



YOUR **SECURITY** IS OUR TASK.



Systems for an Intelligent  
Security- and Lighting Network Over IP



# SMART CITY

# SAFE CITY



# In General

## IN THESE DAYS A SAFE AND SECURE ENVIRONMENT REPRESENTS A GREATLY ESTEEMED VALUE FOR THE PUBLIC AND FOR THE INDIVIDUAL

Modern concepts for a future oriented lighting system of cities and industrial plants include additional topics such as energy optimization, internet access during operating and security by surveillance.

OWLS AG, located in Schaanwald in Liechtenstein fully concentrates on the development, production and international

distribution of governmental, municipal and industrial smart grid concepts on RF basis (e.g. intelligent network technologies plus particular value added services) with clear focus on the security aspect in connection with state-of-the-art street lighting (LED and Plasma).

Besides its headquarters in Liechtenstein, a daughter company of OWLS AG, "Lumitronic GmbH", is taking care of the assembling procedures and serving as International Customer Service Center in Eisenstadt, Austria.

# Background

Street Lighting can be found all over the world. Their use is to lit public and industrial roads, paths and areas during night time. Existing and future lighting deployments will have to deal with the following;

- Usage of a reliable and robust system under extreme climatic conditions
- Increasing costs for electrical energy, maintenance and operation
- Reduction of CO2 emissions

- Increased demand of the public or the operator for security
- Using the infrastructure for 24h/7days services to generate additional income or value for the operator
- Remote control and monitoring of each individual light point to improve the system operations and maintenance
- Easy system integration

FLEXIBILITY TO HAVE THE RIGHT LIGHT AND SURVEILLANCE AT THE RIGHT TIME ON THE RIGHT SPOT.

# Differentiating Elements to the Competition

WE DO CONSIDER OURSELVES AS SOLUTION PROVIDER FOR PARTICULAR REQUIREMENTS OF GOVERNMENTAL, MUNICIPAL OR INDUSTRIAL SECURITY- AND LIGHTING SYSTEM OPERATORS

- Worldwide unique smart grid concept including the usage of an embedded CCTV system as integral part of the luminaire ("Safe City System")
- Clear customer orientation empowering system operators with value added services incl. the growing demand for security in various application forms
- Close attention to extreme climatic conditions
- Flat management structures resulting in quick decisions and fast project realizations

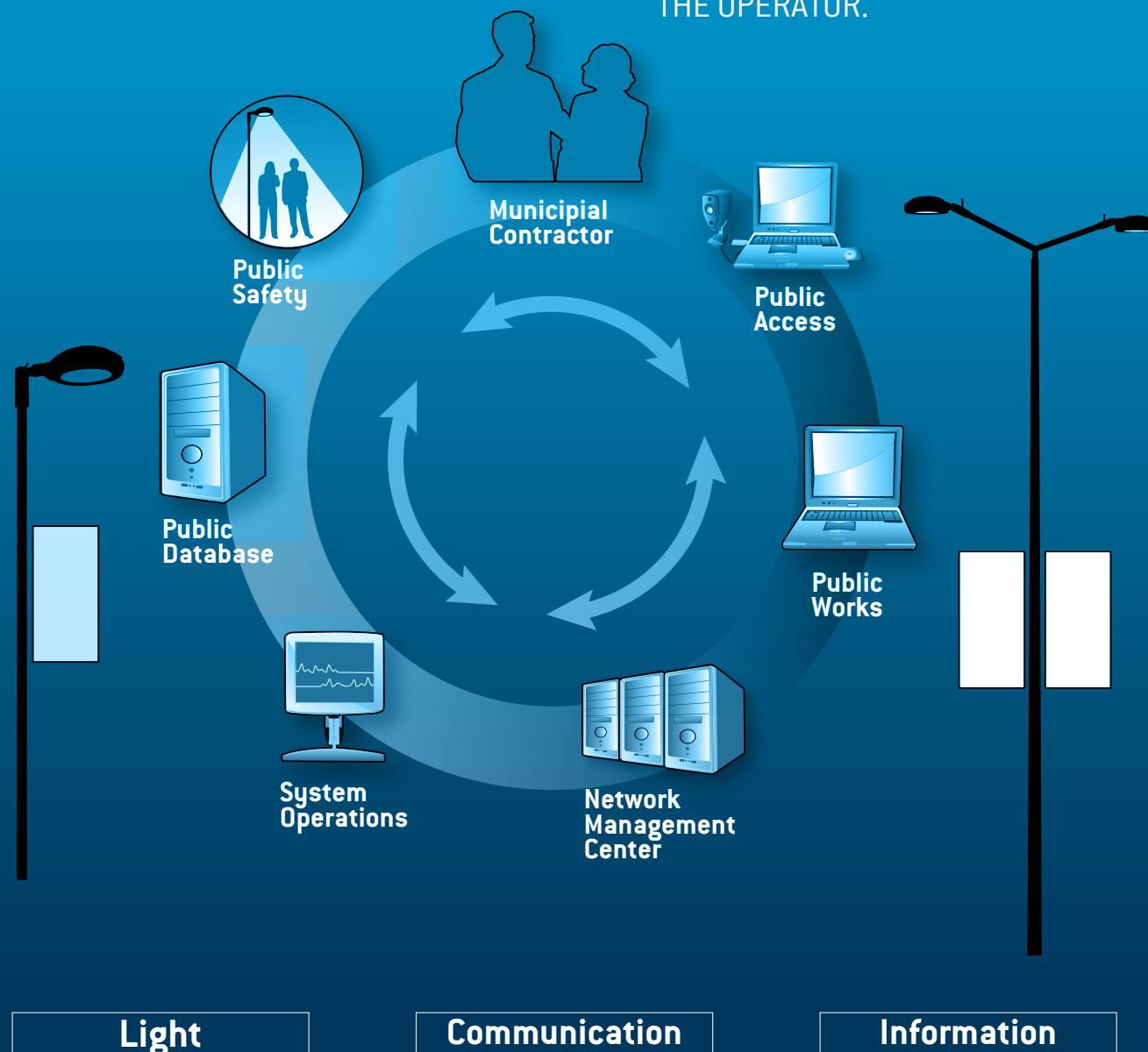


# The Solution

The basic principle is to use existing and future outdoor lighting infrastructure around the world providing a communication, information and public lighting network over IP.

The constant growth of devices connected to the internet is forcing system operators to integrate all their properties into a smart, reliable and scalable communication network.

THE OWLS SAFE CITY SYSTEM IS BASED ON THE CONCEPT TO CONNECT AN OUTDOOR LIGHTING NETWORK TO AN IP BASED REMOTE MANAGEMENT CENTRE IN ORDER TO CONTROL AND MONITOR EACH DEVICE CONNECTED TO THE LIGHTING INFRASTRUCTURE FORMING AN INTELLIGENT CUSTOMIZED SECURITY SYSTEM IMPLEMENTED ON THE PARTICULAR NEEDS OF THE OPERATOR.



# Products

## OWLS iPOLE System:

The **iPOLE MECHANICS** is an optional multi-functional housing unit (high stability and flexibility) for the monitoring, control, and management of outdoor lighting systems to be put onto a pole or a bracket.

The **iPOLE ELECTRONICS** consist of a fully potted aluminum tube placed inside the pole with power supplies for the luminaire and the RF & GPS units, 2 relays with individual metering and various other sensors and devices (optional)

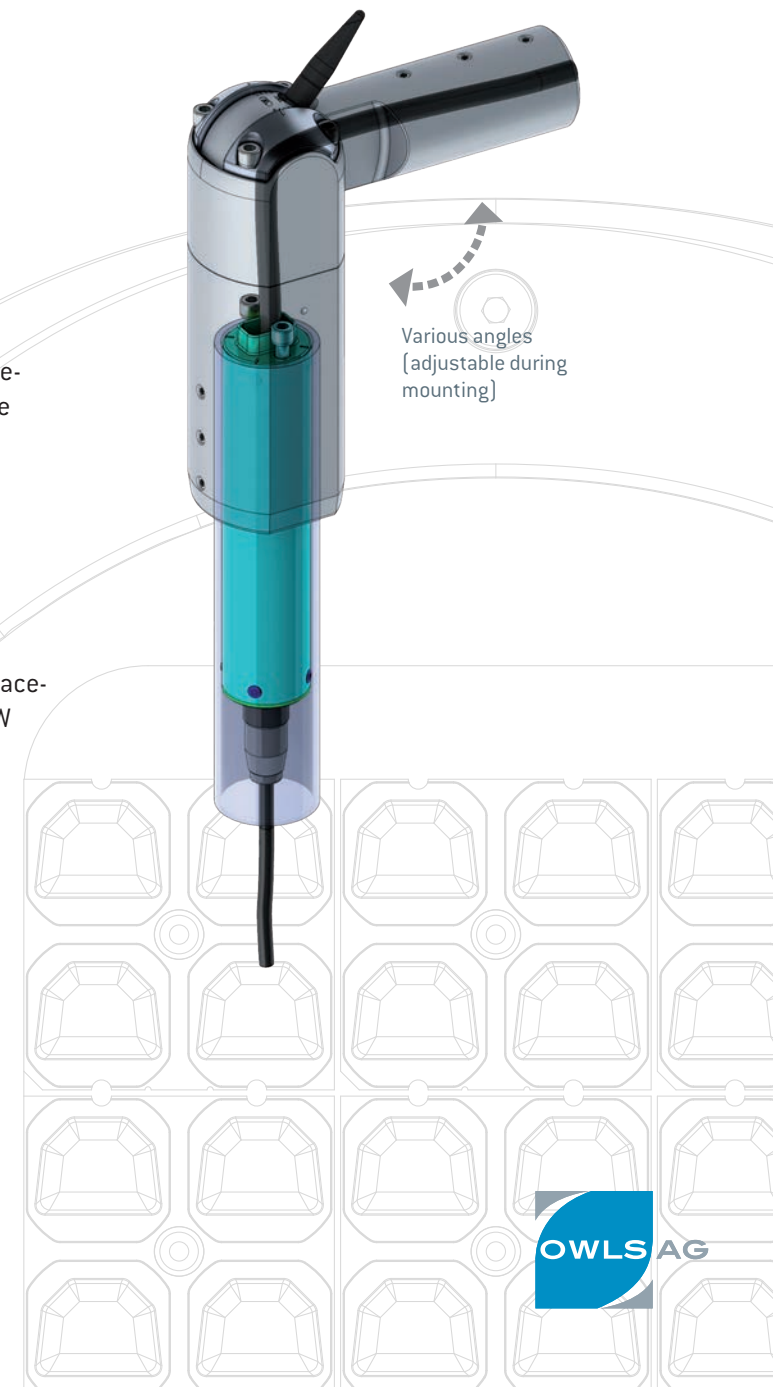
THIS COMBINATION REPRESENTS A PERFECT SYSTEM FOR INTELLIGENT SOLUTIONS OF VARIOUS PARTICULAR VALUE ADDED SERVICES INCLUDING THE USE OF A CCTV SOLUTION FOR SECURITY PURPOSES BY USING THE EXISTING LIGHTING INFRASTRUCTURE!

## OWLS LED Street Light Range

[wattages between 35–140W for replacement of HID/HPS lamps < 250W and pole heights < 12m]

## OWLS APL (Plasma) Street Light Range

[wattages between 170-450W for a replacement of HID/HPS lamps from 400-1000W and pole heights > 12m]





# SMART CITY

Model JANINA

## OWLS SMART CITY System

The heart-beat of the OWLS SMART CITY System is a self-developed wireless full Remote Control Management System (RCMS) named „iLICOM“ to control, monitor and supervise lighting systems (transmission via RF, mesh network approach, plug-and play installation and configuration).

SMART CITIES WILL USE IN FUTURE THEIR LIGHTING INFRA-STRUCTURE FOR 24 HOURS/ 7DAYS SERVICES, GETTING THE “MORE” OUT OF THEIR LIGHTING SYSTEM!

**iLICOM™**  
lighting + beyond



Side-Mounting (bracket)



Mounting with iPOLE-System



Top-Post-Mounting

Integrated Angular-Adjustment (+15°/-15°)

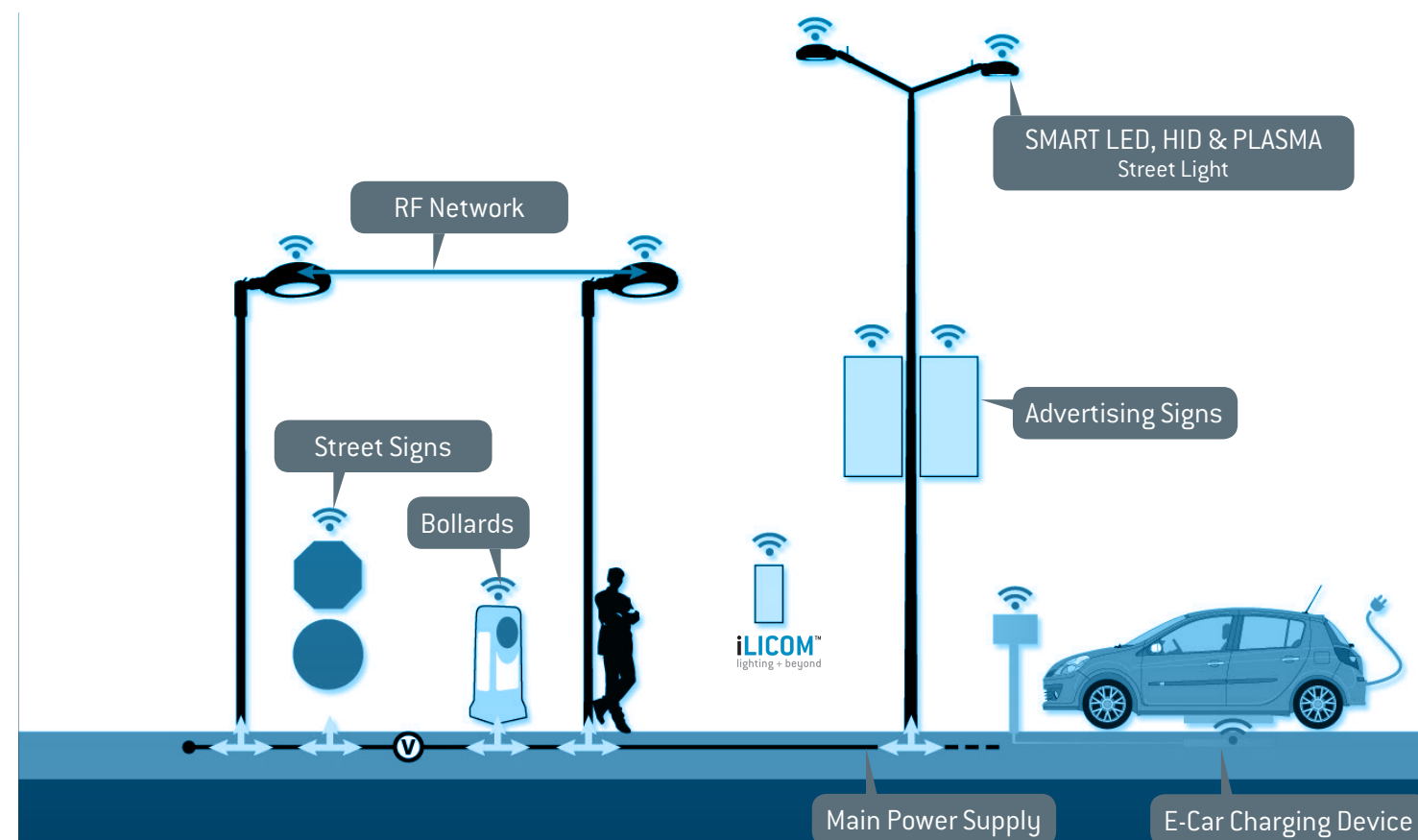


# SMART CITY

## OWLS SMART CITY System

THE PERFECT SOLUTION FOR PARTICULAR VALUE ADDED SERVICES (OPTIONAL) SUCH AS F. EX.

- dynamic dimming
- automatic meter reading
- current- and gas metering of households
- streetlight media
- traffic control
- parking guidance
- usage for event lighting
- motion- and temperature sensors
- environmental data etc.





# SAFE CITY

Model **ATHINA**

## OWLS **SAFE CITY** System

THE OWLS SAFE CITY SYSTEM COMBINES CUSTOMIZED VALUE ADDED SERVICES WITH AN EMBEDDED INVISIBLE CCTV SYSTEM (AUDIO AND VIDEO)

to provide "safety and security" via the outdoor lighting infrastructure offering the perfect combination of LIGHT (LED or Plasma), COMMUNICATION (public access and works, system operations, public safety, public database, network management center, etc.) and high tech INFORMATION (control room).

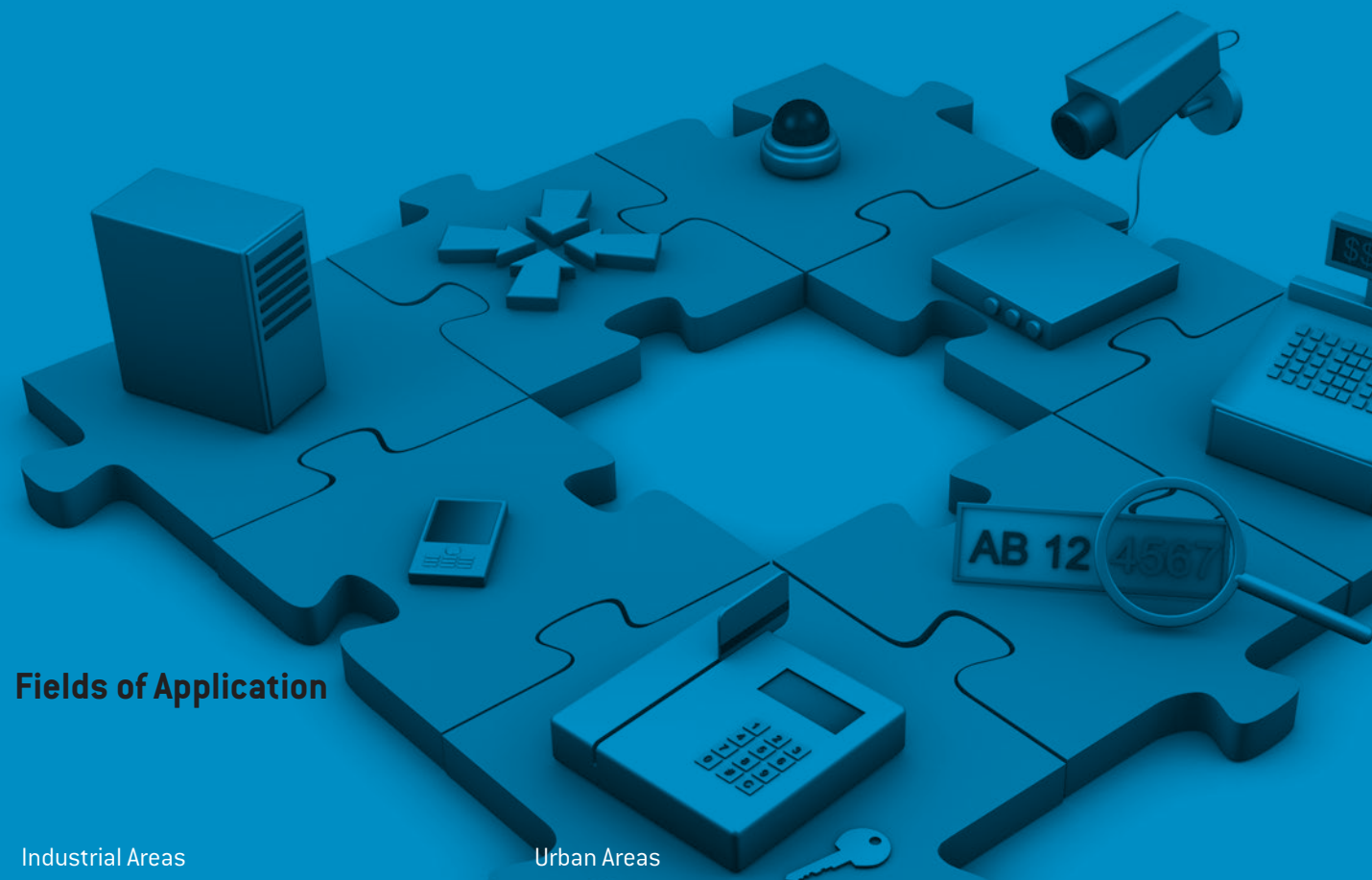
## THE BRAIN OF **SAFE CITY**

- Enhanced command and control over the city or the plant by CCTV
- Protection against crime and traffic violence incl. statistics
- Customized solutions incl. features such as f. ex. face recognition



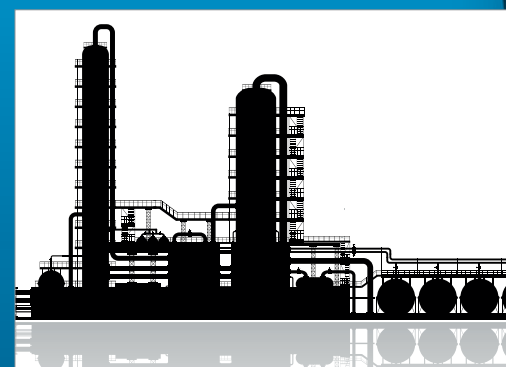
„ WE GIVE YOUR PLACE **EARS** AND **EYES** “

- Traffic Control
  - Vehicle speed detection
  - License plate recognition
  - Section control

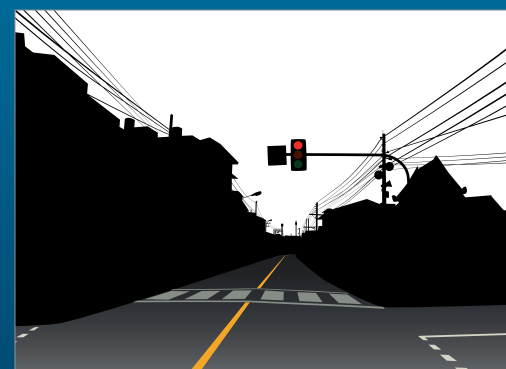
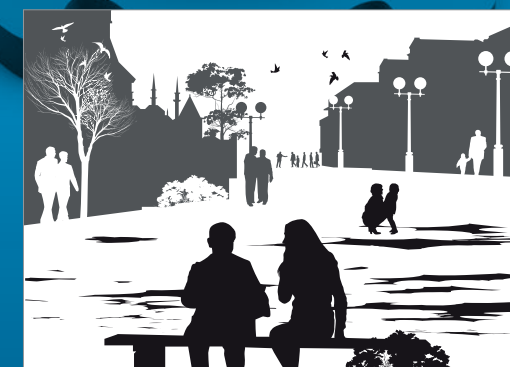


## Fields of Application

Industrial Areas



Urban Areas



Street



Railroad Crossing ... and many more!





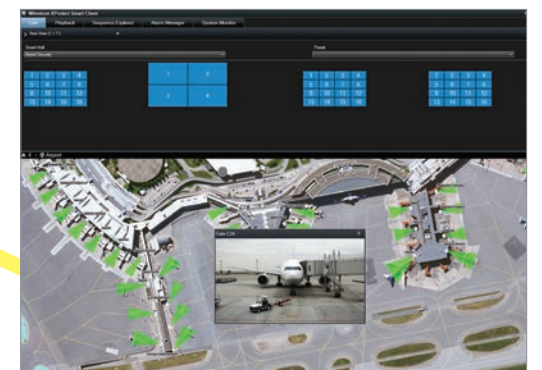
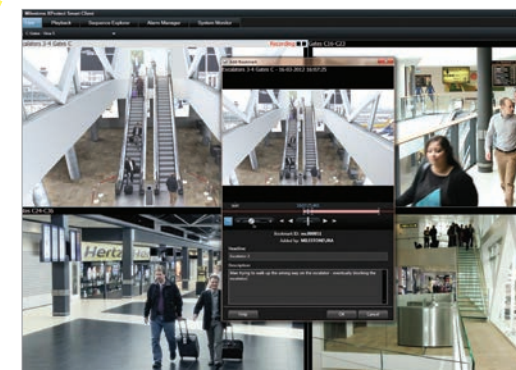
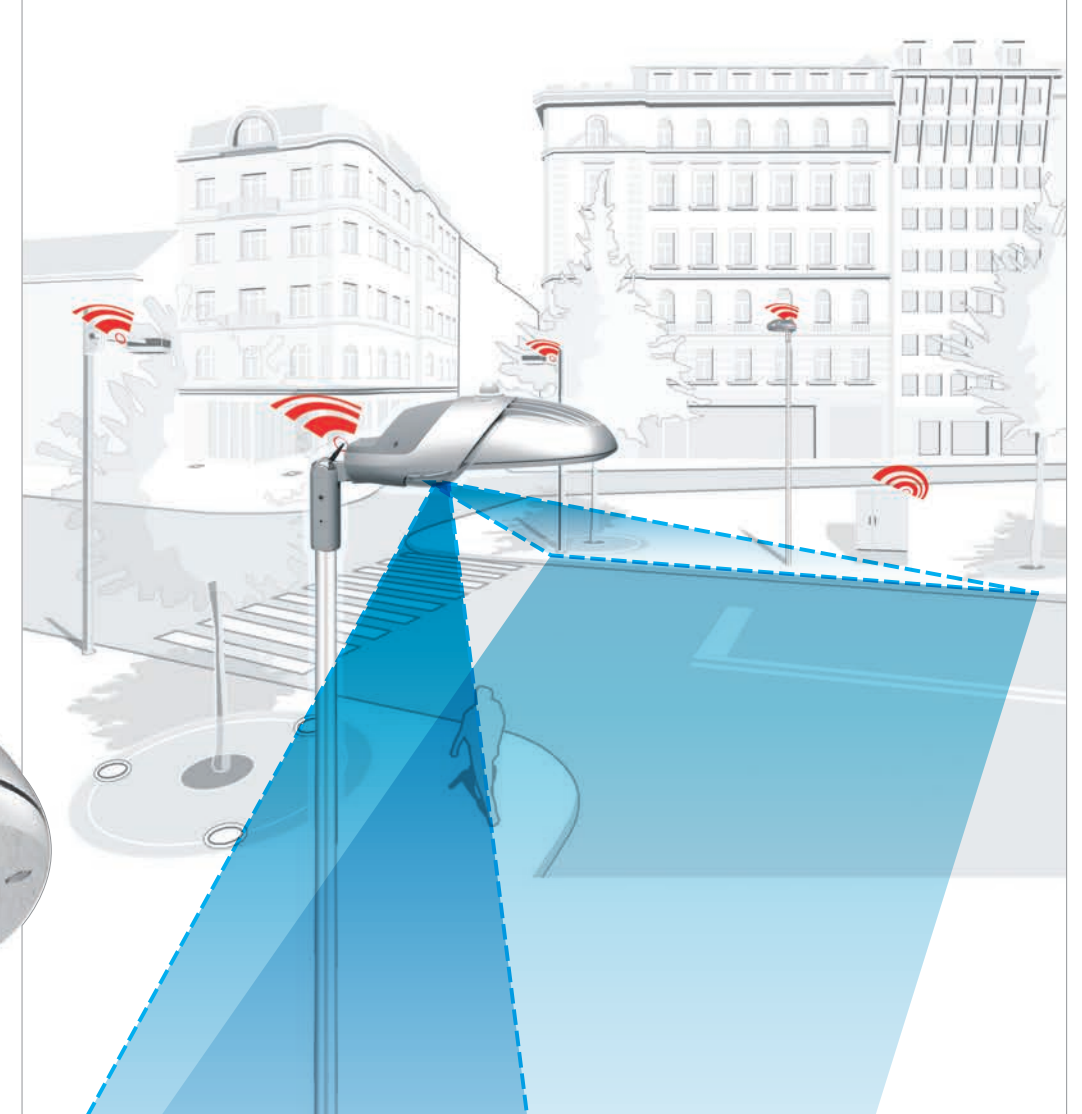
# SAFE CITY

Model **ATHINA**

Wireless  
Communication

Video Surveillance Module  
Video Manager  
Video Analytics  
Optional Modules and Sensors

High Definition LED/  
Plasma Engine



iPole Electronics

**iPOLE™**  
TECHNOLOGY

Embedded  
invisible PTZ IP Camera

## Specification Overview

Main supply	230 V / 50 Hz
High voltage peak protection	10 KV
LED dimming interface	1-10 V
RF comms lighting	868 MHz self healing mesh
RF comms CCTV	RF 1,9 -5,9 GHz
Ambient temperature ta	-25° C / 40° C
Polar extreme version pta	-55° C / 40° C
Tropical extreme version tta	-25° C / 55° C
Load switching	2 Relais 10 A
Redundancy	Light Sensor
GPS	Embedded

Full HD  
1080

In cooperation with

**SONY**  
make.believe





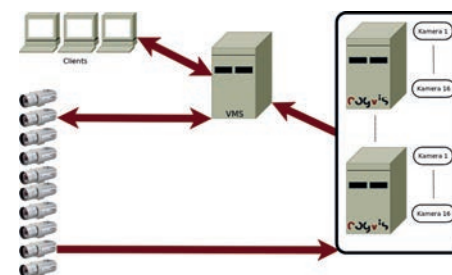


# SAFE CITY

## Optional (Software) Camera/Video/Surveillance Features

### ANONYM<sup>VIS</sup>

PROTECTS EVERYTHING FOR YOU. EVEN YOUR PRIVACY.



ANONYM<sup>VIS</sup> AREAL<sup>VIS</sup> COUNT<sup>VIS</sup>

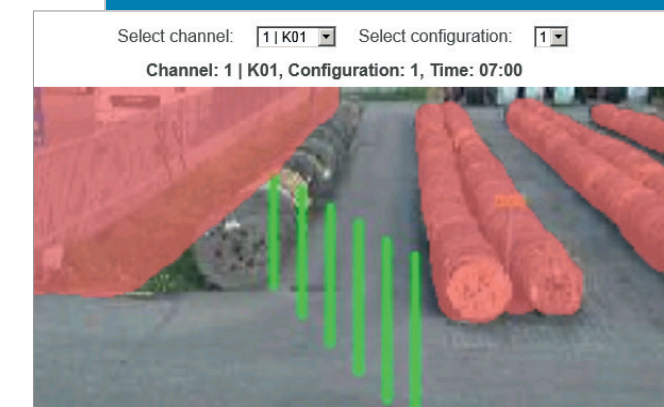
ARE TRADEMARKS OF



- **anonym<sup>vis</sup>** encrypts your video images in real time where it makes sense.
- The video surveillance recognizes all security-relevant events, people, however, are pixelated.
- Thus the consistent protection of private sphere can be assured.
- The original images are as previously saved in the video management system. Access is granted only to a limited group of people.
- Pixelated video data cannot be reconstructed without the original data and are hence safe from misuse.
- The software allows also only partly pixelation of a frame.

### AREAL<sup>VIS</sup>

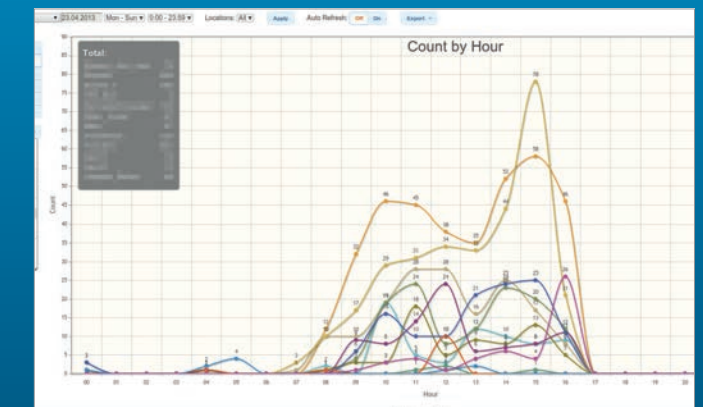
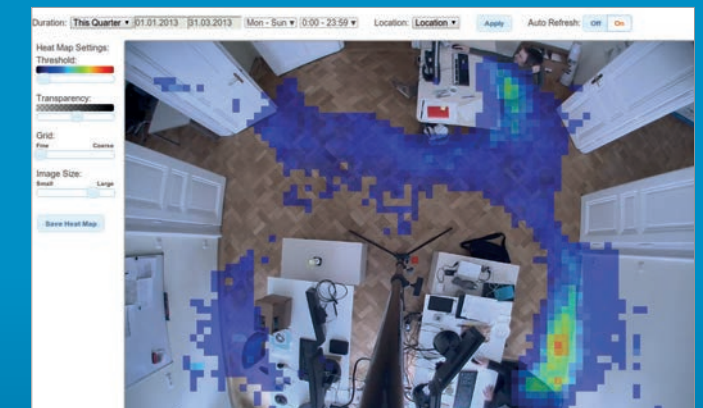
YOUR SAFETY IN EYESHOT. ALSO AROUND THE CORNER.



- High level person detection for perimeter protection
- Designed for outdoor and all weather conditions
- Simplified scene configuration by using just 3 parameters
- Uses a 3D scene model and machine learning for precise object classification
- Seamless integration into VMS systems
- Detection accuracy allows direct alarm forwarding to security centres
- Computer vision algorithms, based on several years joint research with leading European research institutes.

### COUNT<sup>VIS</sup>

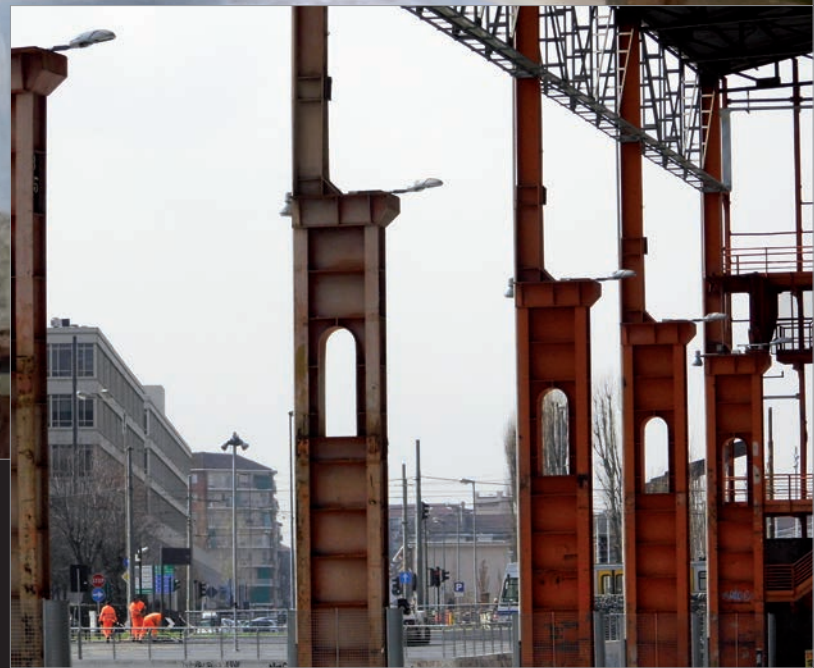
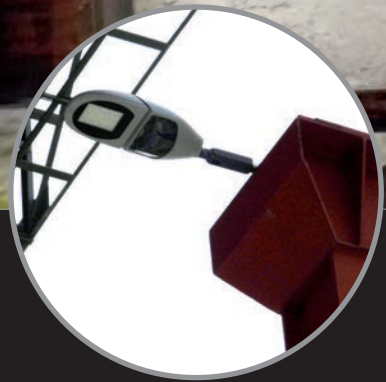
KNOWING WHAT MATTERS. YOU CAN COUNT ON IT.



- Automatic visual analytics
- People counting for top- and side view
- Statistics in real time
- Filter your data regarding time and location
- Export data for post processing
- No restrictions in defining counting areas
- Check each count event in the VMS alarm list if needed
- Dedicated algorithms for various camera positions
- Computer vision algorithms based on several years joint projects with leading European research institutes

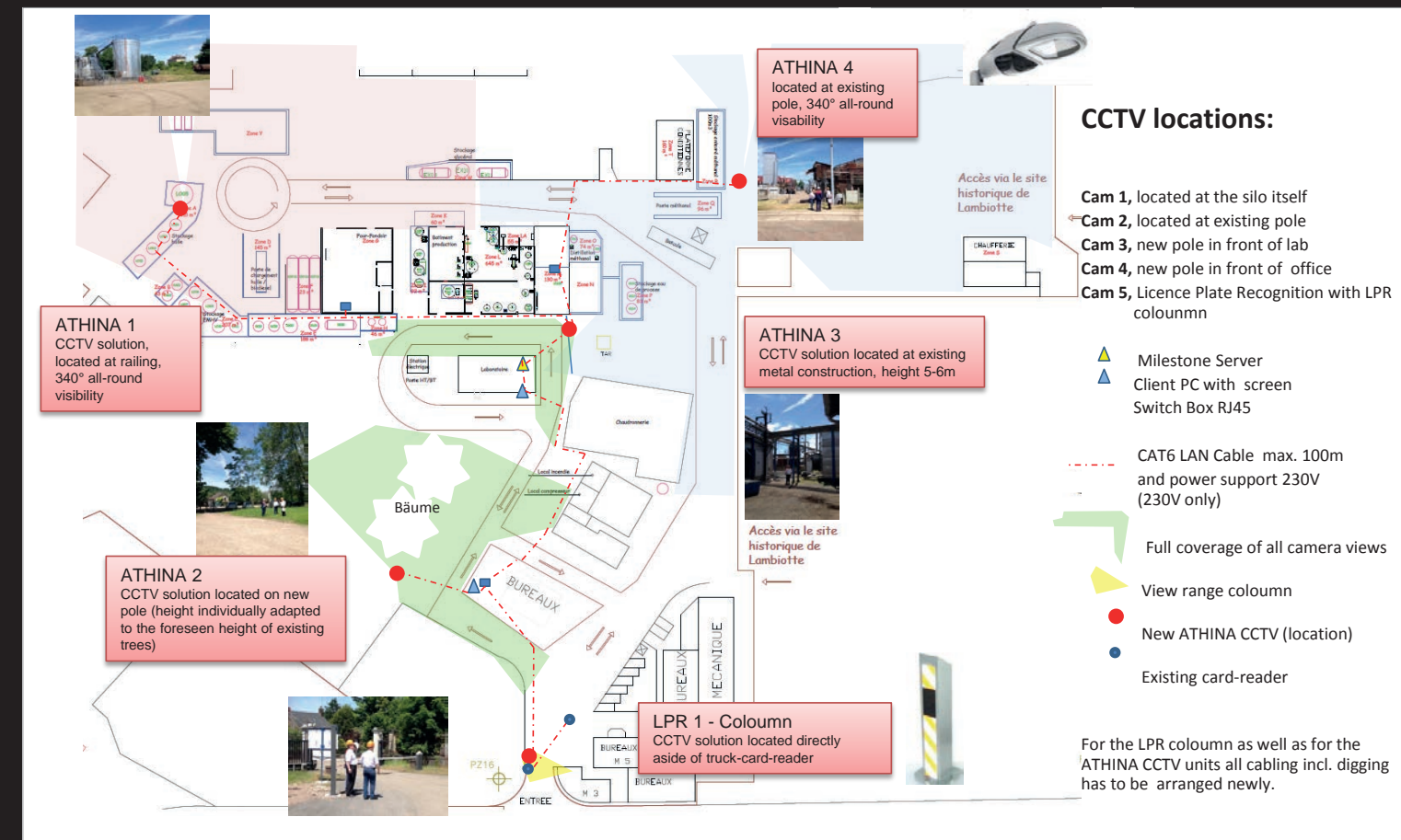


# Reference Projects



Parco Dora Torino/Italy (Safe City)

Biodiesel Plant/France (Safe City)



Doha/Qatar (Smart City)



Schiers / Switzerland (Smart City)



further realized projects: Moscow/Russia (Safe City), Muscat/Sultanate of Oman (Safe City), Regensdorf/Switzerland (Safe City), Prémery/France (Safe City), etc.





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## Outdoor Wireless Lighting Solutions

YOUR **SECURITY** - TOMORROW'S TECHNOLOGIES TODAY