CITY CONSOLE

POTABLE WATER QUALITY MONITORING AND REPORTING SOLUTION

agenda

- Potable Water Quality monitoring solution
- Introducing City Console
- An introduction to our platform
- Further enhancements possible
- Questions?

CITY CONSOLE POTABLE WATER QUALITY MONITORING SOLUTION

Why monitor potable water quality

- Safe and readily available water is important for public health, whether it is used for drinking, domestic use, food production or recreational purposes
- Improved water supply and sanitation, and better management of water resources, can boost countries' economic growth and can contribute greatly to poverty reduction.
- Contaminated water and poor sanitation are linked to transmission of diseases such as cholera, Diarrhoea, dysentery, hepatitis A, typhoid and polio.
- Absent, inadequate, or inappropriately managed water and sanitation services expose individuals to preventable health risks.

WATER QUALITY ASPECTS

Water quality aspects

- Microbial
- Chemical
- Radiological
- Acceptability

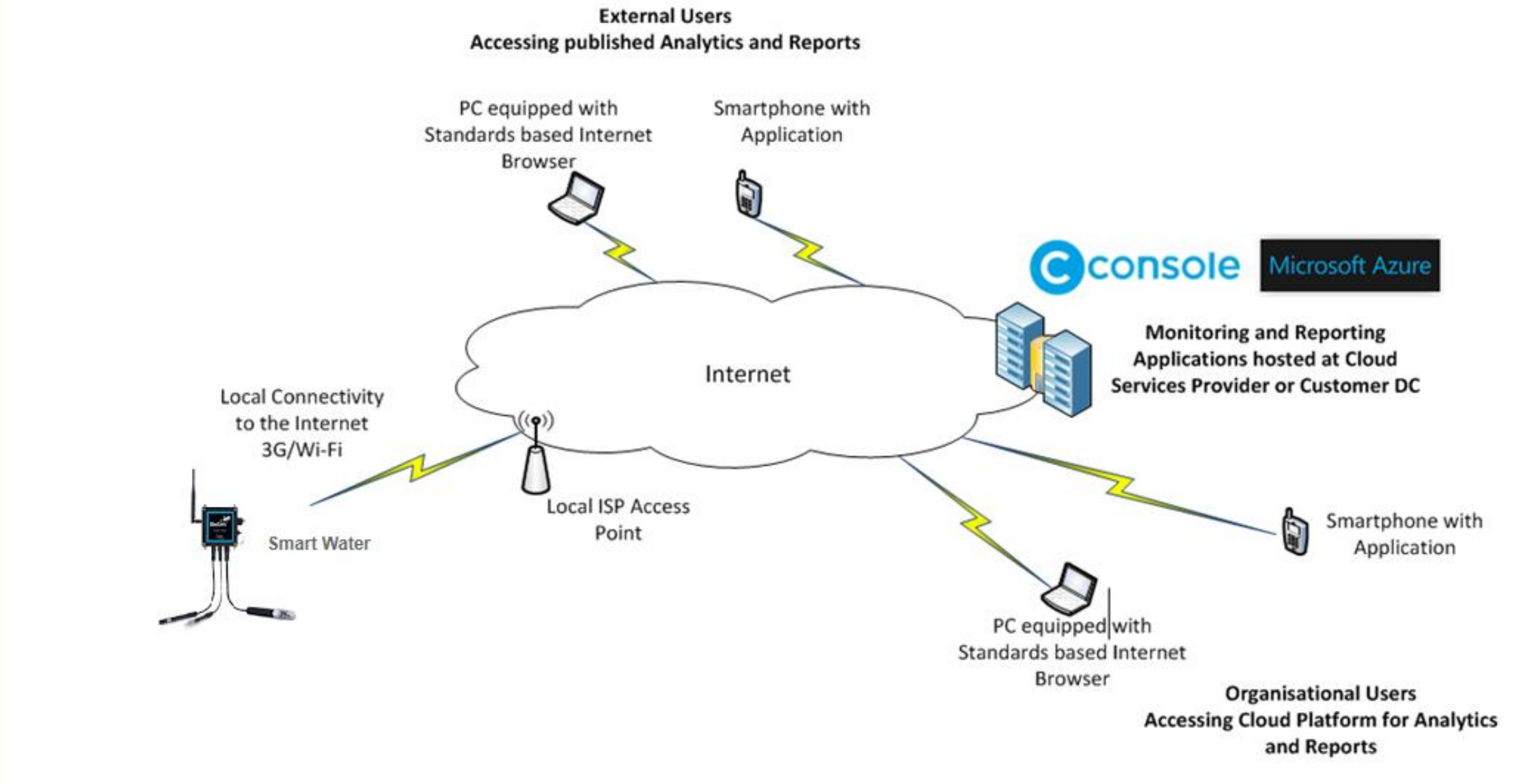
CPCB guidelines for potable water

Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	• Total Coliforms Organism MPN/100ml shall be 50 or less • pH between 6.5 and 8.5 • Dissolved Oxygen 6mg/l or more • Biochemical Oxygen Demand 5 days 20°C 2mg/l or less
Outdoor bathing (Organised)	B	• Total Coliforms Organism MPN/100ml shall be 500 or less pH between 6.5 and 8.5 Dissolved Oxygen 5mg/l or more • Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	• Total Coliforms Organism MPN/100ml shall be 5000 or less pH between 6 to 9 Dissolved Oxygen 4mg/l or more • Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Propagation of Wild life and Fisheries	D	• pH between 6.5 to 8.5 Dissolved Oxygen 4mg/l or more • Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	• pH betwwn 6.0 to 8.5 • Electrical Conductivity at 25°C micro mhos/cm Max.2250 • Sodium absorption Ratio Max. 26 • Boron Max. 2mg/l
	Below-E	Not Meeting A, B, C, D & E Criteria

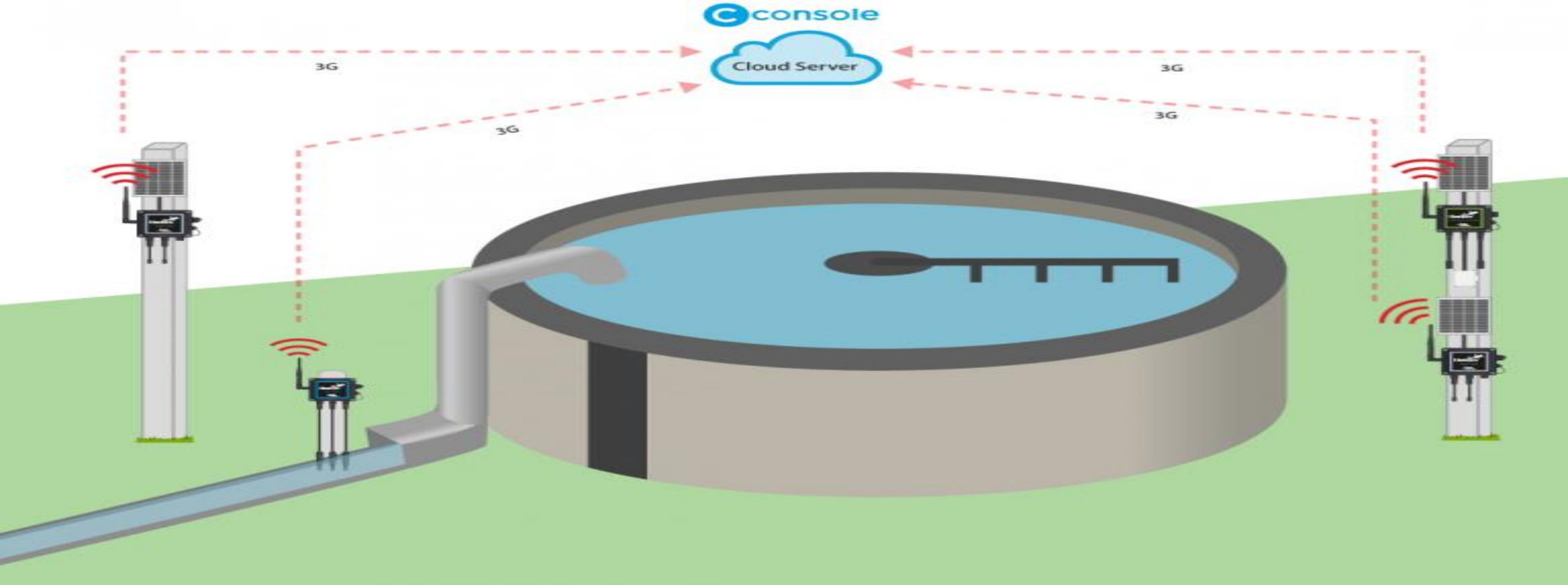
Source : CPCB http://www.cpcb.nic.in/Water_Quality_Criteria.php

AN INTRODUCTION TO OUR PLATFORM

City Console solution - Overview



City Console solution - Overview



Major components of the Solution

- Sensor Nodes
- Data Connectivity
- Cloud based data collection and storage platform
- End user services

Sensor Nodes deployed at client sites

The Nodes are the basic integration blocks of the Remote Sensing solutions and perform several important functions including

- The Waspmote Smart Water platform is an ultra low-power sensor node designed for use in rugged environments and deployment in Smart Cities in hard-to-access locations to detect changes and potential risk to public health in real time.
- Collecting and Processing the data from the sensors
- Storing the data received and processed.
- Converting the data from the sensors in both human readable format and for transmission on the network.
- Connecting to the internet via a variety of methods including Wireless LAN, 3G, & GPRS
- Sending the data to the Cloud Platform for further processing.

Data Network

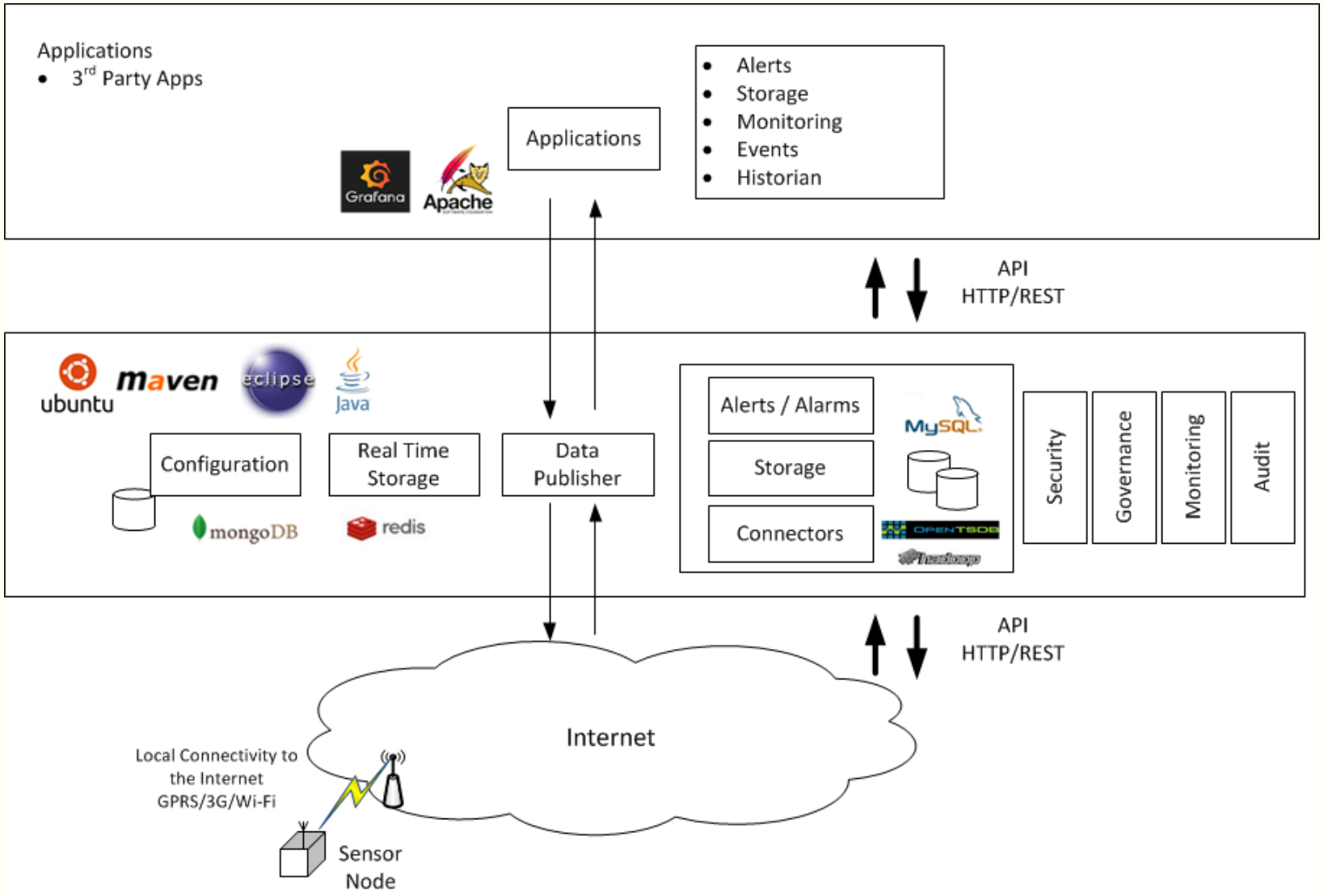
- The Internet is used for data connectivity between the Probes and the Cloud Platform.
- The Internet can be accessed by the Nodes using a variety of connection technologies based on availability at the Site like Wifi/Ethernet/3G.

Cloud Platform

- The City Console cloud platform is a sensor and actuator platform based on open source technologies
  - designed for optimum flexibility and easy interoperability.
- The Platform is built using a tiered architecture
  - Sensors can connect to the Platform using multiple Connectivity methods
  - Publish their data into the Platform securely using simple REST API.
  - The Platform's Data Catalogue and Storage services store and label the published data for further processing.
  - A variety of Applications can be used to process and report on the data as required.

It is available either as a dedicated instance that can be installed on premise, on any Cloud provider of your choice, or using our own Cloud Service Provider. The platform is highly portable and can be deployed on either Physical machines or on Virtual machines.

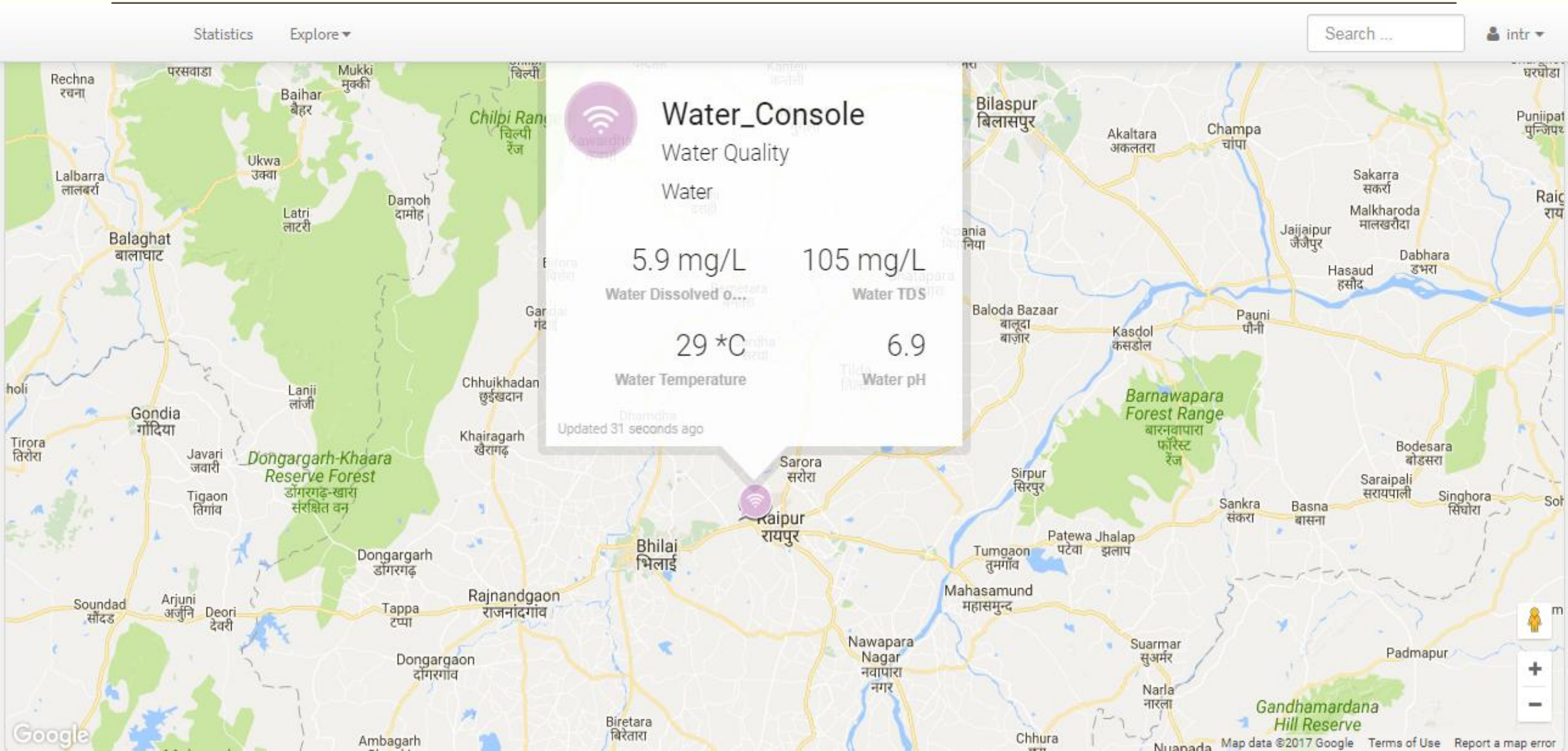
Cloud Platform - components



End user services

- The data collected from the sensors can be processed and made available to City Administrative personnel and the public at large using simple internet based web browsing technologies. The data can also be made available to Smartphone users through a simple Application that provides information in a convenient and easy to read format.
- The data is overlaid on maps from various providers for easy visualization.
- End user services include the ability for administrative personnel to
  - Create Sensors / Analysers
  - View the health of the probes
  - View real time data from the sensors
  - View historical data from the sensors using a variety of views including tables and graphs
  - Export the data to either spreadsheets or PDF for reporting purposes.

Web App


Statistics
Explore
Search ...
intr
Water_Console
Water Quality
Water
5.9 mg/L
Water Dissolved o...
105 mg/L
Water TDS
29 *C
Water Temperature
6.9
Water pH
Updated 31 seconds ago
Raipur
रायपुर
Bhilai
भिलाई
Dongargarh
डोंगरगढ़
Rajnandgaon
राजनांदगांव
Bilaspur
बिलासपुर
Champa
चांपा
Akaltara
अकलतरा
Sakarra
सकरी
Malkharoda
मालखरौदा
Jaijaipur
जैजैपुर
Hasaud
हसौद
Dabhara
डभरा
Baloda Bazaar
बालूदा बाज़ार
Kasdol
कसडोल
Pauni
पौनी
Barnawapara Forest Range
बारनवापारा फॉरेस्ट रेंज
Sirpur
सिरपुर
Sarora
सरोरा
Khairagarh
खैरागढ़
Chhuikhadan
छुईखदान
Gondia
गोंदिया
Lanji
लांजी
Dongargarh-Khaara Reserve Forest
डोंगरगढ़-खारा संरक्षित वन
Javari
जवारी
Tigaon
तिगांव
Tirora
तिरोरा
Balaghat
बालाघाट
Lalbarra
लालबर्रा
Rechna
रचना
Baihar
बैहर
Mukki
मुक्की
Ukwa
उक्वा
Latri
लाटरी
Damoh
दामोह
Chilpi Range
चिल्पी रेंज
Bodesara
बोडसरा
Saraipali
सरायपाली
Singhora
सिंघोरा
Sankra
संकरा
Basna
बासना
Patewa Jhalap
पटेवा झलाप
Tumgaon
तुमगाँव
Mahasamund
महासमुन्द
Nawapara Nagar
नवापारा नगर
Suarmar
सुअर्मर
Narla
नारला
Padmapur
Gandhamardana Hill Reserve
Chhura
Nuapada
Biretara
बिरेतारा
Dongargaon
दोंगरगांव
Tappa
टप्पा
Deori
देवरी
Arjuni
अर्जुनि
Soundad
सौंदड
Ambagarh
Google
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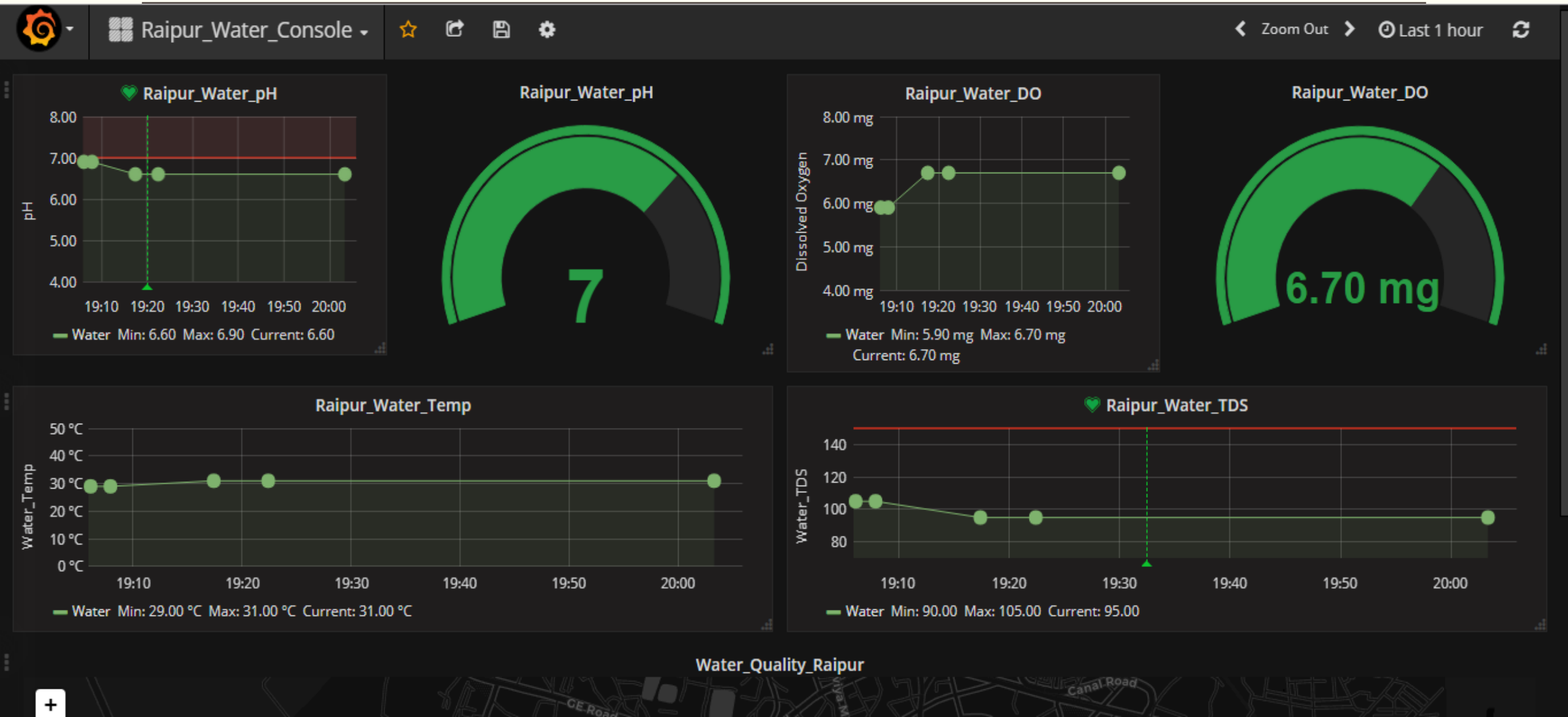
Report a map error

Web App Mydashboard



Web App

Statistics Explore Login

Location

Images

No photo yet

Most recent

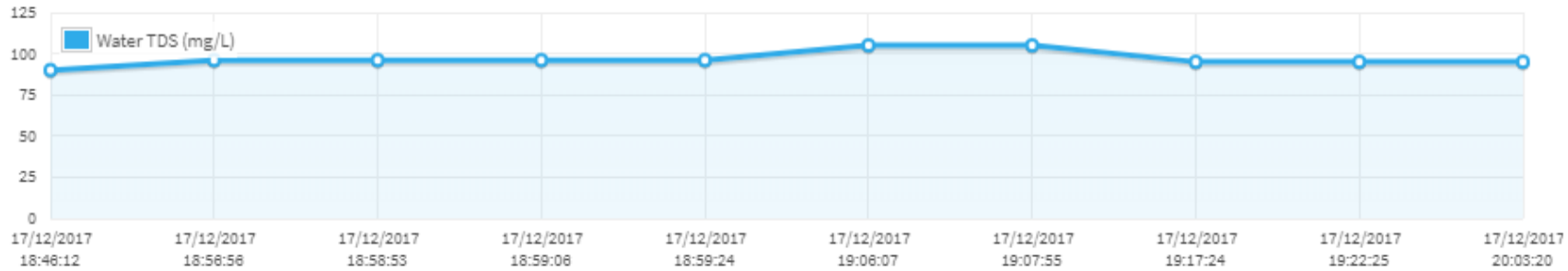
Raipur_Water_TDS
Water TDS

95 mg/L

Last update
17/12/2017 20:03:20

Activity

Sensors / Actuators | Alarms | Orders



Description

Creation date: 17/12/2017 12:53

Location: Static

Web App Alarm-Alert

Statistics Explore Search ... intr

Location

Images

No photo yet

Most recent

Raipur_Water_pH
Water pH

7.1

Last update
17/12/2017 20:41:56

Activity

Sensors / Actuators | Alarms | Orders

17/12/2017 20:41:59 Alarm Raipur_Water_pH: value 7.1 from the sensor Raipur_Water_pH verifies the restriction: Greater than 7

17/12/2017 20:39:04 Alarm Raipur_Water_pH: value 7.1 from the sensor Raipur_Water_pH verifies the restriction: Greater than 7

17/12/2017 20:38:20 Threshold limit exceeded: 7

WHY CITY CONSOLE

Why City Console

- It’s ready
- Dynamic & Flexible
- End to End understanding of Technology and Solutions
- Robust & Scalable Platform
- Open Source Inspired
- Competitive Prices

THANK YOU