SMART WASTE MANAGEMENT

IoT technologies create the ultimate connected world: by 2020, embedded sensors will turn any surface, appliance and device into a gateway to the internet. Meaningful data collection and smart analytics are essential.

TELEMETRIC SYSTEMS

developed by SAGA new frontier group

TELEMETRIC SYSTEMS

Overview

Connectivity isn't limited to computers and smartphones. By 2020, smart sensors embedded in a variety of surfaces, devices and materials — from light switches and fridges to clothes — will bring 75 billion devices online. Saga provides end-to-end solutions for this upcoming digital era, one dominated by internet of things (IoT) technologies.

Business Value

Internet of Things (IoT) technologies allow companies to expand operations beyond the scope of their core industry, digitally reinventing their products and business processes. IoT technologies call for new business models and present a great opportunity for adding value to a company's ecosystem.

Benefits

Telemetric systems, embedded sensors and other smart technologies bring an unprecedented inflow of detailed data to a company's ecosystem. They help companies to better identify the needs of their customers, create new services and greatly customize their offers. Automation and costs savings are just starting benefits.

Partners

Saga and New Frontier Group are constantly scanning the market for innovative companies and providers of Internet of Things (IoT) technologies. The permanent consultant on this solution is prof. dr. Nenad Jovicic. The institutions with which we are currently cooperating are: Faculty of Electrical Engineering in Belgrade, Faculty of Organizational Sciences in Belgrade, Innovation Center of the Electrical Engineering Faculty in Belgrade (ICEF) and Smart Building Technologies.

TeleModule

TeleModule is a device located at a physically remote location. TeleModule's task is to collect data from the location and send it via network (transport layer) to TeleCenter. Tele-Modul contains a microcontroller with an integrated communication module, as well as a part for data acquisition with ports for connecting the sensors. Communication with TeleCentre is done through web services via TCP / IP internet protocol in the form of XML packets. It is possible to implement encryption at the data level in order to increase the security of the transmission. The maximum transmission burst in the standard packet with GPRS communication is 64kbit/s.

Features:

Operating temperature range: -40 C .. +50 C
Connectivity: GPRS, NB-IoT, LoRa, WiFi
Degree of protection: IP65
Battery: 3 years
Remote access: The ability to set the configuration of all types of measurements and settings of alarm conditions (reactive input, analog input, measuring range and reading period)
Local memory: Allows you to save a history of 61 days of 15-minute readings
Data transmission compression: In the case of a 15-minute interval for sending the measured measurement, the total amount of data transmitted at the monthly level (31 days) is less than 30 MB
Detection of sudden temperature rise (fire alarm)
Optional non-volatile digital (switching) input
An additional standard industrial analog voltage input in the range 0-10 V
Reading Period: From 15 minutes to 7 days
Warranty per device: 24 months

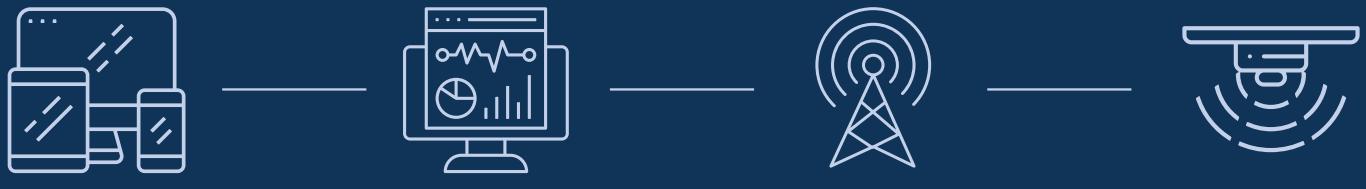
TeleCenter

The TeleCenter application, along with the server on which it is located, is the core of the system. The server part of the application collects data from an unlimited number of TeleModules connected to the system, processes, and permanently stores received data, with the possibility of storing data on more physically remote servers, thus providing greater security of data. Presentation of received data is enabled by accessing the system via the Internet browser or user mobile application. If critical system parameters are reached, the user may be warned by sending an email, SMS or Push message (in the case of a user mobile application). The data collected can be displayed either table or graphic, and there is also the possibility of downloading data in one of the standard formats (Excel, CSV, PDF) or, if necessary, already installed third party software.

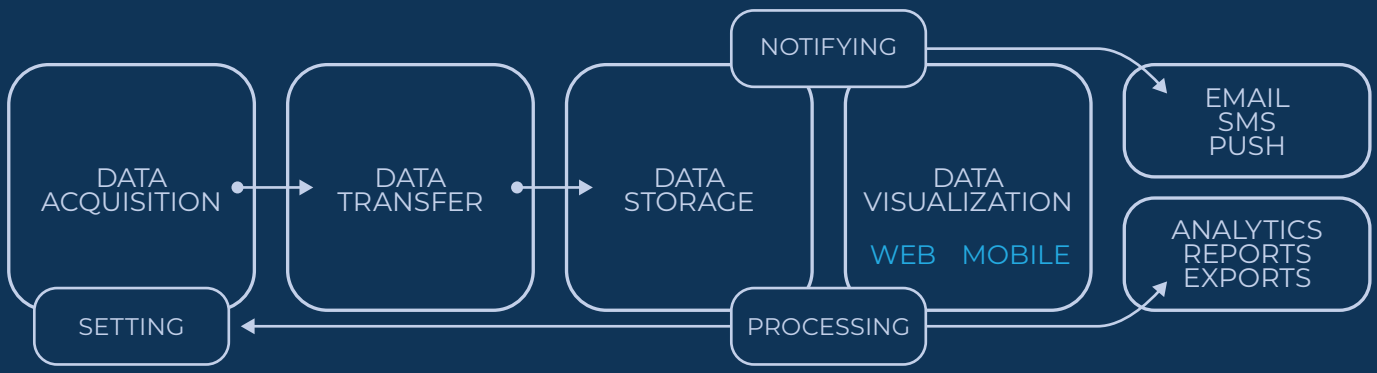
TeleClient

It can be a web or a mobile client; even the web access is mobile compatible. TeleClient has access to TeleCenter information. Roles definition and access rights can be applied.

Telemetric System Architecture

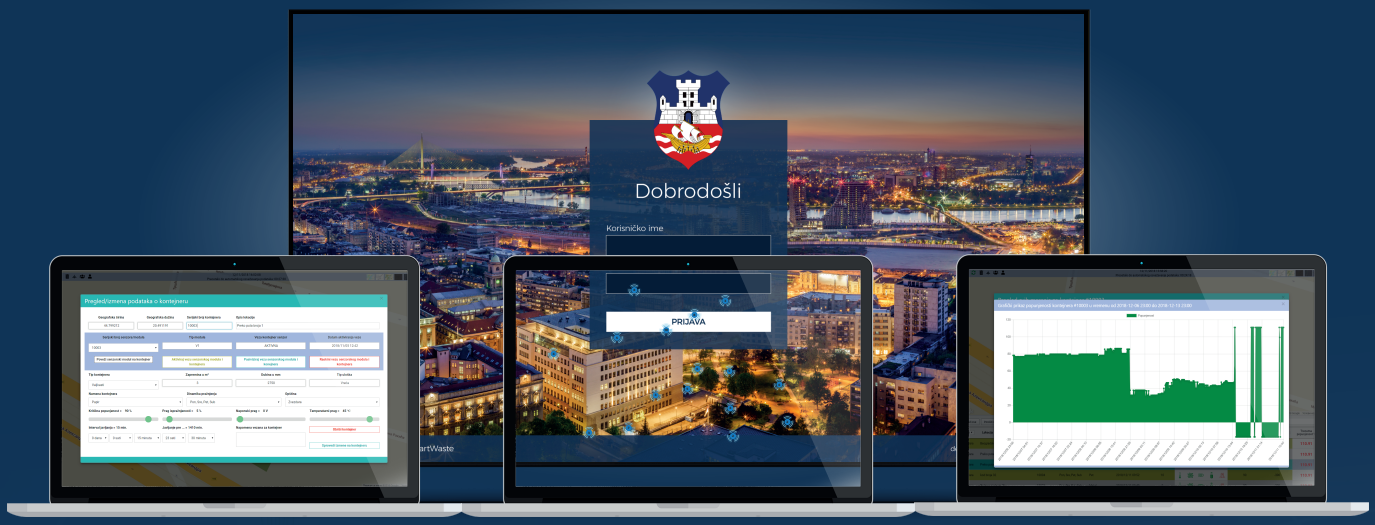


General Functional Overview



Saga SmartWaste Web – Platform

The platform approach and the software solution architecture themselves, allow the addition of various TeleModules and sensors to the same platform.



With minimal customizations, the platform itself becomes a solution for a totally different industry whose data should be acquired and/or set.

More Info:

iot@saga.rs

www.saga.rs/en/what-we-do/solutions/internet-of-things

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