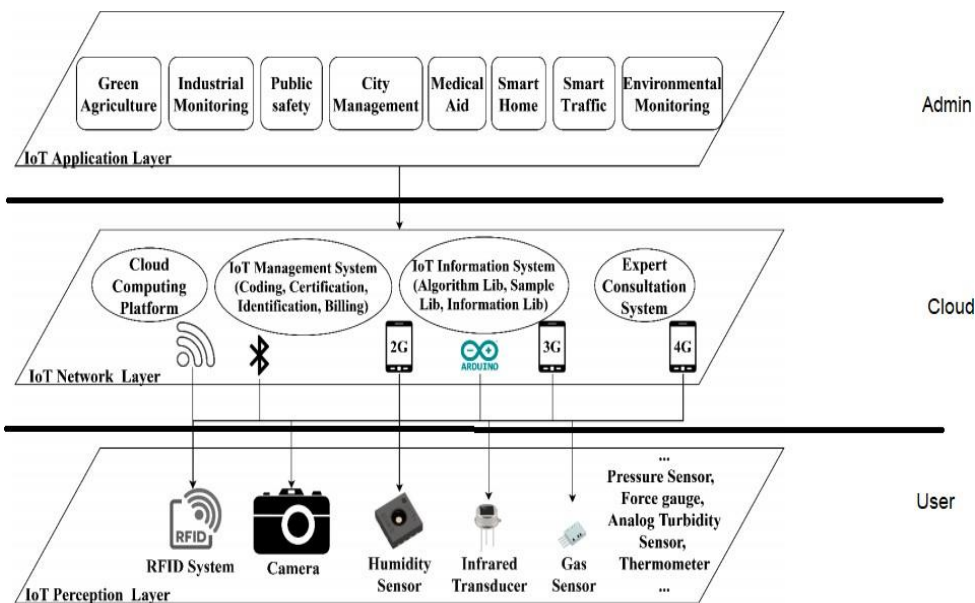


## Project Design Phase-II Technology Stack (Architecture & Stack)

|               |   |
|---------------|---|
| Date          | 15 October 2022   |
| Team ID       | PNT2022TMID03488  |
| Project Name  | Project - Hazardous Area Monitoring for Industrial plant power by lot |
| Maximum Marks | 4 Marks   |

### Technical Architecture:



### Guideline:

lot technologies for ambient air quality monitoring were reviewed.

lot platform for ambient air quality management was established.

Case studies of pollution monitoring, trace, prevention and improvement were evaluated.

Strategies on smart air pollution control could be achieved by A-IoT technologies.

| S.N<br>o | Component | Description | Technology |
|----------|-----------|-------------|------------|
|----------|-----------|-------------|------------|

|     |                                 |   |   |
|-----|---------------------------------|---|---|
| 1.  | User Interface                  | RFID System, Camera, Humidity Sensor, Infrared Transducer, Gas Sensor | HTML, CSS, JavaScript / Angular Js / React Js, Pressure Sensor, Force gauge, Analog Turbidity Sensor, Thermometer |
| 2.  | Application Logic-1             | Logic for a process in the application                                | Java / Python   |
| 3.  | Application Logic-2             | Logic for a process in the application                                | IBM Watson STT service  |
| 4.  | Application Logic-3             | Logic for a process in the application                                | IBM Watson Assistant  |
| 5.  | Database                        | Data Type, Configurations   | MySQL, NoSQL  |
| 6.  | Cloud Database                  | Cloud Computing platform  | Wi-Fi monitoring system   |
| 7.  | File Storage                    | File storage requirements   | Storage or Other Storage Service or Local Filesystem  |
| 8.  | External API-1                  | Purpose of External API used in the application                       | Open Weather API  |
| 9.  | External API-2                  | Coding, Certification, Identification, Billing                        | The 2G process  |
| 10. | Machine Learning Model          | Purpose of Machine Learning Model                                     | Object Recognition Model, etc.  |
| 11. | Infrastructure (Server / Cloud) | Local System / Cloud  | Local, Cloud Foundry, Kubernetes, etc.  |

**Table-2: Application Characteristics:**

| S.No | Characteristics          | Description                          | Technology  |
|------|--------------------------|--------------------------------------|---|
| 1.   | Open-Source Frameworks   | List the open-source frameworks used | Technology of collection processing, analysis, and visualization of data  |
| 2.   | Security Implementations | Firewalls, Google                    | Data leaks<br>Malware risks<br>Cyberattacks<br>Secure networks<br>Secure data   |
| 3.   | Scalable Architecture    | Scalability of architecture          | Scalability will be key to handling the explosive growth in the Internet of Things (IoT). This means that IoT applications must have the ability to support an increasing number of connected devices, users, application features, and analytics capabilities, |

| S.No | Characteristics    | Description  | Technology  |
|------|--------------------|--|---|
|      |                    |  | without any degradation in the quality of service.  |
| 4.   | Availability       | The applications                                       | Technology used   |
| 5.   | Security framework | Number of requests per sec, use of Cache, use of CDN's | The Rambus IoT Security Framework is a series of embedded software toolkits that protect cost-sensitive devices which possess limited abilities to protect the internal SoC with a rich set of security protocols that include TLS and IPsec. |