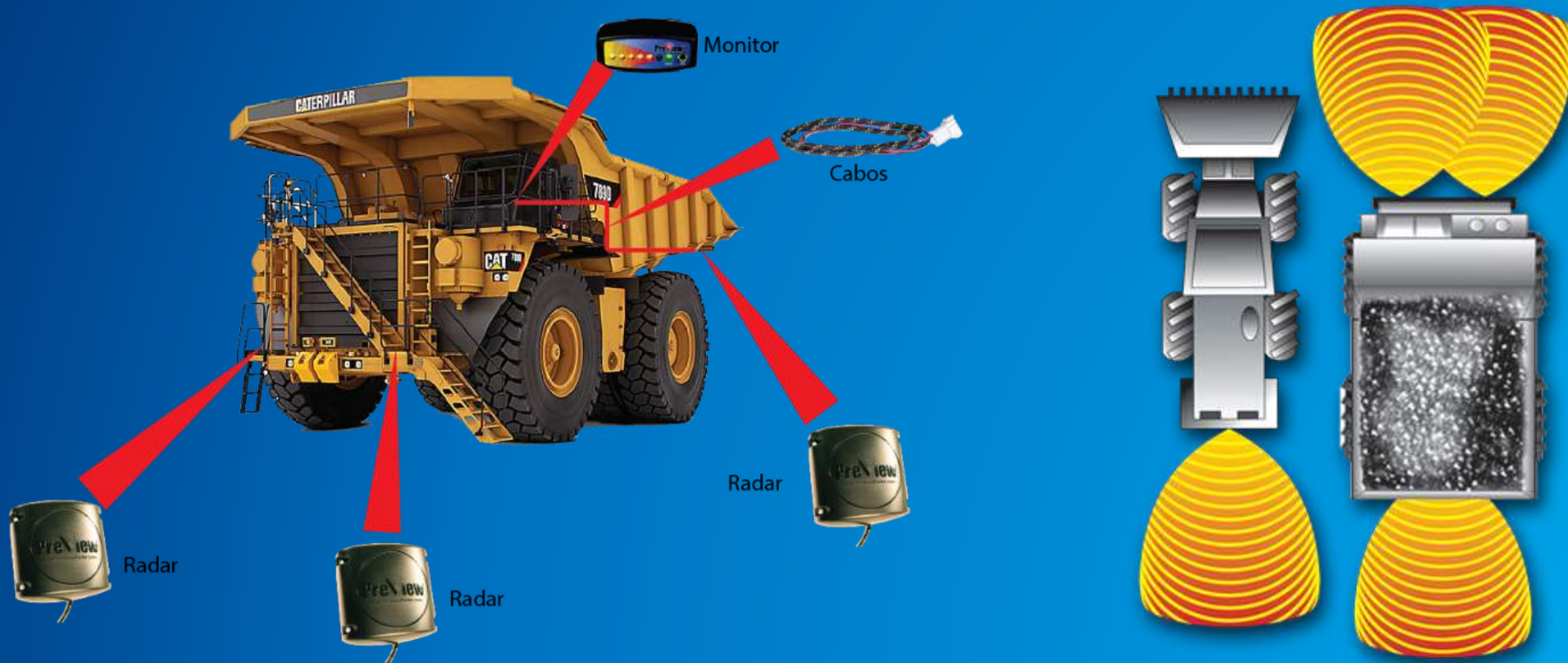
Mobile DVR's



Characteristics

Automation Solutions Technologies

Anti-collision radar and camera system for off-road machines and trucks



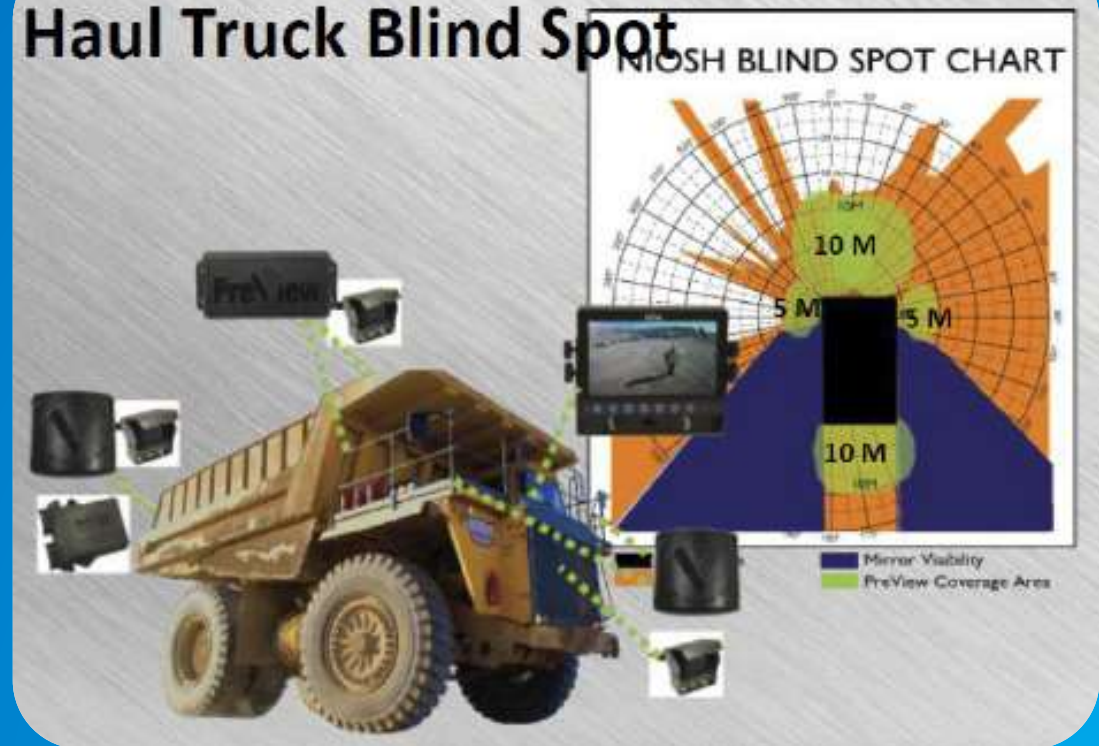
Automation Solutions Technologies



Dozer Blind Spot

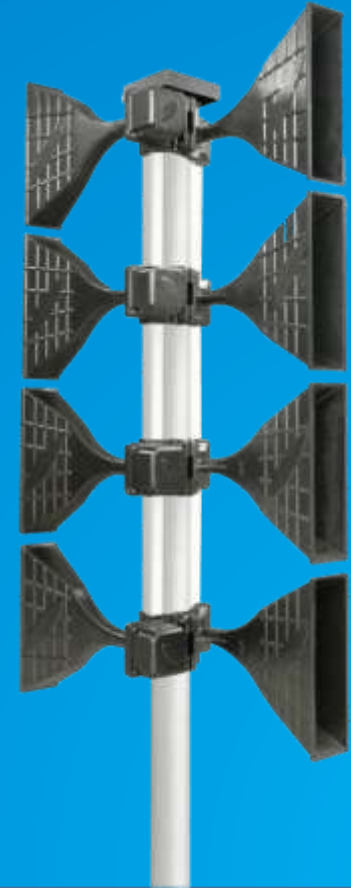
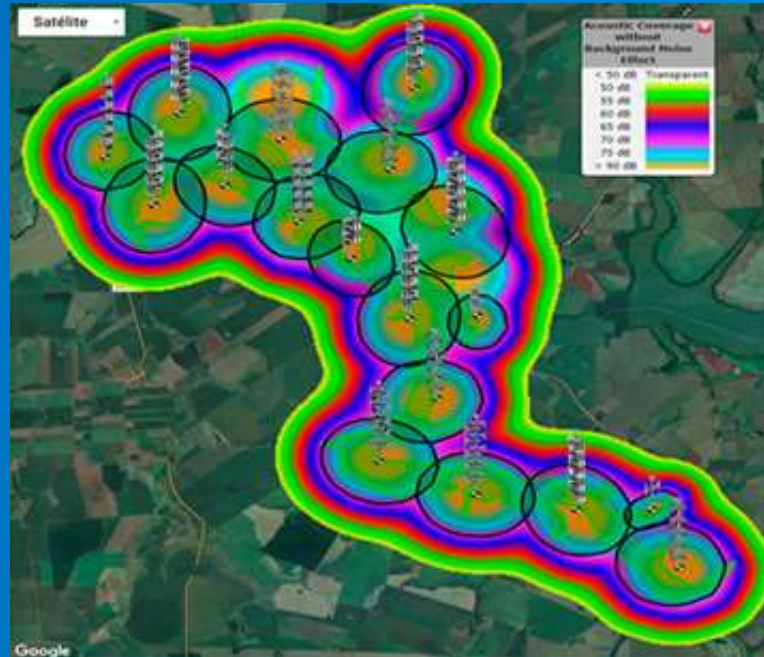


Haul Truck Blind Spot



Automation Solutions Technologies

Sound and alarm system, early notification with special horns for dams and critical operations



Sound and alarm system, early notification with special horns for dams and critical operations



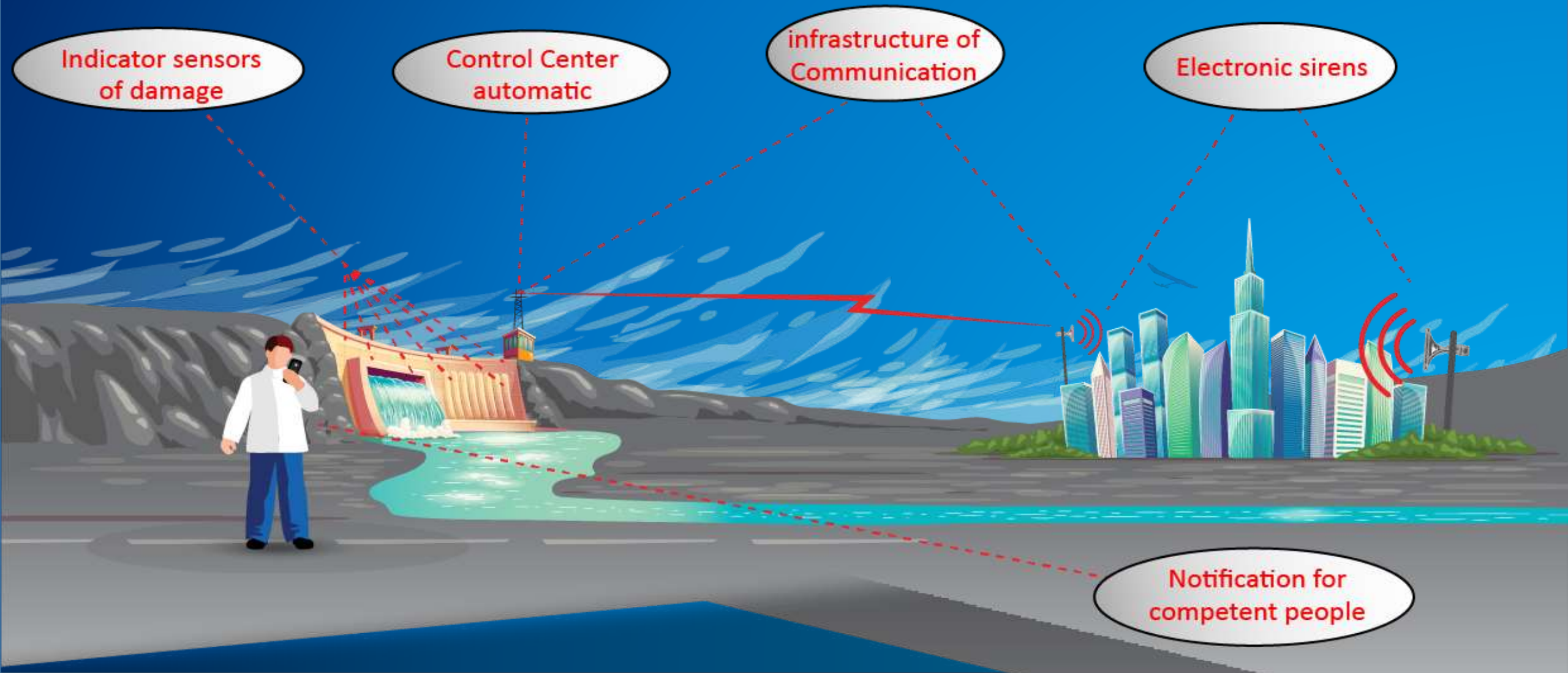
Indicator sensors
of damage

Control Center
automatic

infrastructure of
Communication

Electronic sirens

Notification for
competent people



Main Uses

Civil defense



Industry



Military/Defense

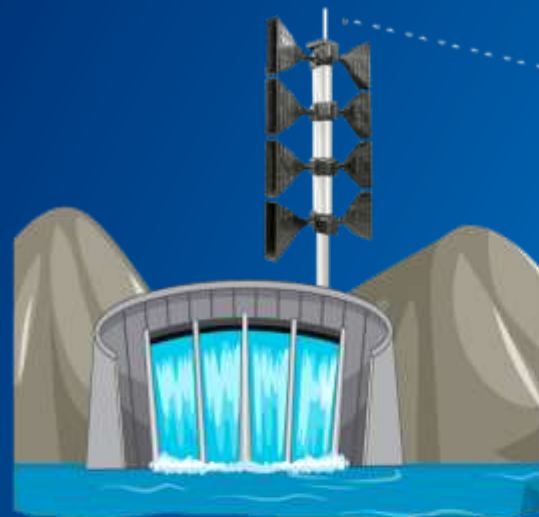
Natural disasters



Integration of horns with other systems



CMC-4
ACTIVATION
PANEL



DAM

CMC-8
ACTIVATION
PANEL



Software

Radio UHF / VHF

RS485, MODBUS, TCP/IP, FIBRA ÓPTICA



GSM
Bluetooth



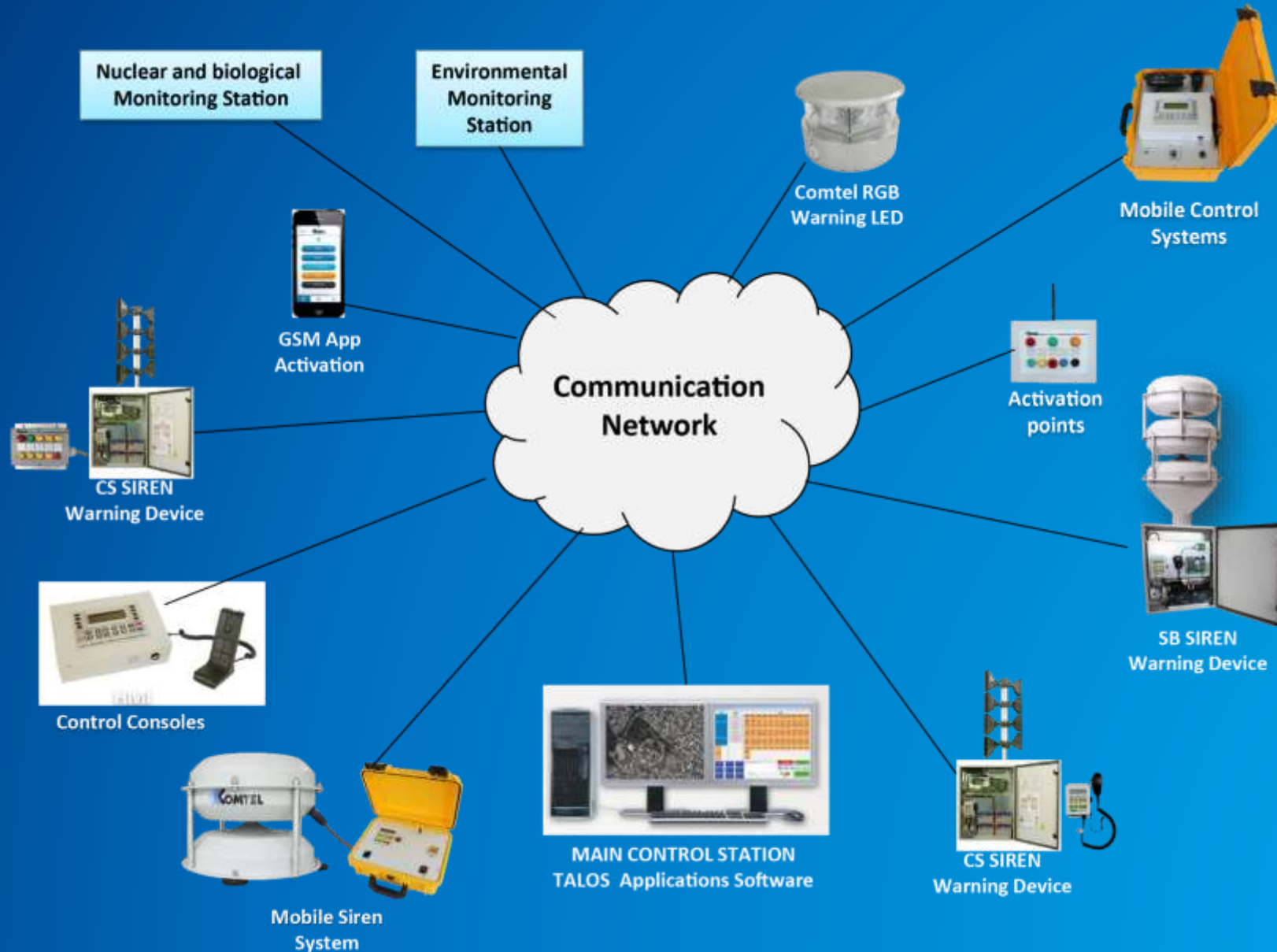
Radio
SRD



Activation
Point



System Composition



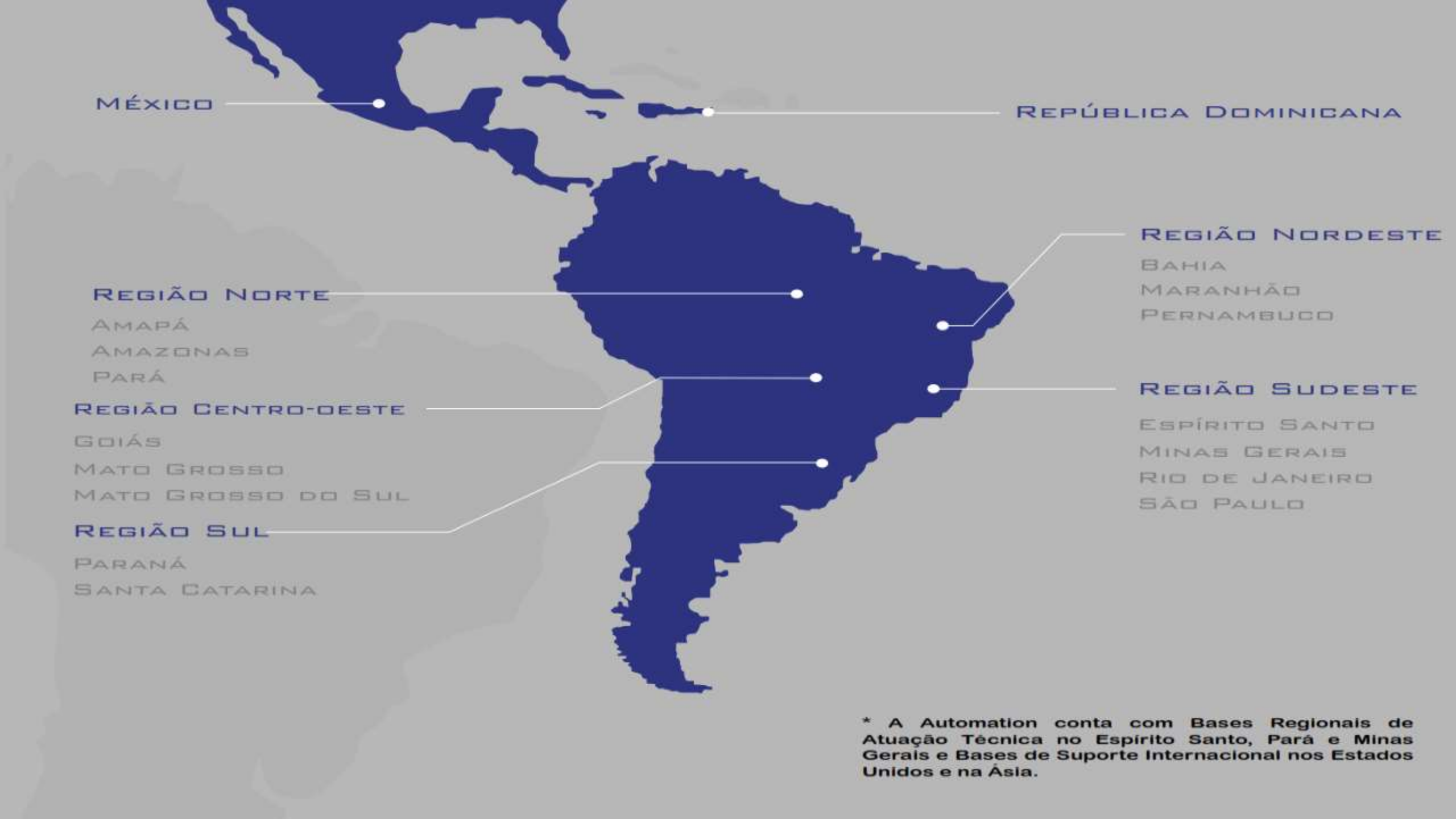
Typical Instalation



Automation Solutions Technologies



Turn-key supply, from design to installation, commissioning, start up and training with on-site service and after-sales maintenance



MÉXICO

REPÚBLICA DOMINICANA

REGIÃO NORTE

AMAPÁ
AMAZONAS
PARÁ

REGIÃO CENTRO-OESTE

GOIÁS
MATO GROSSO
MATO GROSSO DO SUL

REGIÃO SUL

PARANÁ
SANTA CATARINA

REGIÃO NORDESTE

BAHIA
MARANHÃO
PERNAMBUCO

REGIÃO SUDESTE

ESPÍRITO SANTO
MINAS GERAIS
RIO DE JANEIRO
SÃO PAULO

* A Automation conta com Bases Regionais de Atuação Técnica no Espírito Santo, Pará e Minas Gerais e Bases de Suporte Internacional nos Estados Unidos e na Ásia.

Automation Solutions Customers

**Anglo American, Anglo Gold, CMOC,
Gerdau, Hydro, Kemira, Kinross, Klabin,
Mosaic, MRN, Samarco,
Suzano Papel e Celulose, Usiminas, Vale,
Votorantim/Nexa, Yamana Gold**

Projects Performed



High/Low Voice And CCTV System Unit Tubarão Usina De Pelotização VIII



28 PTZ cameras



17 Industrial Telephones



17 horns

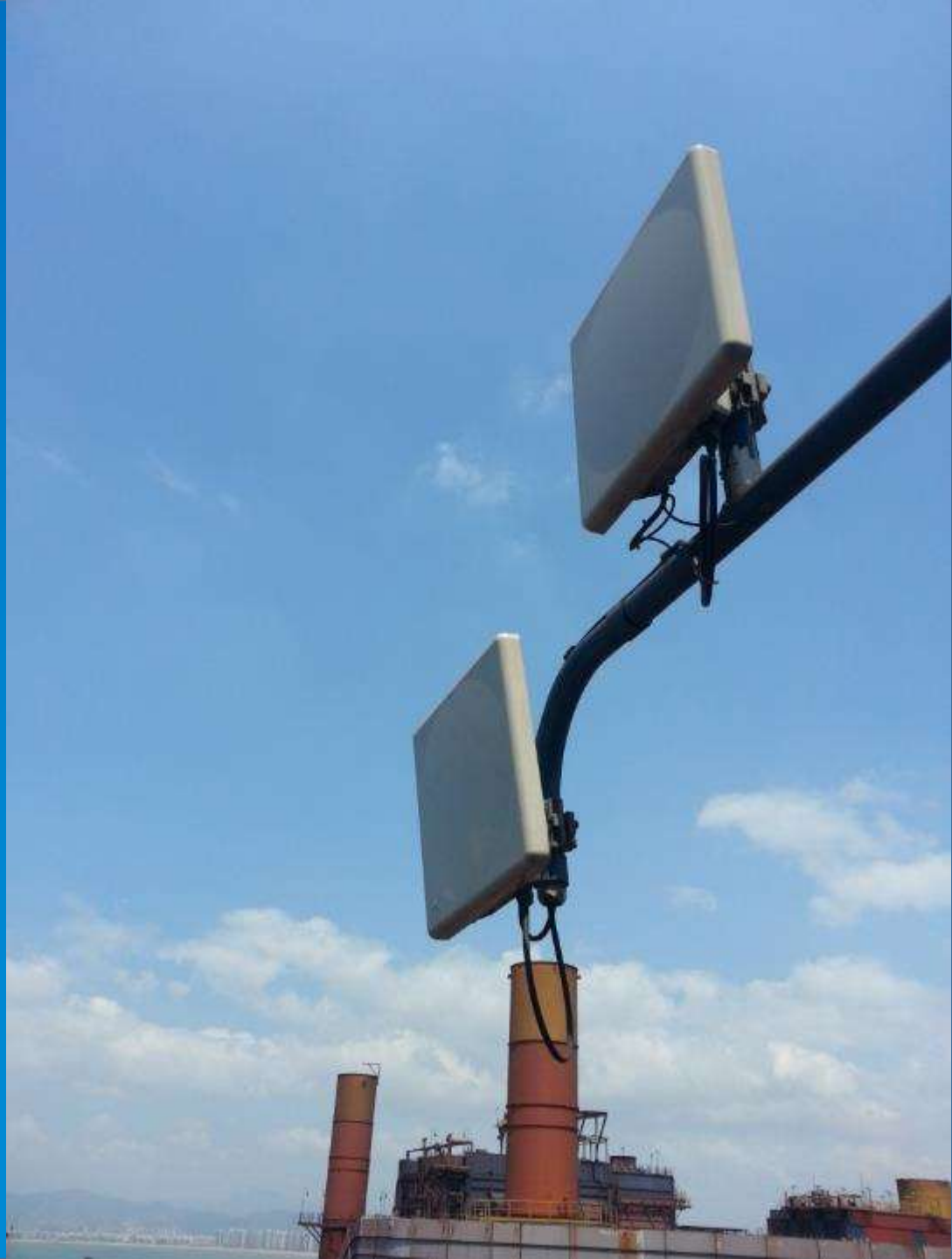


11 amplifiers



98 Converters









High/Low Voice System and CCTV Complex of Vargem Grande



399 Fix cameras and PTZ



58 Industrial Telephones



113 horns



41 amplifiers



290 Converters







Klabin

Process and Property Monitoring System (CCTV)

Ortigueira – Paraná - PR



133 Fix Cameras and PTZ



266 Converters



1 Keyboards



4 NVR's



2 Monitors









CCTV system - EFVM Laboreaux – Itabira MG



12 Fix Cameras and PTZ



24 Converters



2 Keyboards



2 NVR's



1 Monitor







System for monitoring wagon dumpers (CCTV) - Tubarão – Vitoria ES



45 PTZ cameras



90 Converters



5 Keyboards



5 DVR's



5 Monitors





CCTV system Unit Barro Alto



39 Fix Cameras and PTZ



92 Converters



3 Controller Tables



2 DVR's



11 Monitors





kemira

CCTV and Access Control System Unit Ortigueira



6 Cameras



12 Converters



3 Access Center



6 RFID Readers



2 Monitors





Process and asset monitoring system (CCTV)



48 PTZ Cameras



96 Converters



5 Keyboards



4 NVR's



4 Monitors







SDACI system Complex of Vargem Grande



6 Fire Control Panel



104 detectors



7535 Kg of Clean Gas

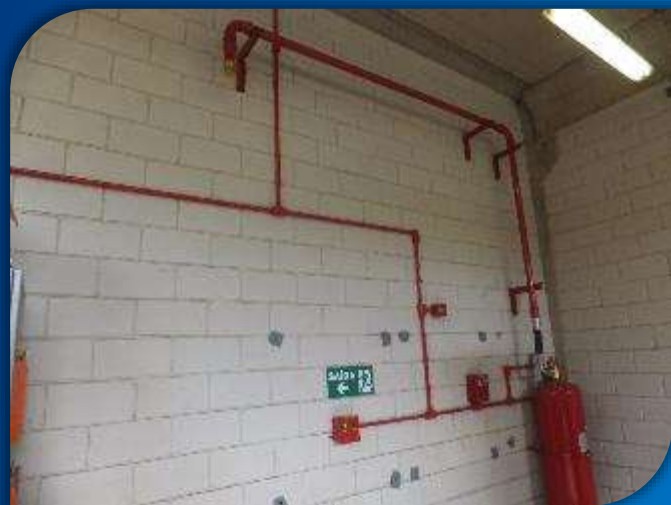


56 beacons



62 Manual actuator





SDACI system Unit Barro Alto



30 Fire Control Panel



541 detectors



305 kg of clean gas

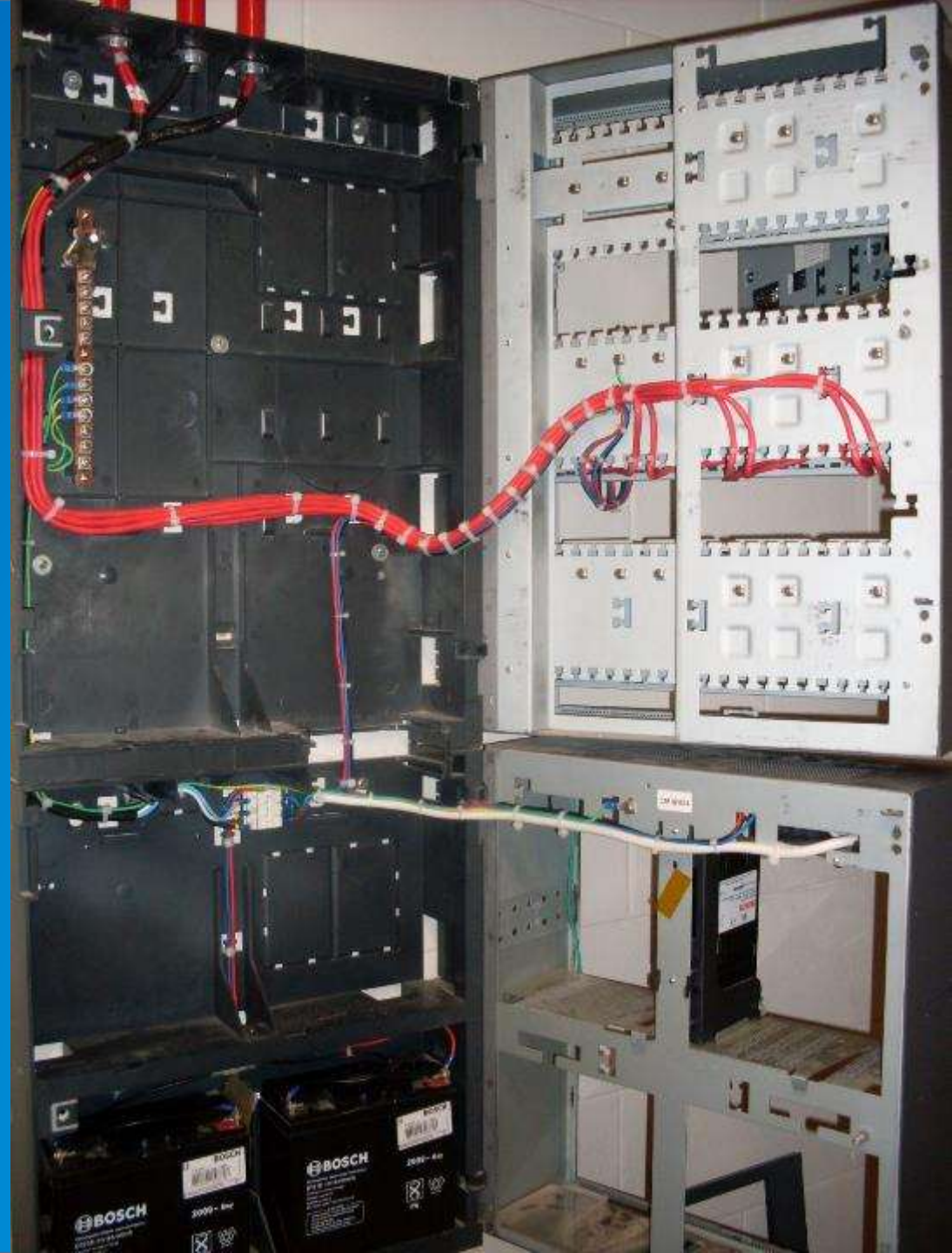


131 beacons



136 Manual actuator







SDACI system Mangaratiba Valley - TIG e CPBS Rio de Janeiro



24 Fire Control Panel



134 detectors



2371 kg of clean gas



72 beacons



48 Manual actuator







SDACI system - Valefertil - Araxá / Rosário do catete – MG / SE



580m of Piping



10 fire hydrants



23 Manual actuator



23 beacons



23 Emergency Lights





Teksid do Brasil

Teksid do Brasil - GUSA

Installation of fire prevention and
firefighting system, Pump House
Interconnection



17 Internal Hydrants Panel



3000m of piping





Case New Holland

CNH – Latin America

Inconfidentes, Patio BR-040 and Cidade Industrial yard
Installation of fire prevention and fire fighting system



15 External Hydrants Panel



04 Internal Hydrants Panel



1824m of piping





Fire fighting system with water Morro da Mina - Minas gerais



218m of Pipe



8 fire hydrants panel



5 beacons



10 Emergency Lights





Deluge Combat System (Water Spray) Complex Vargem Grande - Minas Gerais



1400m of Piping



180 sprinklers



18 Transformers



KINROSS

Combat system with water Paracatu - Minas gerais



480m Piping



72 Sprinklers



9 Valves





Camera System for Off-Road Trucks - Vale Carajás



80 Off-road Machines



77 Radars



77 Distance Displays



80 off-road cameras



80 monitors 7"







YAMANAGOLD

Fire Fighting System for Off-Road Trucks Yamana Jacobina - Bahia



91 Off-Road Machines



50 Cylinders of 50 Lbs



41 Cylinders of 25 Lbs



91 Pneumatic actuators



564 Diffusers







Fire Fighting System for Off-Road Trucks - Vale Cauê



30 Off-road Machines



90 Cylinders of 25Lbs



30 Pneumatic actuators



300 temperature sensors



360 diffusers







SDACI system installation - Carajás – Parauapebas/PA (Construction Site)





VALE

SDACI system installation - Carajás – Parauapebas/PA (Construction Site)



Undertaken Project



Design, supply and installation of fire detection/alarm system (SDACI), process monitoring system (CCTV) and asset monitoring system (CCTV)



VALE BRUCUTU: Design, supply and installation of the fire detection/alarm system (SDACI).



Protection of belts and lubrication units with sprinkler and water spray system.





Undertaken Project

Design, supply and installation of industrial intercom system (loud/low voice)
and industrial monitoring system (CCTV)



Unit Pelotização/
Tubarão

Vitória/ES

Pico Unit
Concentration Plant

Itabirito/MG

Vargem Grande Pellet Plant

Nova Lima/Itabirito-MG

Unit
Vargem Grande/Abóboras

Nova Lima/Itabirito-MG



Undertaken Project

Southeast Region: Process Monitoring System (CCTV)



**Mine of Água
Limpa**

Rio Piracicaba-MG

Mine of Pico

Minas Gerais

Vale Mangaratiba

Rio de Janeiro

**Mine of
Capitão do Mato**

Minas Gerais

Mine Gongo Soco

Minas Gerais

VMO(MAC)

Minas Gerais

**Mine of
Vargem Grande**

Minas Gerais

**Mine of
Conceição/Cauê**

Itabira-MG

Car Dumpers

Espírito Santo



Undertaken Project



Supply and installation of a fire
detection and alarm system

TIG/CPBS

Itaguaí - RJ



Votorantim

Process monitoring system (CCTV)

Mine of Morro Agudo

Paracatu - MG

Usicon c/w

Vazante-MG

Undertaken Project

MIGUEL BOURNIER GERDAU MINING – MG/BRASIL



GERDAU



Customers





Partners



Exhibitions and events

Exposibram



Exhibitions and events

Exposibram



Automation Solutions Showroom





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