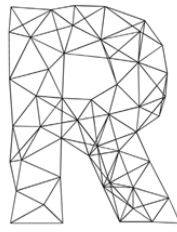


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# Smart City Energy Master Plan



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**The company**

**Context**

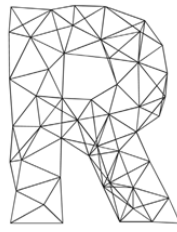
**Solution**

**Smart City Energy Master Plan**

**Smart City Energy Master Plan for Lighting**

**Contact Details**





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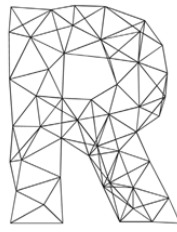
# the company

R is an “Energy Service Company”, a provider of comprehensive energy efficiency and renewable energy technologies, solutions and services for corporate, institutional or private business owners.

R has in house expertise implementing energy projects and can provide a comprehensive technology (methodology, hardware, firmware and software solutions) that can meet your requirements and deliver your goals and objectives.

Our executive members and technical consultants cross boundaries between engineering disciplines and comprise professionals with proven experience in the construction, electromechanical and energy sector.





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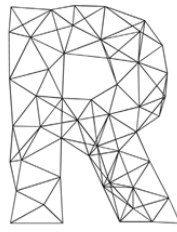
# solution

Our Smart City Energy Master Plan Concept is a holistic approach that consists of a set of services and innovative technologies and targets Quality Technologies, Energy Management & Energy Savings for the City.



Our Smart City Energy Master Plan Concept is a holistic approach that consists of a set of services and innovative technologies and targets Quality Technologies, Energy Management & Energy Savings for the City.

Our objective is to leverage new green technologies in order to offer to a City a range of scalable, cost-effective and easy to deploy integrated solutions to increase energy efficiency by making energy systems manageable and reliable, introducing systems' monitoring and optimizing low voltage electrical distribution.



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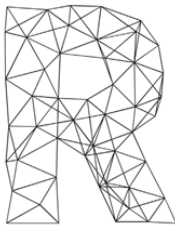
# city energy plan

The deployment of DES's Smart City Energy Platform and relative technologies essentially create a "wireless telemetry cloud" over the city that can be utilized to collect data from thousands of locations throughout the municipality.

Our Smart City Energy Platform Portal integrates advanced ICT technologies in a single electronic web-based platform to provide energy management services for urban lighting, public buildings, residential buildings, commercial facilities, venues, etc based on state-of-the art methodologies and techniques.

It enables the city's administration to collect data for energy management, monitoring and billing purposes from Smart City infrastructure, sensors, meters and other energy sources and react to critical incidents or systems failure in an urban environment.

The Smart City Energy Platform Portal architecture is an open platform, based on open source tools and is utilized to collect various types of data, handled by the following modules of the proposed ICT platform:



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**Green Urban Lighting**

**Green Buildings (public buildings, schools, etc)**

**Green Pillars (surge protection, voltage optimization)**

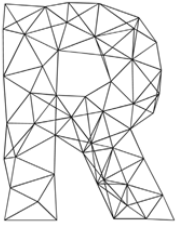
**Green Pole**

**Green Electric Vehicle (EV) Station Support**

**Green Monitor (power, water and gas monitoring)**

**Smart Homes (display energy meters etc)**





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# smart city energy master plan

Conduction of a detailed analysis of  
the related infrastructure



Production of a technical economic  
report on the energy saving  
potential



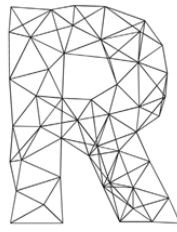
Prototype the interventions'  
structure



Define the respective solutions



Proposal of the products, solutions  
and services required



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Depending on the volume of data and the complexity of the analysis, a Business Intelligence tool (BI) is integrated in the Smart City Energy Master Plan Platform Portal, allowing software APIs of external systems (such as utility billing, customer support management, asset management, etc.) to directly interface to the NMS or ADM/MDM on a fully transparent basis.

The Business Process Management System (BPMS) approach is used to design and execute the automation of the processes. The size of the city and its topography affect the number of locations where reception nodes (data collection points we refer to as Gateways) must be installed.



Smart Buildings



City Lighting



EV Support Infrastructure



Voltage Optimization



Co-Generation



Renewable Energy



Monitoring and targeting

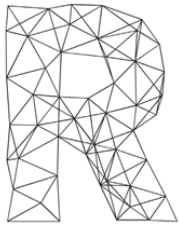


Smart Grid Technologies



Power Protection





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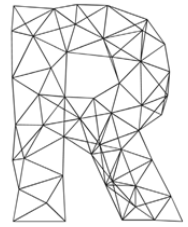
# city energy plan for lighting

The City Energy Plan for Lighting is an integrated bundle of High End Energy Savings & Audit Services that provides a comprehensive lighting study of the City.



# 1

Initially, the current conditions and infrastructure are analyzed. Each single road's characteristics is imported to our patterned iPad application according to the kind, type and lighting needs. We gather information of the existing lighting infrastructure: fixtures, positions, operating condition and illuminance levels. Special issues like destroyed products, problematic areas, dark or over lighted areas are also included in the study. All data are integrated in a digital format into an advanced GIS system.



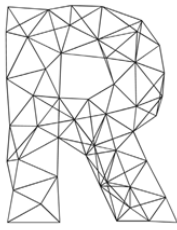
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City Energy Plan for Lighting is based on a general concept, which is transformed into tangible lighting proposals for every neighborhood in the municipality, taking into account three main aspects:

- Lighting standards (quality, ambiance, distribution, light pollution);
- Safety and security issues related to lighting;
- Energy and reduced costs.

**2** Setting the objectives. In the second phase, the general conditions are formulated in terms of safety, light pollution, energy consumption, investment costs and the maintenance price tag. The Municipality authority together with our Team set the desired standards of the lighting levels of the City and relevant priorities. The new lighting concepts are agreed. Market analysis in order to identify the target segments/sectors where the project will be launched.

The Municipality authority along with our Team



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# city energy plan for lighting

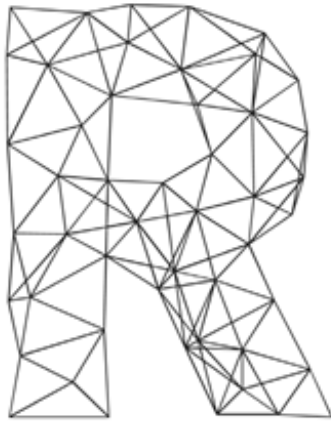
**3** Working out the concept and writing the plan. The lighting designers' team study the city lighting from scratch, taking into consideration all important aspects that are related to the security and financial context. For each road type or place a coherent scenario is drafted and all these aspects are

combined. It includes general guidelines for the implementation of the changes and alternative solutions.

Product specifications will also be delivered. A service plan is issued for support and maintenance management, including the projected investment costs for the coming years. Last but

not least, the chosen solutions are included on a long or short term implementation plan.





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