LA SEMAFORICA

Traffic controllers overview

Dear customer,

La Semaforica S.r.l. and TECSEN deal with traffic regulation and the development of ITS systems for Smart Mobility applications. Thanks to their experience and know-how gained in more than 75 years of experience in traffic regulation and management, today the group presents itself on the market with a complete and cutting-edge product range with the highest levels of quality and professionalism that distinguish us. We offer solutions and systems to improve traffic, safety and quality by integrating our knowledge of electronics, information technology and transport engineering for the design, maintenance and management of these systems.

PRODUCTS

The **PRODUCTS** division designs and manufactures components for traffic control and regulation according to the highest quality standards:

- 4 lines of traffic lights, two in polycarbonate and two in aluminum
- aluminum traffic light totems
- IP65 retrofit LED modules for traffic lights
- countdown traffic light modules
- pedestrian reservation devices (traditional and touch buttons) and horns (audio guides) for visually impaired people
- 4 lines of traffic light controllers with European standards
- products for traffic detection and classification using different technologies
- systems for detecting bicycles and for displaying the number of passages with an indication of the quantity of CO2 saved
- luminous signs for the protection of pedestrian crossings, warning signs and car park signs

SYSTEMS

We provide **SYSTEMS** on the **TMacs and SMacs software PLATFORMS** for the management of different integrated devices with the creation of different solutions such as:

- Monitoring and coordination of traffic lighted crossings or intersection grids to reduce waiting times and improve traffic flow
- Traffic light management with priority systems for the city's tramline
- Control and monitoring of urban traffic by means of data acquisition, for the development of campaigns to improve sustainable mobility
- Systems for the management of dynamic alternating one-way streets according to the traffic detected and the type of vehicle
- Dynamic control of simultaneous passage of heavy vehicles and management of one-way traffic on bridges with static problems
- Traffic light priority for public transport with proprietary Safety go system
- Flooding control systems for subways by means of automatic optical alerts with traffic light lanterns, information on VMS or display and closure of traffic by using automatic barriers
- Weather warning systems by means of devices measuring environmental parameters and transferring information on VMS and communication through social channels
- Bicycle detection systems with display of measured data on displays or totems
- Heavy vehicle detection systems
- Monitoring of vehicles in tunnel
- Subsystems harmonisation through Smart City central software in control rooms

TMACS PLATFORM MODULES:

- MACS TRAFFIC Urban Traffic Control System UTC
- MACS ANALYSIS System for traffic data management and analysis
- MACS FLOW Traffic optimisation through prediction and travel time estimation
- MACS TRACKING Surveying and priority management system
- MACS VISUAL Complete solution for VMS management
- MACS FLOOD Underpass flooding monitoring system
- MACS PARKING Management and Guidance Car Parks Control System
- MACS MMS Maintenance Management System
- MACS SAFETY Digital Twin for Road Safety
- MACS COOPERATIVE Management and Interfacing for C-ITS

SERVICES

The **SERVICES** division, which is divided into different levels, employs specialized and highly experienced personnel able to assist our customers from the installation and laying of materials, through the optimal setting of the devices to post-sales support and service help desk or on site:

HELP DESK ACTIVITIES:

Support activities for the use of the TMacs centralization platform and SMacs Smart City Supervisor on differentiated service levels.

ON SITE ACTIVITIES:

- Installation of traffic light systems, variable message panels, traffic monitoring systems, subway flooding control systems, etc.
- Scheduled routine maintenance of traffic light systems in accordance with regulations
- Extraordinary on-call maintenance with on-call service for restoring the equipment in the event of an accident, vandalism and/or accident, vandalism and/or external events of various kinds
- Functional and performance verification of the traffic light systems by verifying the vehicle flows detected in the field, with simulation of the operation of the traffic light system using dynamic microsimulation software.
- Optimization of the operation and plans of traffic light systems: according to the goals to achieve (reduction of queues, maximization of capacity, minimization of the average delay, principle of equalization, etc.), traffic light plans will be redefined both at fixed times and with implemented logic and for coordinated axes with green wave.
- Traffic monitoring campaigns with collection and analysis of vehicle flow data to create origin-destination matrices, average daily and weekly vehicle flow values, peak hours and type of vehicles passing through. The monitoring stations are supplied, installed and calibrated by our technicians
- Analysis of road traffic in road branches: survey of vehicle flows along the road axis, analyzing the flow through the maximum, minimum and average speeds for the different time slots. Thanks to the concentration and density rates, it will be possible to identify queuing phenomena and the times at which they occur.

La Semaforica has been awarded ISO 9001 certification for its quality processes in the design, manufacture, installation and maintenance of its products and maintenance of its products, ISO 45001 certification for the safety of its workers, and ISO 14001 for respect and protection of the environment.

In order to offer the best possible service, La Semaforica and Tecsen reserve the right to modify at any moment and without any warning the features of the products described in this document. This document has the only purpose of illustrating the products. If you need detailed technical data, please do not hesitate to contact us.

SINCE 1945 WE DEPLOY SOLUTIONS FOR A BETTER WORLD

From the visionary idea of our company's founder to LED technology, the path was already set and all we had to do was follow it.

Our range of systems and products 100% MADE IN ITALY is synonymous with excellence, quality, expertise and efficient performance.

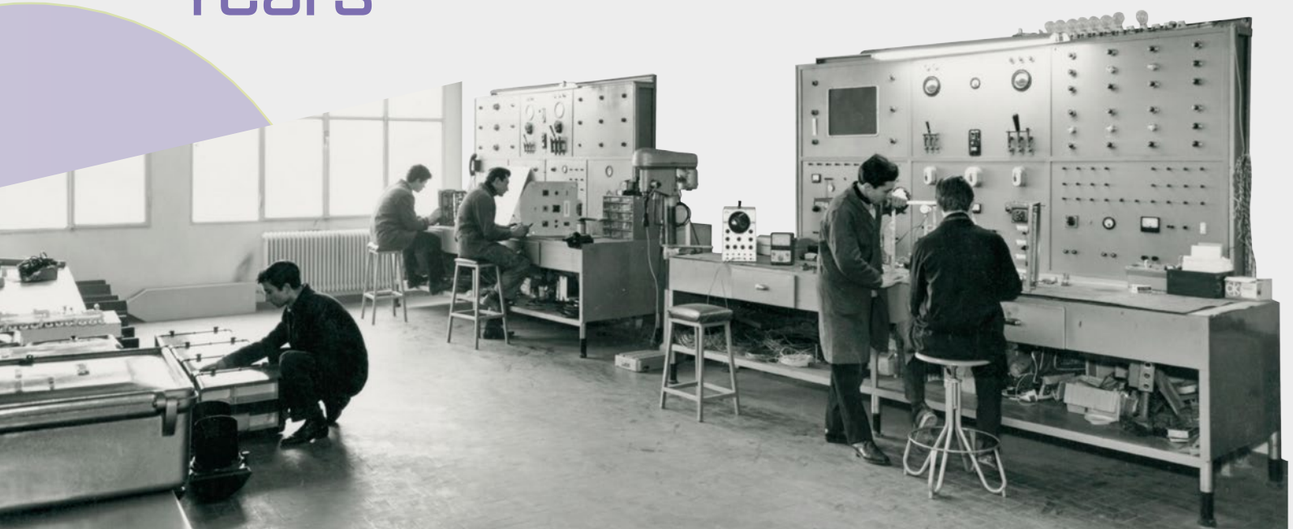
As in Marco Polo's path, our company has grown from a small Venetian business to become the ITALIAN LEADER in the sector and one of the main players in the global market.

+30
COUNTRIES

We export all over the world and have consolidated customers in over 30 countries.

80
YEARS

For three generations a constant point of reference in an ever-evolving sector.



+100.000

TRAFFIC CONTROLLERS DELIVERED

For over 75 years we have been producing high-tech traffic light controllers to improve people's lives.

Increase in road safety and decrease in accidents caused by accidents between vehicles at intersections.

Reduction of vehicular congestion with a reduction in average travel times and consequent limitation of air pollution.

KNOW HOW, TECHNOLOGY AND MODULARITY

A continuous development that aims to make our controllers capable of satisfying the needs of any system, offering an advanced solution for traffic management, always guaranteeing safety, efficiency and adaptability for every usage scenario.

LS300

RSC

CARTESIO

AUT

High performance, simple to integrate and highly scalable, our controllers are the ideal solution to centralize, simplify and optimize traffic planning and traffic control on systems of any complexity.

CARTESIO

HIGH-PERFORMANCE INTERACTIVE CONTROLLER

With Cartesio, traffic light programming and traffic control become as simple as they have ever been. A convenient 7-inch touch-screen display or an easy-to-use LCD display make field configuration operations simple and safe. Bluetooth connectivity allows qualified personnel to interact with the controller through the your smartphone or tablet, avoiding the risk of electric shocks from the electrical panel, or having to open the cabinet in the event of adverse environmental conditions (rain, snow, thunderstorms, temperature). Moreover, thanks to the available communication interfaces (Wi-Fi, Ethernet, 2G / 3G / 4G Modem), all on-site operations can also be performed from the control center.

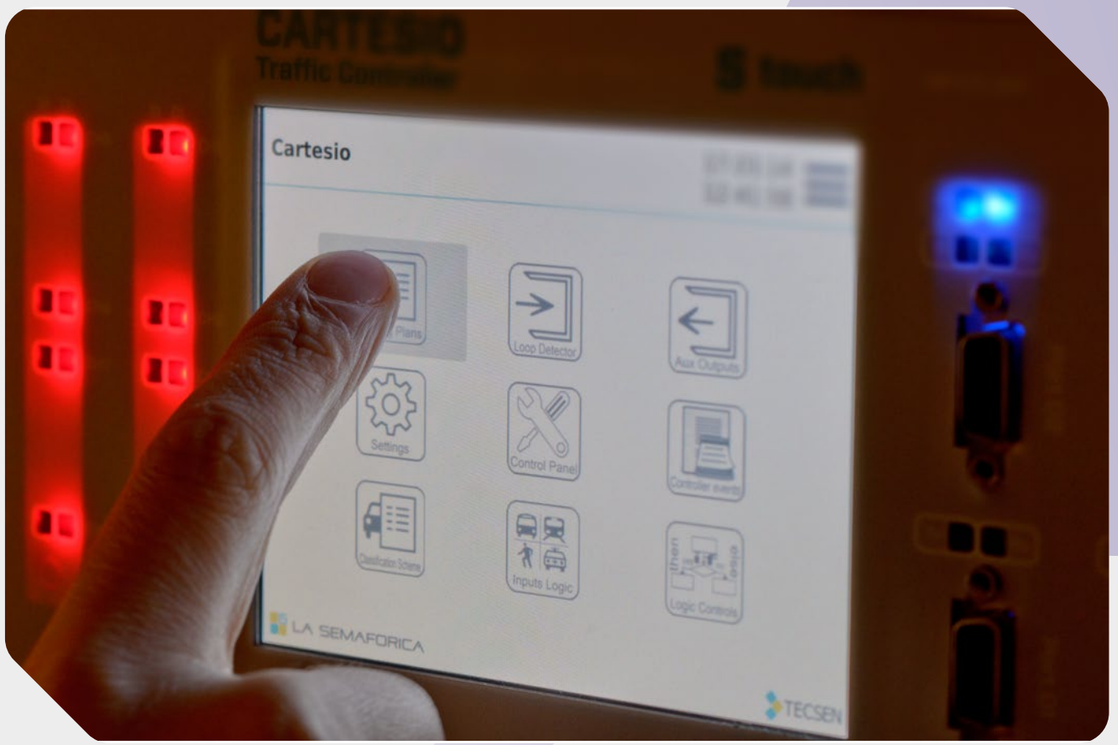
"Cartesio is an innovative controller. Made with an appealing style, typical of the Italian tradition, it combines high computing power with the highest levels of interactivity and scalability"

SCANSIONA PER
ULTERIORI DETTAGLI

DETAILS

- Scalability and modularity, from the smallest to the largest intersections in the context of smartcities
- Up to 64 controlled traffic light groups and 256 programmable digital inputs, expandable thanks to the controller's modularity
- Can manage up to 4 intersections independently
- TCP / IP protocols, TMACS, Sigma Systems (Elsag), SPOT / Utopia (Swarco Mizar), NTCIP, RSMP, and many others
- Adaptive algorithm that allows the dynamic and functional management of more complex traffic light systems
- Easy maintenance, Bluetooth and Wi-Fi connections for the field operator, complete with RS232 ports or USB ports depending on the version
- Centralizable via GPRS, 2G, 3G modem, or via Optical Fiber
- Can be integrated into existing systems
- Available with LCD display panel or Touch display, different sizes also with integrated industrial PC
- Certified according to EN 50556
- Available in ELV version and with dimming functionality

"Modular, customizable, versatile: these are the main qualities that characterize Cartesio"



Simplified GUI

Remotely accessible (tablet, smartphone, ecc)

RSC

centralizable traffic controller

Based on a multi-processor structure, it consists of a central control unit expandable to a 32-bit industrial PC and a series of peripheral micro-processors for the management of inputs and outputs. The CPU control board implements the TCP-IP protocol allowing a high degree of connectability to any type of Control Center with a high level data exchange such as in a normal LAN network. Composed of electronic cards with standardized EUROPA (100mmx160mm) housed in a 19"3/6U rack with polarized DIN41612 connectors, it is equipped with a front panel with a large 80-character LCD display that makes the interface with traffic operators easy and intuitive. ensuring an unparalleled cost-benefit ratio.

"The RSC centralized traffic controller is a modular system developed by La Semaforica to meet traffic regulation needs of any nature and complexity"

SCANSIONA PER ULTERIORI DETTAGLI

DETAILS

- Scalability and modularity, from the smallest to the largest intersections in the context of smartcities
- Up to 32 controlled traffic light groups and 32 programmable digital inputs, which can be expanded since the structure is modular
- TCP / IP protocols, TMACS, Sigma Systems (Elsag), SPOT / Utopia (Swarco Mizar), NTCIP, RSMP, and many others
- It can be integrated with an industrial PC allowing for adaptive algorithm operation and the dynamic and functional management of more complex traffic light systems
- Easy maintenance, available Bluetooth and Wi-Fi connections for the field operator, complete with RS232 ports or USB ports depending on the version
- Centralizable via GPRS 2G, 3g modem, or via Optical Fiber
- Can be integrated into existing systems
- Available in various versions and sizes
- Certified according to EN 50556
- Simplified user interface

"The RSC System is capable of transforming the traffic controller into a Traffic Data station"

Easy to install and maintain

Intuitive programming tool

LS300

Pedestrian Traffic controller

The LS300 traffic light controller has been designed to control vehicle and / or pedestrian traffic both in an independent system and in a centralized system. The regulator is able to store information concerning traffic and to guarantee the control and transmission of information to the interested entities at any time. The man-machine interface was particularly taken care of by equipping the LS300 with a large 80-character LCD display so as to always provide a clear and intuitive indication of the operating status; it also provides monitoring and recording of the temperature, the mains voltage and the power absorbed by the system in real time, fundamental information in the event of anomalies or breakdowns.

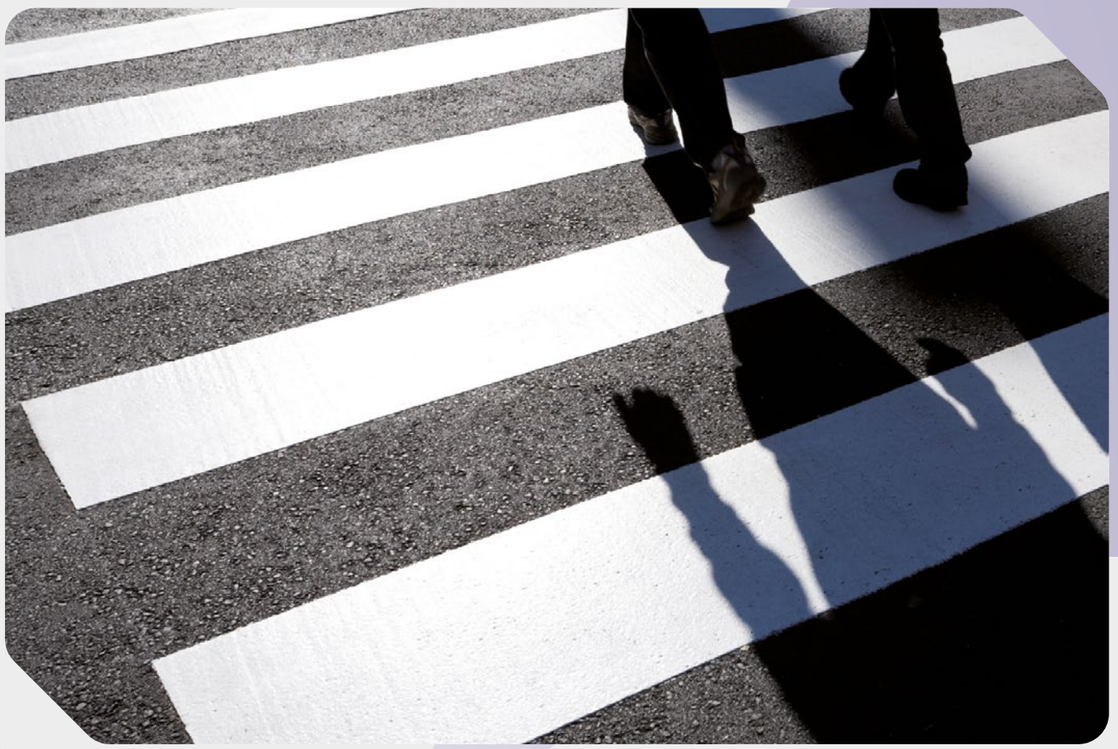
"Ease of use, robustness, reliability, make LS300 a pedestrian traffic controller in step with the times"

SCANSIONA PER
ULTERIORI DETTAGLI

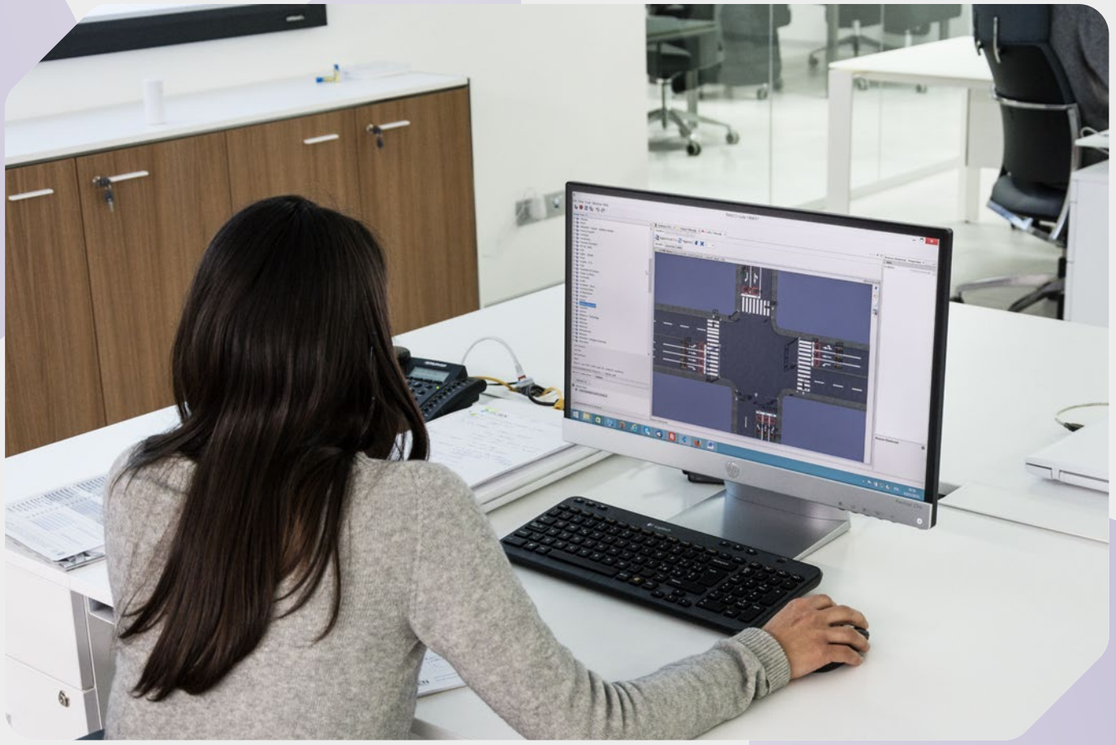
DETAILS

- Manages 4 traffic light groups and 8 programmable digital inputs
- Simplified and intuitive user interface
- Centralized via the TMacs platform
- 8 different autonomous programs in structure and times selectable from LCD panel, remote control or from weekly internal tables programmable via RS 232 serial port via PC
- 1 RS 232 serial port
- Available in 12 Vdc version
- Available with small and large sized wardrobe according to the different urban contexts of use

"Simplicity and practicality make LS300 truly Ready to Use and easily integrated into smartcity contexts"



Safely manges pedestrian crossings



Intuitive programming tool

AUT

arm® Unit Transfer Interface

Arm Unit Transfer is the peripheral device designed to control devices for traffic management and monitoring. AUT is the peripheral manager of the traffic light regulators of the ITS TMacs Platform, it allows to release the control center from the specific management of the traffic control equipment, providing for all these devices the same choices of connectivity and remote control. Gifted of powerful 1GHz ARM CPU allows interfacing every traffic light regulator through Ethernet port, serial communication or through appropriately programmed I / O. ARM Unit Transfer allows the interfacing of variable message panels, traffic detection stations, parking management, ZTL gates, environmental and weather monitoring, traffic light priority systems, etc

"AUT is a compact industrial pc that can be used in multiple scenarios. Versatile, programmable and centralizable."

SCANSIONA PER
ULTERIORI DETTAGLI

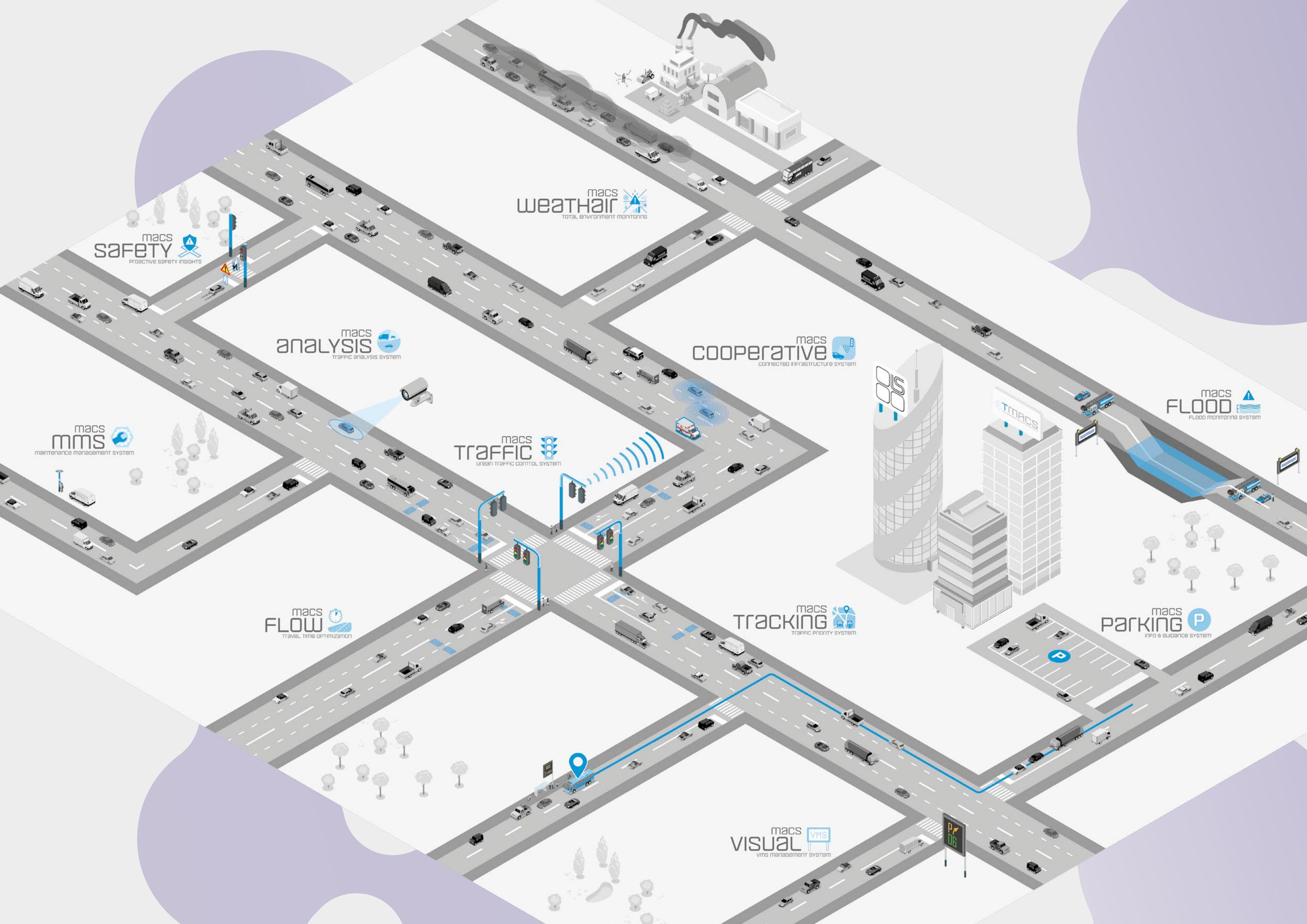
DETAILS

- High calculation power: ARCH ARM 1GHz Cortex-A8 CPU
- Centralizable via the Tmacs platform and can be integrated into existing contexts also on regulators of other manufacturers
- Tramway management
- Can manage 2 or + intersections simultaneously and from a single controller
- TCP / IP protocols, TMACS, Sigma Systems (Elsag), SPOT / Utopia (Swarco Mizar), NTCIP, RSMP, and many others

"AUT allows the integration of traffic controllers from other manufacturers into the existing system and raises its computing power."

Embedded industrial pc developed for every situation

TMacs control room fully integrated


macs
weathair
TOTAL ENVIRONMENT MONITORING
macs
SAFETY
PROACTIVE SAFETY INSIGHTS
macs
ANALYSIS
TRAFFIC ANALYSIS SYSTEM
macs
COOPERATIVE
CONNECTED INFRASTRUCTURE SYSTEM
macs
FLOOD
FLOOD MONITORING SYSTEM
macs
MMS
MAINTENANCE MANAGEMENT SYSTEM
macs
TRAFFIC
URBAN TRAFFIC CONTROL SYSTEM
TMACS
macs
FLOW
TRAVEL TIME OPTIMIZATION
macs
TRACKING
TRAFFIC PRIORITY SYSTEM
macs
PARKING
INFO & GUIDANCE SYSTEM
macs
VISUAL
VMS MANAGEMENT SYSTEM
VMS

TMACS

TOTAL MANAGEMENT ADVANCED CONTROL SYSTEM

TMacs is an open ITS platform and is an essential and powerful tool for traffic control and management.

The configuration of the system is completely customizable and TMacs offers maximum performance in any application related to Infomobility.

The open architecture of TMacs allows the control of different devices (traffic controllers, sensors, control devices for public lighting, variable message signs, weather stations, car parks, etc.) and offers local authorities the possibility to delegate the management and maintenance of the various subsystems.

macs TRAFFIC
URBAN TRAFFIC CONTROL SYSTEM

macs ANALYSIS
TRAFFIC ANALYSIS SYSTEM

macs FLOW
TRAVEL TIME OPTIMIZATION

macs TRACKING
TRAFFIC PRIORITY SYSTEM

macs VISUAL
VMS MANAGEMENT SYSTEM

macs FLOOD
FLOOD MONITORING SYSTEM

macs PARKING
INFO & GUIDANCE SYSTEM

macs MMS
MAINTENANCE MANAGEMENT SYSTEM

macs SAFETY
PROACTIVE SAFETY INSIGHTS

macs COOPERATIVE
CONNECTED INFRASTRUCTURE SYSTEM

SMACS

SMART CITY SYSTEM

Introducing SMacs, the future of smart city management.

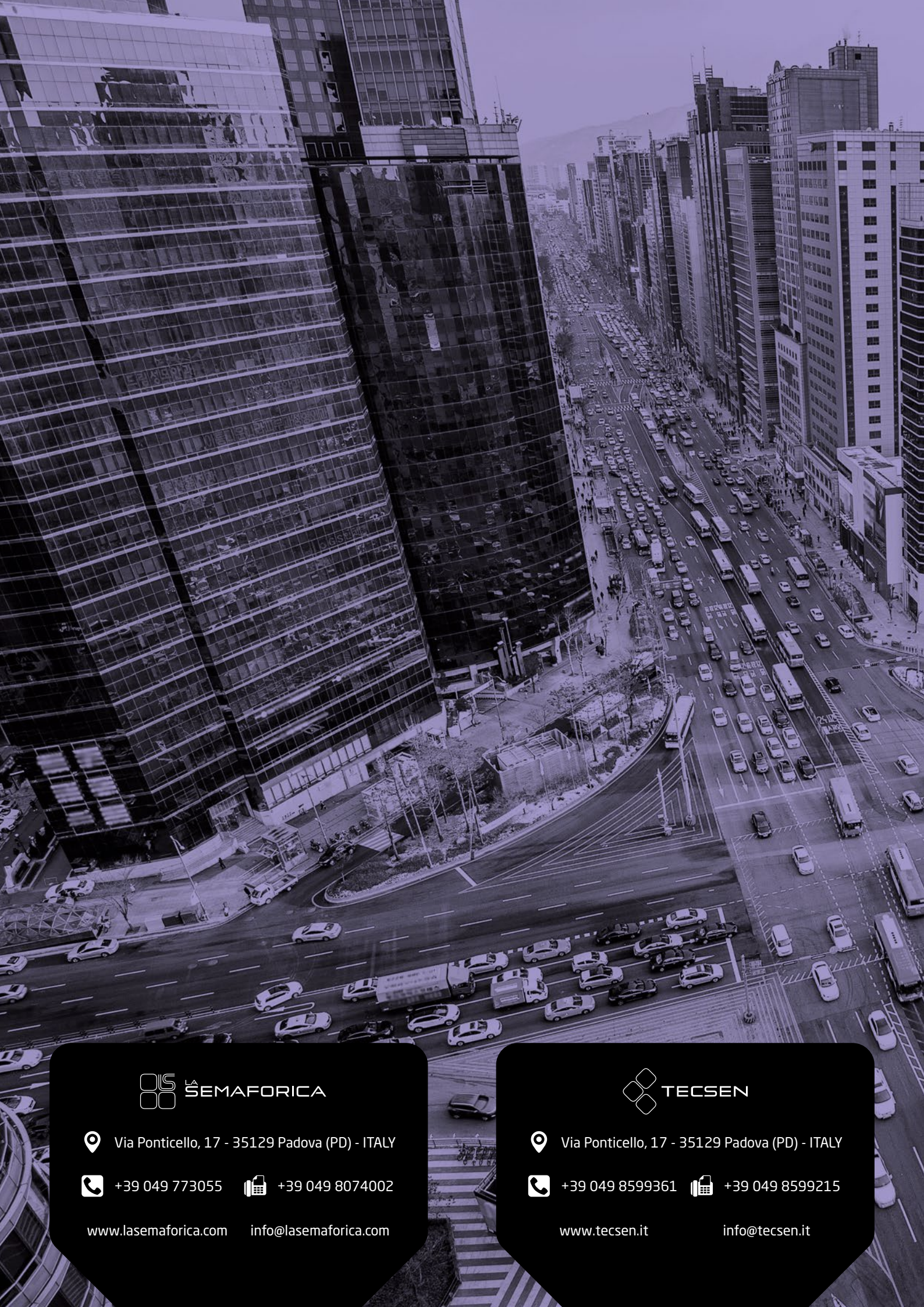
Designed to transcend the traffic focused capabilities of TMacs, SMacs represents a new horizon in urban management, offering a unified platform for overseeing a multitude of urban subsystems.

Its key strength lies in its holistic approach, integrating traffic control, environmental monitoring, public safety, and more into a single, user-friendly interface.

With its advanced data analysis and reporting tools, SMacs empowers city officials with the insights needed for informed decision-making and efficient resource allocation.

Its flexible and scalable architecture ensures compatibility with a wide range of technologies, making it adaptable to cities of any size.

By enabling real-time monitoring and response, promoting sustainability, and enhancing safety, SMacs is not just an evolution in smart city management: it's a revolution, setting a new standard for how cities operate and evolve.



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