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PÓLO DE COMPETITIVIDADE DAS **TECNOLOGIAS DE INFORMAÇÃO, COMUNICAÇÃO E ELECTRÓNICA**

ICT CATALOGUE

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This catalogue is part of the Technology Exhibition which will take place under the event CITY FORUM: FROM SMART TO SCALEUP. This event will gather international experts on the sphere of Smart Cities, including the fields of Smart buildings, Mobility and urban logistics, Energy and efficient resources management, Infrastructure and communication networks, Governance, citizens and involvement. It will provide participants with an opportunity to know better Portuguese products of excellence in the ICT sector, as well as to interact with major Portuguese companies and network with other attendees to explore future collaboration opportunities. Therefore, the catalogue presents key Portuguese ICT technologies framed on the subject of Smart Cities, including a short presentation of the technology, main innovative features and applications.

The CITY FORUM: FROM SMART TO SCALEUP event is part of the project +560ICT4Future, co-funded by COMPETE 2020 and promoted by TICE.PT, with the support of SPI Ventures – Criação e Desenvolvimento de Novos Negócios, S.A.

LIST OF TECHNOLOGIES

01

ONE.STOP.TRANSPORT (OST)

Mobility and urban logistics

Technology validation/demonstration

SHORT DESCRIPTION

The One.Stop.Transport platform (www.ost.pt) is an infrastructure that catalyses the creation of new end-user mobility services and applications through the free availability of open data relating to urban space. The main objective is to provide a dynamic ecosystem that benefits all mobility stakeholders: transport operators, business and end-users.

INNOVATIVE FEATURES

The One.Stop.Transport platform fights the lack of mobility information available to citizens by providing aggregated and standardized data to third parties, along with other enhancement and integration mechanisms that reduce the time-to-market of new solutions and products. For this, the OST platform collaborates with operators, municipalities and other players of mobility in Portugal, in order to make mobility data available in an aggregated and standardized way. On the other hand, it seeks to attract potential stakeholders to create services and applications on the basis of available data, which transform data into information and, ultimately, value for business and the citizen.

MAIN APPLICATIONS

The One.Stop.Transport platform is intended to facilitate the creation of services and applications, providing open mobility data, tools to support its development and a Web Store to make these applications available to users.

02

HS.HELIOS

Infrastructure and communication networks, Governance, citizens and involvement, eHealth

Technology commercialisation

SHORT DESCRIPTION

HS.HELIOS is a toolset that acts as a centralization system of clinical and demographic processed data transmission in health institutions, allowing the extraction of metrics related to Health Information Systems integrations of distinct vendors, checking the integrity of the Health Level-7 messages semantics and monitoring the preformed integrations in real time. Being a toolset allows its tools to be total or partially integrated in the systems that are in use in the institutions taking advantage of the existent resources.

INNOVATIVE FEATURES

HS.HELIOS innovative features include:

-Business processes monitoring;

-Real time data quality analysis and accuracy;

-Data redundancy;

-Global data analysis;

-High tolerance to failures;

-Communication and system integration normalization;

-Data empowerment and independency from software vendors.

MAIN APPLICATIONS

HS.HELIOS is an integration system that promotes interoperability, by regulating and analysing the exchange of messages between different health information systems that are currently deployed at a Health institution and it creates new data sources for business intelligence solutions.

03

HS.REGISTER

Infrastructure and communication networks, Governance, citizens and involvement, eHealth

Technology commercialisation

SHORT DESCRIPTION

HS.REGISTER aims to create a single audit log for institutions or suppliers by aggregating heterogeneous events from many different heterogeneous log sources. This technology allows an institution or supplier to perform complex auditing processes that cross different systems in an integrated way, as well as diagnose complex problems using a simple web application.

INNOVATIVE FEATURES

HS.REGISTER innovative features include:

- Facilitating compliance with the rules defined in the European General Data Protection Regulations (GDPR);
- Multiple sources of data;
- Possibility of using passive agents that monitor the network to feed the audit trail without performance impact;
- Signed logs;
- Regarding healthcare fields, it is compatible to ATNA systems (Audit Trail and Node Authentication) and facilitates the BSHI certification process (Brazilian Society of Health Informatics).

MAIN APPLICATIONS

The HS.REGISTER maintains a central repository based on elastic search, where all the important events are registered. It presents itself as a way of performing complex correlation analysis of many different events, in applications environments with high heterogeneity of applications. This allows the centralization and subsequent analysis of different types of events such as those related to authorization and authentication, errors and logs of various services and systems, HL7 and Web API (Rest/SOAP) messages. This repository can also be used as a source of data for business process alarmistic and monitoring dashboard systems, making the system administration response to incidents faster and much more efficient by not requiring the user communication to detect operational problems.

04

TELECOMMUNICATION CABINETS

Infrastructure and communication networks, Energy and efficient resources management

Technology commercialisation

SHORT DESCRIPTION

The Telecommunications Cabinets were developed to support hardware related to telecommunication infrastructures. They are constructed in aluminium or in galvanized iron, which allows easy adaptation the climatic conditions.

INNOVATIVE FEATURES

The Telecommunication Cabinets are characterized by its modular capacity and easy adaptation to different communication technologies. The main characteristics of these cabinets are: modularity (possibility of addition to the standard cabinet, allowing more space, through vertical expansion and / or horizontal expansion) as well as acoustic, thermal and sound isolation (through a double-sided construction system or through specific insulation materials).

MAIN APPLICATIONS

The Telecommunication Cabinets are built according to customer specifications and are subject of various types of urban scenarios. Due to the way they are built, the cabinets have low visual and environmental impact.

05

UNICARD

Infrastructure and communication networks, Smart buildings, Energy and efficient resources management

Technology commercialisation

SHORT DESCRIPTION

Unicard is a web technology-based solution that uses communications and embedded systems to interconnect different types of subsystems to software, such as entrance gates, vending machines, interface kiosks, attendance control devices, management of parking areas, among others. The streamlining of processes and easy access to valuable information promotes the increasing service efficiency, resource optimization and responsiveness.

INNOVATIVE FEATURES

Unicard is a solution based on web technology that combines intelligent means of user identification to manage the access to institutions or specific areas and to facilitate internal micropayments, through a single system that communicates in real time, even between facilities placed in different locations. Regarding the innovative features of the technology, it is important to note the ability to integrate additional functionalities without conflicting with local software vendors, thus facilitating the product penetration.

MAIN APPLICATIONS

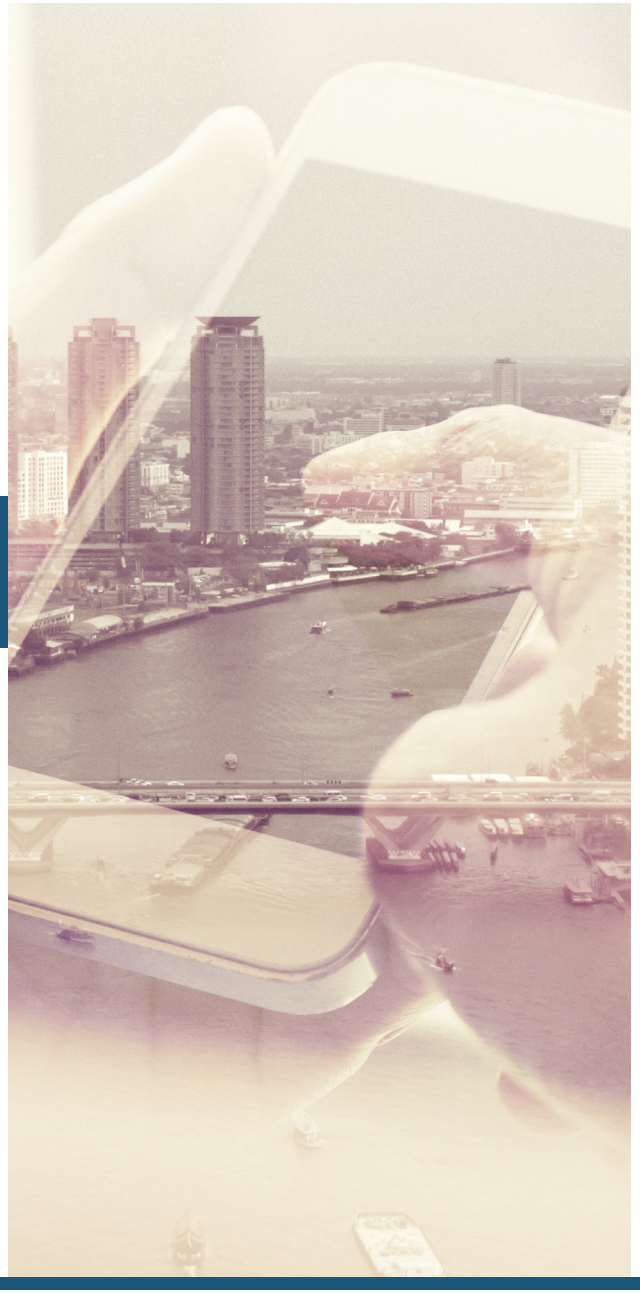
Unicard is an integrated management system, designed to support the routines of business managers, by promoting the comfort, well-being and safety of goods and people. The Unicard solution was design to be used from kindergartens to universities and companies.

06

SMART TOURISM

Tourism

Technology commercialisation



SHORT DESCRIPTION

Smart Tourism is an Integrated Promotion Platform for a touristic destination suited for tourism entities and destination marketing organisations of all sizes. It provides distinct solutions – Web Portal & Virtual Tourist Card, Outdoor & Indoor Tourist Guides and Queepix – aiming to improve the organizations' efficiency, increasing profitability and their clients' experiences and delight.

INNOVATIVE FEATURES

Smart Tourism innovative features include:

- Multimedia Guide;
- Augmented Reality;
- Tracking System;
- Indoor Location;
- Tourist Card;
- Context-Aware;
- Enriched Experiences (Touch & Touchless);
- Online Booking Systems.

MAIN APPLICATIONS

With the Smart Tourism Platform, tourists will have the opportunity to dream with the perfect holidays, book the suitable locations, travelling, manage their itineraries and enjoy the experience.
The platform was developed to support Tourists, Tourism Entities and Destination Marketing Organizations.

07

URBAN PLATFORM

Mobility and urban logistics, Urban Platform

Technology commercialisation

SHORT DESCRIPTION

The idea of an Urban Platform is not to assume each vertical separately, but to be capable of crossing and providing useful information taken into account all the different verticals together as an ecosystem.

INNOVATIVE FEATURES

Urban Platform is a reliable and innovative solution for today's cities, contemplating global environment and urban lifestyle. Key innovative features include:

- Prediction;
- Alerts;
- Integration of data from different solutions;
- Horizontal Layer on top of information already collected (but not crossed yet).

MAIN APPLICATIONS

The Urban Platform is ready to be adapted and customized. The main applications regarding this technology are relevant for all Urban Platforms' stakeholders.

08

BIKEEMOTION

Bike Sharing

Technology commercialisation

SHORT DESCRIPTION

Bikeemotion is a Portuguese consortium created in 2011 to develop a bike-sharing product and management system with GPS location based locking device, attached to a bicycle. The bicycle can be unlocked by card or mobile device, upon registration; and the system only allows locking or unlocking a bicycle in defined areas.

INNOVATIVE FEATURES

Bikeemotion's innovative features are associated with it being:

- Technologically advanced;
- Adaptable;
- Cost Effective;
- Locatable;
- User Friendly;
- Flexible;
- Safe;
- Interactive.

MAIN APPLICATIONS

The Bikeemotion platform is a state-of-the-art solution that was developed specifically to support Bike Sharing activities, contributing to the perception of cycling as a viable public transportation alternative, allowing users to be environmentally friendly reducing the carbon footprint and improving the urban quality of life.

09

SMART AIR QUALITY

Environment

Technology commercialisation

SHORT DESCRIPTION

Through small sensing stations easily installable in the current urban infrastructure, it is possible to draw indicators on air quality, noise pollution levels, temperature, atmospheric pressure, humidity and luminosity. The Smart Air Quality system can therefore respond more effectively to the problems of its citizens, improve urban planning and obtain objective data on the quality of life provided. In conjunction with other indicators, the Smart Air Quality system is the decision support tool needed to improve the city's communication with citizens.

INNOVATIVE FEATURES

Key innovative features include:

- Sensors management and configuration;
- Alarms management;
- Risks and emergency situations detection;
- Georeferencing data;
- Statistical analysis and life quality reports.

MAIN APPLICATIONS

The Smart Air Quality system main application is monitoring of the air quality in real time. In addition, the added value of the implementation of this technology could be: strategic contributions to urban planning, decision support systems for civil protection, improved public image, and access to a platform to interact with citizens.

10

SMART WASTE

Energy and efficient resources management, Environment

Technology commercialisation

SHORT DESCRIPTION

With Smart Waste Management System, it is simpler to manage the urban waste collection from our cities. Through the placement of sensors with low energy consumption and high durability in the traditional trash bins, it is possible to keep a tight control on the state of the container, its location and security, thus increasing the effectiveness and efficiency of the waste management teams.

INNOVATIVE FEATURES

Key innovative features include:

- Remote monitoring of the containers occupancy levels;
- Management platform with multiple profiles and permission levels;
- Waste collection resources and routes optimization;
- Alarms configuration;
- Statistical data analysis and gains measurement.

MAIN APPLICATIONS

Smart Waste Management System main applications are:

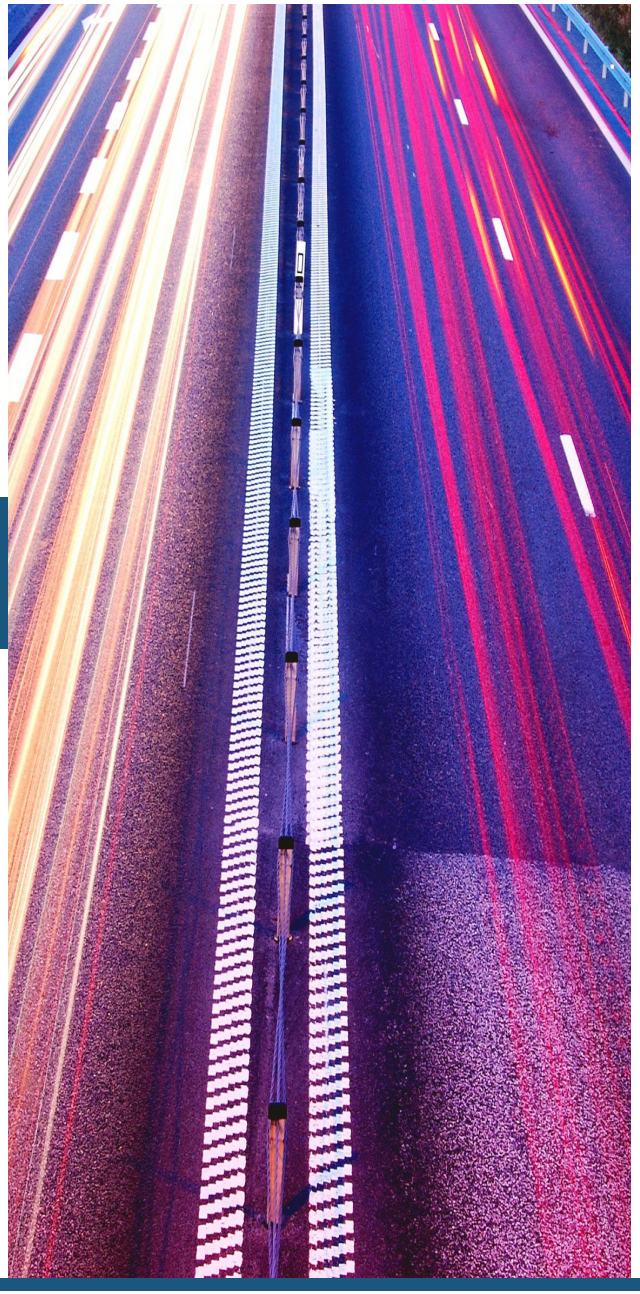
- Waste Collection;
- Routes Optimisation;
- Management of Citizens' Requests for Garbage Collection;
- Service door-to-door.

11

SMART TRAFFIC

Mobility and urban logistics

Technology commercialisation



SHORT DESCRIPTION

The Smart Traffic solution solves the problem of traffic management in urban environments in an intelligent, adaptive and non-invasive way. Consisting of the installation of low-cost sensors throughout the city streets and intersections, a continuous traffic monitoring with wireless communications is provided, enabling prompt and efficient traffic control to management systems and authorities.

INNOVATIVE FEATURES

Smart Traffic innovative features include:

- Continuous data stream of the city traffic;
- Detection, prediction and prevention of traffic congestions;
- Alarms configuration;
- Alerts, guidance and traffic data for citizens;
- Big Data and statistical analysis to support urban planning;
- Open data platform interoperability.

MAIN APPLICATIONS

The Smart Traffic solution allows the interaction with vertical road signs, information panels installed at critical points, and citizens, by sending alerts to mobile applications and calculating the best route to reach a determined destination, taking into account the current traffic conditions.

12

SMART PARKING

Mobility and urban logistics

Technology commercialisation

SHORT DESCRIPTION

The Smart Parking solution brings together all aspects of parking management technology into one integrated system, including sensor-based vehicle detection, communication gateway, digital parking panels, kiosks for payments, mobile applications for drivers and an efficient parking management system. Therefore, it consists of a parking management solution which collects key performance indicators in real time and translates them into knowledge for better policy and optimised management.

INNOVATIVE FEATURES

Smart Parking key innovative features include:

- Parking Places occupancy in real time;
- Support for multimodal payment methods;
- Payments plan;
- Infractions management;
- Remote configuration;
- Statistics, Reports and Alerts.

MAIN APPLICATIONS

This Smart Parking system is a simple yet robust way to provide citizens with the location of the available parking spaces. For cities, the solution decreases the operating costs of parking, reduces accidents and traffic congestion, while improving parking operations and reducing pollution peaks.

13

GAMEON

Energy and efficient resources management, Mobility and urban logistics

Technology development

SHORT DESCRIPTION

GameON is a gamification and marketplace platform for SmartCities to promote energy efficiency, aiming to provide a set of tools for monitoring and interaction between citizens and the Municipality that will contribute to increasing energy efficiency by reducing electricity consumption.

INNOVATIVE FEATURES

GameON key innovation features include:

- Use of gamification to increase awareness about energy efficiency;
- Connection with real economy through a marketplace where users can access to discounts and benefits.

MAIN APPLICATIONS

The main applications of GameON are:

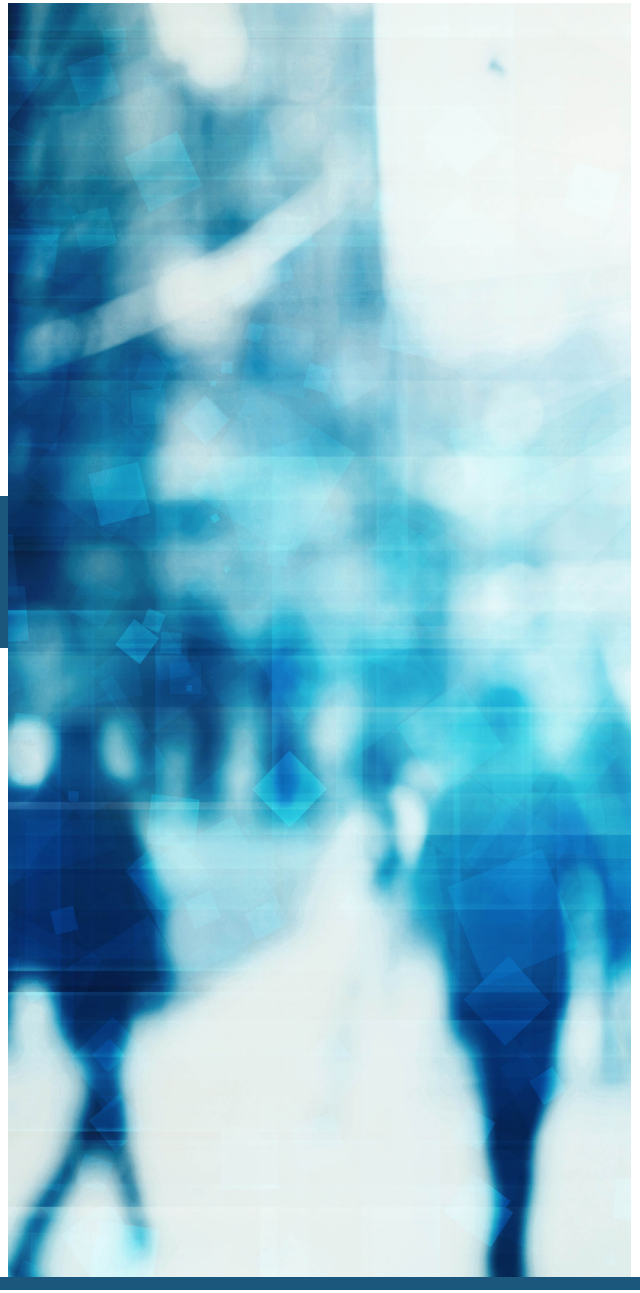
- Providing knowledge about the energy and water consumption of individuals, businesses and institutions.
- Connecting with citizens as part of a holistic and integrated vision for energy efficiency in SmartCities.
- Enhance energy savings by encouraging healthy competition among users.

14

SISTRADE MANUFACTURING EXECUTION SYSTEM

Industry 4.0

Technology commercialisation



SHORT DESCRIPTION

Sistrade Manufacturing Execution System refers to technology solutions for the implementation of data acquisition, industrial supervision, planning and production control, which are called Sistrade® SCADA & Shop Floor Control.

INNOVATIVE FEATURES

Sistrade key innovative features include:

- Analysis, Design and Installation of Infrastructure
- Production Data Collection via Console or Industrial PC
- Production Data Collection via Industrial Automation
- SCADA – Industrial Supervision
- Production Planning
- Quality Control
- Management of Raw Materials
- Production Record
- Analysis and Statistics
- Industry 4.0 ready.

MAIN APPLICATIONS

Sistrade Manufacturing Execution System main application is Industry Digitalisation.

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