MAÎTRISE TECHNOLOGIQUE
Innovation for your road safety

March 2018

Agenda

- Introduction & our history
- Our organisation
- Competences and know-how
- Our product range
- Our latest innovations
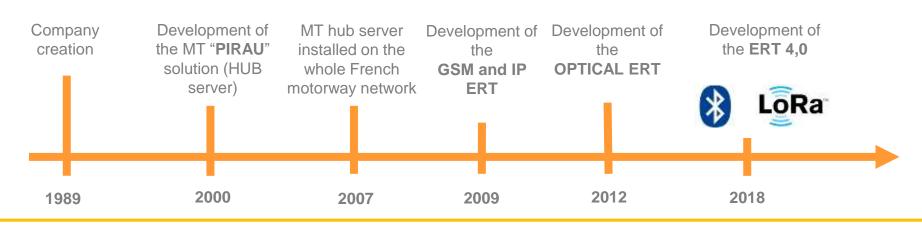- Our main references

Introduction & our history

More than 25 years working and innovating for your road safety

Our core business

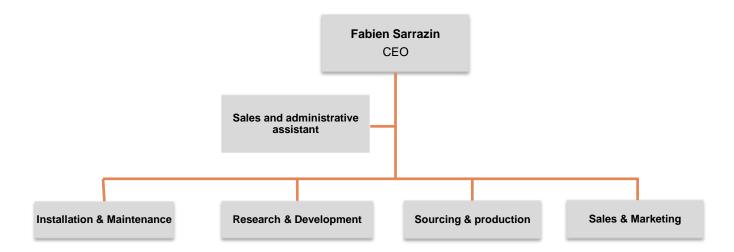*The emergency call networks for roads and motorways*

Our know-how

Development, installation and maintenance of the emergency call networks, ERT and others road active equipments

Company creation	Development of the MT "**PIRAU**" solution (HUB server)	MT hub server installed on the whole French motorway network	Development of the **GSM and IP ERT**	Development of the **OPTICAL ERT**	Development of the **ERT 4,0**
1989	**2000**	**2007**	**2009**	**2012**	**2018**

Our organization

Fabien Sarrazin
CEO

Sales and administrative assistant

Installation & Maintenance

Research & Development

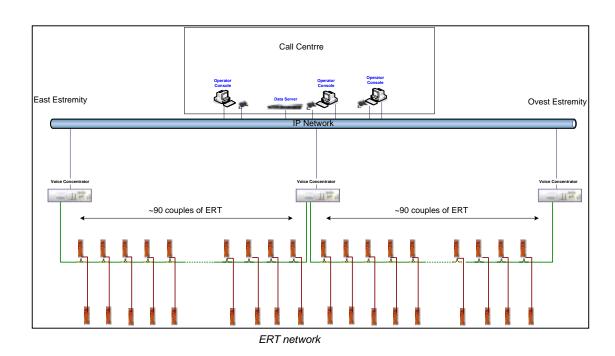Sourcing & production

Sales & Marketing
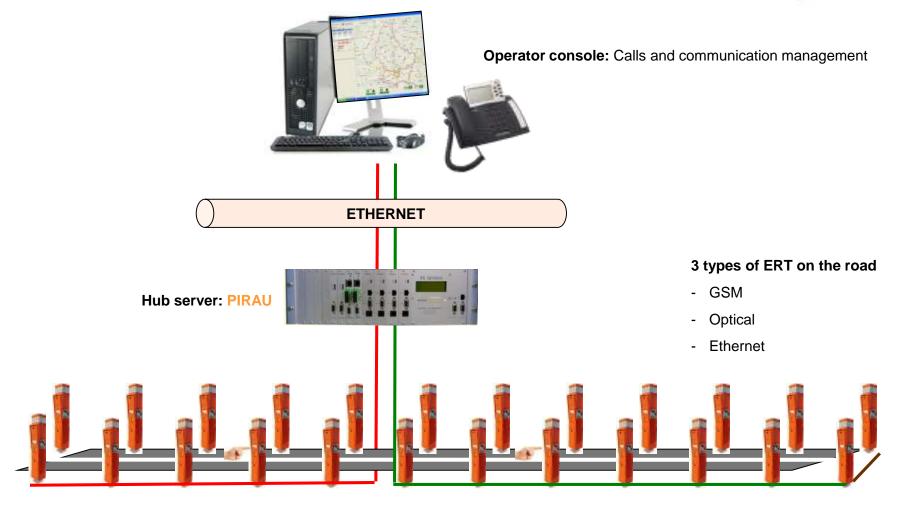
Competences and know-how

- Studies and technical expertise
    - *Studies of the customers specifications and requirements*
    - *Technical feasibility based on the field constraints*
    - *Implantation and installation network technical proposal*
- Commercial offer
    - *Product (hardware, software and licence)*
    - *Installation*
    - *Training*
    - *Maintenance*
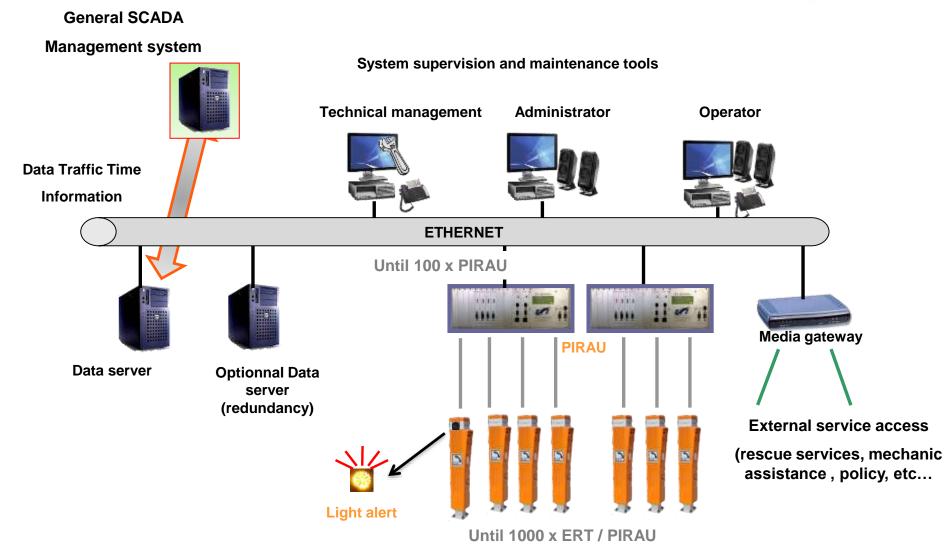- Production
- Installation
- Maintenance

ERT network

ERT network architecture (1/2)

Operator console: Calls and communication management

ETHERNET

Hub server: PIRAU

3 types of ERT on the road

- GSM

- Optical

- Ethernet

➢ **A complete solution : designed, developed, produced and proposed by our company**

ERT network architecture (2/2)

General SCADA

Management system

System supervision and maintenance tools

Technical management

Administrator

Operator

Data Traffic Time

Information

ETHERNET

Until 100 x PIRAU

Data server

Optionnal Data server (redundancy)

PIRAU

Media gateway

External service access (rescue services, mechanic assistance , policy, etc…

Light alert

Until 1000 x ERT / PIRAU

➢ **A complete solution : designed, developed, produced and proposed by our company**

Our products:
Emergency Road Telephones (ERT)

- **3 types of housing:**
  - **Standard**: directly on the floor
  - **Reduced**: installed on the road crash barrier
  - **Mini**: directly installed on a wall

- **Power**
  - Solar panel 10W + 12V 17A/h battery
  or
  - 220V + 12V 17A/h battery

10W integrated solar panel

ERT console

Standard

reduced

Mini

12v 17A/h battery

Our products: type of data connexion

- **GSM**
  - *Easy to install*
  - *Easy to use*
  - *100% autonomous: no need of cables connexion*
  - ➢ ***Ideal for roads with no existing cables network***

- **Ethernet / IP**
  - *Need an external network*
  - *Video codec included*
  - ➢ ***Ideal for tunnels***

- **Optical**
  - Optimized solution
  - Easy Maintenance
  - Optimized TCO
  - ➢ ***Current standard solution for ERT network***

Our products: **testable push button**

- **Disabled people feature**
  - ➢ The button include a green light (blinking when phone is ringing, permanent during the communication)

- **Daily test**
  - ➢ The push button test is included in the daily test of the ERT

- **Advantage**
  - ➢ The weekly test is not necessary, economic and secured for people

- **Compatibility**
  - ➢ This push button could installed on each MT ERT
  - ➢ No additional wire are required

- **Installation area**
  - ➢ Perfect and ideal solution for tunnels or heavy traffic zone

➡ **an exclusive solution from MT !**

Our products: Incident alert

- **To alert and to protect your customers**
- **A flashing light on the ERT is used to create an alert following an event:**
  - Presence of a safety car
  - Car stopped on the road
  - ERT current used by someone on the motorway
  - …

➢ Additional safety for "road workers"
➢ Event anticipation for following kilometers
➢ Decrease of risks
➢ Additional safety for drivers

➡ **an exclusive solution from MT !**

Our products: ERT on site

| Mortoway | Rest area | Tunnel | Beach |

Our products: PIRAU / HUB server

- **Functional features**
  - *ALERT DESCRIPTION TO 50 OPERATORS*
  - *POSSIBILITY TO TREAT UNTIL 2 000 EMERGENCY*
  - *ROADSIDE TELEPHONES*
  - *TECHNICAL SUPERVISION OF ALL CONNECTED ELEMENTS*
  - *100% AUTONOMOUS*
  - *SECURED REDUNDANCY*

PIRAU / HUB SERVER

Our products:
operator & maintenance console
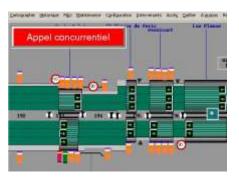
- **Functional features**
    - *Multi-operators communication*
    - *Conference mode*
    - *Supervision and maintenance*
    - *Communications recordings*
    - *History and statistics*
    - *Data export solution*
    - *Oriented best efficiency for field interventions*

- **Options**
    - *Events management*
    - *SCADA interface*

HMI example

Standards and certifications

- *NF P 99 – 250 : General features of emergency telephone network*
- *NF P 99 – 252 : Maintenance principles of ETN*
- *NF P 99 – 253 : Technical features of the Emergency roadside telephones*
- *and appeals workstations*
- *NF P 99 – 254 : Implementation of emergency telephone network*
- *CEM : 2004/108/CE Directive*

Additional proposed services

- Maintenance of ERT systems and networks

- Maintenance of the whole road equipments (traffic lights, speed radar, dynamic road panels, vms…)

Our latest innovations: introduction

Why connected ERT solution ?

- Connected to its close environnement

  …to give visibility to the road service management

  …to have a better view of what happens on the road

- Connected to its far environment to collect data from systems localized at few hundreds meters from the ERT

- Connected to the road users/drivers

  …to give them information

  …to develop and to propose new services

  …to develop direct marketing offers

➡ **ERT 4.0 are here !**

4.0 ERT: travel time management

- Integrated Bluetooth module in the ERT
- Data management of the travel time between 2 points
- Fully or partially use according to road service management decision
- 100% autonomous with its solar panel
- Compatible with optical, IP or GSM ERT systems/networks
- Integrated in one ERT for 2 ways of driving

➢ For the future…Bluetooth will make it possible to communicate directly with your clients by a communication Beacon

4.0 ERT: IOT services

- Based on the use of LoRa transceiver in our ERT

- Application examples:
  - *Sensors detect opening / closing of access gates*
  - *Sensors detect opening of the inspection chamber*
  - *Sensors detect any presence on the emergency lane or zone reserved for the Emergency Call Terminal*
  - *Sensors detect full refuse containers in the rest areas which ensures increased efficiency of the exploitation teams*
  - *Water consumption sensors*

➢ Upload and use of data from several transceivers installed on the road environment

Our main references

- In France

- Abroad

Greece

Hungaria
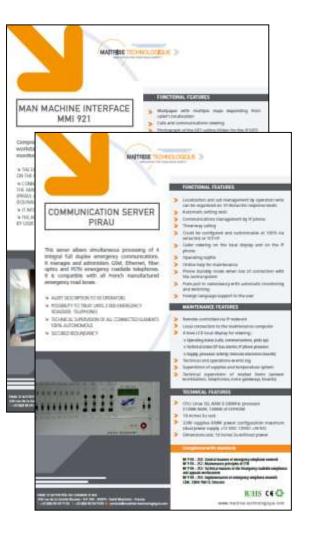

Luxembourg

Ireland

Romania

Italy

To know more about us

More information of our website: www.maitrise-technologique.com

Thanks for your attention

Technical expertise

Innovation

Installation

Production

Maintenance

MAITRISE TECHNOLOGIQUE
INNOVATION FOR YOUR ROAD SAFETY