



# Smart City Sensor

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## Applications

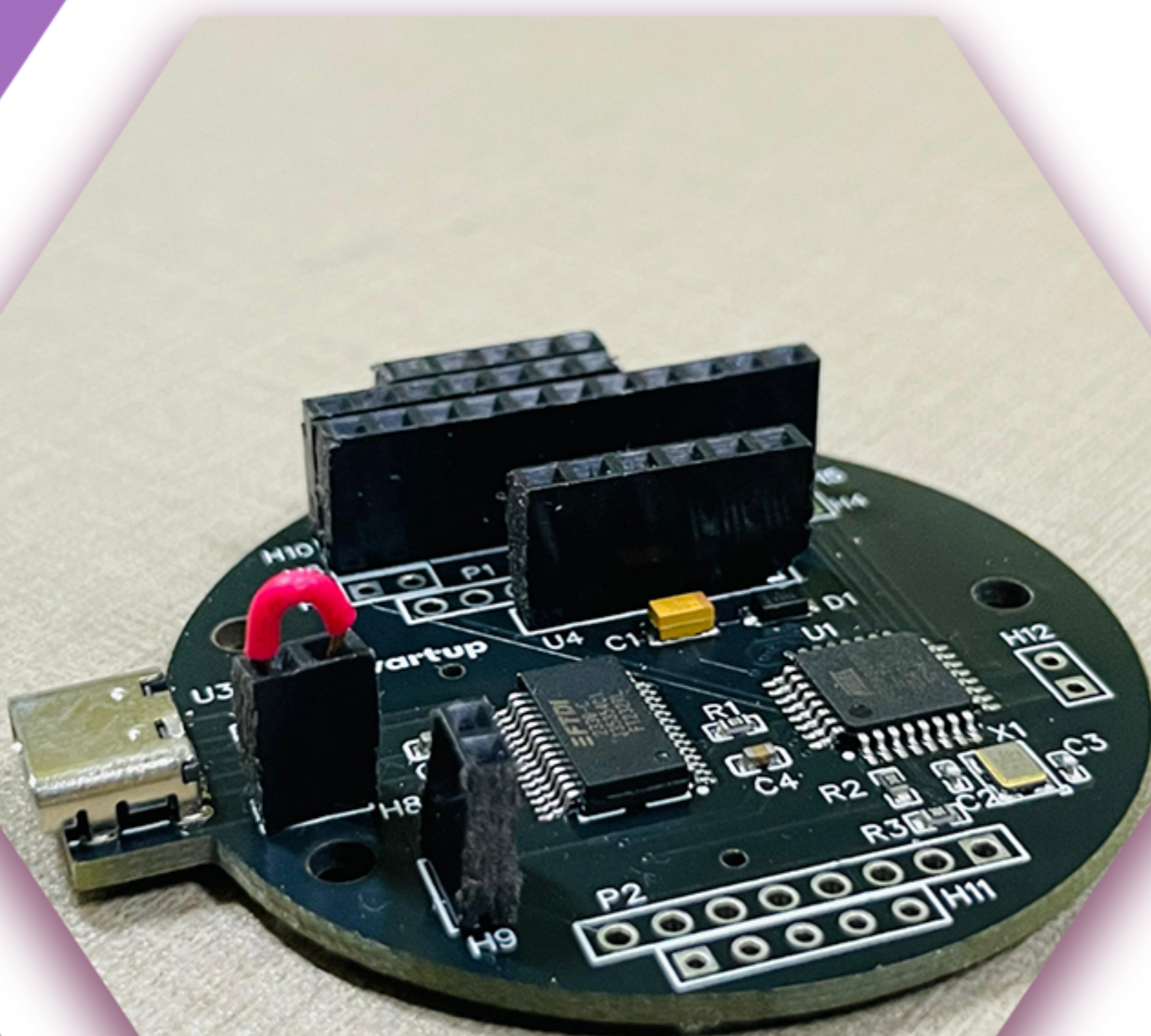
- Environmental Monitoring
- Traffic Management
- Surveillance
- Utility Management
- Waste Management
- Illumination Control

## Modular Design

- Supports both GSM and LoRaWAN communication – pluggable interface
- Supports sensors with I2C, SPI and UART interfaces

## Sensors

- Temperature and Humidity Sensor
- Air Quality Sensors
- Wind Speed
- Water Quality Sensors
- Camera Modules
- Atmospheric Pressure Sensors
- UVIndex Sensor
- Smoke sensor
- TDS Sensor
- Water Oxygen Level



# Product Document for Smart Sensor Node Baseboard

**ProductName** : Smart Sensor Node Baseboard

The Smart Sensor Node Baseboard is a compact and versatile PCB designed for interfacing with various sensors, making it suitable for applications like smart city infrastructure, environmental monitoring, and IoT projects. Built around the ATmega32B chip, it supports multiple interfaces such as I2C, SPI, analog, and digital ports, ensuring flexibility in sensor integration. It offers dual communication options through LoRa or GSM modules, allowing users to select the most suitable method based on their needs.

## Key Features:

- Chip for easy development and access to extensive libraries.
- Multiple interfaces: 2 I2C ports, 2 SPI ports, 5 analog pins, and 2 digital pins.
- Power options: 5V, 3.3V powering sensors.
- Dual communication options: LoRa for long-range, low-power communication or GSM for reliable cellular connectivity.
- Compact and modular design for flexible installations.

## Advantages:

- Flexibility in swapping sensors and communication modules
- Scalable for both small and large deployments
- Ease of use with platform
- Cost-effective by reducing the need for multiple specialized PCBs

**Dashboards are available for custom deployments, tailored to the specific needs of the application and client requirements.**



# Product Explanation Document (Non-Technical)

The Smart Sensor Node Baseboard is a versatile, cutting-edge product designed to simplify sensor network deployment across various industries, particularly for businesses and municipalities involved in IoT. It enables real-time data collection and transmission, supporting better decision-making, improved efficiency, and cost savings.

**Why It Matters:** In today's data-driven world, real-time data collection is vital for success. The baseboard helps organizations leverage IoT for optimized operations in areas like city infrastructure management and agriculture.

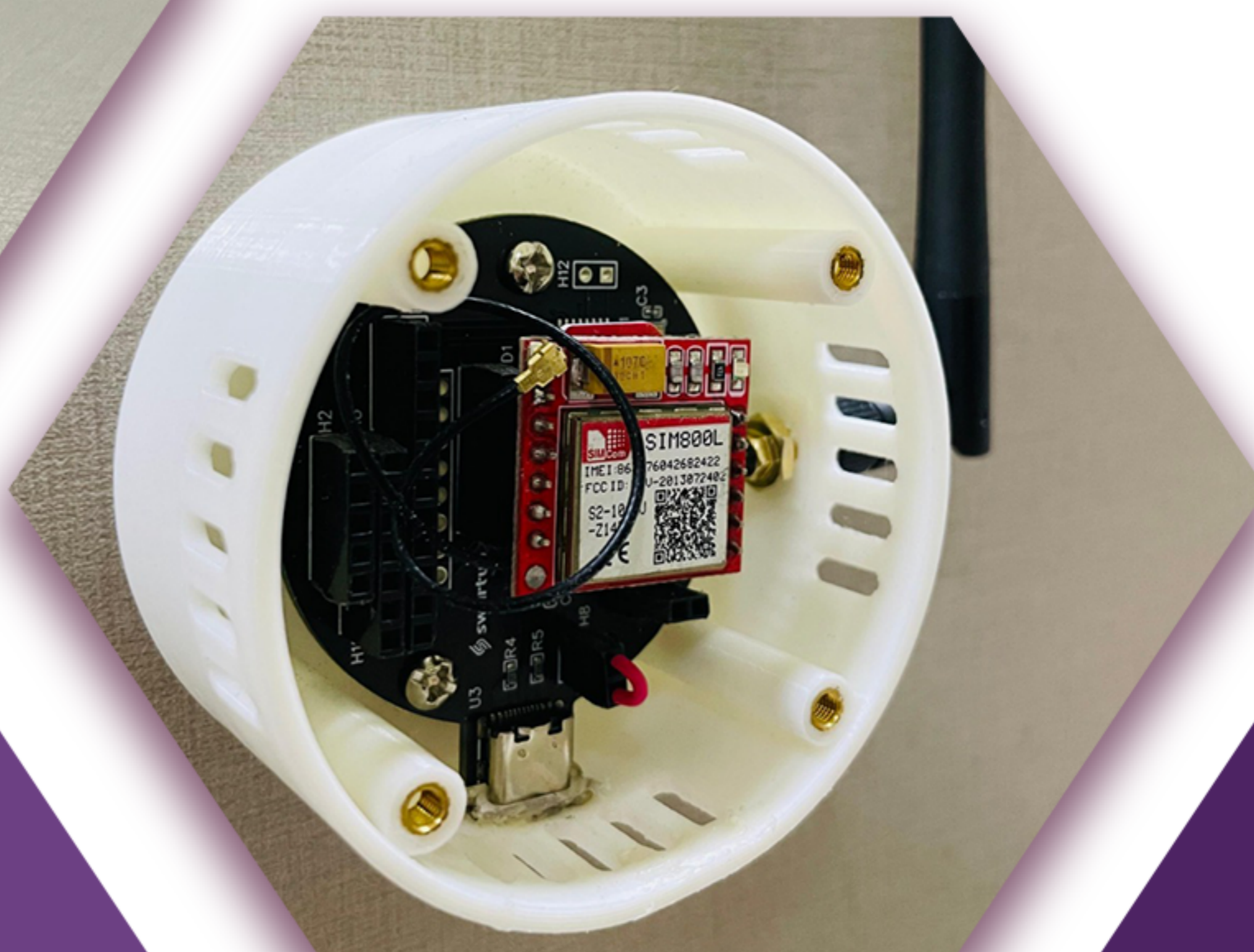
**Unique Selling Proposition:** Unlike traditional solutions requiring different boards for different tasks, this baseboard is highly adaptable and configurable for multiple projects. It offers dual communication options (LoRa and GSM) for reliable data transmission in any environment.

## Benefits:

- Cost savings by reducing the need for multiple specialized boards.
- Scalable, growing with business needs.
- Reliable communication options for any environment.
- Easy integration through the Arduino platform.

## Target Audience:

- Municipalities for smart city initiatives.
- Agricultural businesses for precise crop monitoring.
- Industrial companies for process automation.
- Environmental agencies for natural resource tracking.



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