

Product/Solution/Testing/Training/IPs Development

Milestone 2: 40 Product/Solution/Testing/Training/IPs Development to be developed or tested during the project year.

Achievement: 40+ Product/Solution/Testing/Training/IPs Development have been successfully completed.

Summary Table – Use Cases Developed

Theme	No. of Projects
Agriculture	18
Healthcare	6
Governance	16
Livelihood	12

S.No.	Name	State	Brief
1	Server Drone	Manipur	Smart. Autonomous. Life-Saving integrated drone system combining long-range drones for medical supply delivery
2	JalSwasth WiFi	Nagaland	Wi-Fi-enabled systems allow remote and continuous tracking of critical water quality parameters such as temperature, pH, and dissolved oxygen. These solutions provide real-time data and control, helping optimize fish growth and reduce mortality rates. By enabling data-driven decision-making and minimizing human intervention, this technology enhances efficiency, promotes sustainability, and improves profitability in aquaculture operations
3	JalRakshak 4G	Nagaland	4G connectivity supports remote and continuous monitoring of water quality parameters such as temperature, pH, and dissolved oxygen. With stable data transmission, farmers can access real-time information, optimize fish growth, and reduce mortality rates. This technology facilitates data-driven decision-making, lowers manual intervention, and improves

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			the overall efficiency and profitability of aquaculture operations
4	NeerWatch 5G	Nagaland	5G technology enables ultra-reliable, low-latency, and high-speed monitoring of critical water parameters like temperature, pH, and dissolved oxygen. Real-time insights and instant control actions ensure optimal fish growth conditions and rapid response to environmental changes. With its capacity to handle large-scale IoT sensor networks, 5G enhances precision, sustainability, and profitability in aquaculture while reducing human effort through automation and intelligent data management
5	GrihRaksha - WiFi	Nagaland	An IoT-enabled device equipped with Passive Infrared (PIR) sensors detects unauthorized movement and transmits real-time alerts over Wi-Fi. Continuous monitoring ensures quick response, improved security, and reduced human dependency for theft prevention
6	Flood Monitoring System	Assam	Real Time flood monitoring This project proposes a smart, IoT-based flood monitoring and mapping system that combines ground-level sensors with aerial drones to give cities the visibility and speed they need during flood emergencies
7	Water Quality Monitoring System	Tripura	Lack of real-time monitoring and management of water quality and usage leads to wastage, contamination, and inefficient resource utilization.
8	3D Printing	Tripura	Visually impaired individuals face challenges in navigation, and lack of accessible spatial awareness tools limits their independent movement

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9	HydroSense	Tripura	Inadequate monitoring of water pH, dissolved oxygen levels, and other parameters leads to poor fish health and mortality in aquaculture systems
10	Nibiaa Devices Team	Manipur	The oil, gas, and mining industries face significant challenges in ensuring personnel safety, communication, and monitoring in remote locations
11	AkumenAI	Manipur	Focused on building indigenous assistive technologies for the visually impaired, elderly, and individuals with developmental or neurological disabilities
12	IndiMeat	Assam	Developing a cluster of women livestock farmers for high demand natural meat protein and value added products with block chain traceability
13	DESIGO®	Assam	Proposes to establish tech-driven, women-led, zero-plastic milk production and distribution hubs in the North East
14	RakshakNet 4G	Nagaland	A 4G-enabled IoT device with Passive Infrared (PIR) sensors detects unauthorized movement and transmits real-time alerts via 4G networks. It enables continuous remote monitoring, quick notifications, and reliable security, even in areas with limited Wi-Fi access
15	SurakshaBeam 5G	Nagaland	A 5G-enabled IoT device with PIR sensors provides ultra-fast, low-latency theft detection with real-time monitoring and instant alerts. Its high bandwidth supports large-scale deployment of connected security devices, ensuring seamless data transmission, rapid response, and enhanced automation for smarter security systems.

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16	RakshaView AI	Nagaland	Design a comprehensive theft detection system using IoT-enabled sensors such as PIR (Passive Infrared) to detect unauthorized movement. The system continuously monitors activity and sends real-time alerts via 4G, 5G, or Wi-Fi connectivity. By integrating remote monitoring, automated notifications, and data logging, this solution enhances security, reduces response time, and minimizes human intervention, providing a scalable and efficient approach to theft prevention
17	Hydroponic Farming	Nagaland	Method of growing plants without soil using nutrient-rich water solutions, offers several advantages over traditional agriculture, making it a valuable use case in various contexts
18	Portable Alexa Device	Nagaland	Personal assistant that can go anywhere with you
19	VayuCheck WiFi	Meghalaya	An IoT device equipped with PM2.5/PM10 dust sensors and an LCD display monitors air quality in real time. Data is transmitted over Wi-Fi, allowing users to track pollution levels continuously and make informed decisions to maintain a healthy environment.
20	AirRakshak 4G	Meghalaya	A 4G-enabled IoT device with PM2.5/PM10 sensors provides remote, continuous air quality monitoring. Real-time data transmission ensures users can access pollution levels from anywhere, supporting timely actions to reduce exposure and improve environmental safety.
21	VayuSuraksha 5G	Meghalaya	A 5G-enabled IoT system with PM2.5/PM10 dust sensors and LCD display offers ultra-fast, low-latency monitoring of air quality. Large-scale deployments are possible with seamless, real-time data streaming, enabling advanced analytics, instant alerts, and smarter environmental management.

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22	AirDrishti AI	Meghalaya	A smart IoT dashboard solution monitors PM2.5 and PM10 levels in real time using dust sensors and an LCD interface. Data is transmitted over Wi-Fi, 4G, or 5G networks, enabling continuous tracking of air quality from anywhere. The dashboard provides live readings, historical trends, and alerts, empowering users to make data-driven decisions for environmental safety. Its connectivity options support scalable deployments, instant notifications, and efficient management of multiple monitoring sites
23	Touch Based Theft Detection	Meghalaya	Visually impaired individuals face challenges in navigation, and lack of accessible spatial awareness tools limits their independent movement
24	Smart Waste Segregation Bin	Meghalaya	Design and Implementation of a Smart Waste Segregation Bin Using Fuzzy Logic
25	HelmetNetra	Assam	A smart helmet equipped with alcohol detection sensors, GPS, accelerometer, and a buzzer provides real-time safety monitoring. Connected via 4G, the IoT-enabled device transmits data continuously to a remote dashboard, enabling instant alerts in case of alcohol detection, accidents, or unsafe driving behavior. This system enhances rider safety, supports timely interventions, and allows data-driven monitoring for preventive measures
26	SurakshaHelmet 4G	Assam	A 4G-connected smart helmet combines alcohol detection, GPS tracking, accelerometer sensing, and buzzer alerts for real-time rider safety. Remote monitoring over 4G ensures instant notifications to users or guardians, enabling quick responses to accidents or unsafe driving behavior, even in areas without Wi-Fi coverage.

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27	KavachPro	Assam	Detection of different gas as urgent for health and safety concern in mining industry as well as for household solution
28	UltraKavach 5G	Assam	A 5G-enabled smart helmet offers ultra-fast, low-latency monitoring with alcohol detection sensors, GPS, accelerometer, and buzzer alerts. Real-time data streaming supports advanced analytics, large-scale fleet monitoring, and instant intervention for accidents or unsafe driving. This solution maximizes safety, automation, and smart connectivity for modern transportation systems.
29	GasGuard WiFi	Assam	Gas Guard is a 5G-enabled IoT device equipped with LPG and buzzer sensors for real-time monitoring of gas leaks in agricultural or other field environments. Ultra-fast, low-latency 5G connectivity ensures instant transmission of critical alerts, enabling immediate action to prevent accidents and ensure safety
30	Smart Locks & Access Control	Mizoram	Keys can get lost, stolen, or copied without you knowing. It's also hard and unsafe to share keys with family, guests, or workers. Normal locks can be picked or broken easily. If someone loses a key or moves out, you often have to change the whole lock to keep things secure.
31	Face Tracking System with Laser	Mizoram	A Face Tracking System with Laser is a system that detects and follows a person's face in real-time and uses a laser pointer or laser module to point or interact based on that tracking. In defense or robotics projects, it can be used to aim a laser or device toward a target (like a face or person).

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32	Automatic light using PIR Sensor	Mizoram	<p>If lights are not turned off, they stay on even when no one is there, especially at night. This uses more electricity and makes your bill go up.</p> <p>Also, when lights are used too much, they stop working faster. So, you will have to change them more often and spend more money on fixing them.</p>
33	Water Level Monitoring	Mizoram	<p>Traditional water monitoring methods are manual, time-consuming, and often fail to provide real-time data, leading to problems such as overflow, wastage, or dry conditions. In many rural and urban areas, water tanks and reservoirs lack intelligent systems to monitor and manage water levels effectively. There is a critical need for an automated, reliable, and cost-effective solution to monitor water levels in real-time and provide alerts when water reaches critical levels (too high or too low). Such a system can prevent overflow, detect leakage, support water conservation efforts, and reduce human intervention.</p>
34	Smart Farming	Mizoram	<p>Traditional farming practices often rely on manual monitoring and guesswork for critical parameters such as soil moisture, temperature, and humidity. This results in inefficient use of water and resources, poor crop yield, and increased operational costs. Farmers face challenges in understanding the precise needs of their crops due to a lack of real-time environmental data. Over-irrigation or under-irrigation, unmonitored temperature fluctuations, and humidity variations can severely affect crop health and productivity.</p>
35	NPK-Mitra	Pashighat	<p>A 5G-enabled NPK-Mitra system offers ultra-fast, low-latency monitoring of soil nutrients. It supports large-scale sensor networks, seamless data streaming, and</p>

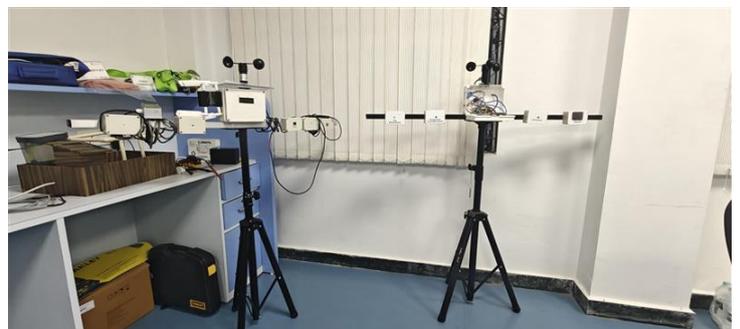
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			advanced analytics, helping optimize fertilization, maximize crop yield, and promote sustainable farming practices.
36	MeghAlert Pro	Pashighat	MeghAlert Pro is a 5G-enabled IoT device integrating NPK, wind, rainfall, and Raspberry Pi-based sensors for real-time monitoring of agricultural field conditions. High-speed, low-latency 5G connectivity allows continuous data transmission to a cloud platform, enabling instant insights, alerts, and predictive analysis for better crop management and decision-making.
37	KrishiVayu Monitor	Pashighat	KrishiVayu Monitor is a 5G-enabled IoT device integrating CO ₂ , humidity, temperature sensors, and Raspberry Pi for real-time monitoring of agricultural field conditions. High-speed, low-latency 5G connectivity ensures continuous data transmission, enabling instant insights, alerts, and data-driven decision-making for optimized crop management.
38	SoilSanket	Pashighat	The solution consolidates real-time data from all sensors, displaying soil nutrient levels, historical trends, and alerts. Farmers can visualize field conditions, track multiple plots, and make informed decisions on fertilizer application, irrigation, and crop management. Connectivity via Wi-Fi, 4G, or 5G ensures continuous, remote monitoring and efficient agricultural management.
39	VarshaDrishti	Pashighat	The solution consolidates real-time data from all sensors, displaying soil nutrients, wind speed, rainfall levels, and historical trends. Farmers can monitor multiple fields remotely, receive instant notifications of adverse conditions, and take timely, data-driven actions to optimize productivity, reduce losses, and enhance sustainable farming practices.

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40	MausamWatch	Pashighat	The solution aggregates real-time data from all sensors, displaying CO ₂ levels, humidity, temperature trends, and historical data. Farmers can remotely monitor multiple fields, receive timely alerts for adverse conditions, and make informed decisions to enhance crop health, productivity, and sustainability.
41	Kokborok to ISL	Tripura	The project aims to bridge this communication gap by developing a digital repository that links English, Bengali, and Kokborok words with Indian SignLanguage (ISL) videos, thereby creating an inclusive, multilingual platform for learning and communication.
42	SignLator Tech	Tripura	Deaf users and sign-language communities (ISL, ASL, etc.) lack real-time translation into local spoken languages.
43	Design and Implementation of Location Based Alert System Using Esp32	Manipur	This project focuses on the development of a real-time location tracking system using the ESP32 microcontroller. The system integrates a GPS module to acquire precise location data and employs GSM connectivity for secure data transmission. Cloud technology is utilized for reliable data storage and management. A web-based interface allows real-time visualization of location data, demonstrating the effectiveness of IoT technology in location-based applications and enabling timely alerts and efficient monitoring.
44	Smart Home Automation and Monitoring System	Manipur	The main objective is to design a system with capabilities of monitoring critical environmental and electrical parameters within a home environment to improve safety, energy efficiency, and automation
45	Cold Storage	Manipur	We are training an AI model capable of analyzing crop health based on sensor data. The model predicts soil quality, moisture levels, and potential crop diseases. We have

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			started collecting training data from real-world agricultural conditions.
46	PashuWatch 4G	Assam	Livestock monitor belt - 4G - tracking livestock movement in a field can provide insights into their metabolism. Livestock activity levels, including how much they move around, can be a good indicator of their overall health and energy expenditure.
47	PashuMitra 5G	Assam	Livestock monitor belt - 5G tracking livestock movement in a field can provide insights into their metabolism. Livestock activity levels, including how much they move around, can be a good indicator of their overall health and energy expenditure.
48	TextPehchaan	Manipur	TextPehchaan is an OCR (Optical Character Recognition) solution designed to read and digitize data from legacy meters. By capturing and processing meter readings in real time, it eliminates manual entry errors, improves efficiency, and enables seamless integration with modern IoT or data management systems.
49	SwasthJal	Assam	Wi-Fi-enabled systems allow remote and continuous tracking of critical water quality parameters such as temperature, pH, and dissolved oxygen. These solutions provide real-time data and control, helping optimize fish growth and reduce mortality rates. By enabling data-driven decision-making and minimizing human intervention, this technology enhances efficiency, promotes sustainability, and improves profitability in aquaculture operations
50	AquaView	Sikkim	The solution consolidates real-time data from all sensors, displaying soil nutrients, wind speed, rainfall levels, and historical trends. Farmers can monitor multiple fields remotely, receive instant notifications of

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			adverse conditions, and take timely, data-driven actions to optimize productivity, reduce losses, and enhance sustainable farming practices.
51	KrishiAir Pro	Sikkim	KrishiAir Pro is a 5G-enabled IoT device integrating CO ₂ , humidity, temperature sensors, and Raspberry Pi for real-time monitoring of agricultural field conditions. High-speed, low-latency 5G connectivity ensures continuous data transmission, enabling instant insights, alerts, and data-driven decision-making for optimized crop management.
52	SoilSync IoT	Sikkim	A 5G-enabled SoilSync IoT system provides high-speed, low-latency monitoring of soil nutrients. It facilitates large-scale sensor integration, continuous data streaming, and advanced analytics, enabling precise fertilization, improved crop yield, and sustainable agricultural practices.

Pasighat – IOT Weather KIT



Portable Alexa



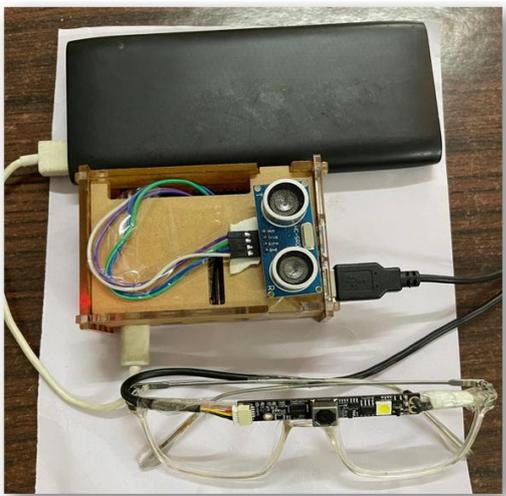
Hydroponic Farming



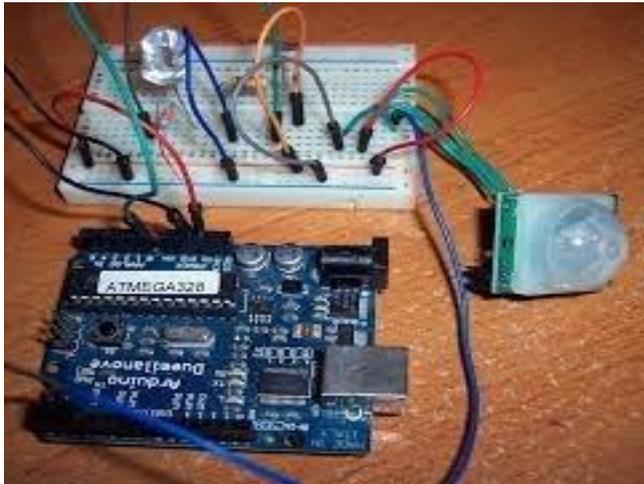
Water Quality Monitoring System



3D Printing



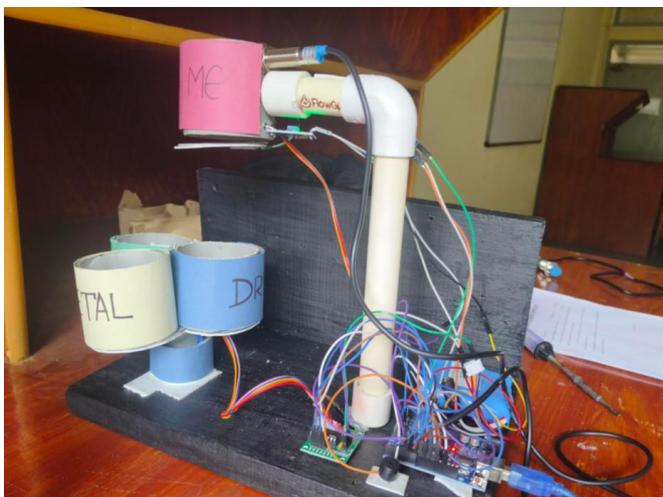
Smart Light Using PIR Sensor



Air Alert Wifi



Smart Segregation Kit



Smart Home Automation



IOT Based Water Monitoring System



Smart Helmet



Serve Drone



Livestock Monitoring Belt

