PRAYAGRAJ SMART CITY PROJECT
VISITING REPORT

Report Title	Prayagraj Site Visit Report
Project Title	Prayagraj Smart City Project
Location	Prayagraj (UP)
Date of Visit	2nd August 2024
Prepared By	Dushyant Singh

OBJECTIVE

The primary objective of this visit is to assess the software integration, data processing engine, GIS visualization system, instruments data sharing mechanisms and supplied mobile application.

ATTENDEES/PARTICIPANTS

1. Mr. Ansari Ji, RCM, YIL
2. Mr. Dharmendra, Engineer, YIL
3. Dushyant Singh

SUMMARY OF ACTIVITIES DISCUSSION

During the visit, we discussed the complete scope of the work YIL needs to do. And the mentioned instruments and software items YIL delivery to accomplish the project.

a. Supplied Instruments/Sensors:
    a. Flow meter
    b. Level meter
    c. Pressure meter
    d. Valve/ Actuator
    e. Quality Sensors (pH, Turbidity, TDS, & Chlorine)
    f. Energy Sensors
b. Supplied Software & Hardware
    a. Fast Tool (F/T) & Mobile Client
    b. ITRON
    c. Network Rack
    d. Internet Connectivity
    e. Security Patches
c. Establishment of Storeroom
d. Data sharing with ICCC (Integrated Control & Command Centre)

DETAILED OBSERVATIONS

SUPPLIED INSTRUMENTS/SENSORS

As per the scope, YIL supplied the sensors/instruments as tubewell, WTP, OHSR, and filter junction. The following are the statistics for the area covered: -

Integrated Assets	Total Number
Tubewell by YIL instruments	80
Tubewell by Other	185
OHSR	42
WTP	1
Pump House	10
Filter Junction	150

Different kinds of sensors are installed on the field, and sensors cover around **30K** tags. Brodley our system is taking the following kinds of tags: -

a. Total Flow
b. Flow Rate
c. Level tags
d. On/OFF Status
e. Quality Tags (pH, Turbidity, Chlorine, and TDS)
f. Trip Feedback
g. Energy Tags

SUPPLIED INSTRUMENTS/SENSORS

YIL supplied the following software for handling all the instrument data:

a. Fast Tool (F/T): -
This is YOKOGAWA proprietary software and is used for the instruments monitoring & controlling. In the Prayagraj smart City project, F/T plays a vital role by handling all the sensor's data live as well as historians. The following activities taken care of by F/T are: -
   a. Visualizing the live, alerts, and trends
   b. Dashboards
   c. Import/Export Functionality
   d. Data Sharing using API
   e. Controlling the Instruments from Control Room
   f. Tubewell Scheduling

b. Mobile Client

This is a Fast Tool component, and on a specific IP address, we can complete access to the F/T software.

c. ITRON

This is a 3rd party software web-based solution, YIL purchased the license of this software. ITRON provides the instance of the application and runs on Cloud. There is one user ID and password provided by the ITRON team. YIL team periodically accesses it. As per the team discussion, ITRON is used for only generating different types of reports such as

a. Water Loss Report
b. Water Balance Calculation
c. WTP Log Report
d. Tubewell Historical Report

Data Handling By ITRON: ITRON is not directly connected to any software. The YIL team provides the data to the ITRON team using email for the totalizer.

One small GIS map is also handled by the ITRON software where very minimal information is displayed.

d. ESTABLISHMENT OF STOREROOM

YIL maintains a storeroom for all the instruments and their related components. They maintain all the inventory in an excel sheet.

e. DATA SHARING WITH ICCC (INTEGRATED CONTROL & COMMAND CENTRE)

Fast/Tool is exposing the data for integrated control & Command centre i.e. Handled By L&T Infotech.

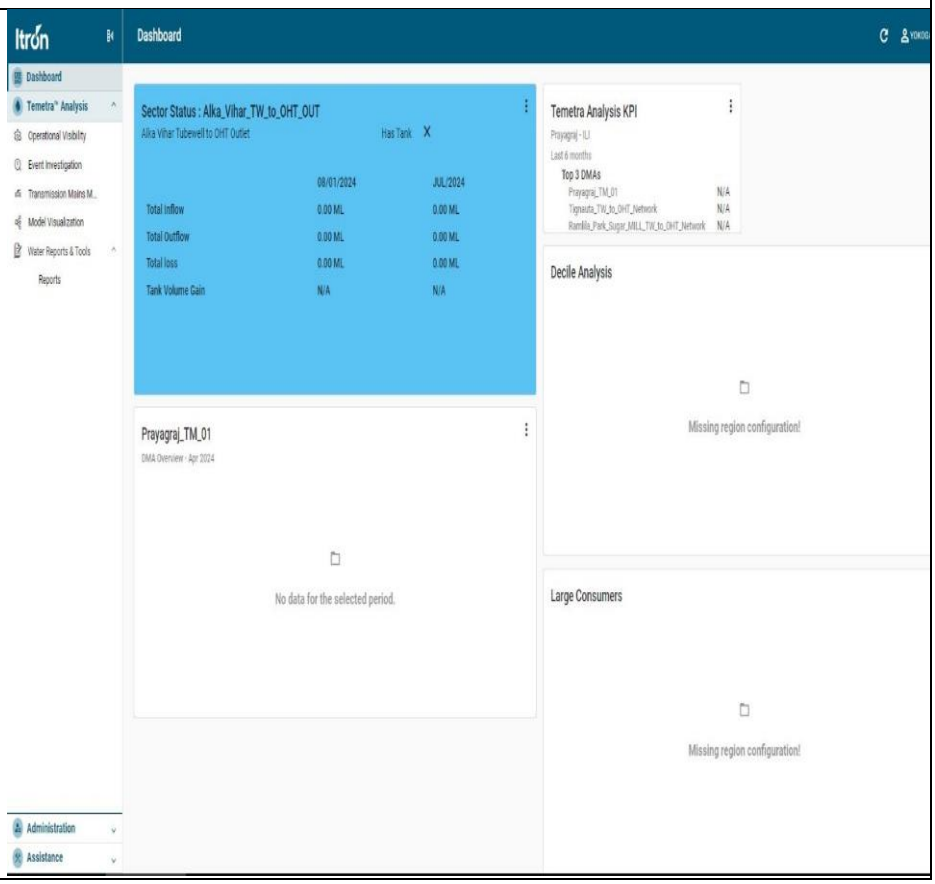
RECOMMENDATIONS

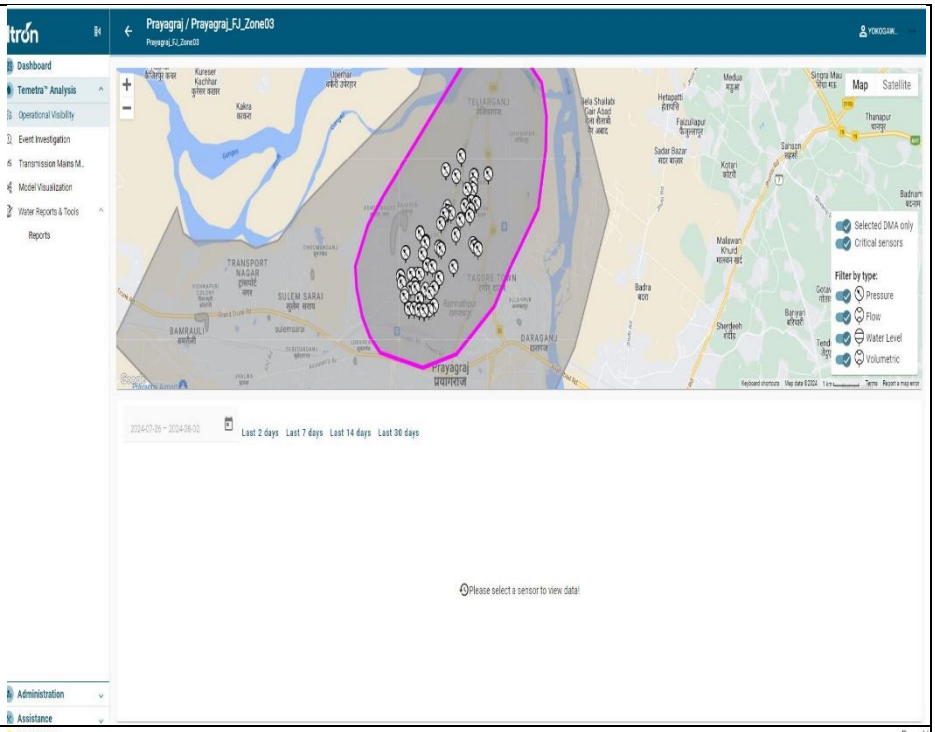
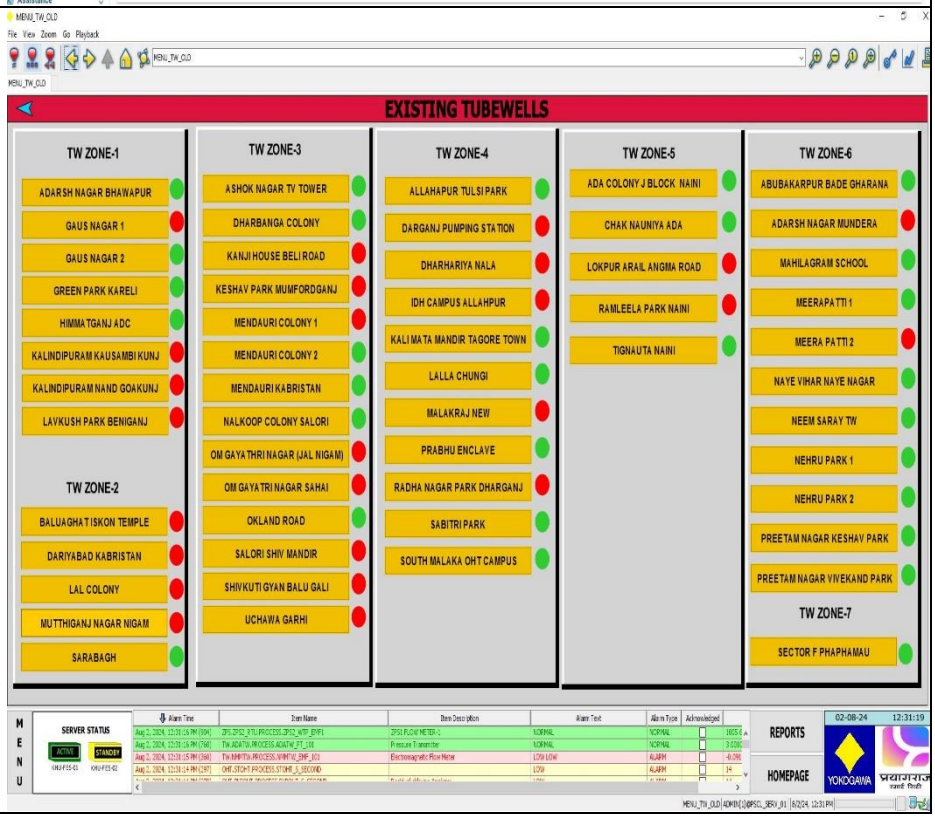
Based on the recent visit and my experience, the water scope is so wide, that YIL should implement/develop a web-based fully customizable integrated package in which each and everything related to the water industry is covered. Primarily, the following types of components must be included in the package: -

a. Asset Management with its complete life cycle (Planning, Procurement & Installation, Usage, and Replacement & disposal mechanism).
b. Procurement Process includes material management
c. Assets' live information must be shared on the web portal, GIS, and Mobile application.
d. Assets Controlling mechanism to authorized person on the mobile application.
e. Water Quality Monitoring System (a Complete Lab software accredited with different authorized agencies)
f. Analytics platform for different kinds of MIS dashboards.
g. AutoCAD integration
h. Web-Based Hydraulic Modelling Integration

i. Ability to calculate Water Loss, Water Balance, Pressure management and simulation, Night flow analysis without hindrance of 24 * 7 water supply, and DMA-based concept.
j. Cheap instruments like IoT, different instruments.

ATTACHMENTS DETAILS

SR	ATTACHMENT NAME	
1	WTP Report	WTPReport.pdf
2	Water Balance Weekly Report	WaterBalanceReport.pdf
3	Tubewell Monitoring Report	TubewellReport.pdf
4	Data Shared by YIL to the ITRON team	Prayagraj Sensor List_2024-07-26.xlsx
5	ITRON Dashboard Images	

6	ITRON GIS DASHBOARD	
7	FAST TOOL Tubewell Dashboard	

THANK YOU