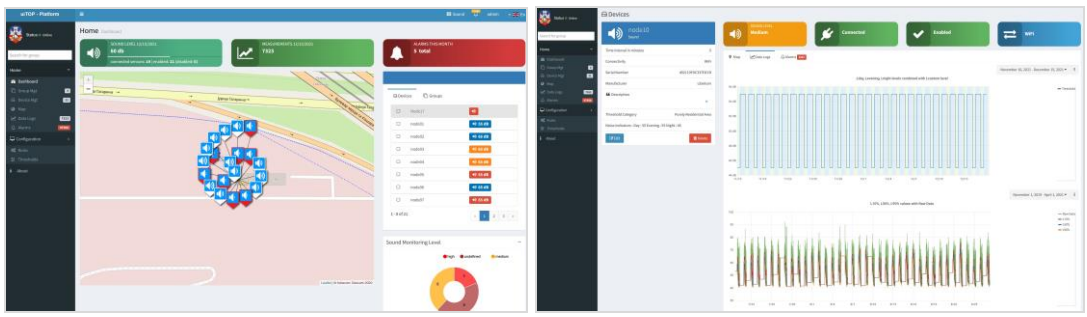
2022 WITSA Global ICT Excellence Awards
Intracom Telecom Nomination for Sustainable Growth/Circular Economy Award

A HOLISTIC SMART & SUSTAINABLE CITY PROJECT
City of Belgrade, Serbia

The City of Belgrade, in an effort to address its operations & citizens lives' challenges intelligently & effectively, embarked on a multi-phased, long-term plan, to take advantage of advanced IoT & Analytics technologies and build a truly "holistic" Smart City. The core idea was simple yet fundamental: all the critical factors of a modern city life will be monitored, analyzed and used so that the Authorities make the right decisions, with the right information, at the right time. Emphasis and priority were given to the Environment and the City Sustainability; a choice that obviously had a deep rationale backing it up, if one considers both the environmental conditions in Serbia and the city of Belgrade, but also the global situation and sensitivity in these areas.

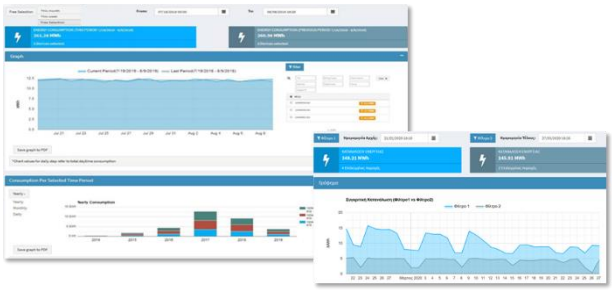
Phase #1: Addressing the Noise Pollution Challenges

As a first step, the municipality of Belgrade decided to adopt new technologies in order to deal with noise pollution in the city, based on the European Directive 2002/49/EC. The City selected Intracom Telecom as their technology partner. Intracom Telecom accepted the challenge and delivered a complete solution that includes the installation of special noise sensors in strategically selected points of the city, seamlessly integrated with the Company's Smart City platform uiTOP™ which, continuously collects & processes raw data, alerting the Authorities in real time when it needs to intervene, while in parallel provides rich analytics to the technocrats of the City, for proper planning and interventions. It should be mentioned that, as EU Regulations dictate, the deployed solution takes into consideration the locations & usage of the areas where sensors are installed, so that noise threshold levels are set accordingly: for example, a hospital area has stricter noise levels compared to an open market or a nigh-life area. The City has already achieved a more effective response to noise, while citizens enjoy a significant improvement in their living conditions and quality of life. Actually, the feedback is so positive, that the Authorities consider further extending & densifying the noise sensor network, to include more locations of public interest, as well as automating the Authorities response & even fine issuance in cases of rules violations.



Phase #2: Reducing Energy Costs & Environmental Footprint

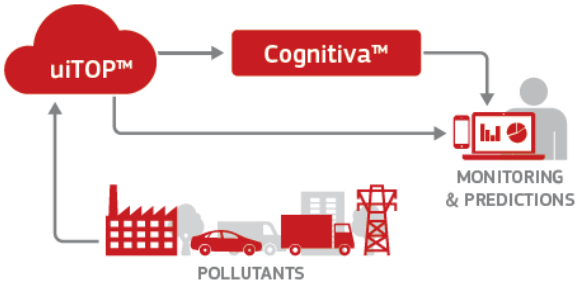
Continuing their “Smart City” journey and after a successful first step, the City aimed at addressing the challenge of optimizing the energy consumption for lighting in some of its entities. Therefore, it proceeded to the modernization of lighting with LED technology in order to have significant reductions in consumption. However, in parallel to the LED adoption and with the use of smart metering, the City manages to closely monitor the relevant consumptions in real time, thus keeping an eye on the expenses while also being in position to be informed and act timely in cases of surges, keeping their relevant operating expenses in good control. All above were achieved by the solution delivered by Intracom Telecom, which faithfully serving the vision for a truly Smart City with comprehensive, detailed monitoring and overall analysis of all activities in a single integrated tool, incorporated this vertical energy application under its uiTOP™ horizontal platform, as it did with the noise monitoring vertical mentioned above. It is apparent, especially given the latest developments in the energy sector and energy costs, that the achieved drastic reductions in consumption which reached 67%, a bit better than the initially planned 64% savings, as well as close intelligent consumption monitoring and intervention where/when is needed, are a no-brainer decision for every Public Organization or Business. The achieved energy savings not only helped the City budgets, but they also improved the efficiency of the operational personnel as they now have a real-time view of their lighting infrastructure and possible issues to address, without waiting for residents to complain before they act. Last and certainly not least, the energy savings had a direct positive environmental benefit, as almost 160 tons of CO2 emissions are avoided every year, contributing to the fight against climate change and global warming.



Phase #3: Fighting Air Pollution

With two success cases already under their belt, the City of Belgrade quickly moved on with a third solid step in their holistic Smart & Sustainable City plan, for a comprehensive solution that will address the problem of sustainability and mostly, a step that will bring a real improvement to the quality of life of the citizens of Belgrade. Intracom Telecom committed and provided a complete solution, that extends from the supply and installation of complex meteorological stations scattered around the City, going all the way up to the necessary IoT and Artificial Intelligence (AI) applications, always seamlessly integrated under the unified Smart City uiTOP™ platform already serving the City of Belgrade. The City and its citizens now enjoy significant benefits in terms of both the detection and measurement of air pollution in real time, as well as the forecast of the evolution of pollutants and the Air Quality Index (AQI) for a number of days ahead. The latter apparently constitutes a key tool for the well-

timed and targeted launching of actions to deal with air pollution and air quality in general - and therefore to a large extent, deal with and improve the quality of the very life of citizens themselves. Following the first months of operation of this module, the Authorities are considering how the sensing network may further extend and cover more parts – even the entire country.



Impacting Quality of Life

The above actions that have already been implemented and continue to expand, are a living example of a Smart City that puts the challenge of Environmental Protection and Sustainability high on its agenda, setting a solid course of action with the contribution of a reliable and experienced Technology Partner, jointly building a comprehensive, constantly evolving and future-proof solution for a Smarter City. A solution that addresses real problems, impacting directly and positively, the lives of the citizens. In brief, the benefits achieved through this phased yet holistic approach, may be summarized below:

Improving quality of life & providing advanced services

Improving citizens sleep quality by 30%

Reducing stress and cardiovascular problems by 15-20%

Identify and understand pollution trends through the analysis of historical data

Assistance in taking drastic, informed measures to reduce environmental pollution & design environmental policies

Management efficiency & resources saving

The solution does not depend on specific device suppliers/manufacturers, allowing for future extensions without restriction to sensor manufacturers (no vendor lock-in)

Municipality has the complete management & control, as the unified City platform supports smart rules, to automatically trigger alarms & actions where required

Reduce operating costs, improve services and efficiency

Instant alerts are provided to detect extreme phenomena, for better time/working management of municipal staff

Measuring and disseminating the effectiveness of "green actions"

Ability to make appropriate decisions through the in-depth data analysis provided. For instance, in areas with low noise levels or air pollution or where energy savings are steadily observed, the municipality may optimize its municipal fees and taxes

Additional Resources:

[Press Release] Intracom Telecom Contributes to Building a Sustainable City in Serbia