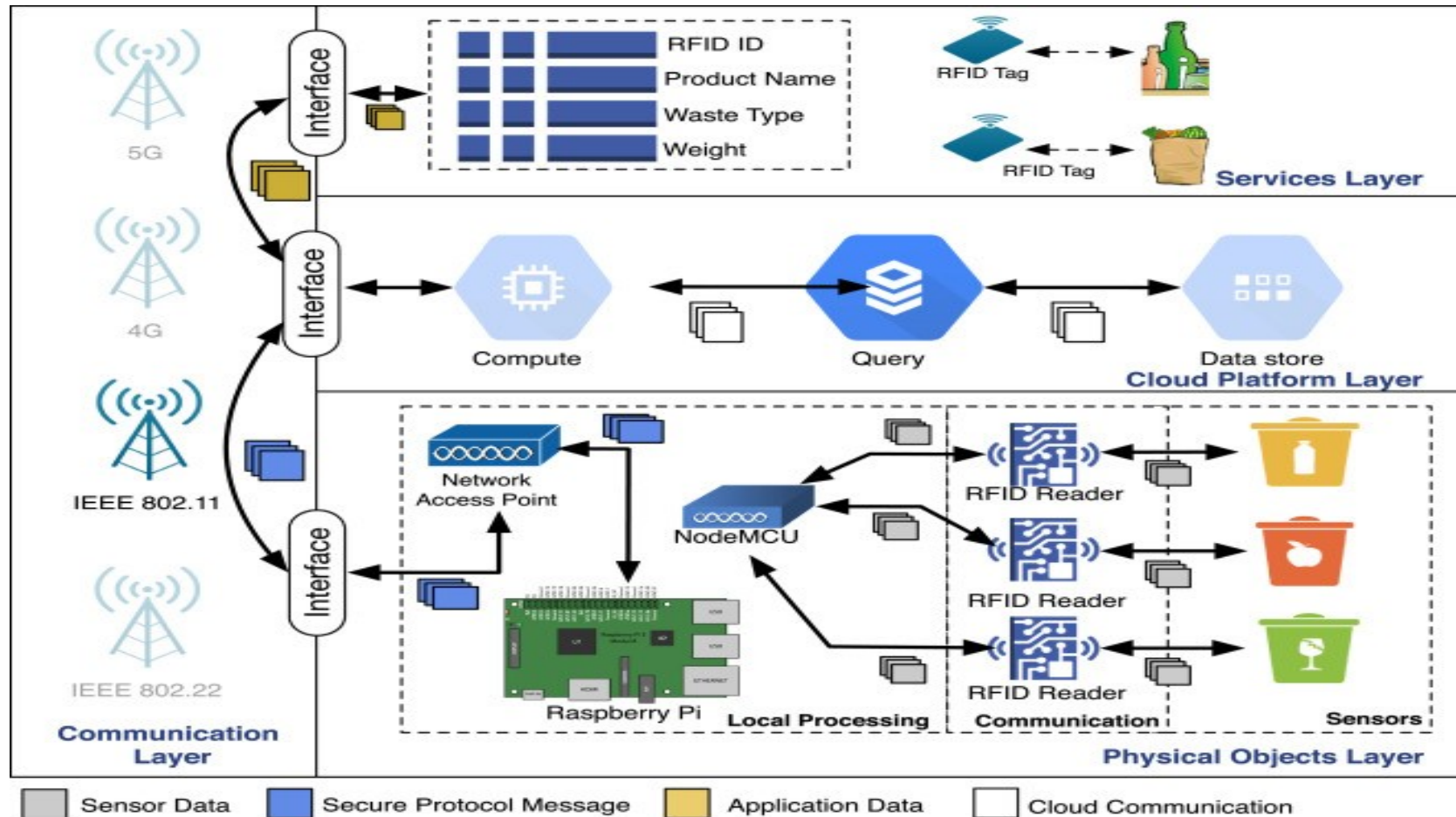


## Project Design Phase-II Technology Stack (Architecture & Stack)

Date	11 October 2022
Team ID	PNT2022TMID18178
Project Name	Project - Smart Waste Management for Meteropolitan Cities
Maximum Marks	4 Marks

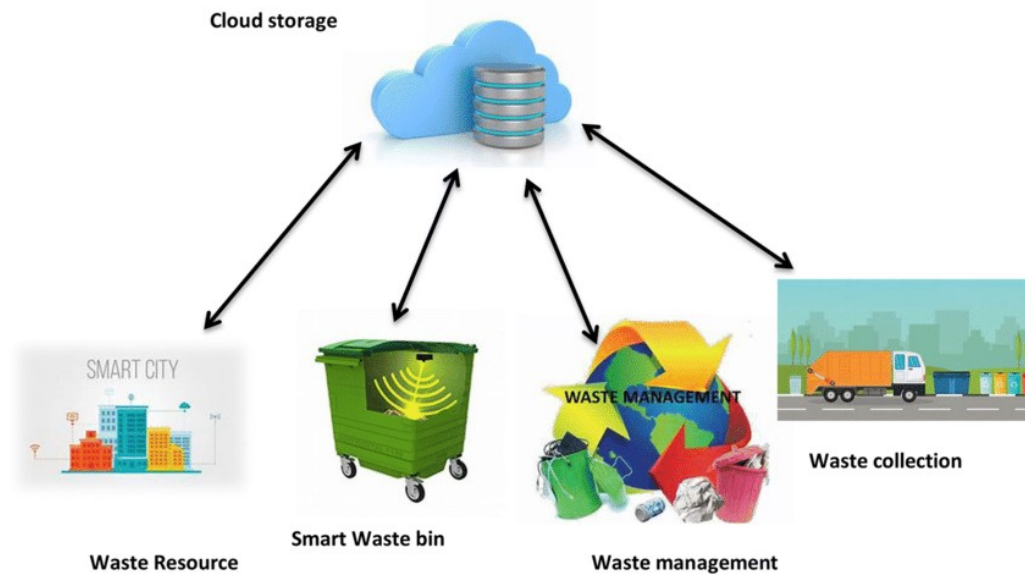
### Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



**Table-1 : Components & Technologies:**

S.No	Component	Description	Technology
1.	Application	It is the platform for interaction of user with the admin (municipality corporation) Through the contacts provided the user can interact with the admin.	HTML, Python
2.	RFID Tag and Reader	Each bin have unique ID using RFID Reader we can verify the smart Bins.	RFID
3.	Ultrasonic Sensor	It measures the distance of top of garbage to the base of it using ultrasonic waves.	A transducer to send and receive ultrasonic pulses
4.	Weight Sensor	It measure the weight of the garbage filled in the bin.	Using the pressure applied to the material
5.	GPS Sensor	They receive the data from the satellites regarding the location of garbage to be collected	GPS Satellites
6.	Cloud Database	For the storage of user information, location of garbage bins,level of the smart bins.	IBM DB2, IBM Cloud
7.	Wifi Module	The ESP8266 WiFi Module is a selfcontained SOC with integrated TCP/IP protocol stack that can give any microcontroller access to your WiFi network.	IEEE 802.11 protocol
8.	Transport	A vehicle for the collection of bins.	Garbage truck



**Table-2: Application Characteristics:**

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Template for software development that is designed by a social network of software developers. These frameworks are free for public use	Python
2.	Security Implementations	provides the technical security policies, requirements, and implementation details for eliminating the security weaknesses	GSM/GPRS
3.	Scalable Architecture	scalable architecture supports higher workloads without any fundamental changes to it.	NodeRed
4.	Availability	The quality or state of being available trying to improve the availability of affordable housing.	IBM Cloud, IBM DB
5.	Performance	The execution of an action	IBM Waston IoT Platform.