VSS ORD SYSTEM

A System for Smart Reading

About TCOM Ltd Serbia

TCOM Ltd Serbia is IT company engaged in development of telemetry solutions, Mobile&WEB application software, data management software, industrial software and software development tools.

TCOM Ltd Serbia is a system integrator of VSS ORD System®, a unique hardware-software solution for contactless reading and protecting electricity meters, calculating, issuing and collecting bills for the consumption of electricity, which results in more productive and efficient operations for the Electric Utility Company. It guarantees significant financial savings, primarily through the reduction of commercial and technical losses in the distribution of electrical energy to consumers.

Our system has been in use in the Republic of Serbia for six years, covering a total consumption of 3,700,000 meters and has provided significant savings to ATC Losses. For the last two years, we have launched a series of pilot projects in Europe, Africa, Asia and Latin America.

Elevator Pitch

What is VSS ORD?

It is an **integrated hardware & software solution** for smartphones in app format that **guarantees accurate measurement of individual electricity consumption.**

What is its purpose?

By guaranteeing accurate measurement of electrical consumption, the system **ensures complete & precise billing, resulting in a reduction of losses & more control** over customer consumption data for electrical companies.

Who is it for?

The VSS ORD SYSTEM can be used by **electrical companies to maximise returns.** It is a **customisable system** that electrical companies can adapt to their needs & markets through a variety of upgrades and additional modules.

Problem & Solution

Problem

As a result of large losses due to the theft of electricity as well as other technical losses of distribution companies in many countries of the world are exposed to great losses of money.

There are various approaches in the world to address large losses in electricity distribution, such as: traditional frequent consumer controls, the introduction of the Smart Metering system or the Pre-Paid Meter system, the tightening of legal and legal activities to prevent abuse, etc.

All of these measures require time and large money investments to result in a reduction in total losses in electricity distribution. In fact, none of these approaches provide fast and expected results in a more dramatic reduction in losses.

This includes **inaccurate data collection, human error, time consuming measuring processes, high labour costs & tampering.**

Problem & Solution
Benefits of System

Solution: VSS ORD SYSTEM

Our approach to solving these problems is based on the use of existing distribution infrastructure and power consumption measurement systems, along with a number of new systems for controlling the correctness of existing measuring devices in order to determine the exact consumption for each electricity consumer using an automated system for reading the existing meters regardless of the model and brand of the meter.

Our system recognizes every form of theft of electricity and provides a system for protecting measuring points and meters from malversations.

Main benefits of system:

- Cost efficient & economically sustainable
- Reduction of losses in distribution of electricity up to 30 %
- Quick & easy to implement
- No installation or infrastructure needed
- 100% tamper-proof

Problem & Solution
System Comparison

Smart Metering System

or **Smart Grid System** include several subsystems as are:

- Geographic information system (GIS),
- Distribution management system (DMS),
- Outage management system (OMS),
- Workforce management system (WMS)
- Meter data management system (MDMS)
- and Advanced Metering Infrastructure which include following subsystems:
  - Smart meter (AMR Ready meters) – meter which can be read automatically consumption and that these data can be sent by some telecommunications network from the meters to MDMS,
  - In-Home displays for costumers,
  - Servers infrastructures of MDMS,
  - Telecommunication infrastructures of MDMS.

Problem & Solution
System Comparison

VSS ORD SYSTEM

is a substitution of Smart Metering System include several subsystems as are:

- Geographic information system (GIS),
- Distribution management system (DMS),
- Outage management system (OMS),
- Workforce management system (WMS)
- Meter data management system (MDMS)

Main Features

Identification of **losses**

Contactless reading & recording from analogue & digital meters

Automatic transmission of data

Monitor & control **accuracy** of each meter

Monitor & prevent consumers from **tampering** with devices

Geolocation of representatives in the field

Assistance with **billing & m-billing**

Measuring **quality of consumption & optimising worker efficiency**

Other VSS ORD Solutions

VSS ORD Self Reading APP

The System for Electronic self-reading of electricity meters by consumers themselves (VSS ORD Self Reading APP®) is used as an efficient System for self-reading and can be used by all consumers who choose for such a reading system of electricity and download the application to their smart phones using Google play (for Android platform) or iTunes (for IOS platform).

Advantages **VSS ORD Just Reading APP®** System are as follows:

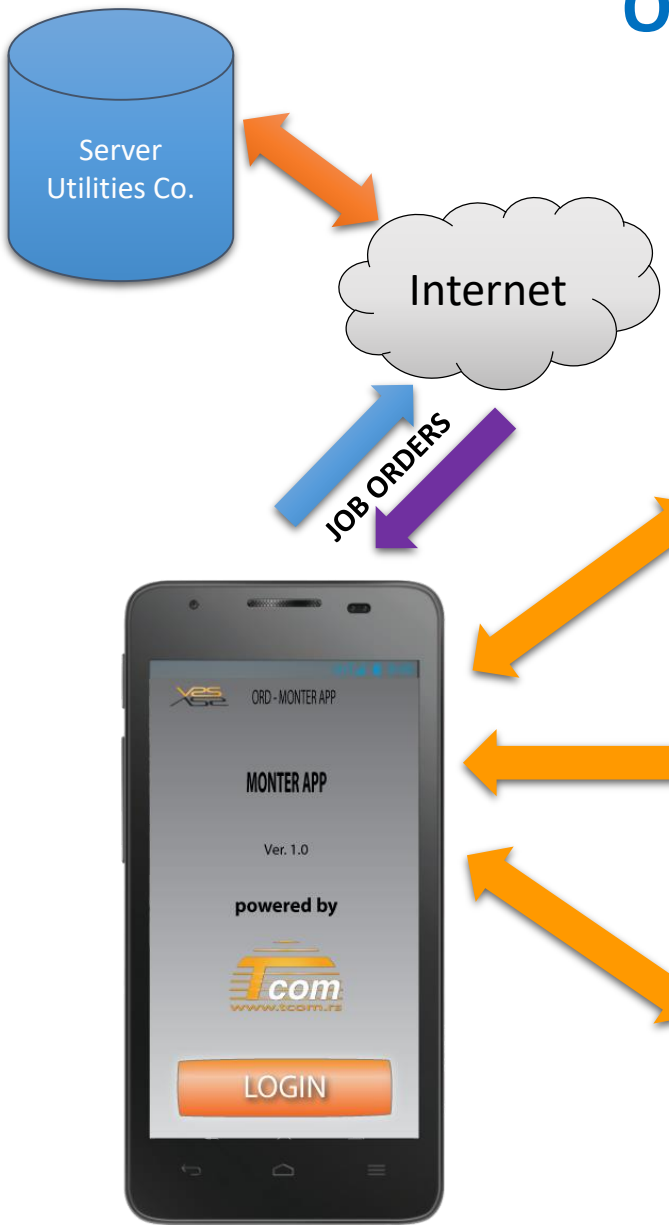
- Eliminating cost for readers on the field.
- Possibility of delivering electronic bills to consumer through same application which eliminates cost for mail delivering bills as well.
- Efficient System of communication with consumer which allows number of other possibilities within Customer Care Program etc.

Other VSS ORD Solutions

OUTAGE MANAGEMENT SYSTEM (OMS)

The System for automation of inspection and technical maintenance on the field (VSS ORD Monter APP®) using smart phones for automated record and control of interventions on electricity meters, meter points, distribution networks, transformer substations, as well as control measurement and recording electricity consumption at meter points

OUTAGE MANAGEMENT SYSTEM (OMS)



Control and interventions on:

Measuring points

- Placement and control of electricity meters
- Placement and control of electricity meter seals
- Connection and disconnection of consumers
- Other controls

Distribution network

- Connection of new consumers
- Cabling
- Interventions on network
- Network control and socket

Transformer substation

- TS authorized access
- TS validity control
- Connection of new consumers
- TS interventions
- TS maintenance

VSS NFC LOCK SYSTEM

A system for security access control to distribution infrastructure facilities (VSS NFC LOCK®) is used as security alarm for facilities in energy and water management, as well as monitoring equipment operation in them.

VSS NFC LOCK® System consists of:

- peripheral device with mechanical lock for security and access control to infrastructure facilities and microcontroller for data collection on technical accuracy of equipment and working conditions in facilities;
- WEB server through which data are collected on access to facilities and condition of equipment in them, with software for locating, identifying and external notification of situations in facilities on the field.

VSS NFC LOCK SYSTEM

Success Stories

- In the Republic of Serbia, our solution has achieved very positive results. After just four years on the market, the VSS ORD system resulted in a 33% reduction in losses in terms of electrical distribution. That is equivalent to a monetary value of 90 million USD.

- We are offering the perfect solution to optimise efficiency in the transitory phase before the introduction of smart metering, representing a period of at least 5 to 7 years. The VSS ORD system is precisely 40 times cheaper than any smart metering system, and guarantees a reduction in losses and a maximisation of returns. It is therefore cost and time efficient to introduce this reliable system in your country.

Success Stories

We have done three successful POC Projects in India:

- TATA Power DDL Company
- MPMKVVCL Bhopal Company
- APEPDCL Company Vizag Andra Pradesh

The POC can be deemed a success and the learnings from it are an opportunity to build the future process of reading and protecting measuring devices, controlling meters and other distribution infrastructure, calculating, issuing and collecting bills for the consumption of electricity .

Conclusion

The VSS System is an **opportunity** for any Electric Utility Company.

It is a **cost and time efficient, non-invasive, comprehensive & reliable** tool used to **maximize returns and ensure fair & accurate billing** of electrical consumption.

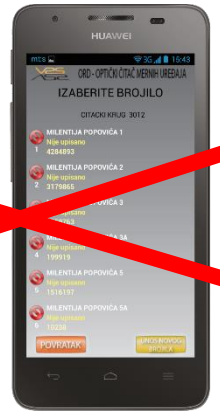
We invite you to visit us at booth # 5 where you can see all the features of the VSS ORD System in real time

TECHNOLOGY FOR A BRIGHTER FUTURE.

www.tcom.rs

booth # 5


kWh
2
2 2 2 2 6


HUAWEI
ORD - OPTIČKI ČITAČ MERNIH UREĐAJA
IZABERITE BROJILO
ČITAČKI KRUG 3012
MILENTIJA POPOVIĆA 1
Nije upisano
4284893
MILENTIJA POPOVIĆA 2
Nije upisano
317865
MILENTIJA POPOVIĆA 5
Nije upisano
1516197
MILENTIJA POPOVIĆA 5A
Nije upisano
10238
POVRATAK

PHOTO


RFID

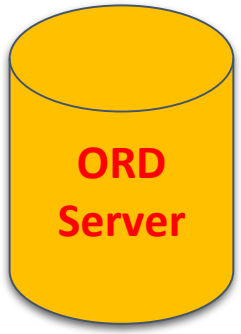

OCR


www.tcom.rs
HUAWEI
VSS ORD RFID Seal
VSS ORD RFID Seal
ver. 1.0
powered by
PRIJAVA


GPS

PHOTO


DATA


ORD
Server


Server
Utilities Co.

1. Technical losses:

- **A very precise system for recording the technical characteristics of each measuring device is in place.** System for proper management of the database is introduced: type, model, year and manufacturer of meters; keeping accurate record on installation date of seals on meters; maintaining proper record of control accuracy and calibration of meters, etc.
- **Identify technical deviations on measuring devices with the intelligent control system** in the reader application of the system;
- The intelligent control system requires the reader to **photograph the meter** several times (from different angles) in order for supervisors in reading controls to have more information and to find out what the condition of the measuring device is and whether additional technical control in the field should be performed;
- Given that there is a detailed picture of technical problems in the field, the VSS ORD System ensures correct weather reactions and **the ability to maintain energy infrastructure through the system to repair and maintain devices that have problems rather than maintaining a certain portion of the network in a grid**, where only part of the equipment is problematic or faulty;
- Adequate management of energy infrastructure reflection is provided with a system of electronic work orders **that are not only based on issuing work orders, but also on-line monitoring of the realization,** which allows to increase the efficiency of the energy system and to prevent the domino effect in device failures or interruptions in the delivery of electricity.

2. Commercial Losses:

- **Eliminates manual data entry of electricity consumption in the Billing System** by overwriting data from paper reading sheets, which significantly reduces the need for manpower, but also prevents errors of data entry (retyping);
- **For each meter read there is a photo** that shows consumption of the meter, with "embossing" these data on photos of meter which thus become unique and authentic, and dramatically eliminates the existence of any consumer's complaints, recording non-existent consumption (abuse);
- **For each meter read there is the exact time and GPS position of reading**, therefore in this way we eliminate the possibility of tuning data of electricity consumption for consumers in the field;
- **There is an automated System for recording all possible situations** (anomalies on meters and meters points, as well as in the process of meter reading) in the field, presenting the right image of reading, as well as recording the real situation on the field and electricity consumption of consumers;
- **System for writing a ''0'' consumption of non-read meters is disabled** which was one of the main reasons for "fixing" the consumption of certain users;
- **System for writing non-existent (reduced) consumption to specific consumers is disabled**, because there are photos for each meter reading;
- **There is a System for automatic recording of abuse by placing a magnet on a meter**;
- **Consumption control of meters is carried out on total number of meters for every reading**, and not on much smaller sample (up to 20% of the meters – by sending inspector on the field). In that way, data that are delivered to the Billing System for printing bills are very accurate and credible. Therefore, we receive the right image of condition and technical correctness of measuring points on the field;
- **Number of workers in control and their involvement is reduced to a shorter period**.