TPL
Innovation Unlimited
QMS
QMS Certification Services Pvt. Ltd.
NABCB
QM - 020
BS TECHNOTRONICS PVT LTD
SOLAR PUMP SET
MONITORING SYSTEM

## ABOUT BS TECHNOTRONICS PRIVATE LIMITED (BSTPL):

BS Technotronics Private Limited (BSTPL), an ISO 9001:2015 certified company founded in the year 2012 with a dedicated team of Engineers with many years of extensive experience in the fields of Telecom, Telematics, Power and Information Technologies. BSTPL is always looking to be at the forefront of technology and maintaining customer's complete satisfaction. A comprehensive Product Portfolio, Strong R&D Capability, Customization of Hardware & Software and Excellent after Sales Support established our leadership position in the M2M marketplace.

BSTPL offers high-performance GSM/GPRS, GPS and Wi-Fi / Bluetooth Products based on the state-of-art technology meeting toughest operating conditions and customer satisfaction. To completely meet customer's needs, BSTPL not only provides a wide range of products with numerous integrated features capable of meeting the most sophisticated requirements from all market segment, but also provides comprehensive support for system integrators and developers in the development and testing phase of integrating the products. Additionally, timely support is available from BSTPL's software and hardware team, which significantly reduces customer's development time and achieves short time to market.

BSTPL ensures the highest quality of all its products to meet customers' requirements perfectly. Continuous development, utilizing the latest technologies, low power consumption, ease of integration, long-term availability and suitability for the harsh environment are the key features for BSTPL products success

## SOLAR PUMP SET MONITORING SYSTEM:

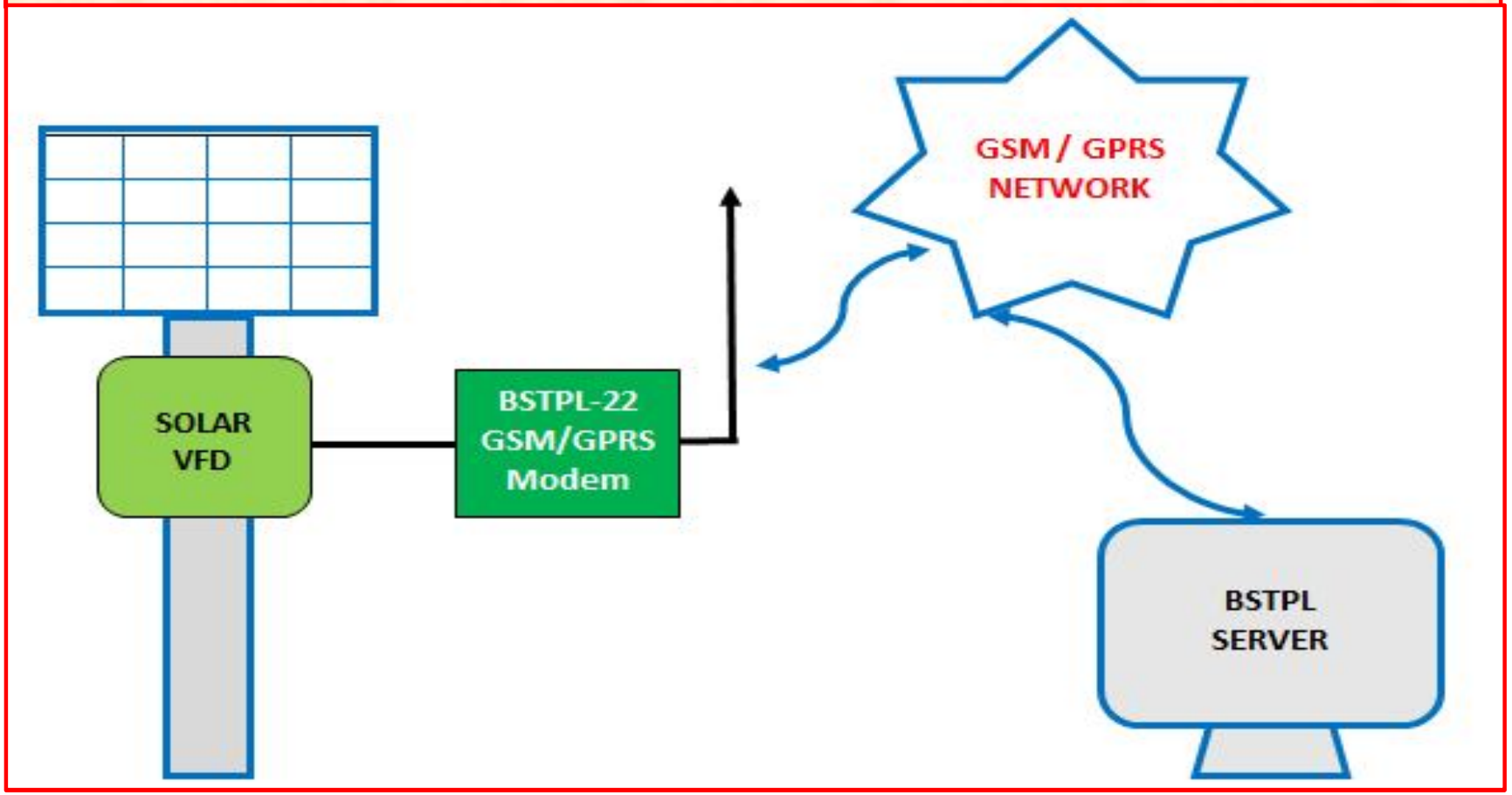
Solar Water Pumps are an effective alternate solution for the locations where electric power either poor or not available. Solar power to pump sets will also reduce the traditional electric infrastructure like laying electric lines, poles and installing supporting elements & accessories. Huge saving of the losses occurred with the traditional electric lines.

Solar Water Pumps are effective, economical to work in remote areas. Automation of Solar water pump sets has become very simple due to penetration of telecom services even to very remote areas. As all the telecom service providers are able to extend Data / GPRS services, cost of providing remote data management has come down drastically.

GSM GPRS Modem coupled with a back-end server application provides useful information to users and other authorities which include Geographical location* of the solar pump, date & time of real time data, details of solar system voltage / current / power generated / ON & OFF Timings / Total Water Output ... etc.

GSM GPRS Modems use the solar power for its operation thereby avoiding the need of external electricity power.

## SOLAR PUMP SET MONITORING SYSTEM WORKING PRINCIPLE:



## BSTPL-22 GSM GPRS MODEM FOR SOLAR PUMP-SET CONTROL UNIT:

BSTPL-22 GSM/GPRS Intelligent Modem uses most advanced 32 Bit Cortex M3 Microcontroller for superior operation in toughest conditions supported by highly sensitive Quad-Band GSM/GPRS modem. Equipped with high gain GSM antenna, BSTPL-22 provide accurate real time data to customer without any data loss.

Supporting wide operating voltage (DC 6V to 40V), BSTPL-22 has provision for RS-232 and RS-485 Communication extending facility to interface various external products, accessories, sensors and equipment's which need to be continuously monitored and controlled.

BSTPL-22 enables the user to monitor and control various 3rd party accessories / devices installed at remote areas from a central location without any manual intervention and assistance. The device improves the overall productivity with better accuracy, control, safety and security which in turn offer better returns to customer on the investments.

Intelligent modem is suitable for application like SCADA, Solar, Industrial, Process Automation, Agriculture, Security systems and other application where remote data logging and controlling required.

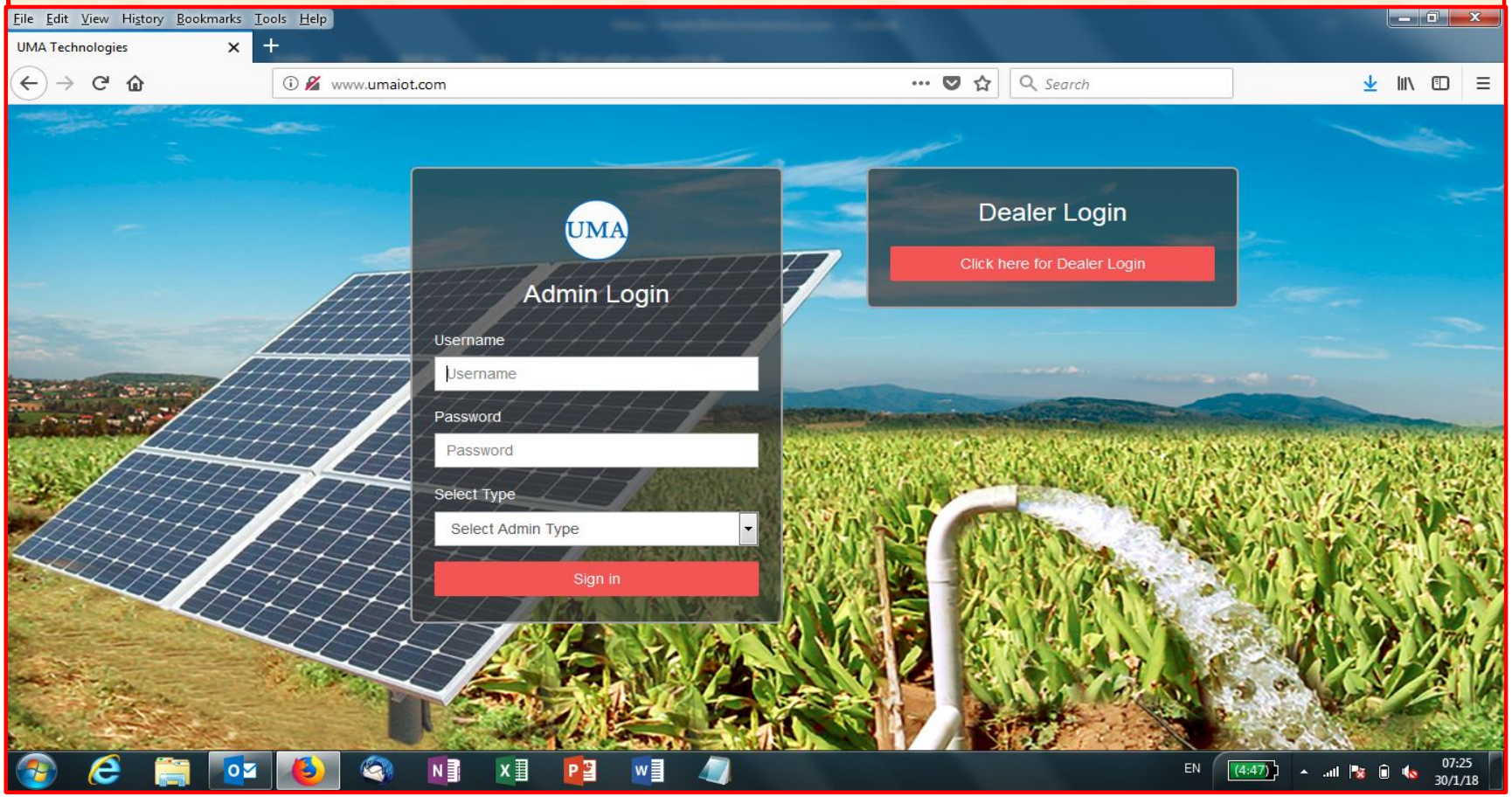
BSTPL-22 can be customised as per the requirement of customers with different communication protocols.

## SOLAR PUMP SET MONITORING DASH BOARD:

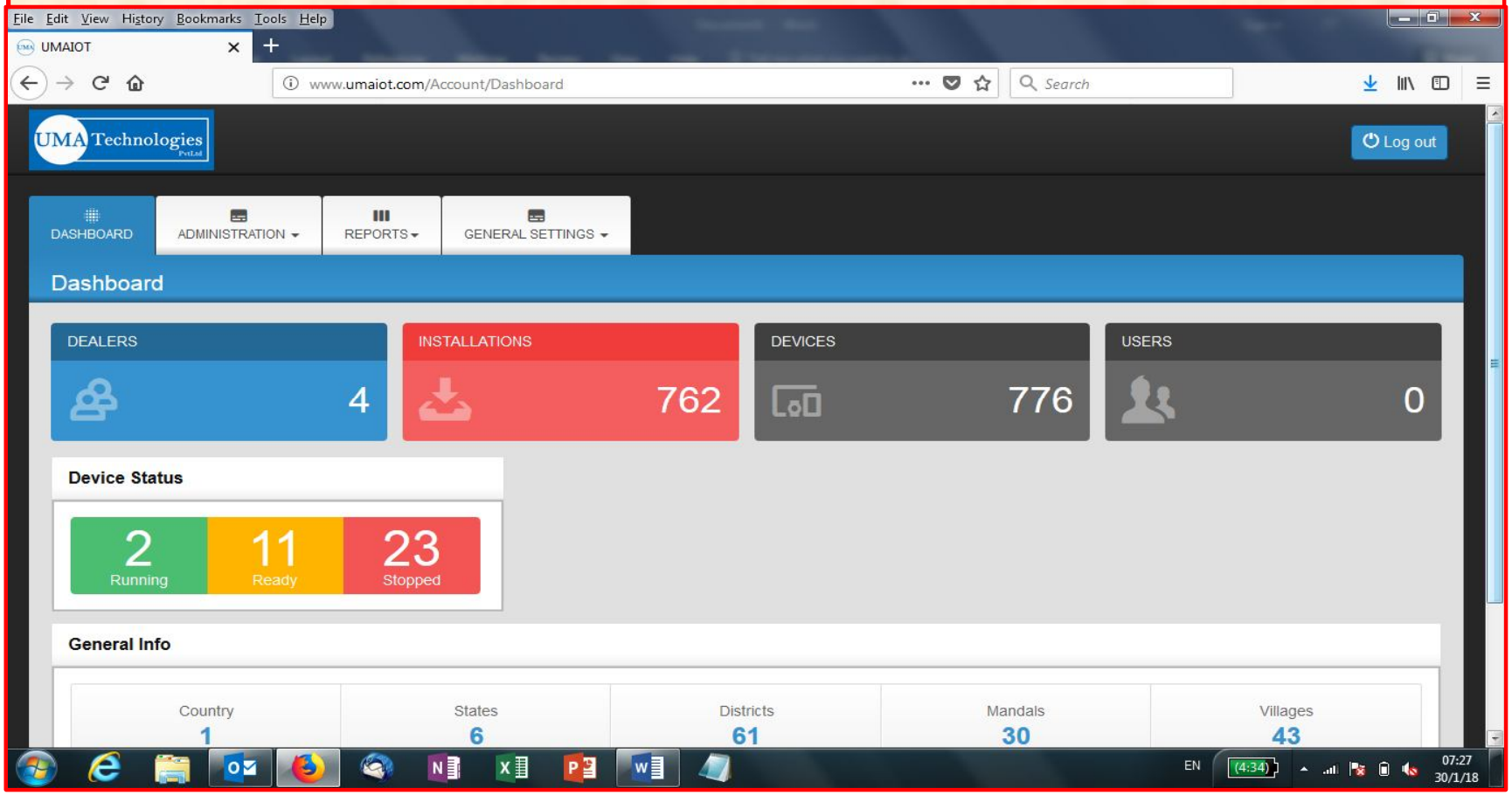
BSTPL Solar Pump Set Monitoring System provides the best view of the functionalities of a remotely installed pump-set. Following are the parameters provided in Live Report.

- User Details which include his Name, Location, PO Number and the Device ID
- Pump Parameters Like Solar Voltage, Motor Voltage, Motor Current, Solar Power, Frequency, RPM, Water Flow & Current status of the pump i.e. Running or Idle / Ready or Stopped.
- User can view live status based on the Device ID, PO Number, Consumer Name, State Wise, District Wise, Mandal Wise, Village Wise or Status Wise. User can also search the live report with any of the parameters mentioned here.
- Various reports can be generated as per the user requirement. The reports can be for a month or from a selected date to date, Device ID wise for a given period, PO Number wise for a given period, Consumer Name wise for a given period, State Wise for a given period, District Wise for a given period, Mandal Wise for a give period and Village Wise for a given period. User can also search the reports with any of the parameters mentioned here

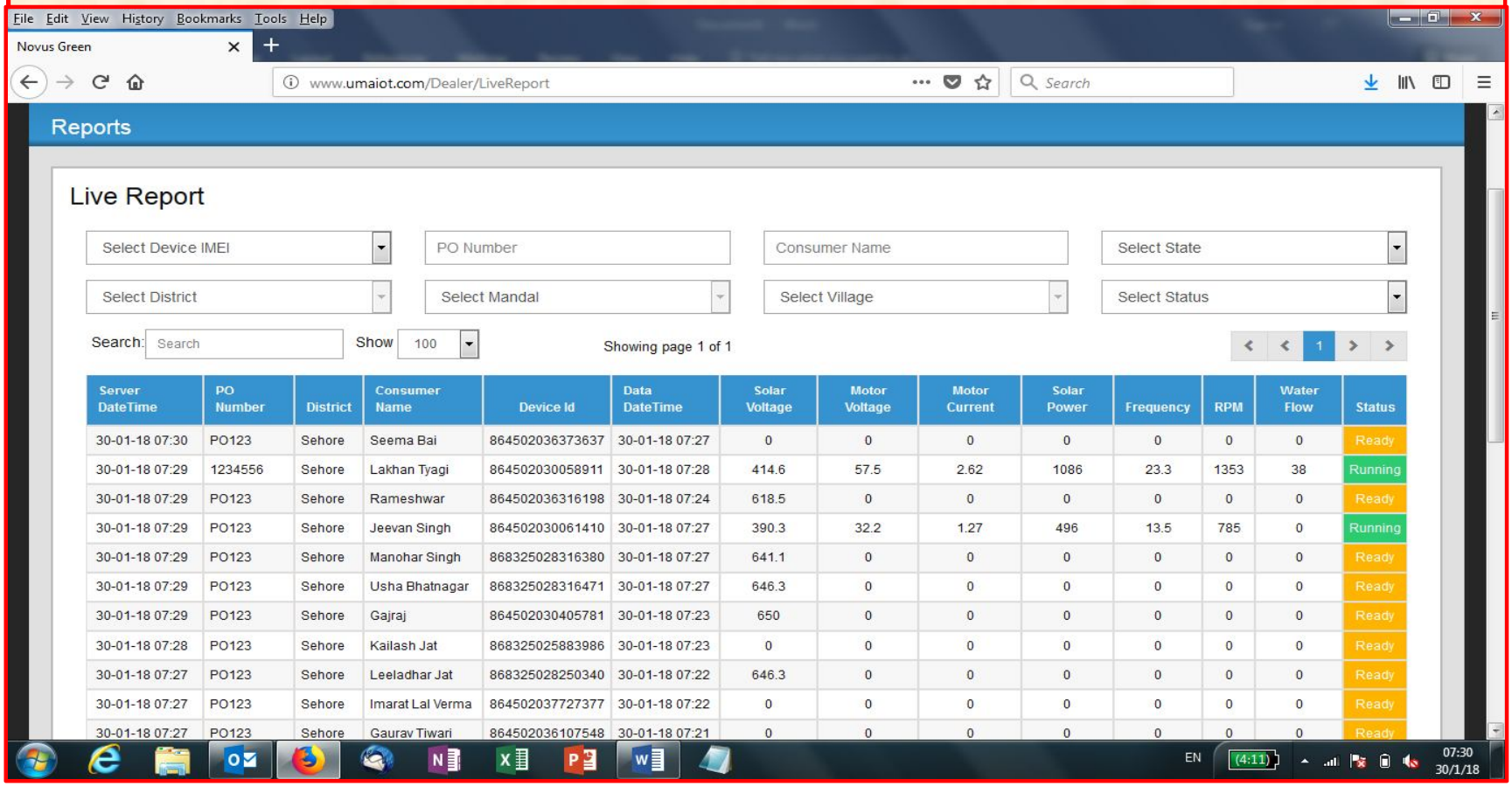
# SOLAR PUMP SET MONITORING SYSTEM – LOGIN SCREEN:



# SOLAR PUMP SET MONITORING SYSTEM – DASH BOARD:

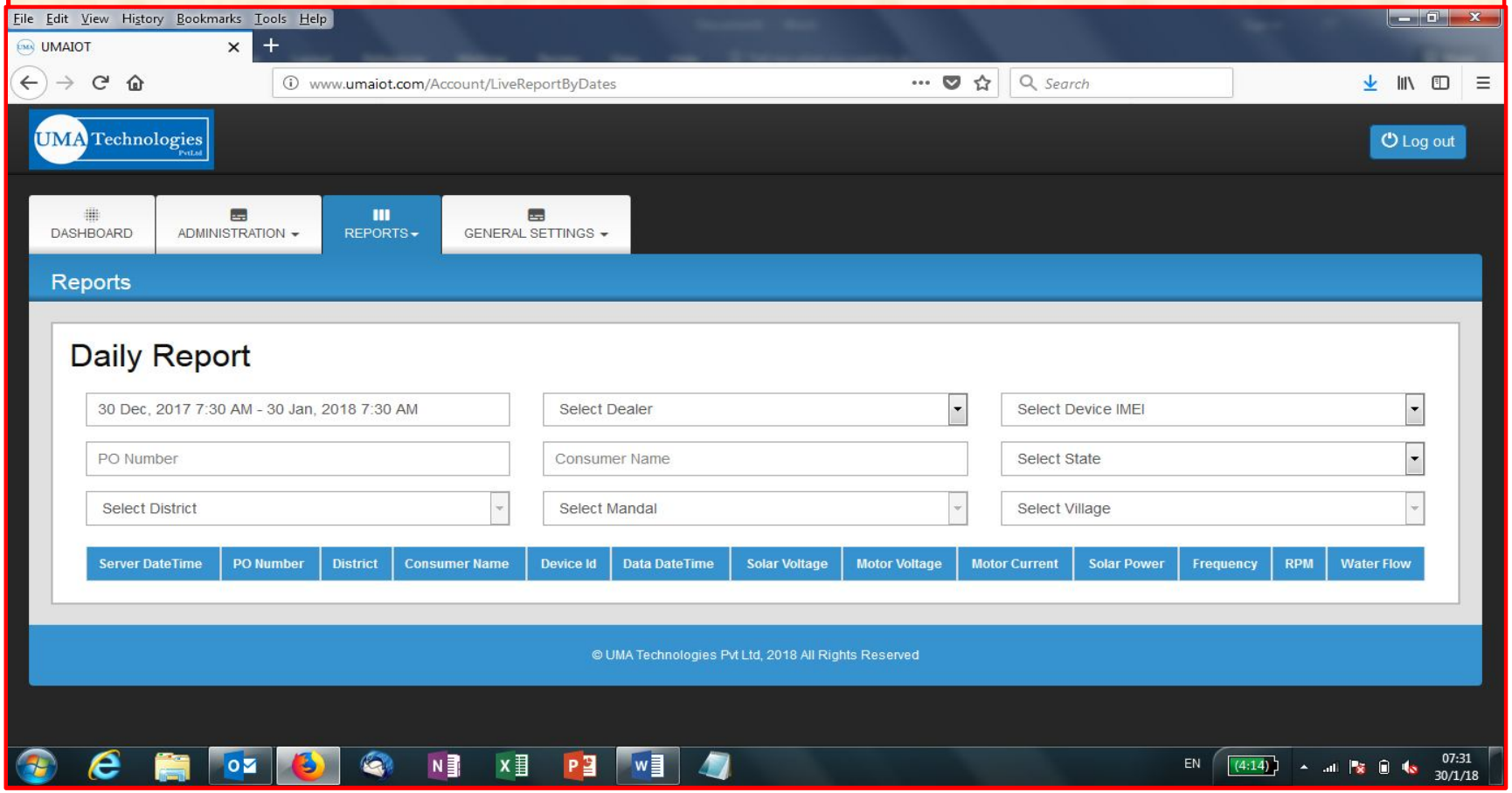


# SOLAR PUMP SET MONITORING SYSTEM – LIVE REPORT:




| Server DateTime | PO Number | District | Consumer Name | Device Id | Data DateTime | Solar Voltage | Motor Voltage | Motor Current | Solar Power | Frequency | RPM | Water Flow | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30-01-18 07:30 | PO123 | Sehore | Seema Bai | 864502036373637 | 30-01-18 07:27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Ready |
| 30-01-18 07:29 | 1234556 | Sehore | Lakhan Tyagi | 864502030058911 | 30-01-18 07:28 | 414.6 | 57.5 | 2.62 | 1086 | 23.3 | 1353 | 38 | Running |
| 30-01-18 07:29 | PO123 | Sehore | Rameshwar | 864502036316198 | 30-01-18 07:24 | 618.5 | 0 | 0 | 0 | 0 | 0 | 0 | Ready |
| 30-01-18 07:29 | PO123 | Sehore | Jeevan Singh | 864502030061410 | 30-01-18 07:27 | 390.3 | 32.2 | 1.27 | 496 | 13.5 | 785 | 0 | Running |
| 30-01-18 07:29 | PO123 | Sehore | Manohar Singh | 868325028316380 | 30-01-18 07:27 | 641.1 | 0 | 0 | 0 | 0 | 0 | 0 | Ready |
| 30-01-18 07:29 | PO123 | Sehore | Usha Bhatnagar | 868325028316471 | 30-01-18 07:27 | 646.3 | 0 | 0 | 0 | 0 | 0 | 0 | Ready |
| 30-01-18 07:29 | PO123 | Sehore | Gajraj | 864502030405781 | 30-01-18 07:23 | 650 | 0 | 0 | 0 | 0 | 0 | 0 | Ready |
| 30-01-18 07:28 | PO123 | Sehore | Kailash Jat | 868325025883986 | 30-01-18 07:23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Ready |
| 30-01-18 07:27 | PO123 | Sehore | Leeladhar Jat | 868325028250340 | 30-01-18 07:22 | 646.3 | 0 | 0 | 0 | 0 | 0 | 0 | Ready |
| 30-01-18 07:27 | PO123 | Sehore | Imarat Lal Verma | 864502037727377 | 30-01-18 07:22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Ready |
| 30-01-18 07:27 | PO123 | Sehore | Gaurav Tiwari | 864502036107548 | 30-01-18 07:21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Ready |

# SOLAR PUMP SET MONITORING SYSTEM – DAILY REPORT:



# THANK YOU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