"Indian Innovation for the
Techade
and
Antyodaya"

Exhibition of 5G Products and Solutions
for Socioeconomic Verticals
5-6th January 2023
Siksha O Anusandhan Convention Centre

Inauguration of
5G Services in Odisha
ଓଡ଼ିଶାରେ ୫ଜି ସେବା ଉଦ୍‌ଘାଟନ

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First Floor

|	
AIRTEL	VI
BSNL	META
RJIO	Microsoft

Centre for Development of Telematics (C-DOT)
Telecom R&D Centre of the Government of India

Centre for Development of Telematics (C-DOT), established in 1984 as an autonomous R&D centre of the Department of Telecommunications, Ministry of Communications, Government of India has been widely known for its monumental role in ushering in the indigenous Telecom revolution in the nation. With its world-class research labs equipped with the state-of-the-art infrastructure and a pool of the brightest engineers from the top institutes of the nation, C-DOT has been strongly committed to fulfilling the overarching objectives of national development through its targeted research initiatives aimed at addressing the specific connectivity needs of our diverse country.

C-DOT's technologies aim at augmenting the broadband infrastructure of the nation and addressing the specific requirements pertaining to rural, security and strategic applications. C-DOT's diverse product portfolio spans a wide array of technologies that include Switching & Routing, Optical Communication, Wireless Communication, 4G LTE, 5G, Network Security, advanced encryption techniques and Post-Quantum Cryptography based solutions, Network Management, M2M/IOT, AI, and a host of other telecom software applications that is a manifestation of its unrelenting desire to capture the unexplored dimensions of the vast Telecom firmament. A brief description of C-DOT's 4G/5G offerings is given below:
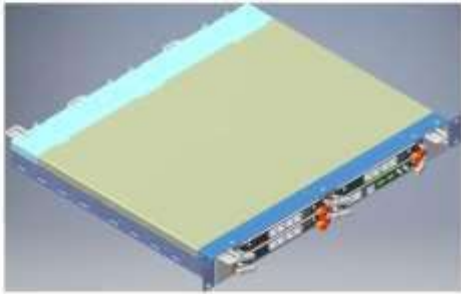
C-DOT 4G /5G Converged Core
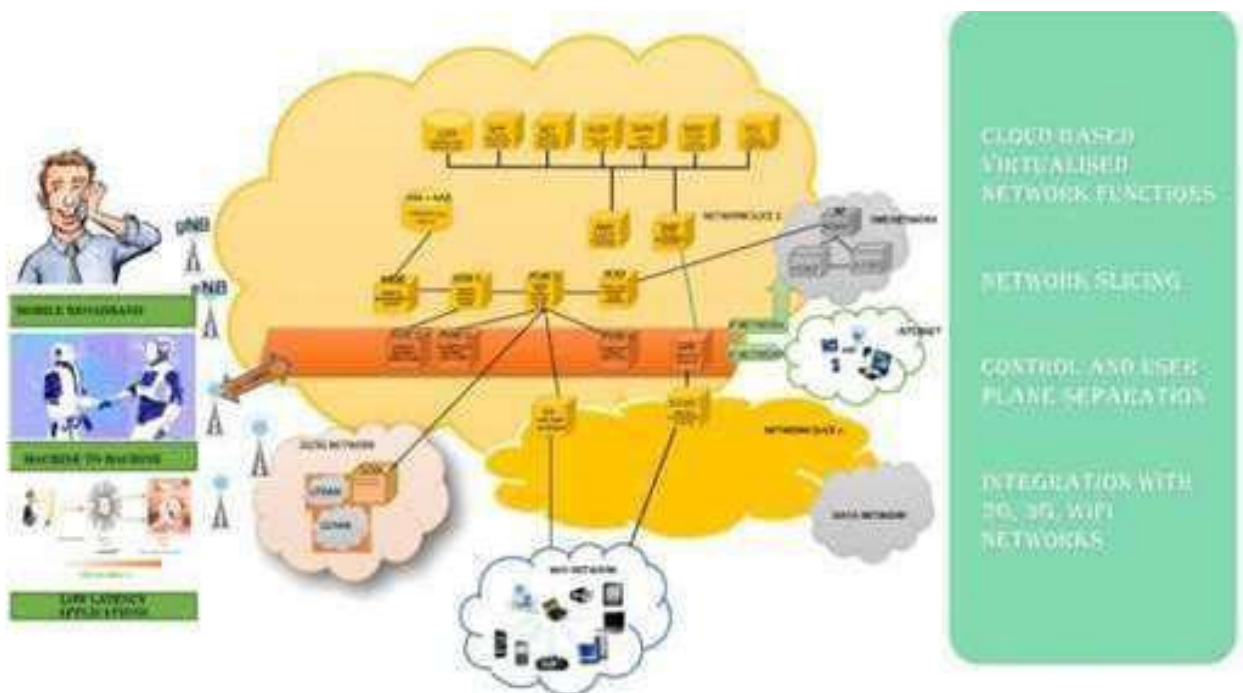
1. Simplified Network Topology & Scalable cloud-based Architecture

2. Supports 3GPP defined interfaces; Seamless interworking with existing 2G/3G mobile networks

3. 4G Evolved Packet Core Network providing mobile native VoLTE / VoIP / data services through seamless integration with IMS and legacy mobile services

4. IP Multimedia Subsystem (IMS) for access independent and service independent delivery with provision for services/features portfolio expansion using 3rd party plugin servers

5. Wi-Fi Offloading & IoT Services

6. 5G Non-Stand Alone (NSA) and Stand Alone (SA) Packet Core Network providing 5G Data Services

7. Flexible data center switch fabric & Element Management System

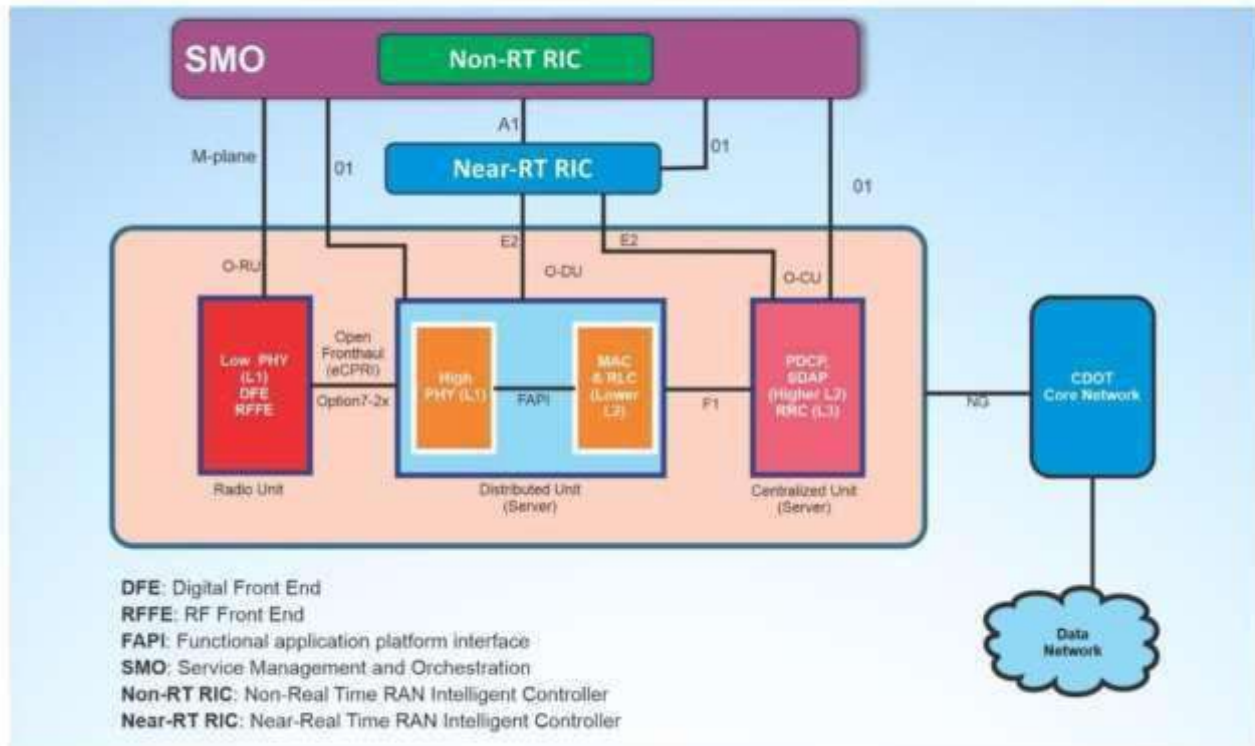8. Security implementation through embedded Firewall, Security Gateway and CGNAT

C-DOT LTE Radio Access Network (RAN) Solution
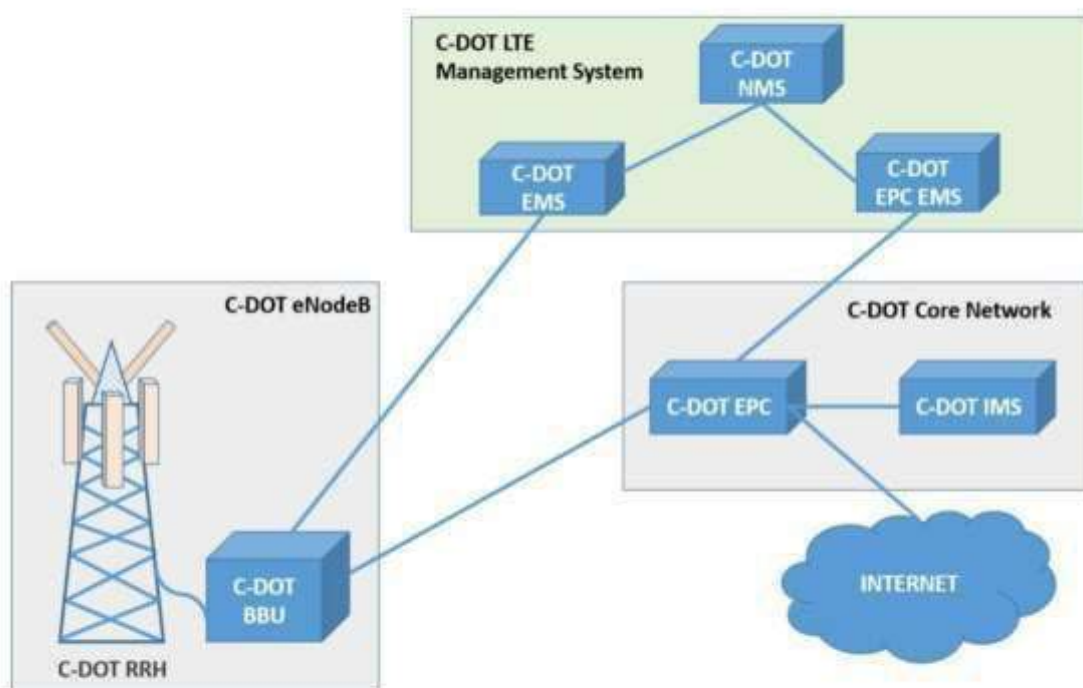
C-DOT provides complete carrier grade LTE Radio Access Network (RAN) Technology which is a part of C-DOT LTE Solutions.

C-DOT RAN	C-DOT Core Network

1. C-DOT eNodeB
   a. Baseband Unit (BBU)
   b. Remote Radio Head (RRH)
2. C-DOT RAN Element Management System (EMS)
	1. C-DOT Evolved Packet Core (EPC)
	2. C-DOT IP Multimedia System (IMS)
	3. *C-DOT Core Network EMS*
	C-DOT Network Management System (NMS)

RAN Specification
1. Multi sector macro eNodeB
2. Bands supported:
   a. FDD: B3, B28, B1, B5 and B8
   b. TDD: B40, B41
3. Bandwidths supported: 5, 10, 15, 20
4. Supported CPRI version: up to 4.2
	RAN Features
	1. Carrier Grade Solution
	2. Indoor BBU and outdoor RRH
	3. Scalable
	4. Modular
	5. Long term Support
	6. Complete End-to-end solution from C-DOT

BBU Features
 	
1. Scalable up to 3 sectors
2. Modular Architecture. Multi-technology capable
3. Maximum users: 1000 connected and 384 active users across 3 sector
4. 12 CPRI interfaces
5. 2x10 Gbps uplink capacity
6. Management Ethernet, USB, Alarm
7. GPS and IEEE 1588 synchronization
8. 1U and 19-inch Rack compatible
9. Equipment Category: QM 333 Type A
10. IP Category: IP30
11. Operating temperature: 0ºC to 40ºC
	RAN Features
	
	1. Both FDD and TDD support
	   a. FDD: B3, B28, B1, B5 and B8
	   b. TDD: B40, B41
	2. Output Power: 20W and 40W per antenna port
	3. Antenna configuration: 4x4 MIMO for high bands and 2x2 for Low bands
	4. IP Category: IP 67
	5. Operating temperature: -10ºC to +60ºC
	6. Control and Management Protocol: ORI
	7. Rugged Design
	8. Daisy chain up to 3 RRH

C-DOT 5G RAN System

DFE: Digital Front End
RFFE: RF Front End
FAPI: Functional application platform interface
SMO: Service Management and Orchestration
Non-RT RIC: Non-Real Time RAN Intelligent Controller
Near-RT RIC: Near-Real Time RAN Intelligent Controller

1. O-RU processes Lower L1, Digital Front End (DFE) and RF Front End (RFFE)
2. O-DU processes Higher L1 and Lower L2 (MAC, RLC protocol layers) with FAPI interface
3. defined between higher L1 and Lower L2
4. O-CU processes higher L2 (PDCP, SDAP layers) and L3 (RRC layer)
5. O-DU and O-CU are implemented using general purpose processor-based Server Hardware
6. Higher L1 of O-DU implemented on Server with Channel coding functionality of L1 offloaded
7. to Accelerator (FPGA) card.
8. SMO is responsible for RAN domain management. The key capabilities of the SMO that provide
9. RAN support in O-RAN are FCAPS (Fault, Configuration, Accounting, Performance, Security)
10. interface to O-RAN Network Functions, Non-RT RIC for RAN optimization and O-Cloud
11. Management, Orchestration and Workflow Management.
12. Non-RT RIC supports intelligent RAN optimization by providing policy-based guidance,
13. ML model management and enrichment information to the near-RT RIC function. It can also
14. perform intelligent radio resource management function in non-real-time interval (> 1second).
15. Near-RT RIC enables near real-time control and optimization of E2 Nodes functions and resources via fine-grained data collection and actions over the E2 interface.

OVERVIEW

An ORAN 7.2a split Indoor Radio Unit which can truly enable 5G for every corner of residentials, enterprises etc. VVDN has indigenously designed and developed this radio to complement the network capacity, density and coverage of macro networks seamlessly. Radio Unit is a single board Optical to Radio interface solution for 5G low power Pico cell applications. With inbuilt low physical layer functionality, small form factor, four-channel MIMO support & an integrated Omni antenna, this small cell can cater to the ever-growing demand of high speed data networks. This solution will further help in offloading macro sites in a cost effective manner.

HIGHLIGHTS

The following are the major highlights of the server:-

- Band : n78
- Bandwidth: 100MHz
- No Of Carriers: 1CC, single
- Numerology SCS 30KHz
- Split: Option 7-2a,Cat A
- Configuration : 4T4R
- Internal Antenna
- RF Power : 4 x 250mW

OPEN INTERFACES

Fully compliant with ORAN alliance specifications to bring true vendor neutrality aspect
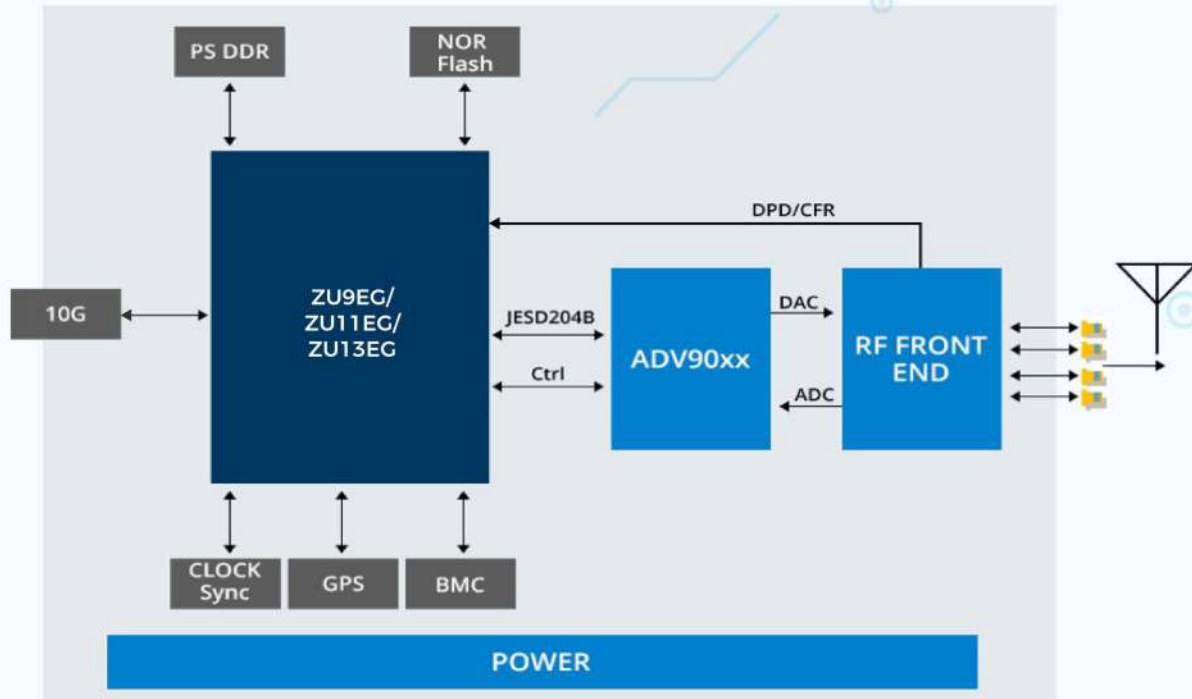
ENERGY EFFICIENT

Best in class energy efficiency, helping telco's and enterprises with lower electricity consumption

EASE OF DEPLOYMENT

Supports both power source DC and PoE++

ARCHITECTURE

RU SPECIFICATIONS

Deployment	Indoor RU
Radio Configuration	Single CC, 2T2R or 4T4R
Band	n78 (3.6 – 3.8 GHz)
Duplex Mode	TDD
Time & Synchronization	IEEE 1588v2, ITU-TG.8275.1
Bandwidth	100 MHz
Modulation	QAM 256/64/16
Interface Protocol O-RAN	FH Split 7.2a
Fronthaul	10G over SFP+
Antennas	4 (Internal/External Antennas)
Powering	PoE++

Total Power Dynamic Range	o	24.3 dB
RF Output Power per port	o	+24 dBm (250mWatt)
Product Dimension	o	209x186x62 mm
Weight	o	< 2.5Kg

CORPORATE OFFICE

VVDN Technologies Pvt. Ltd.
Global Innovation Park
Plot No:CP-07, Sector-8, IMT
Manesar, Gurugram,122050

US OFFICE

VVDN Technologies Inc.
46610 Landing Pkwy,
Fremont, CA, 94538

**End-to-End
Product Engineering, Manufacturing and
Digital Solutions Company**

www.vvdntech.com

ARANYA PARIDHI

The development of agriculture was a watershed moment in humanity. Humans ability to engineer the environment to generate enough food to sustain massive population growth was the first profound change in the relationship between fully-modern humans and the environment. The advent of agriculture kickstarted a wider range of advancements from the use of fire and prepared food to self-driving machinery.

WHO WE ARE
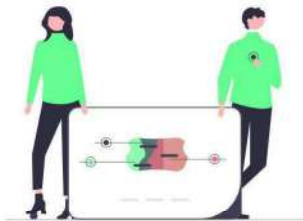
The methods of modern agriculture and agricultural operations are very different from decades ago, mainly due to technological advancements, including sensors, equipment, machines and information technology. We are at Aranya Paridhi boosting the next farm evolution with the IoT, sensor, renewable energy, satellite based special devices for agriculture automation & working towards achieving Human-wildlife coexistence.

CHALLENGES

People living in rural areas of India are facing difficulties as wild elephants, Monkeys, Fauna who in forest reserves entering villages. These wild elephants, Monkeys etc. attack people and destroy the Crop, Grain Storage and properties of villagers. The dump yards, garbage management areas and cultivated lands are attracting elephants and wild animals for food. enter into the village from the nearby forest in search for food.

This challenge has itself encouraged the evolutionary minds to use technology and develop a tool to protect the crops and livelihood in rural areas.

Plants nutrition

Soil moistur

Arming farmers with technology of the future

ARANYA PARIDHI

COMPETITIVE EDGE

- Product made with latest technology giving high security to agriculture premises.
- Protectors for govt utilities like water reservoirs, food distributions facilities, transport depots, pumping stations etc.

OUR SERVICES

Our system is composed of automotive electric fence using light sensor and Thermal sensor. when the animals trying to enter the field by breaking the fence, laser sensor get activated by giving the siren.

LIGHT SENSOR Activate the fence during the night time

THERMAL SENSOR It will detect the forest animals and activate the fence during day time

TYPES OF FENCING SERVICES COMMITTED

FOREST FENCING :

Used to protect cluster of villages located in the forest or near by forest areas from wild animals.

HIGH SECURITY FENCING :

Advanced version of security fence with integration, used to protect premises from all types of intrusions and make perimeter a fooloroff system.

AGRICULTURAL FENCING :

Used to protect agricultural crops from domestic and wild animals.

SECURITY FENCING :

It is designed to keep predators, thieves, trespassers and vandals. Major applications shall be to protect residences, godowns, manufacturing units, gated communities, police station, school, colleges etc from any intrusion.

ARANYA PARIDHI

Project Title:

"SMPS based Smart Hybrid Charge Control Unit – Integrated Power System & IOTs"

APPLICATION:

Integrated Smart grid Solutions to Provide Uninterrupted AC and DC supply to the Telecom Base Tower Stations.

Industry: Industrial Power Electronics Innovation & OEM and System Integartion Solution provider.

Our Aim: "Integrated Unmanned Operational Solutions for Telecom Base Tower Stations"

COMPANY:

SMPS ELECTRIC CONTROL PVT LTD

Founder: Ms. SAGARIKA KHATUA, CEO

TECHNOLOGY READINESS LEVEL (TRL)

Prototype development of our product is final stage of completion. And it is expected to launch the market by Mar. 2023.

INTELLECTUAL PROPERTY

Indian Patent Application No. 202131029985 (Granted)

Patent Grant No: 389446

PROBLEM ADDRESSED
- Uninterrupted power supply issues in telecom tower
- Technical complexity – multi renewable source integration .
- Limitations in existing telecom tower power supply
- Power autonomy/ unmanned BTS is still a **dream**.
- Hybrid power system (Smart Nanogrid) – **Still in Theory**
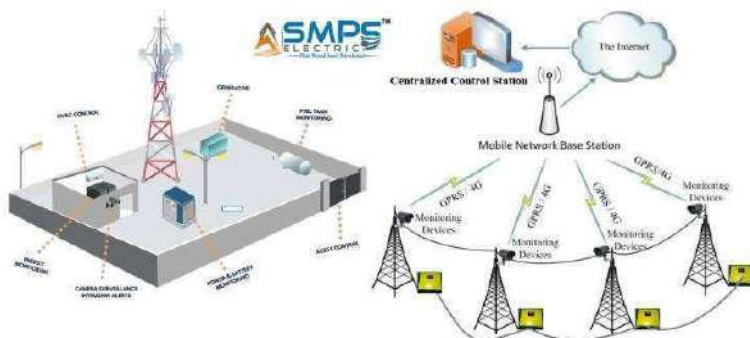- Diesel theft/ operational cost in BTS is a big issue

Market Size
- The Hybrid power system for telecom tower in Global market **USD 33.8 billion by 2027** at a CAGR of 15.7%. Report by: https://www.marketsandmarkets.com

ABOUT THE TECHNOLOGY

"SMPS Based Smart Hybrid CCU" –

- Smartgrid solutions to address UPS issue in remote telecom tower power supply through integration of solar, diesel generator, battery bank and utility grid with IOT.
- Simultaneous AC & DC power supply delivery with centralized remote control & monitoring.
- Smart fault diagnosis from the remote

PROCESS WORK FLOW/ Product Image

(properitory design of SMPS Electric Control Pvt Ltd)

USP
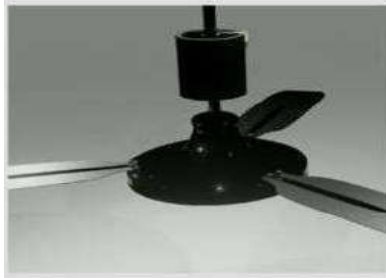- Our continuous technological development and enhancement will keep our product in top of market always.
- We will provide best ever service support both in online as well as offline mode to reach common man.
- Our target is to meet the expectation of customer and serve them technologically.
- Our products will give real value for the money, so our service will create faith in the customer's mind.
- Even though large competitor will enter into market, but still our patent, and business strategies like: customer support, value for money concept will help us to lead the market.

- Centralized Control & monitoring system to operate from remote.
- Independent from EB bills and unmanned tower stations.

END USERS / CUSTOMERS
- BSNL/TCIL/JIO/ AIRTELTelecom Infrastructure projects is our major project for 4G, 5G.
- Domestic customers from state of Odisha and Pan India. (house holds/ agriculture pumping stations)
- EV Charging stations & Smart cities in India

FUNDS RAISED/ RECEIVED / ACHIEVEMENTS
- NIDHI EIR Grant @ 30,000/- INR per month for 1 year.
- STPI grant @ 1,00,000/-
- Startup India Seed Fund @ 12,00,000/- .

VELOTECH INNOVATIONS

We Creates Energy Saving Techs

INSTA ON FAN

Operates within 12-18 watts
Power Backup upto 4 hours
Remote Controlled
Saves Rs-800 per years

COOLER

Works at 18-20 watts
Remote Operated
Power Backup upto 4 hours
Shock proof

AC 250 WATTS

Ultra Energy Efficient
Power backup upto 3 hours

FANS

Operates within 12-18 watts
Power Backup upto 4 hours
Remote Controlled
Saves Rs-800 per years

Let's get ready for future with velotech innovations

VELOTECH INNOVATIONS

FxUAV

FxUAV is a startup which works in manufacturing all kinds of UAVs and manufacturing and deployment of disaster management drones and fire fighting drones. We also develop different kinds of drone payload system along with flight controller and telemetry.

The Ultimate 3in1 Disaster Management Drone

The 3in1 disaster management drone can carry life jacket, life buoy and fire ball all at one time. The drone can carry 15Kg of payload, can fly upto 100ft height, and provide 25mins endurance. The smart camera gives object following ability to follw a drowning person. This is a best drone for disaster management team to fight disasters and fire.

1- Fire Ball Drop

The hexacopter can carry a 1 kg fire ball which will be dropped from 60 mt height on the fire spot and help extinguish the fire. The will help the firemen to extinguish the fire in an inaccessible area like forest, dumpyards,etc.

1

2- Life Buoy Slow Release

The drone can be attached with a life buoy which can help a person get rescued from drowning. The drone can follow the target and slowly release the life buoy until the person get a hold of it. This is the best solution for disaster management team and lifegueard team.

2

3- Life Jacket Slow Release

The drone can be attached with a life jacket which can help a person get rescued from drowning. The drone can follow the target and slowly release the life jacket until the person get a hold of it. This is the best solution for disaster management team and lifegueard team.

3

![Robogenesis logo — We create...]

EXECUTIVE SUMMARY

Robogenesis has harnessed a range of cutting-edge technologies to provide rapid prototyping services to clients. Our team of experts analyses the client's business requirements and provides cost-efficient prototypes that are ready to implement and work. We are proficient at developing modern embedded systems, AI/ML prototypes, IoT prototypes, and much more. All our IoT prototypes have a cloud-based element to them, which allows clients to access and view the real-time status of the prototype...

BRIEF HISTORY

Robogenesis is an Ed-tech start-up giving modern IT Skill training to make you industry-ready. We not only give the training but also makes sure that the training is up-to-date and relevant to the prevailing technologies to make you employable.

PRODUCT FEATURES

SMART MIRROR

- General Info
- Interactive
- Promos
- Run Video
- Notification
- Alexa
- Daily News
- Google Assistant
- Customisable

SUPPORTED BY:

01

A URASSURE I NFRA

*A*N *I*OT-*ENABLED INTELLIGENT SYSTEM*, *TO ADDRESS THE ENVIRONMENTAL CONCERNS EFFECTIVELY*.

Aurassure Infra is a smart environmental monitoring system, employing wireless sensor networks, designed specifically for industries and smarter cities, for continuous monitoring of air quality in real-time. The compact, lightweight and modular design of the device, enables it to be easily deployed anywhere around the city.

Monitoring Parameters

AQI Parameters
PM10, PM2.5, NO2, O3, CO, SO2, NH3

Gaseous Parameters
O2, CO2, NO, CH4

Weather Parameters
Temperature, Humidity, Rainfall, Pressure, Wind Speed, Wind Direction

Others
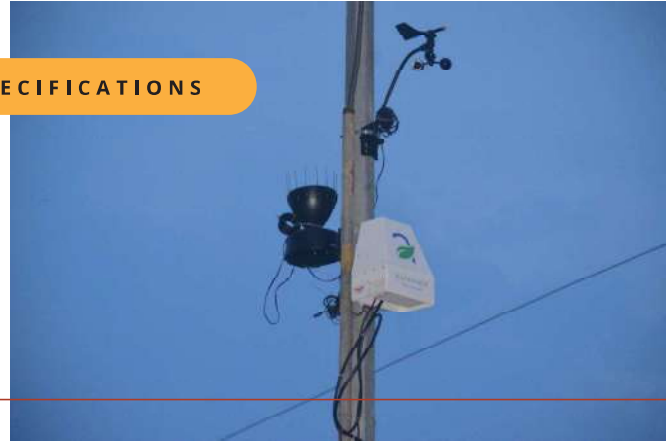UV, Ambient light, Noise

Connectivity
Ethernet, GPRS, Wi-Fi, LoRa

Installation
220v AC Power Supply / Battery Powered / Solar Powered Pole Mount / Wall Mount

SPECIFICATIONS

SENSOR DATA SPECIFICATIONS

	Parameter	Range	Resolution	Accuracy
Gases	NO$_2$	0 – 10 ppm	1 ppb	±2%
	SO$_2$	0 – 100 ppm	9 ppb	±2%
	CO	0 - 1,000 ppm	20 ppb	±2%
	O$_3$	0 – 1,000 ppb	1 ppb	±2%
	CO$_2$	0 – 5,000 ppm	10 ppm	±3%
Particulates	PM$_1$	0 – 200 µg/m3	1 µg/m3	±5 µg/m3
	PM$_{2.5}$	0 – 500 µg/m3	1 µg/m3	±5 µg/m3
	PM$_{10}$	0 – 1,000 µg/m3	1 µg/m3	±5 µg/m3
Weather	Temperature	0 – 80 °C	0.1°C	±0.3°C
	Humidity	0 to 100 % RH	1%	±1%
	Pressure	150 – 11,500 hPa	0.01 hPa	±1.5%
	Wind Speed	0.5 – 89 m/s	0.1 m/s	±5%
	Wind Direction	0˚ - 360˚	1°	±3°
	Noise	0 – 120 dB (A)	0.1 dBA	±2%
	Rainfall	0 – 99.99" (daily)	0.1"	±2%

02

AURASSURE TRUST

AN IOT-ENABLED INTELLIGENT SYSTEM, TO ADDRESS THE ENVIRONMENTAL CONCERNS EFFECTIVELY.

Aurassure Trust is a cost-effective environmental awareness system, designed specifically to educate and raise air quality awareness, including research activities. This portable solution can be easily deployed in school, colleges, hospitals and research institutes to measure different environmental parameters.The solution also comprises of a weather and urban flood monitoring system.

Monitoring Parameters

Gases & Particulates
CO2, VOC, PM2.5, PM10

Weather Parameters
Temperature, Humidity, Pressure, Wind Speed, Wind Direction

Disaster
Rainfall, Inundation Level, Dam Level, Power Station Status
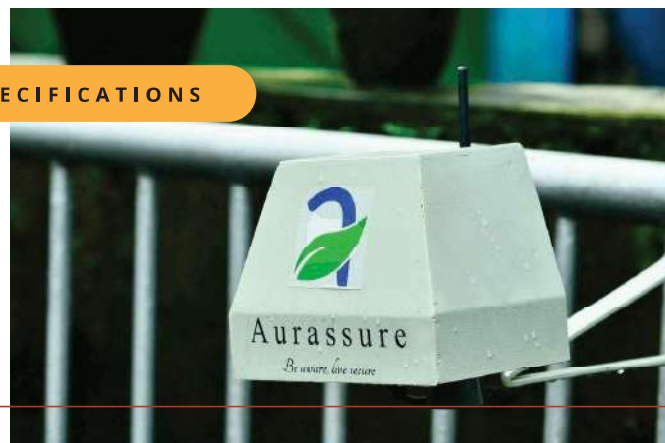
Others
UV, Ambient light, Noise

Connectivity
Ethernet, GPRS, Wi-Fi, LoRa

Installation
220v AC Power Supply / Battery Powered / Solar Powered Pole Mount / Wall Mount

SPECIFICATIONS

SENSOR DATA SPECIFICATIONS

	Parameter	Range	Resolution	Accuracy
Gases	NO_2	0 – 10 ppm	1 ppb	±2%
	SO_2	0 – 100 ppm	9 ppb	±2%
	CO	0 - 1,000 ppm	20 ppb	±2%
	O_3	0 – 1,000 ppb	1 ppb	±2%
	CO_2	0 - 5,000 ppm	10 ppm	±3%
Particulates	PM_1	0 – 200 µg/m3	1 µg/m3	±5 µg/m3
	$PM_{2.5}$	0 – 500 µg/m3	1 µg/m3	±5 µg/m3
	PM_{10}	0 – 1,000 µg/m3	1 µg/m3	±5 µg/m3
Weather	Temperature	0 – 80 °C	0.1°C	±0.3°C
	Humidity	0 to 100 % RH	1%	±1%
	Pressure	150 – 11,500 hPa	0.01 hPa	±1.5%
	Wind Speed	0.5 – 89 m/s	0.1 m/s	±5%
	Wind Direction	0° - 360°	1°	±3°
	Noise	0 – 120 dB (A)	0.1 dBA	±2%
	Rainfall	0 – 99.99" (daily)	0.1"	±2%

03

AURASSURE CARE

INDOOR DEVICE TO MEASURE & MONITOR AIR QUALITY

The indoor air quality device will help in measuring the air quality around you. It will measure various kinds of gases present in the air along with the temperature and humidity.

Monitoring Parameters

Sensors
Temperature, Humidity, PM2.5, PM10, TVOC
HCHO, O3, Co2, Noise

Optical Sensors
SO2, NO2, CO, NH3, CH4, UVA/UVB
Pressure

Connectivity
MODBUS RTU, Wireless LAN: 802.11 b/g/n
Bluetooth: 4.2

Storage
125MB Fixed Memory, SD card supported

Other
Hardware Time (RTC)
Hardware Auto Recovery

SENSOR DATA SPECIFICATIONS

Parameters	Range	Resolution	Accuracy
Temperature	-40°C to +100°C	0.01°C	± 0.2°C
Humidity	0-100%	0.01%	±3%
PM2.5	0-1000 μg/m3	1μg/m3	±2% FS
TVOC	0-5PPM	0.01PPM	±1% FS
HCHO	1-50PPM	0.1PPM	±5% FS
O3	0-5000PPB	1 PPB	±1% FS
CO2	400-5000PPM	1PPM	±10% FS
Noise	30-120dBA	0.1dBA	±2dBA
Pressure	300-1100 hPa	0.002hPa	±0.12 hPa

04

T ʀᴀDᴇ OMNI

"Tʜᴇ IoT Eɴᴀʙʟᴇʀ"
Tʀᴀɴsᴍɪssɪᴏɴ Dᴇᴠɪᴄᴇ (TʀᴀDᴇ)

TraDe OMNI portfolio of IoT Gateways provide a wide range of solutions to build a secure and highly reliable infrastructure for long-distance network applications. It is enabled with smart remote management for seamless integration with varied industrial equipments using multiple wired and wireless communication channels.

Features

Seamless Operation
Remote Health Diagnostic

Interfaces
Isolated MODBUS RTU, MODBUS TCP ;
*Mico USB 2.0

Connectivity
Cloud- 4G, Wi-Fi, Ethernet
End Devices- *Bluetooth & *LoRa (Optional)

Security
AES or RSA Encryption/Authentication Using SSL

Automatic Firmware Update
OTAP, Secure Boot

Easy Installation
Remote Configuration, Compact & Robust
Easy Mounting Options

05

T ʀᴀDᴇ GPRS

"Tʜᴇ IoT Eɴᴀʙʟᴇʀ"
Tʀᴀɴsᴍɪssɪᴏɴ Dᴇᴠɪᴄᴇ (TʀᴀDᴇ)

TraDe is a series of hardware devices capable of transmitting the sensor data through wireless communication to a remote server for the purpose of storage and further analysis. These devices enables real-time communication between various standard industrial protocols such as Analog, Digital, 4-20 mA, RS 485, RS 232, Modbus RTU / TCP through Wi-Fi, LoRa, Cellular Network and Ethernet.

Features

Seamless Operation
Remote Health Diagnostic

Interfaces
Isolated MODBUS /RTU;
*Micro USB 2.0, RS232

Connectivity
Cloud- 2G, Wi-Fi
End Devices- *Bluetooth (Optional)

Security
AES or RSA Encryption/Authentication Using SSL

Automatic Firmware Update
OTAP, Secure Boot

Easy Installation
Remote Configuration, Compact & Robust
Easy Mounting Options

PriME

Priorities Made Easy Technology Private Limited Presents

MED CASE

A smart device that not only dispenses medicines on time but also ensures, tracks, reminds and cares for the patient's medication.

www.primeforyou.in

28cm

28cm

8cm

PRODUCT DESCRIPTION

MedCase is an IoT based automatic medicine pill dispenser which dispenses and monitors a patients daily use of pills as per pre-defined timing set-up and configuration of the medication schedule (before food / after food). It also saves a brief history of taken pills and missed medicines for further analysis and prescription. It also enables the care taker to track the medication of the patient, get notified on missed medication. It can also be integrated with amazon alexa to enable voice notification.

FEATURES

- Medication time alert with sound and LED indication
- One button operation with display
- After food / Before food Indication
- Missed medicine notification
- Low storage alert
- User-friendly mobile application
- Integrated with Amazon Alexa
- Uninterrupted power supply operation
- 12+ hrs battery backup
- Monthly detailed medication report

APPLICATION

INTERACTION WITH LEADERS

SUPPORTED BY

STPI

Electropreneur @bhubaneswar

STPINEXT INITIATIVES

TAKE A TOUR

ABOUT US

Priorities Made Easy Technology Private Limited is an electronic products manufacturing company focused on offering automation solutions to the society. Starting from 2018, we are keen to make daily life easier by the use of advance IoT based solutions.

OUR TEAM

Dibya Sundar Rath
Director

Udipta Kumar Rath
Director

Vivekananda Pani
(Co-founder Reverie Language Tech)
Advisor

Debasish Mishra
(DGM, SBI Hyderabad)
Advisor

We are looking for
Sales and Marketing Partner

CONTACT US

D 304, Sai Rose Apartments, Raghunathpur Jali, Bhubaneswar, Odisha, India, 751024.

+91 9437730381

www.primeforyou.in

admin@primeforyou.in

PriME

CARBONOUT TECHCOM PRIVATE LIMITED
Product Of New Age

Company address–Forest Park, Nirmala Plaza, A-Block, Room No.- 208 ,Bhubaneswar,751009

Sector focused– Green Energy Sector.

Company Portfolio-

The Paver-360 title block called the Green Title Block has basic features of illuminating the floor area of building, roads, path-ways of park and many more suitable areas. The products are self-illuminating and increases the road safety, building beauty, land scape lighting provision with many IoT features.

Startup Matric– 2 Co-founders and 6 employees.

Product stage– MVP (Minimum Viable Product)

Intellectual Property– IP Pending

Fund raised– Grant of 25.5 Lakhs

Highlights-
- The Co-founder Pradipta Panigrahi has been working in Green Energy Sector for 26 years.
- HDFC Bank has provided Rs. 25.5 Lakhs as the best idea in sustainable development.
- The project has been piloted in the platform 1 of Bhubaneswar railway station from which they got the Letter of Intent by Government Of Odisha..

Brief About Product

The product technology is based on Green Solar Solution attached with high and end battery management system complied with micro lights. The product can be mounded in any shape, any size , any pattern with back-up power and without back up power. The IOT IT infra of telecom/ data transfer make it unique with its scalability of carbon dioxide reduction with many added ranges of product opportunities.

Given 25.5 Lakhs by HDFC Bank for Best Idea of Sustainable Developement

SOME OF OUR PRODUCTS

SPK-MAK
Technology Matters

**CUSTOMIZED AMR BOARD
WITH ALL BSP**

SPK-MAK

AUTONOMOUS MOBILE ROBOT
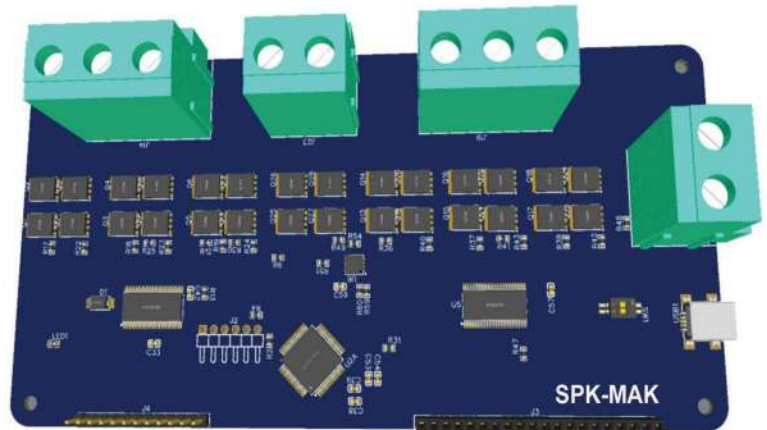
INDUSTRIAL MOTOR DRIVER
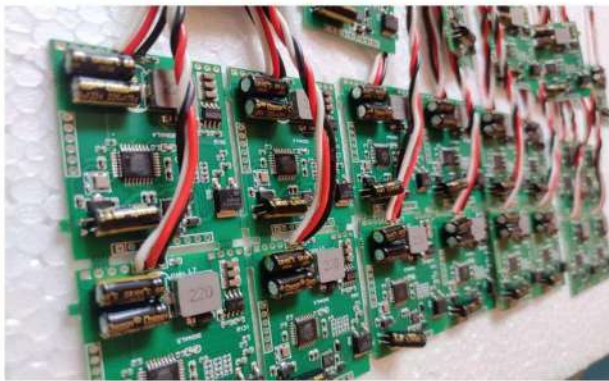
DRONE HARDWARES
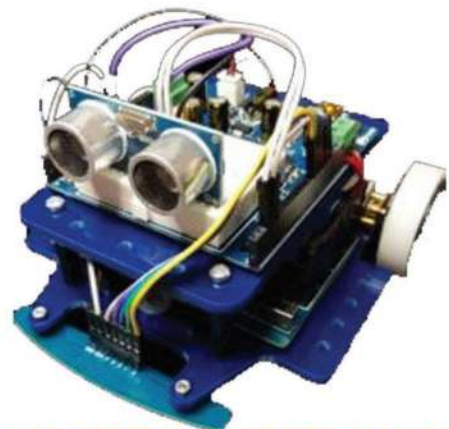
EDUCATIONAL STEAM KIT

WEB : WWW.SPK-MAK.COM,   CONTACT : +91 81147 45472

Electropreneur PARK
Bhubaneswar

एसटीपीआई
STPI

STPI NEXT
INITIATIVES

Company Profile

Coral Telecom Limited is a leading design and manufacturing company that provide "enterprise communication solutions" with focus on applications for Railways, Metro, Mines, Défense and other similar private communication networks.

Primarily engaged in design, development & re-engineering of IMS based, Unified Communication solutions that handle voice, video and data requirements of a modern enterprise. Specialized software applications have been designed to provide integrated communication solutions with Paging, Video conferencing and Despatcher applications that find use on Railways, Metro Projects and Smart city applications.

Solutions includes converged 4/5 G core that provides seamless communication with LTE / 5G based radio networks such as to facilitate private enterprise communication across wired as well as wireless devices. We support mission critical and MCX based floor control services to facilitate PTT (push to talk) features for audio and video broadcast, so critical for applications in Utility companies, Police and para military forces. Solution supports Autonomous vehicles, Robotic arms, IOT and M2M applications for Mines, Submarines, Oil rigs and can cater to needs of Industry 4.0 in general.

Common NMS, facilitates simple user-friendly management and configuration of all network elements. Ability of our solution to support plug and play function for Gateways, Wired phones, Mobile phones, Cameras, IOT devices with centralised control and common alerts makes it a preferred choice of users.

Coral has designed and manufactures associated embedded hardware or media gateways to provide seamless inter-operability with legacy protocols like FXS, FXO, PRI, GSM, E&M etc. with emphasis on converged multi-service, multi-protocol access gateways that can work as part of an IP Multimedia subsystem yet capable of standalone existence.

Enterprise Communication - seamless working with VoLTE
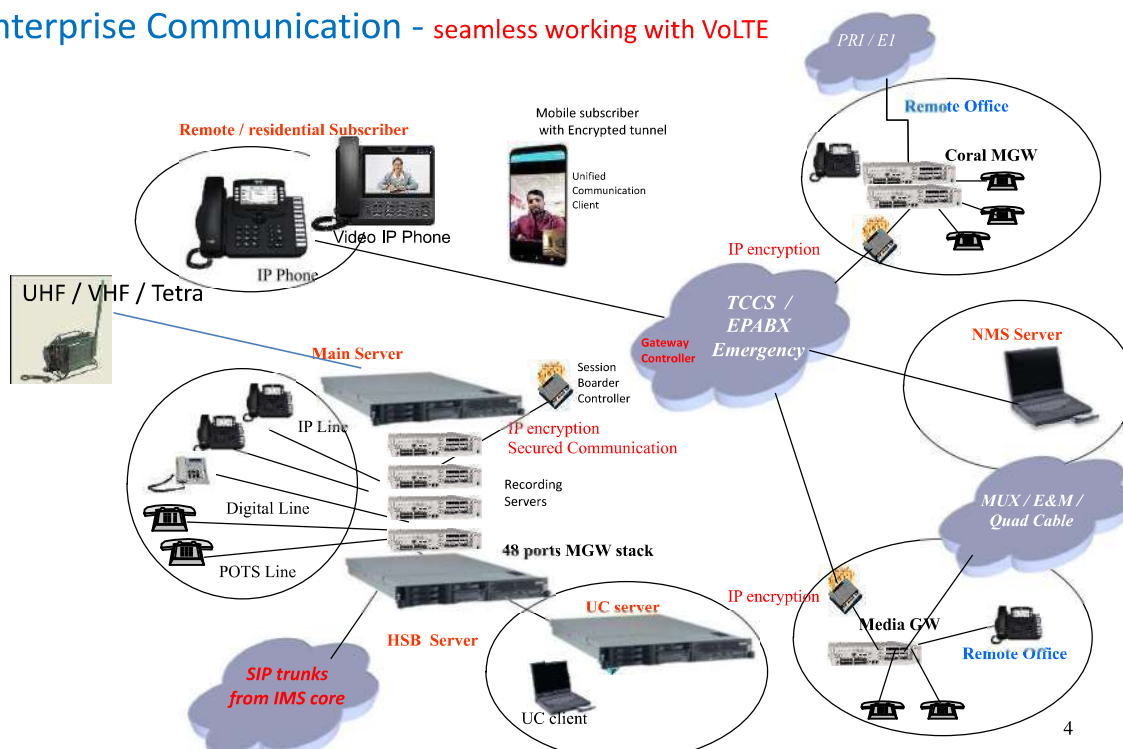
Signalchip is an exciting Indian fabless semiconductor company established in 2010 with the vision of building an organization of highly motivated people working on cutting edge technologies creating differentiated semiconductor products. They work on extremely innovative chips to enable high speed wireless communication standards like 4G-LTE/3G-WCDMA and 5G-NR. Signalchip's devices provide extreme performance while being optimal owing to its slim baseband and RF architectures that are designed from grounds up with modern-day high-performance systems in mind and carry no baggage of legacy systems. Signalchip have the Agumbe series of Chipsets for Radio Access networks.

Agumbe series of Chipsets for Radio Access network

Single chip SoC	Baseband SoC	RF Transceivers	
LTE-LAA + WCDMA Dual Carrier 2X2 MIMO Single Chip	LTE Dual Carrier MIMO 4X4 Baseband Chip	2X2 MIMO Analog-RF Transceiver: 350MHz-6GHz with aux receiver	2X2 MIMO Analog-RF Transceiver: 350MHz-6GHz 5G-FR1 capable!
Ultra compact cost sensitive small cells	Local Area and Macro Base Stations	LTE Basestation, WiFi, SDR/Wireless Systems	5G NR, LTE Basestation, WiFi, SDR/Wireless Systems

Multisystem and Multiband RF Transceiver

Signalchip's RF Transceiver chips **SCRF4502** and **SCRF3402** integrates all the necessary components for 5G-NR/ 4G/ 3G/ 2G, Wi-Fi systems and a wide range of SDR applications. Integrated CPRI/JESD link support enables unique and compact RRU designs.

Complete LTE Base station in one chip

SCBM3412 is a highly optimized device built for residential and enterprise class base stations from scratch with a CPE (Customer Premise Equipment) mindset. A platform that carries no baggage of legacy systems brings together the performance and robustness of enterprise class equipment with the cost sensitivity of mass market equipment. Powerful processing engines for L1/ L2/ L3 layers of LTE Advanced systems, LTE and WCDMA have been built with innovative hardware-software partitioning and optimal analog-digital partitioning of the functionalities. SCBM3412 provides the long-awaited low-cost small cell solution with best-in-class performance.

High performance LTE Baseband

SCBM3404 is a highly optimized device built for enterprise and local area/macro base stations. A platform that carries no baggage of legacy systems brings together the performance and robustness of enterprise class equipment at a competitive price point. Powerful processing engines for L1/L2/L3 layers of LTE Advanced systems, LTE and WCDMA have been built with innovative hardware-software partitioning to support 4x4 and advanced signal processing functionality.

SCRF4502: 5G-FR1 capable RF Transceiver

Single chip ultra-compact SoC for a Feature Rich 5G Radio Unit!

Integrated DPD, CFR and Quadrature correction

Digital communication Interface with integrated CPRI/eCPRI and JESD

Supports 5G-NR, LTE, 3G, 2G and Wi-Fi

Advance Signal Processing

Ultra-low Noise RF Synthesizers

High Fidelity Data-Converters
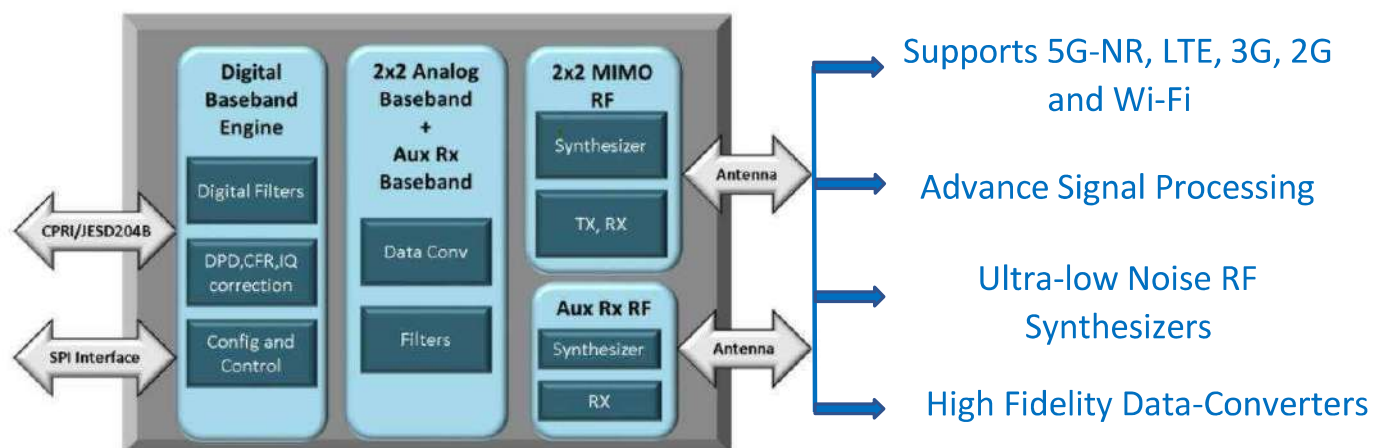
Signaltron is an Indian original equipment manufacturer of Wireless communications systems established in 2019 with the vision of building complete end to end technology ownership within India in ubiquitous networking devices. Founders of Signaltron have spent many years developing solutions to some of the most complex problems in networking, computation, wired and wireless communication domains. Signaltron specializes in providing radio access network solutions for 5G, LTE, GSM and WCDMA

Focus areas of expertise:

- Wired and wireless networking solutions: Indigenous 4G, 5G, Wi-Fi, NavIC

- Wireless Infrastructure

- Enterprise and Consumer equipment

- Secure networking

Sahyadri Series of RAN systems from Signaltron

Femtocell
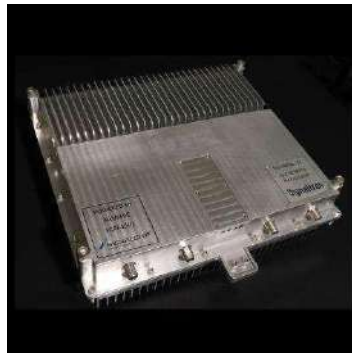
5G-NR RU

4G/5G BBU/DU

Compact NIB

O-RU

Micro Cell

STRRU4415-160W-OD: High power High Capacity 5G RU

O-RAN Compliant with 10G eCPRI Interface

4 x 40W per Antenna

O-RAN 7.2 interface

Lower PHY & Beam Forming

Signaltron's Sahyadri series of Radio Access Network Equipment featuring highly integrated, compact and versatile 5G/4G Base Stations deliver high capacity to enable ubiquitous connectivity to all. A key part of Sahyadri RAN, the STRRU4415 Remote Radio Unit is easy to install and gives the flexibility to run all functions of O-RU facilitating multiple interface splits of the macro gNodeB/eNodeB in a single enclosure.

Sahyadri Base Stations enabled by the new Agumbe Chipsets from Signalchip deliver high throughput providing industry leading performance in extremely compact form factors, which will allow operators to meet the huge growing densification demands as well as provide low-cost coverage to rural regions, thus providing a common deployment platform that bridges the diverse rural-urban deployment requirements.

Sahyadri STRRU4415 O-RU features energy efficient high power 4x4 radio that performs all the functions from lower-PHY of gNodeB/eNodeB's L1 layer to RF in a single compact enclosure. This helps the service providers to reduce the site space requirement and allow faster roll out while lowering the total cost of ownership. These can support carrier aggregation to maximize the cell throughput and capacity for an enhanced overall user-experience.

Sahyadri STRRU4415 is powered by the highly integrated 5G/4G RF transceiver chipset Agumbe SCRF4502 from Signalchip featuring high fidelity mixed-signal analog RF and integrated advanced signal processing functions such as DPD, CFR and QEC. The compact unit performs all functions of the lower PHY of L1 of the gNodeB/eNodeB solution. It connects to the DU over a 10G CPRI/eCPRI/ORAN 7.2x interface.

COSGrid
NETWORKS

5G SD-WAN

COSGrid 5G SD-WAN FWA

Highlights

- High performance 5G NR
- Zero Trust & Zero Touch SD-WAN
- Higher branch bandwidth & Uptime
- Network Policy Orchestration & Automation
- Multi band Connectivity with 5G NR / FDD LTE / TDD LTE
- Load balancing and failover
- Multi path Aggregation
- Application Prioritization
- Durable and robust styled hardwares
- Visibility and orchestration through single Console

COSGrid 5G RefleX-WAN is a 5G powered SD-WAN solution which is a zero-touch deployment (ZTD) capable of self-configurable features that can do routing, forwarding, security, encryption, QoS, policy and management. COSGrid 5G RefleX-WAN is designed to allow enterprises to connect remote employees and distributed sites by leveraging wireless 5G and existing wired networks to create a seamless secure connectivity experience. COSGrid 5G RefleX-WAN constitutes an Edge device (HW) and software where it can be securely deployed on-prem and managed by a cloud-hosted COSGrid controller and orchestrator (Guider).

Products
(HWs)

KEY SPECIFICATIONS

Feature	Description	
Cellular Band Plans	• 5G NR NSA: n41/n77/n78/n79 • 5G NR SA: n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79	• LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 • LTE -TDD: B34/B38/B39/B40/B41/B42/B43/B48
Hardware	• 2 x Micro SIM Card Slots & 3 x Micro SIM Card Slots • Multi Gigabit Ethernet port with 802.3at PoE • 1 x Reset Button	
Networking	• NAT, VLAN • Static route, Policy-based routing • BGP/OSPF	• QoS, Policy-based traffic management • Load balancing • Split tunneling
Security	• LDAP authentication • WPA3 enterprise authentication • Zone-based firewall • DNS content filtering	• Allow list and block List • ZTP (Zero Touch Provisioning) • IPSec and Open VPN

KEY BENEFITS

01
5G Gigabit Speed
COSGrid 5G routers provide gigabit class download speeds and support remarkably fast 4G fallback at LTEthroughputs for extended coverage

02
Simplified Operations
Remote configuration and management allows enterprise to extend corporate network connectivity seamlessly and securely.

03
Performance & Reliability
Reduce the burden on your network with splittunneling and policy-based routing to maintain superior quality of service and prioritization for enterprise applications.

04
Better Connectivity
In addition to cellular connections, COSGrid routersprovide dual-band Wi-Fi as well as Ethernet LAN/WAN ports.

05
Supermost Security
Security-driven networking strategy integrates key capabilities such as Zero-Trust Network Access (ZTNA) to provide consistent security enforcement over wireless and wired networks.

06
Improved User Experience
Eliminates the need for thirdparty clients and configurations on end-user devices.

Website : www.cosgrid.com

Email : info@cosgrid.com

Phone : +91 90227 64534
　　　　　 +91 86101 44212

LOCATIONS:

India - COSGrid Systems Private Limited, No. 24-1, Shanti Street Dr. Seethapathy Nagar Velachery, Chennai - 600042

United States - COSGrid Networks Inc, 2055 Limestone Rd STE 200-C, Wilmington, DE, New Castle, US, 19808

INDIA'S 1ST 5G CLOUD CCTV CAMERA

4G CCTV CAMERA

4G Cloud Camera Operating on 4G-LTE networks, an ideal monitoring solution for remote areas with limited or no wi-fi or Wired access.

WI-FI CAMERA

Sparsh Wi-Fi Camera works over exiting 2.4 GHz Wi-Fi networks for live streaming. Best Cost effective solution for home and business Security Surveillance.

5G AI CAMERA

5G CCTV Camera works on 5th Generation Wireless Technology. Available even with frequency bands suitable for Private 5G networks. Live Streaming of Audio & Video Signals remotely with less interference and delay transmission. Perfect solution for Cloud storage of CCTV data.

Samriddhi Automations Pvt. Ltd.
F-365, Sector 63, Noida-201307
www.sparshsecuritech.com

#SurakshaSarhadSeGharTak

Sparsh - CCTV Factory for the World, Victory for Make in India

Sparsh is the epitome of **'Made in India'** Electronic security products over the last decade. Sparsh started their journey ~15 years ago with the vision of making India a destination for design and manufacturing of advanced security solutions. Due to its unrelenting focus on innovation and building design/manufacturing capabilities, Sparsh has revolutionized the security market by becoming India's first company to design and manufacture CCTV cameras in the country in 2008. It now counts several renowned brands as its prime customers, including several international and Indian brands. Sparsh has been instrumental in shifting the manufacturing base for several companies from China to India. Sparsh is now a leader in designing and manufacturing CCTV equipment in India with two manufacturing facilities in Haridwar and NOIDA.

The Company truly embodies a vision of **'building India'** and **'building in India'** with ~7% of its annual revenue directed towards R&D. With one of the largest in-house R&D centers for CCTV solutions and state-of-the-art manufacturing units and Testing facilities, building products to global standards, Sparsh has won many accolades and awards including the National MSME Award for Quality. Despite the pandemic, Company has achieved a CAGR of ~80% from 2019 to 2021.

Led by the 'Made in India' man of the Electronics Security Industry – Sanjeev Sehgal, this success has not been achieved overnight. The Company has faced many challenges in successfully imbedding the 'Make in India' policy, not just on paper, but in also in practice, while successfully maintaining price competitiveness with much larger foreign counterparts. Sparsh has achieved more than 80% Domestic Value addition for most of the products as on date and is committed towards achieve same for the complete range

With several government and private projects under its belt, the Company now aims to expand production in India to supply to South-East Asian markets and the West. Sparsh has set a solid benchmark of where India as a nation is headed – establishing economical and financial prominence on the global stage, through the success and scale of its national bred companies. As the Company targets to become the **CCTV factory for the World**, it marks a major victory for **'Make in India'** and a path for other national companies to tread.

NiralOS

Network Operating System for Private Network & Edge

Private 5G & EGDE Solution for Industrial Connectivity & Automation

NiralOS Controller

Niral 5G Core Niral Edge Cloud

Power Grids Ports Oil & Gas
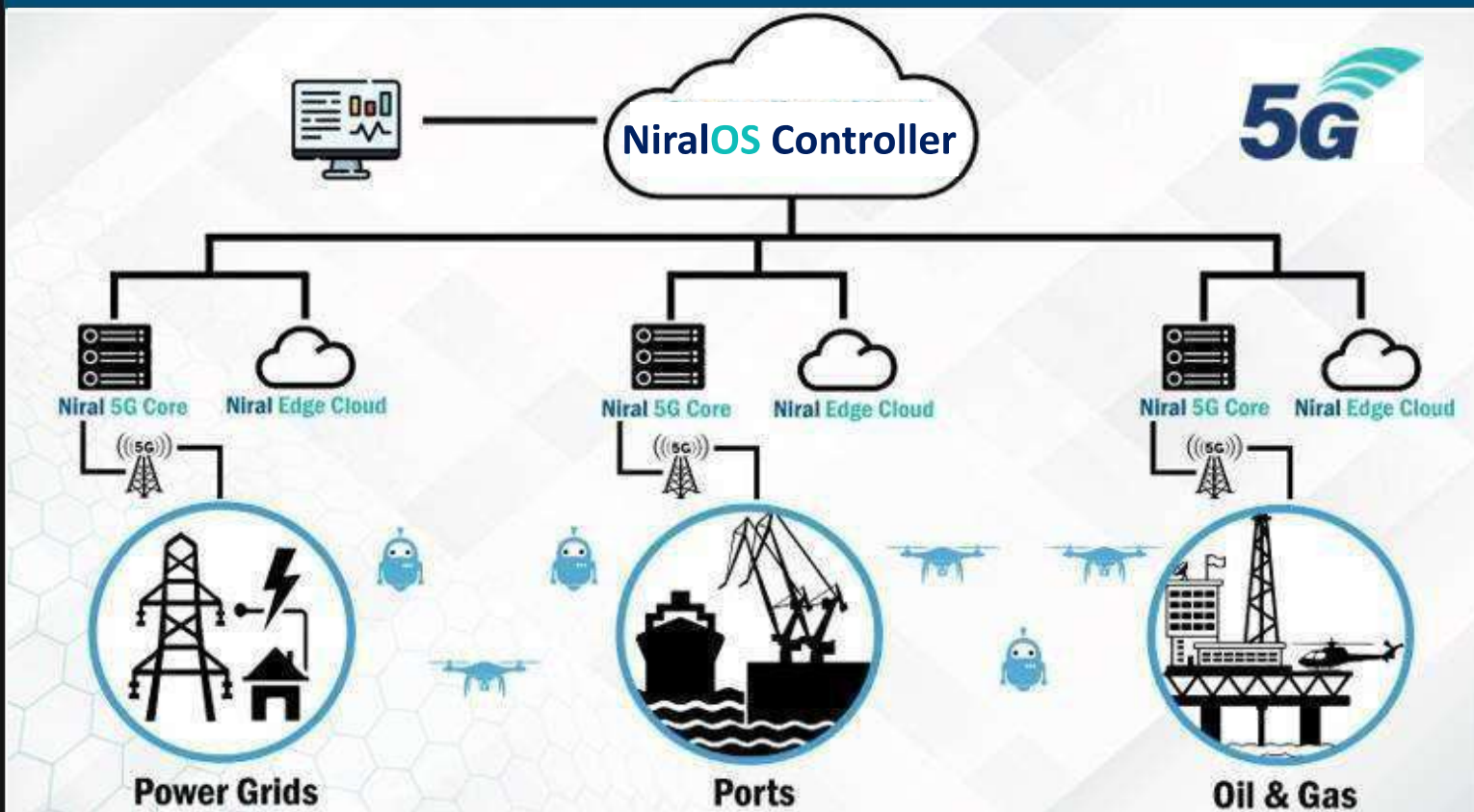
Private 5G can play a pivotal role in the Digital Transformation of Mining, Oil & Gas

1. Niral 5G SA Core

Cloud-Native Private 5G SA core for enterprises that contains 5G functions - AMF, SMF, AUSF, NRF, UPF, PCF, UDM. Niral 5G core provides a compact UPF for local breakout within Enterprise for integrated with TSP Network. Also, support 4G Core Functions

2. Niral Edge Cloud

Kubernetes and Virtualized infrastructure to create a Mobile Edge Cloud (MEC) using existing commodity servers and open APIs to host defence applications like IOT, Robotics, Drones, IMS, AR/VR for low latency, high bandwidth, mobility and privacy.

3. Niral Controller

Centralized management, orchestration, zero touch provisioning & monitoring of multi-site Private Network and On-premise Edge Cloud. The controller can be hosted in a data center to centrally manage & monitor multiple private networks.

NiralOS

Network Operating System for Private Network & Edge

Release - 16	**5G Packet Core Network Functions – AMF, SMF, NRF, NSSF, AUSF, UDR, UDM, UPF** **N1, N2, N3 and N4 Interface** **Service Based Interface on HTTP/2** **PFCP interface on v16.9.1**
Network Slicing and Network Segmentation	**Supports Network Slicing based on S-NSSAI , SST , SD** **UPF selection based on S-NSSAI , DNN** **Network Segmentation based on DNN. Single UPF supports multiple DNN.**
MEC Integration	**Integrated with NiralOS Edge which is a Kubernetes based cloud-native Edge Platform. Also integrated with Intel's Smart Edge Open and NxtGen's Speed Cloud.** **MEC integration done for Video Surveillance, Video Analytics (OpenVino), IOT, OTT, IMS, Video Gaming Use cases.**
Configuration, Provisioning & Telemetry using GUI	**Remote configuration, provisioning and orchestration of the Subscriber, Network Slicing, Bandwidth Capping policies from the NiralOS Controller.** **Statistics display based on Packet Core-level, Radio-level and Subscriber-level information.** **Remote configuration, provisioning and orchestration of the Niral Edge Platform using NiralOS Controller.**

NiralOS Use Cases

Oil & Gas   Mining   Shipping   Power Grid   Manufacturing   Warehouse

Large Campus   Disaster Management   Smart City   Healthcare   Defence   Hospitality
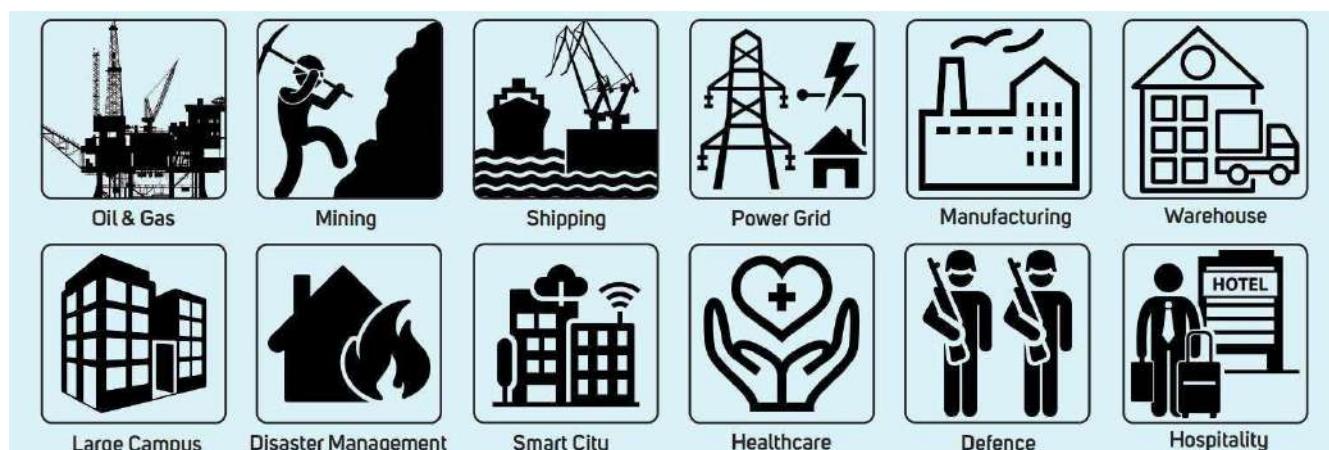
Our Patented Products & Solutions

READY FOR MARKET

BEST 5G USECASE AWARDED BY DOT

5G Enabled
KADALCOMPASS
Life Safety | Profitable Fishing|Ocean Data Mining

KADALCOMPASS LIFE SAFETY WATCH UNDER WATER MINING DEVICES & WATCH

PROTOTYPE

SAAGARONE SARROF
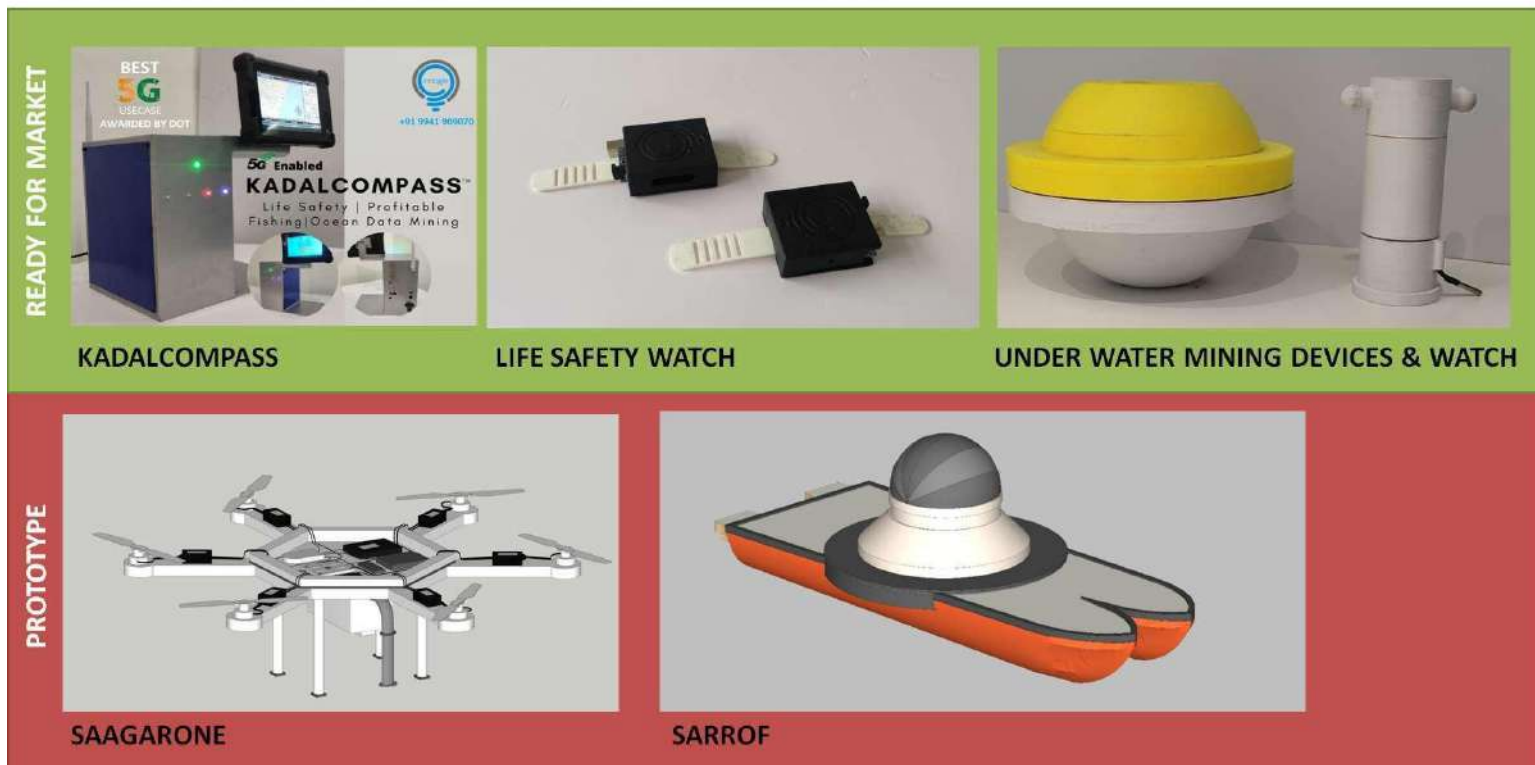
KADALCOMPASS (Deep / Coastal Device)
LoRa and 5G switch for Mesh topology, Lora based life safety for ocean workers, Under water device with Connected intelligence using Wifi for profitable fishing and data mining.

UNDERWATER DEVICE
4G/5G and Wifi enabled under water device which can connected to cloud or connected with Kadalcompass (Deep fishing or coastal fishing)for profitable fishing and data mining.

LIFE SAFETY DIGITAL WATCH
LoRa enabled digital ID will be connected with Kadalcompass (D or C) for coastal security and life safety.

SARROF
LoRa and 5G switch connected unmanaged ocean floater for Search and Rescue operation with an ocean drone named Saagarone.

SAAGARONE
LoRa and 5G switch connected unmanaged ocean drone which will help for vetting the place using number of technologies including AI.

avrm™

ISO 9001:2015 CERTIFIED COMPANY

- LONG RANGE 5G PRIVATE NETWORK.
- NEXT GENERATION OF KYC
USING DIGITAL OR BIOMETRIC CHIP SET PASSPORT OR ID CARD READER.
- CASH RECYCLING FEATURES
REDUCE REFILLING IN RURAL AREAS.
- CASH DEPOSIT AND PAYOUT
USING SMART PAYOUT WITH AUTO-CENTERING TECHNOLOGY.
- CARD-LESS & TOUCH-LESS CASH
WITH HIGH QUALITY NON TOUCH AUTHENTICATION.
- MULTI-CURRENCY CASH DISPENSING AND DEPOSITING
TO ENABLE MONEY EXCHANGE.
- EFFICIENT COMMUNICATION AND SOFTWARE FEATURES.
- 3D ANATOMICAL AND FACE RECOGNITION SYSTEM
- DIFFERENT FEATURE OF MAIN BOARD
- ENABLING API OR EDGE COMPUTING FUNCTIONALITY

VEHICLE FOR AUTOMOBILE BANKING

FULLY LOADED RURAL BANKING SOLUTION WITH A PHYSICAL COUNTER & ATM/AVRM

Banking counter with secure client access, AVRM, an enhanced version of ATM with UPI Cash deposit & withdrawal,

- Automation of cash handeling from counter,
- High secure mechanical vehicle with 5G & Lora,
- Two side ATM/AVRM,
- Enable rural Remittance,
- Enable Money exchange anywhere.

SAAS PLATFORM : *ASKY & SMARTY:* These are two platform conversational AI chatbot modules to help users for Embedded Electronics Product Development. **ASKY** takes queries and answers based on context, intent and problem assigned in the electronics domain. **SMARTY** is the part of platform which can collect technical requirements specifications from end-users, via conversational mechanisms and prepare product requirements documents, architectural diagrams, and electronics circuits. There is a self-technical-evaluation scheme, where our chatbot agent can ask relevant questions to any electrical/electronic engineering entry level professionals to further connect with industry towards seeking job or internship or project work.

Product Development Stage: BETA Release Due Jan 14th 2023 (Public Preview)

Flagship Embedded Hardware Product: 5G Camera Headset for Telemedicine & Document Management

Using latest ultra-reliable low latency communication technique – the smart headgear would capture 4K video from the remote location and connect patients with doctors in understanding patients' health, giving visibility to wound & surgical outcomes, recovery, skin pigmentation, emotions analysis taking Telemedicine to all new level of evidence-based healthcare services delivery. The same also connect multiple hospitals care-group for medical health-record management and automated patient discharge report preparation, auto-prescription and other details captured helping doctors, staff nurses, medical coders.

Product Development Stage: Working Prototype Demonstration Due End of Jan'23, Product Launch May'23
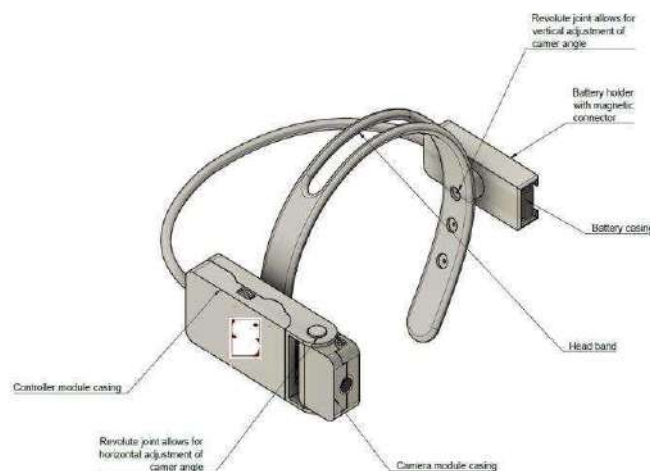
Satyabrata Mohanty
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+91-9176190201
satya@damanju.com

INGENIOUS GLOBAL MINDS PVT. LTD.

About company

Ingenious Global Minds is an innovative company which at present developing Smart Interactive Mobility Kit. It is incorporated in the year 2022 and since then the aim of the organization is to contribute a helpful and safety gadget to the society. The product is meant to help the customer in aspect of self and vehicle safety.

Vehicle Health Management System

Vehicle Health Management System is an electronic device that is located within the vehicle, analyzing a range of information about the health of the vehicle. It also has cutting-edge software which collects data and stores it in digital format. All of this data can be tracked and accessed in real time which makes VHMS ideal solutions for vehicle owners.

The primary goal of the Vehicle Health Management System is the safety of the vehicle and driver. VHMS also helps to reduce maintenance and fuel costs. It should also be noted that VHMS will completely revolutionize the automobile industry all over the world.

SIM KIT
Smart Interactive Mobility Kit

Technology at work for you

CONNECTING YOU WITH TECHNOLOGY

This is device which comes with cloud-connected telematics data logging which can give interactive location aware services. It also has interactive audio real time vehicle health data with qualitative and quantitative aspects. The device will record drive history and location history which in case of need can help. It is built with GPS service which can be used for live tracking of vehicle and because of the cloud service connectivity, it will alert you in case of low fuel, high speed, high RPM, engine temperature.

FEATURES

PRESENT

- **CLOUD COMPUTATION OF DATA**
- **IN-HOUSE PCB DESIGN AND FABRICATION**
- **WIFI CONNECTIVITY**

FUTURE

- AI ENABLED EDGE COMPUTING
- SMART-WATCH CONNECTIVITY
- CONNECTIVITY VIA NB-IOT / LTE-M
- INTEGRATED GNSS CHIPSET
- INTEGRATION WITH AMAZON ALEXA, APPLE SIRI AND GOOGLE HELLO

VECHILE HEALTH MANAGEMENT SYSTEM

PROBLEMS- VEHICLES IGNORANCES

- Busy lifestyle – health of vehicle is ignored
- Vehicle breakdown – loss of personal time, negatively affects mood impacting productivity of oneself
- Lack of vital vehicle Information system leads to major faults and expenses.
- Apart from the conventional ones, electric vehicles are expensive – ignoring health and vital signs can jeopardize safety and be costly.
- Lack of data related to vehicle refueling and recharging leads to unavoidable halt for no fault.
- Lack of integration of GPS data with existing ECM for optimizing driving /riding.

SOLUTIONS- WE TAKE CARE OF IT

- A kit which can be retrofitted to existing premium segment vehicles
- Interactive audio via Bluetooth mouth piece and headset inbuilt helmet for superbikes.
- Interactive audio via existing audio visual units premium cars.
- Integrating Existing ECM with GPS GIS and MIS data for optimizing riding / drivability.
- Locating the nearest refuel station or charging station and remitting it through voice assisted audio with options
- Locating the nearest road side assistance/break down center/garage to solve the problem with precision.

SwaVimaan PRIVATE LIMITED

Our Mission

We aim to innovate multi-mode Drones, to solve the industrial, surveillance, security, search, health, and environmental challenges.

We provide a combined solution of air, water, underwater, and land by reaching quickly and safely performing desired operations.

Our Vision

To build a reliable and customize product to fulfil customer's needs.

Unique

- Customized drones
- 3 operating modes
  - Air mode
  - Water mode, and
  - Land mode

Products

- Camera Drone
- Trio Drone (or combination of 2)
- Customized Drones

Camera Drone

Services

- Drone on Rent
- Drone on services
- Customized drone manufacture
- Combinations of two or three modes drone

Trio Drone

Contact details

Dr. Isham Panigrahi (Founder)

Mail ID. i_panigrahi@yahoo.com

Mobile no. 8658018070

Address. Plot No. K-1/422, Kalinga Nagar Ghatika, Bhubaneswar, Odisha, India.
751003

Management	Nishikanta Pradhan (founder) Sunita Brahma (co-Founder)
Team Size	15 Nos.
Team Experience	Team 100 + year Team experience in automotive, EV, IOT, Embedded System, Power electronics, Electronics, AI, ML, product Manufacturing, Sales and Marketing and HR.
Company Founded in	September 2017
Incubated at	STPI EP- Bhubaneswar
Regd. Company Location	Bhubaneswar
Company Operation Location	Bhubaneswar
REVENUE (INR) Since Inception/ FY21-22	INR. 1.28 Cr
Fund Received	Monthly Allowance From Startup Odisha (INR. 2,40,000.00) Received INR 1,00,000.00 from STPI
PATENTS FILED	One Applied (Patent Application No.: 201631013649) in Indian Patent Office
URL	www.niinnovation.com

Company & Product Brief:

We are one of leading Manufacture and Exporter of IT Hardware Products in Odisha. We are Engage with EV equipment Devices Prototype Development and then Mass production for EV Industries.

Achievements:

We have Successfully Deliver the Fast charging Hardware Simulator to **BMW Germany**. This Simulator Support All Fast Charging standard Like CHAdeMO, CCS, GB/T. And Now We became the OEM for above Simulator for BMW Germany.

We have Successfully Deliver 96 Ch battery Pack simulator to LttS Germany. And the end user For 96 Ch Battery simulator is BMW Germany. Apart From This We are Technological partner with Tata Elxsi India, B braun India, EEVE India, Mogora India, Imgenex India, Prantae and Many More

Product Revenue Growth Estimates and associated risks and assumptions:

We have a 100% growth in 2021-22 with revenue of almost INR 50Lakh in 2021-22. And estimate to cross INR 5cr in next 3 year.

Challenges faced by the start-up

1: heavy duty in raw material during IMPORT.

OUR PRODUCTS

OUR CLIENTS

CAPATTERY

Ultra Fast
Charging Battery
Technology Company

50% charging in less than 1 minute*

99%

About Capattery

We are deep technology hybrid battery research, development and manufacturing company, established in 2020 at Bhubaneswar, Odisha.

We develop hybrid batteries for various segments that enable ultra fast charging, normal discharging, and high life cycle using proprietary unique chemical composition in battery.

CAPATTERY

Deep Associations with top notch Industry and Academia

NISER, Bhuvneshwar
Research and Development

IIT Delhi
Technology Commercialization

IISER Bhopal
Technology Development

DRIIV Delhi
EV Ecosystem partner

tadpole
EV Car Retrofit

RefillBot
BMS and IoT

VINROX
Engineering

CAPATTERY

Focus has been on Innovation, trials, and product fitment so far, with widespread recognition from Government of India

CHUNAUTI
Nextgen Startup challenge winner

STPI
Software Technology Parks of India
Initially funded and incubated under STPI, Govt of India scheme

i-Hub
Incubated by Government of Gujarat

DIGITAL INDIA

- Part of Top startup at Digital India fair (July 2022),
- Widely recognized by PMO for innovation at this platform

Technology is now ready for the commercial usage

Contact Us

Sushant Pattnaik - sushant@capattery.in

Gopi Latpate - gopi@capattery.in

ABOUT NETSAT COMMUNICATIONS (P) LIMITED:

- NetSat Communications has a **Unified ISP License** to Provide Internet and allied services and **IP1License** to lay optical fiber cable between service providers.
- **We are the only enterprise to Provide service with full redundancy, failover and traffic aggregation technology**.
- **We are a MSME, Start-up India and Start-up Odisha Certified Company**.
- We are the Certified Partner with the following OEMS for their Networking and Wifi devices :
  - ❖ RUCKUS
  - ❖ CAMBIUM
  - ❖ LIGOWAVE
  - ❖ HPE ENTERPRISES (ARUBA)
  - ❖ IP-COM
  - ❖ CISCO
- NetSat communications (P) Ltd Provides cost-effective and premium Corporate Internet Service for Business Users designed to meet dedicated bandwidth requirements to support critical business applications.
- This service extends various benefits to our corporate customers with SLA commitments on:
  - ❖ Service up Time
  - ❖ Stability
  - ❖ Reliability
  - ❖ Availability
  - ❖ Redundancy
- Our vision to develop highly dependable IT & Telecom infrastructure based upon **5R (Right, Reliable, Robust, Redundant, Regional)** capable of adhering to dependable media and connectivity services of our customers.

9090989893

www.netsat.in , info@netsat.in

NETSAT COMMUNICATIONS PRIVATE LIMITELD
PLOT NO:-306/1771,HOUSE N 0-16, LAXMI VIHAR,
NEAR PATIA,BIG BAZAAR BHUBANESWAR,
KHORDHA-751024 ,ODISHA

🔱 **Our business acumen comprises of following diverse and complex services:**
- ❖ Internet Lease Line Service.
- ❖ Fiber To The Home FTTH Broadband Service.
- ❖ Point To Point (P2P) Service.
- ❖ Complete Enterprise / Industrial Networking Solution.
- ❖ Corporate WiFi Service.
- ❖ Event WiFi (Bandwidth On Demand) Service.
- ❖ Satellite Teleport Solution.
- ❖ Cloud Solution.
- ❖ Enterprise Network and Cybersecurity Solution.

ABOUT NETSAT TECHNOLOGY (P) LIMITED:

🔱 NetSat Technology is into the field of Manufacturing of Networking components beginning with ONU and Access Points first and development of Software and firmware.

🔱 We have started with the vision to manufacture the best in quality and industrial grade Networking equipment both in terms of Hardware and Software.

🔱 We are planning accomplish this objective in 3 different phases:

- ❖ Phase-1:
  Assembling of Required components to develop the whole product
- ❖ Phase-2
  Developing single Modules and important components in house.
- ❖ Phase-3
  Developing software and firmware for the Hardware components.

📞 9090989893

🌐 www.netsat.in , info@netsat.in

NETSAT COMMUNICATIONS PRIVATE LIMITELD
PLOT NO:-306/1771,HOUSE N 0-16, LAXMI VIHAR,
NEAR PATIA,BIG BAZAAR BHUBANESWAR,
KHORDHA-751024 ,ODISHA

START UP INDIA CERTIFICATE

Certificate No.: DIPP8557

Department of Industrial Policy & Promotion
Ministry of Commerce & Industry
Government of India

CERTIFICATE OF RECOGNITION
Department of Industrial Policy and Promotion

This is to certify that **NETSAT COMMUNICATIONS PRIVATE LIMITED** incorporated/ registered as a **Private Limited Company** on **03-08-2017**, is recognized as a startup by the Department of Industrial Policy and Promotion.

Date of Issue: 16-04-2018
Place of Issue: New Delhi

The certificate shall only be valid for the entity:
- Up to seven years from the date of its incorporation/ registration; and
- If its turnover for any of the financial years since incorporation/ registration has not exceeded Rs. 25 crores.

Note:
- **Authorities accepting this Certificate may check its validity on the Startup India portal (https://www.startupindia.gov.in/)**
- This certificate is not the Certificate issued by the Inter Ministerial Board and is NOT VALID for availing Tax benefits
- This is a system generated certificate and hence does not require physical signature
- If such recognition is found to have been obtained without uploading the relevant documents or on the basis of false information, DIPP reserves the right to revoke the recognition certificate immediately without any prior notice or reason.

STARTUP ODISHA CERTIFICATE

Startup Odisha

ODISHA NEW OPPORTUNITIES

Registration No. : OSP/SP/00210

Micro, Small & Medium Enterprises Department
Government of Odisha

CERTIFICATE OF RECOGNITION

This is to certify that **NETSAT COMMUNICATIONS PRIVATE LIMITED** incorporated as a **Private Limited** vide no. **U74999OR2017PTC027456** dated **03-08-2017**, as per MCA21 portal is recognised as a 'Startup' under the Odisha Startup Policy – 2016.

Date of Issue: 09-05-2018
Place of Issue: Bhubaneswar, Odisha

The certificate shall only be valid for this entity.
- Up to five years from the date of its incorporation; and
- If its turnover for any of these five financial years does not exceed Rupees 25 crore.

Note:
- Authorities accepting this Certificate may check its validity on the Startup Odisha portal (www.startupodisha.gov.in)
- This is a system generated certificate and hence does not require physical signature

Issued by:
IED ODISHA

Institute of Entrepreneurship Development
& Startup Secretariat, Odisha
Sector-A, Zone-A, Plot no-123,
Mancheswar Industrial Estate,
Bhubaneswar-751010.

DREAMWAVE CELLULAR PVT. LTD.

Connecting People. Improving lives

CIN-U64200OR2021PTC036655

About Us :

Dreamwave is a budding organization that represents considerable authority in Cellular network development and designing. Over the most recent couple of years, we have shown momentous development and yet arising in this business. We bring Technology Services ability under one rooftop to take care of complex business issues for its customers. We help our customers build an open-access web network, utilize and enjoy quick broadband connection, FTTX, Underground Work, HT & LT Cable Work, Electrical Transformer Work, Electrical Diesel Generator Work, Outdoor Small Cell(ODSC),In Building Solution(IBS),Distributed Antenna System (DAS),Wireless Fidelity (WI-FI),Camouflage Towers /Antenna Solution, Solar Installation, CCTV Installation, Hardware & Networking, IT Infrastructure & Management, Tac Support, Utility Relocation, Gardening Supplies & Tools And Maintenance, fiber optic network, cable placement, and testing that will profit the following generation. Our different innovative capacities permit us to Provide top-notch telecommunications and utility arrangements with proficiency as an all-in-one service provider. We support a few of the biggest service providers in the country with an impression that stretches out the country over.

List of Key Offerings:

Solar Power Implementation For 5G Network

Key Working Technology Domain:

- LTE
- 5G
- Enterprise/ Private/ Captive Network (LTE/5G)
- Wi-Fi
- Networking devices (Routers/ Switches etc.)
- Optical transport technologies (DWDM/GPON/OTN etc.)
- Fixed Radios/SDRs
- Antennas

Awards/ Recognitions/Certifications:

- Start-Up India
- Start-Up Odisha
- DIPP
- MSME
- NITI AAYOG
- ISO 9001:2015

Our Team Members :

Name: Chinmaya Kumar Pati
Designation: Managing Director
Mob   :+91 70080 24617
E-mail; Chinmaya@dreamwavecellular.com

Name :Ajit Kumar Pasayat
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Mob   :+91 70085 88187
E-mail   :ajit@dreamwavecellular.com

Name :Rashmiranjan Mohanty
Designation : Project Director
Mob   :+91 97774 44485
E-mail : rashmiranjan@dreamwavecellular.com

Name: Ankita Panda
Designation : Senior Solution Specialist
Mob :+91 7064128156
E-mail :ankita@dreamwavecellular.com

Corporate Office : Plot no-43, Lane-1, Road-2, Jagannath Vihar, Baramunda, Bhubaneswar-751004, Odisha.   www.dreamwavecellular. com
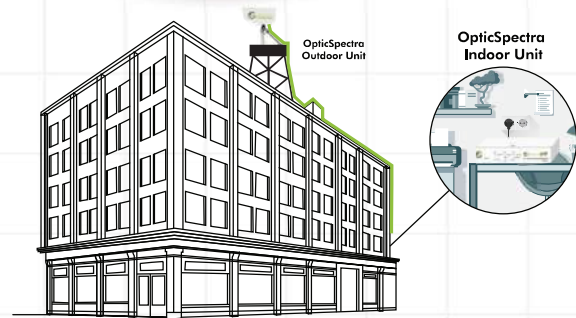
OpticSpectra - LiFi | FSO Optical Wireless Communications Solution

NAV WIRELESS TECHNOLOGIES PVT. LTD. – Ahmedabad, India based research driven technology company having main focus on **LiFi Technology and Optical Wireless Communications Solutions with multiple patents.**

Registered Start-up by DPIIT, ISO 9001:2015 and ISO 14001:2015 certified.

Point to Point Optical Wireless LiFi | FSO (Free Space Optical) Communication Solution

Optic Spectra Indoor & Outdoor Unit

OpticSpectra Outdoor Unit

OpticSpectra Indoor Unit

- Designed, Developed and **'Made In India'** 1+ Gbps & 10 Gbps Optical Wireless Secure Connectivity Link Solution

- An effective replacement for Optical Fiber Cable (OFC) wherever laying of the OFC is not easy or feasible due to Hilly / Mountainous terrains, Forests, Mining areas, Water bodies or rivers, Right of Way (RoW) issues etc. and connecting the islands with the main land.

- 1+ Gbps Optical Wireless Backhaul for 5G / 4G Network Infrastructure, Edge Networks, and Enterprise Connectivity, BHARATNET Expansion for connecting GPs/Villages

- Highly Secured Communication

- Very Low Latency (in Microseconds)

- Low Power Consumption (less than 50 Watts), so can be used with Solar Power at Remote Locations

- World-wide License free spectrum

- Maintenance Free

- Economical and Rapid Installation in comparison with OFC based network.

- Supports -40° C to +60° C Temperature, All Weather Solution
- EMF Radiation Free Green Technology

Key Deployments

AMTRON, Guwahati

NADABET, Gujarat

Dharoi Dam, Gujarat

Ladakh

BSNL Bhavnagar, Gujarat

Nav Wireless Technologies Pvt. Ltd.

C-5 LiFi, The First, Behind ITC Narmada, Off Judges Bunglow Road, Ahmedabad, India -380015

Email Id: info@navtechno.in

Contact: +91-79-48421010

Company Name: - Dyotis Technologies Private Limited

Brief Company Profile: -
Dyotis Technologies is an Indian IT product company that specializes in digital services and consulting. We are committed to enabling end-to-end digital transformation for global customers by leveraging next-generation technologies and products such as 5G ready OSS/BSS, NMS/EMS, IoT Platform, SAP, and others.

Products & Services

1. OSS/BSS
2. NMS/EMS
3. IoT Platform
4. SAP Consulting
5. IT Transformation and Application Development
6. Road-map design for regulatory policy implement

Contact Person: Mr. Nitin Pandey

Designation: CTO

Telephone No: +91 8010054459

Email ID: nitin.pandey@dyotis.com

Postal Address: D-242, Unit No. G2, Sector 63, Noida, Uttar Pradesh 201301, India

Web: www.dyotis.com

KENSTEL
WIRELINE EPON/ GPON/ XPON
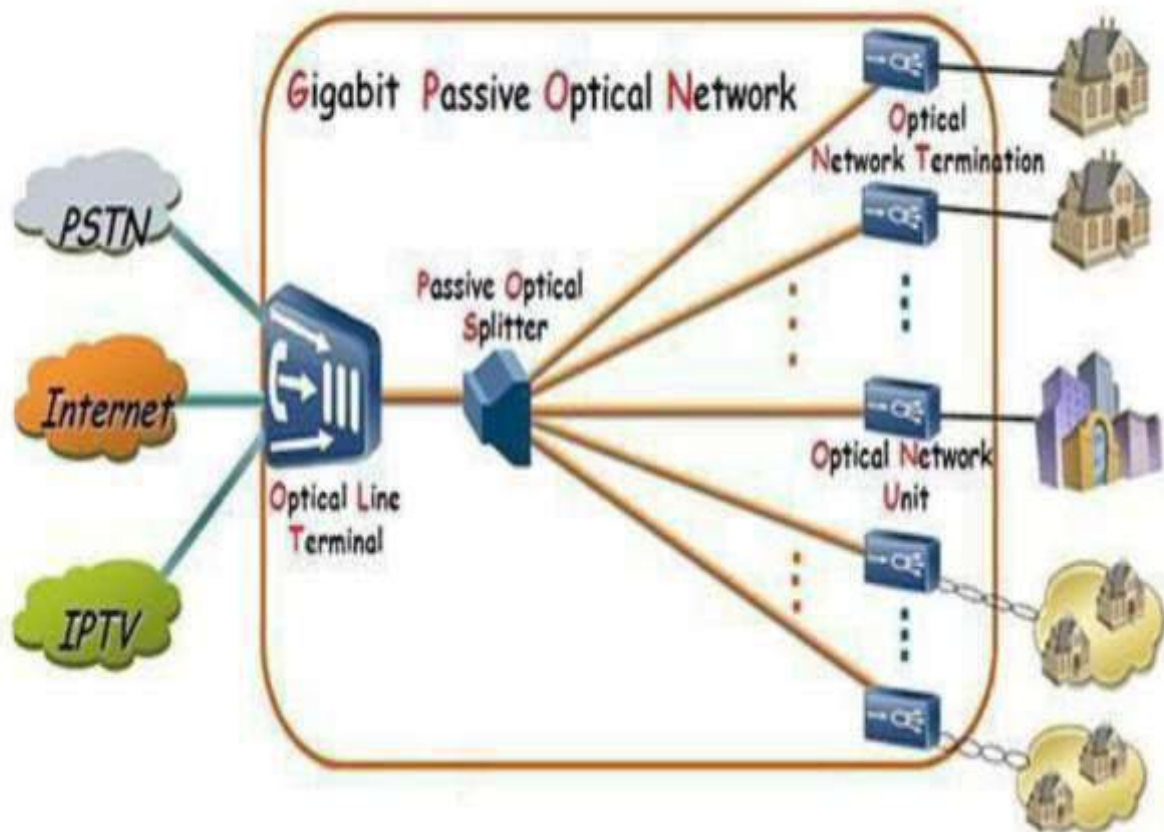
WIRELESS
Wireless Access Points, CPE (Indoor & Outdoor) 5G LTE CPE WiFi Router
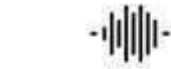
ASTROME

GigaMesh Specifications

Operating Frequency	71-76GHz & 81-86GHz
Channel Bandwidth	250MHz
Number of Links	2 links upgradable to 4 links
Maximum Throughput per link	Upto 2Gbps per link
Aggregate Throughput	Upto 4Gbps upgradable to 8Gbps
Maximum Distance*	upto 10Km
Antenna Type	Phased Array Antenna with electronic beam steering
Device Type	Integrated ODU (antenna inside device)
Interfaces	3 x 10G SFP+ (for data), 1G RJ45 (for configuration)
Dimensions	52cm x 39cm x 34cm (L x B x H)

*Varies with region

www.astrome.co

GigaMesh - Deployment Scenario
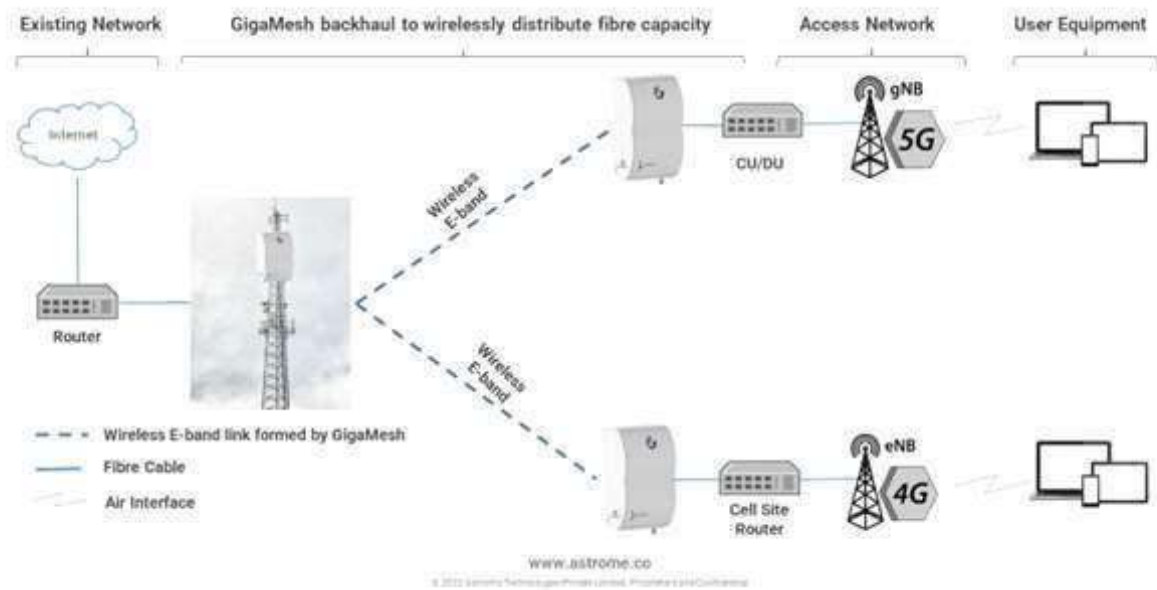
GigaMesh - Rural Broadband Solution
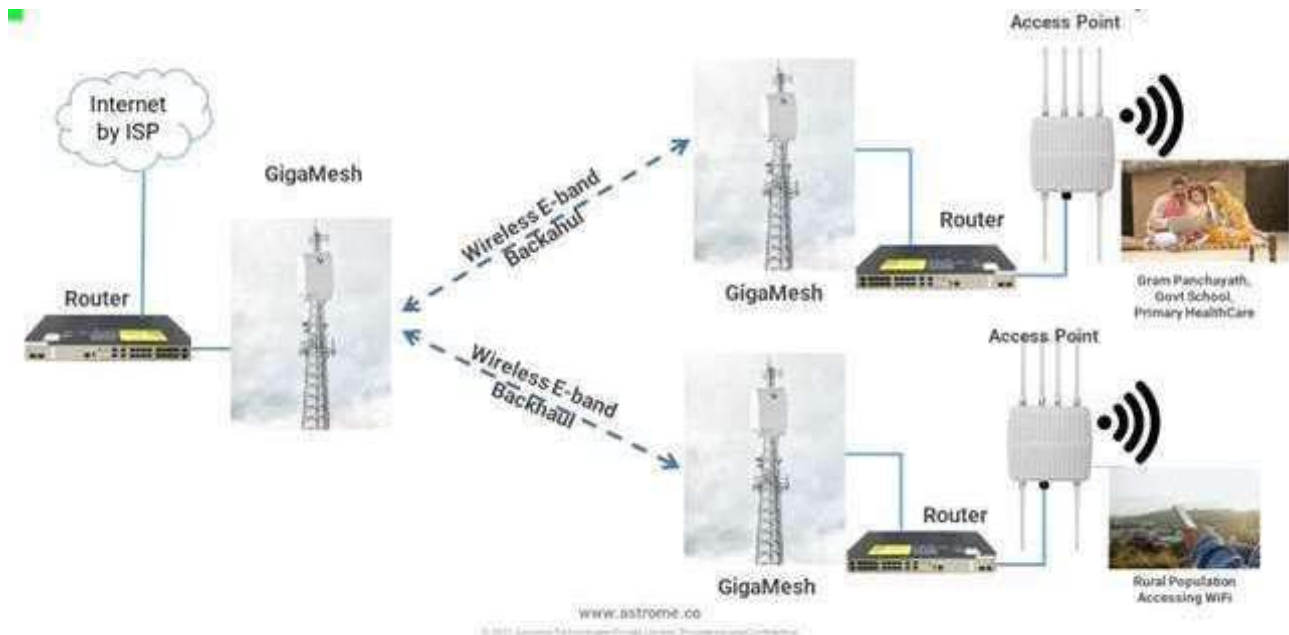
Products designed for **digitizing the 5G Era**

ECHELON EDGE
Leading through Innovation

Percipient NMS is an **All-in-one IOT & Network Device Management platform** that caters to Enterprise Management and Centralized Control, Monitoring & Configuration. The solution is FCAPS based solution along with Helpdesk Ticketing & SLA Management. It is highly Scalable and Robust to cater to the ever-growing demands of Heterogeneous devices & networks in Telecom and Large Enterprise.

Key Features
- Powerful Visualization
- Scalability
- Automation
- Single pane of glass view
- ITSM
- Flexible Configuration
- Heterogenous NW, Devices, 5G & IoT Sensors

Benefits
- Device Agnostic
- AI/ML based predictive analysis
- Plugin Architecture
- No code approach

OSS SOLUTION
NMS, EMS, IoT Platform

Our 5G Core implements the essential features necessary for the end-to-end 5G system deployment and aligned with 3GPP. Our 5G Core offers better time to market, helps in reducing upfront cost, improved security and, is highly scalable

Key Features
- Diversified RAN Networking
- Advanced QoS & Session Management
- On Demand Slicing
- Data Path Diversity Support
- 3GPP Compliant
- Flexible Function Deployment

Benefits
- Improved Wireless Connectivity
- Optimized Content Delivery
- Offload Traffic from the core
- Modular Design & Network Function

Private 5G Core & Private LTE

Our provisioning system is built for complex telco grade systems. Will also have cloud-native BSS offering in SaaS model that enables extremely agile method of delivery, faster time to market, and serving multiple enterprise customers from a single instance logical data integrity & protection is maintained in order to restrict one enterprise to access data of another enterprise

Key Features
- Ready to use business operating system
- Monetize the business at your pace
- Automate your monetization with SaaS model

Benefits
- Innovate & react faster to market needs
- Remove vendor lock-in with a platform built entirely on open-source
- Enable flexible growth models, simple operations, facilitate onboarding & settlement with cross-industry partners
- Transform with a composable architecture & dynamic microservice scaling
- Minimize the total cost of ownership with multi-tenancy architecture
- Will have support for the latest technologies like 5G, IoT, etc.

BSS SOLUTION
Provisioning, Billing, IUC, Mediation

Teralytix Edge is a scalable, cost-effective, centralized repository, data processing, and warehouse solution designed for business, agility, and regulatory requirements, & provides an integrated source of information

Key Features
- AI/ML Driven data & Insights
- Enhanced performance with 3 tier architecture
- Supports integration with multiple data sources
- Robust & Secure platform
- Highly scalable solution with parallelism
- Customized reporting & visualization

Benefits
- Data collection from multiple sources & processing huge data volumes with flexibility
- Visualization, production reporting, and consumption by other systems for advanced analytics and performance management

Big Data & Analytics
DWH, BI, AI/ML

About Echelon Edge

Name of the Company	OptimusLogic Systems India Private Limited
Contact: Optimuslogic Systems India Pvt. Ltd., "Brindavan", 10, Yashodha Nagar, Jakkur, Yashodha Nagar Main Road, 37/4/10/6, Yelahanka,Bangalore, Karnataka 560064. INDIA. **Ph: +91-9606706303** vaman@optimuselectronics.com www.optimuslogic.in www.optimusrhino5g.com	 **Optimus Rhino 5G: India's 1st homegrown 5G Mobile**

About OptimusLogic:

OptimusLogic, is India's 1st Smartphone Startup, who built India's 1st global 5G Mobile, "**Optimus Rhino 5G 1**", in association with IIT Hyderabad, supported by TCoE, DoT, Govt. of India under DCIS-2022 scheme. Our Hon'ble PM of India, **Shri Narendra Modiji** Launched 5G services in India on 1st October 2022, where Optimus Rhino 5G 1 worked from Day 1 on 5G, ahead of all leading mobile brands in India.

OptimusLogic Systems, since 2013, with operations in Hyderabad & Bengaluru in India, is a growing global Original Device Manufacturer (ODM) and Independent Design House (IDH) in India, for Mobile & Wearable AI systems, Industrial IoT solutions, Signal Intelligence Radars, and Ad-hoc Radios along with contributions towards open-source RISC-V chipsets with eFPGA.

Optimus Rhino 5G is a range of global 5G mobile phones and tablets, **designed out of India**, with global ambitions.

Optimus Rhino 5G 1 is a sub-300US$ 6.7-inch Android 12 global 5G Mobile phone on Mediatek Dimensity 900 platform supporting 17 5G bands in the sub-GHz in Standalone and Non-Standalone modes.

Optimus Rhino 5G 2 is a sub-200US$ 6.5-inch Android 12 global 5G Mobile phone on Mediatek Dimensity 700 platform supporting all the above bands.

Optimus Rhino 5G 4 is a sub-400US$ rugged MIL810G, IP68 version of the Optimus Rhino 5G 2, with a 12000mAh battery.

Optimus Rhino SE is an open-source Android 12 Mobile Computing platform with plug-in 4G/5G connectivity with enhanced platform security with embedded FPGAs built on the NxP's iMX8 platform.

More products like **5G tablets, Laptops and Open Compute Servers** coming in 2023.

www.ushva.com

Company: Ushva Clean Technology Pvt Ltd (IIT Bombay Alumni startup), Founded In: 2015

Vision: Fast Forwarding the worlds transition to sustainable and connected infrastructure

Area: Our innovation is a next-generation Industry 4.0 IoT edge device /gateway branded as Flowlinc and dashboard flowlinc.io used for remote data control equipped with device management and analytics. The device is Industry and communication agnostic (5G, 4G, WiFi, Lora, NbIoT, Satellite) and can work along with all kinds of sensors, meters, devices, etc.
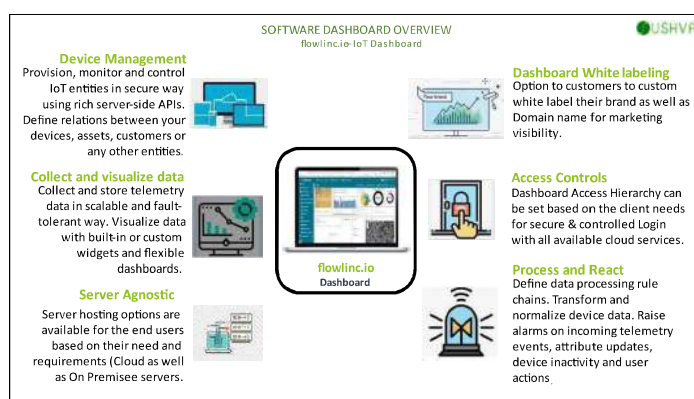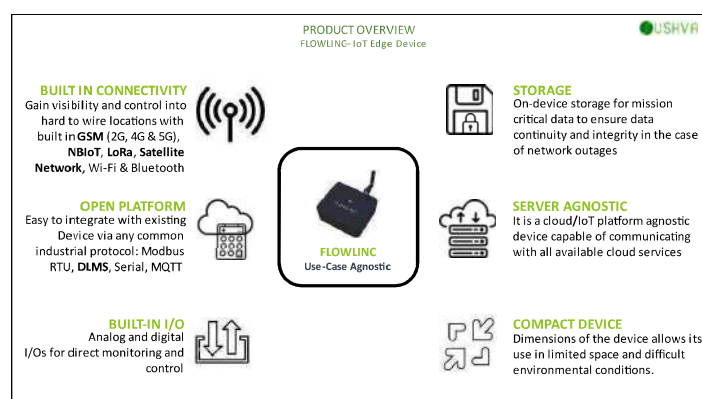
List of Top Award: 1) UN Industrial Development Organization (UNIDO) – Industrial IoT Innovation (2021)

2) Globally among top 10 hardware start-ups (Hong Kong Trade Show by start-up Launchpad) (2019)
3) Top 9 teams complete Asia Pacific in the Power & Energy Sector (by Schneider Electric) Singapore (2018)
4) Awarded by DOT under digital communication innovation square initiative (DCIS 2022)
5) Runners up - Smart Communication Module for national smart meter program by Intellismart – EESL – Government of India (2022) and (2022)

PRODUCT OVERVIEW
FLOWLINC– IoT Edge Device

BUILT IN CONNECTIVITY
Gain visibility and control into hard to wire locations with built in **GSM** (2G, 4G & 5G), **NBIoT**, **LoRa**, **Satellite Network**, Wi-Fi & Bluetooth

OPEN PLATFORM
Easy to integrate with existing Device via any common industrial protocol: Modbus RTU, **DLMS**, Serial, MQTT

BUILT-IN I/O
Analog and digital I/Os for direct monitoring and control

FLOWLINC
Use-Case Agnostic

STORAGE
On-device storage for mission critical data to ensure data continuity and integrity in the case of network outages

SERVER AGNOSTIC
It is a cloud/IoT platform agnostic device capable of communicating with all available cloud services

COMPACT DEVICE
Dimensions of the device allows its use in limited space and difficult environmental conditions.

SOFTWARE DASHBOARD OVERVIEW
flowlinc.io- IoT Dashboard

Device Management
Provision, monitor and control IoT entities in secure way using rich server-side APIs. Define relations between your devices, assets, customers or any other entities.

Collect and visualize data
Collect and store telemetry data in scalable and fault-tolerant way. Visualize data with built-in or custom widgets and flexible dashboards.

Server Agnostic
Server hosting options are available for the end users based on their need and requirements (Cloud as well as On Premisee servers.

flowlinc.io
Dashboard

Dashboard White labeling
Option to customers to custom white label their brand as well as Domain name for marketing visibility.

Access Controls
Dashboard Access Hierarchy can be set based on the client needs for secure & controlled Login with all available cloud services.

Process and React
Define data processing rule chains. Transform and normalize device data. Raise alarms on incoming telemetry events, attribute updates, device inactivity and user actions

ASHUTOSH KUMAR: +91-9969800285: ashutosh@ushva.com

Lekha Wireless Solutions is a Bengaluru based deep tech company in wireless telecom and defence communication. Started in the year 2010, we are a team of 200+ Engineers, with leadership team comprising of telecom experts with over 2 decades of experience in end-to-end product development and deployment. We are OEM for Telecom RAN infrastructure products, SDR Products and we License Protocol Software Stacks for 4G and 5G. We have filed/received multiple patents in 4G, 5G and Industrial communication technologies.

Lekha wireless has a strong Research and Development team, combined with Engineering expertise in software and hardware for delivering complete system. We work with System Integrators and operators to deploy private and public telecom networks. Lekha's experience has always helped customers in creating quick proof of concept and accelerate network rollout. Our unique expertise in the Wireless ecosystem makes us the first choice and trusted partners in delivering next generation wireless products to the market.

5G Products

Lekha is among the leading 5G technology player in the country. Lekha has offer ORAN based 5G RAN solution that includes RU, CU and DU products. The radio solution includes RU for macro and indoor deployment in most of the popular 5G bands. 5G RAN solution is powered by Indigenously developed software stack. We offer 5GNR compliant gNodeB small cell and Network in Box solution.

Lekha's 5G product targets private Private 5G Network for Digital Transformation of Enterprises network and IoT services, enabling accelerated adoption of 5G network. We provide turnkey 5G Network solution with RAN application coming from Lekha Wireless along with partner's core network. We work with eco system, partners, SI or Private network operators create 5G networks where smart applications can be hosted at edge or cloud to enable use case with quicker time to market and a competitive TCO of the network.
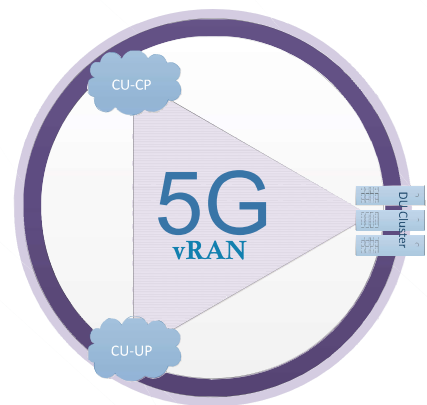
MaRUT O-RU

ORAN Solution

For details scan QR code

- Support for FR1 (Sub-6 GHz)
- ORAN Compliant Option 7-2x
- Compact, Lightweight and Power efficient
- Stable quality of service with Hybrid BeamForming Technology
- Supports multiple bands with TDD/ FDD options

For details scan QR code

- ORAN compliant disaggregated
- Multi-vendor friendly with open-interfaces
- Software-centric and modular design
- Bare-metal OR cloud-native
- SA and NSA, TDD and FDD

4G Products

Lekha brings unique proposition of complete indigenous 4G technology, built grounds up. The Lekha's LTE product named "Vyapi" employs the indigenously developed software stacks and hardware design.

We work with system integrators and operators deploying 4G network for addressing green and brown field deployments. Vyapi eNodeB is integrated and tested with multiple EPC vendors. Along with EPC partners we offer turnkey solution private enterprise network use cases and Network in a Box (NIB) type solution. 4G Unit supports both TDD and FDD bands with RF power up to 40W covering small cell and Macro cell requirements. Contact our sales for your 4G network requirements.

Vyapi NIB

- Compact and power-efficient design
- On-the-go network coverage
- Quick to deploy and take down
- Portable man-pack operation

For details scan
QR code

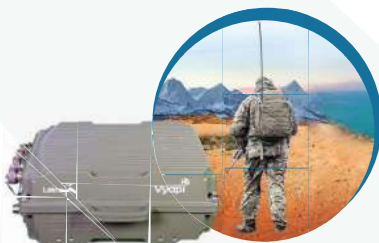### Vyapi LTE eNodeB

- End-to-End proven solution
- Rugged form factor
- Flexible Business model
- Reduced cost of ownership
- Supports telecom and private LTE deployments

For details scan
QR code

4G LTE last mile for rural coverage

Smart Classes at School

LTE-R based Railway

Agriculture Automation

Lekha

About Defence Communication Products

Lekha provides data link solutions on SDR based HW platforms ruggedized to meet requirements of industrial network, defence systems and airborne applications. We work closely with customers to integrate wireless data links to varieties of applications. We have built library of waveforms for example OFDM, SOQPSK, Spread Spectrum etc. The SDRs are deployed in point to point (P2P), P2MP and as mobile ad hoc network (MANET) with large number of end points. SDRs support Vehicle mount, man pack and handheld form factors. Our data link products are designed to be compliant to industrial and military standard specifications. We also support customization of hardware and software to suit unique customer needs. Lekha has several products and solutions in deployment through customers and partners.

AI Powered Antares Software Defined Radio

For details scan
QR code

Laksha Telemetry

For details scan
QR code

ANTARES Tactical Wireless Backhaul

For details scan
QR code

WaveDyut PtP Links

For details scan
QR code

WaveDyut PtP IP Radio

Lekha

Telemetry

Drone Swarm

Low Data rate control link

Mesh Radio

High data rate link

Wireless Relay

Video Telemetry

Control and Command

Mesh Radio

Telemetry & Control link

IFF SDR

Laksha Telemetry, Command & Control Links   **Aldebaran Drone Swarm Links**

Antares Wireless Mesh, SDR, MANET

Scan here for Website

📠 +91 80265 90100   ✉ business@lekhawireless.com   🌐 URL: www.lekhawireless.com

![resonous TECHNOLOGIES logo]

Indigenous 4G / 5G Wireless Network Solutions

Resonous technologies is a Bangalore based 4G and 5G Wireless Network Solutions Supplier with strong R&D focus for nearly 10 years, delivering cutting edge solutions with secure, reliable, and cost-effective end to end portfolio, we are specialized to serves the industry-tailored needs of Voice, Broadband Data, and IoT. Our main focused domains are Rural Telecom, Defense, and Industry 4.0 Communications.

Deployments
- Indonesia (Asia) : 4G customized for Defense
- Austria (Europe): Railways, Low Power Base Station

kapsch >>>

Interoperability
- Interoperable with major Industry players

Parallel   CISCO   TEJAS NETWORKS
Comba   KMW   COMMSCOPE
Aricent   Lekha   Sooktha

New Cooperation
- Ongoing cooperation's,
  - BSNL / USOF
  - Indian Railways
  - EU Commission

...Several more on the way
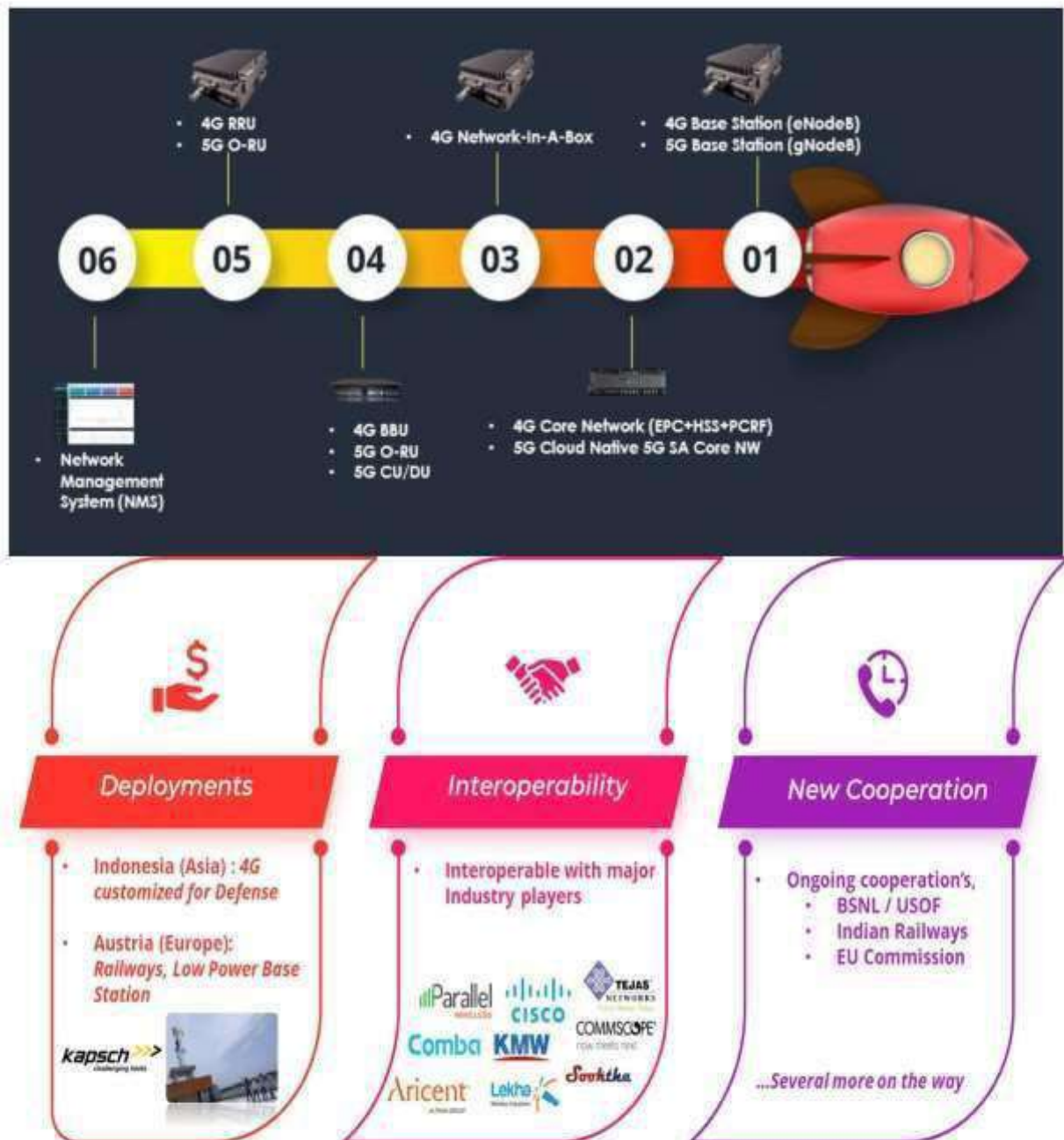
SIGNALCHIP

LivNSense™
[LivNSense Technologies Private Limited]

GreenOps™ Reimagine Manufacturing Excellence with Carbon Neutrality

Product Information

GreenOps™ is a Digital Twins Platform that uniquely addresses the energy balance by harnessing the power of Artificial Intelligence (AI) and Digital Twins technology to impact decarbonization across process value chain with patented IPs.

Heterogenous Process Data acquisition

Physics Based Hybrid/AI/ML Models

Net Zero Digital Twins for Real time process control and insights

Industry : Manufacturing

Oil & Gas | Chemicals | Metals

Improve Efficiency, Profitability and Reduce GHG Intensity
[20-25% ROI in Year1]

Competitive Advantage

- GreenOps is world's FIRST "full stack decarbonization" platform with Green-AI as a Service Model which supports industries across Chemicals, Petro-chemicals, Metals and Cement.
- Enables Green Operations through patented Energy Balance AI
- Physics-based AI Models to improve the bottom-line of operations and reduce emissions

Key Clients

- Leading Chemical Mfg Plant in US
- Leading Petrochemical Plants in India, US
- Leading Aluminum Smelter in India
- Global Farm Equipment Manufacturing Company
- Global Auto Parts Manufacturing Company

Cumulative CO2 Emissions Impact (India, US)
1.5 Mega Tons of GHG Emissions Reduction
Saved ~70000 Trees annually

Technology Partners

Contact information:

✉ contact@livnsense.com

📞 +91 98451-61339

🌐 www.LivNSense.com

in https://www.linkedin.com/company/livnsense-technologies-pvt-ltd
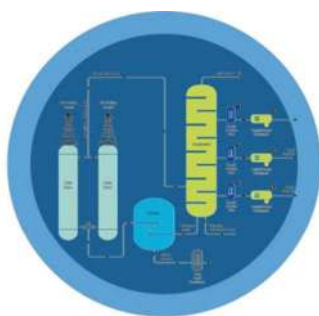
About the Company:
LivNSense is a pioneering Industrial AI Platform venture that aims at maximizing the profitability of the process manufacturing industry with **key focus on Process Efficiency, Energy Optimization and GHG Carbon reductions**. GreenOps™ is a Digital Twins Platform that enables cognitive functions for a cleaner, optimized and streamlined production process to create the factory of the future.

Startup: Chipspirit Technologies, Bangalore

Application: Data security (Hardware) [Cybersecurity]

Product name: Abhed1 solution

Concept:

Abhed1 is fully Hardware based Encryption device which does not need any Operating-system or any software for the encryption and decryption implementation. This is only one of its kind of device in the world which does the USB and Ethernet based encryption/decryption without using any software or any firmware. The device can transmit and receive encrypted data over a public network through a customized Encapsulated secure channel in a secure tunnel which is created with our own protocol based on IPSec. Chipspirit team has decades of experience with Intel, LSI, Atmel, NXP, etc. As an iDEX DISC1 winner Chipspirit has been selected by Indian Defence Forces (Indian Navy) for the Encryption algorithm enhancements and prototype Co-Development for various Defence applications. Chipspirit's unique proposition is that their technology solutions are majority based only on hardware with Zero to minimum software intervention. It is working on siliconization of software-based algorithms which are faster and more secure with ZERO backdoors, trojans and customized to the user safety with cost optimized solutions.
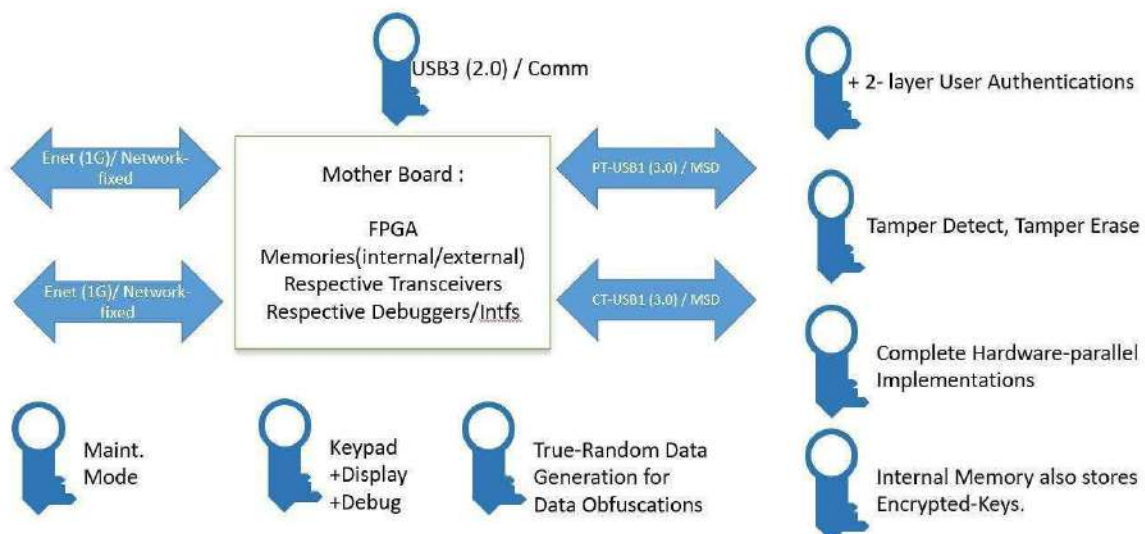
Features:

1. USB to USB transfer
2. USB to USB transfer over the public network
3. Bump in the wire model: protected data over a public network through Ethernet 1G interface.

Product Description Video Link:

https://www.youtube.com/watch?v=5auirI2bZlY&feature=emb_logo

Product Outline:

www.chipspirit.com / info@chipspirit.com / +91 95000 93999

Product Present Setup: (PoC – TRL-5-6)

Nunam 2ⁿᵈ life battery packs

Nunam upcycle retired electric vehicle batteries into stationary storage solutions.

Nunam's timeline :

2017	2018-19	2019-21	2022+
Techno-commercial of battery reuse	Study of supply chain & research funding	Methods to reuse EV batteries safely, pilots and GTM	Scaling to market potentials

1. **Advantages of Nunam batteries are:**
   - Cost: **upto 40% cheaper**
   - Life: **2,000 cycles** or **6-7 years**
   - Warranty: **5 years**
   - Plug and play with **Solar**
   - Monitor **real-time battery performance** from your office
   - Maintenance free
2. **Nunam 2ⁿᵈ life batteries also present strategic national interest:**
   - **Designed and Made in India**
   - **Sustainable, green, and cheaper** source of energy
   - Introduces **Circular economy** in battery value chain
   - **Reduce India's import** of new li-ion battery
   - **Reduce India's import** of crude oil as batteries will replace DGs
3. **Target application**
   - Primarily to power telecom towers at the remotest places, ensuring the towers are green and provide connectivity to rural areas.
   - Other target areas
     - PHCs
     - Agri and dairy value chain
     - Primary schools
     - Tier2 and tier 3 railway stations

Nunam 5 kWh battery pack

Tested at CPRI under UL 1974
Modular & scalable
Off-Grid Solar | Hybrid-Solar | UPS

Comparison with lead acid battery

	Lead Acid	Nunam
Energy requirement	5 kWh	
Required battery size	10 kWh	5 kWh
Cycle life	~1000	2,000
Internet connected	✗	4G enabled
Battery monitoring	✗	✓
Warranty	3-4 years	5
Cost	₹ 70,000	₹ 62,500

Award & recognition

Academic collaborators

Electric vehicle sales & 2ⁿᵈ life battery capacity 2020-2030

■ Electric vehicle sales   ■ New li-ion battery   ■ 2ⁿᵈ life battery
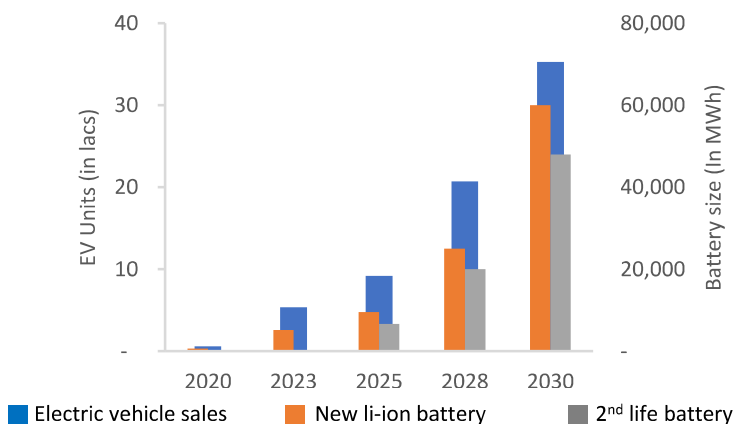
Number of telecom towers that can have power backup with 2ⁿᵈ life batteries

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Contact Nunam: Shubham Kela; +91 7838453855; shubham@nunam.com

Infinity labs

MAKE IN INDIA
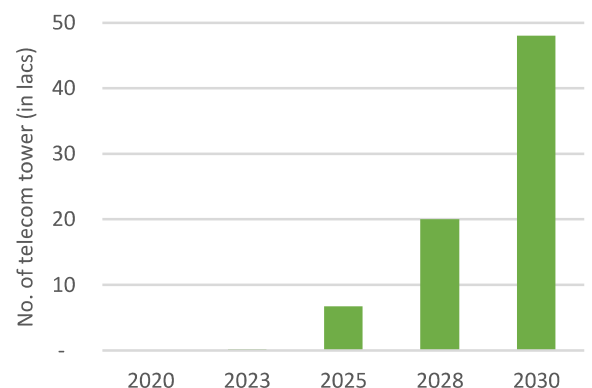
PRODUCT PORTFOLIO

Infinity Labs Limited is one among the few companies who are driven by the novel vision of "Aatmanirbhar Bharat" and strive to make our country self-reliant through latest technologies and automation solution

InfInxt
THE NEXT GENERATION SD WAN

Infinxt next generation SD-WAN handles data and network security, SLA based Application Performance Enhancement, Traffic Shaping, Multi/ Hybrid Cloud App aware routing, in addition to the traditional SD-WAN features. It adheres to the fundamental principles of SDN that mandates the data plane to be decoupled from the control plane.

InfIworx
INFINITE POSSIBILITIES IN AUTOMATION

Infiworx is a Network Automation solution offering from Infinity Labs, which functions as the single source of truth of network data, to gain complete visibility and verify network's behavior - to avoid outages. It provides a 360- degree view of all the network elements present in the network.

InfIwall

Infiwall uses IP port, as the basis for all your safe enablement policy decisions: allow, deny, schedule, inspect, and apply traffic-shaping. Infiwall supports all traditional routings like policy based routing. The solution supports IPv4 and IPv6. Infiwall supports user authentication using RADIUS and TACACS

IG Drones
SKYHAWK

5G Solutions by IG Drones: Predict, Connect, Protect

Fly & Experience the gamut of IG Drone Services

Applications

Delivery | Mapping | Security & Surveillance

Technical Specifications

Take off & Landing Mode	VTOL
Maximum all-up-weight	7.5 Kg
Endurance	3 hours
Maximum Range	15 Km BVLOS
Maximum Speed	18 - 21 m/s
Operating Altitude (in ft)	400 ft AGL (Max.)
Sensors	RGB(Default), Multispectral, Thermal, Custom (Optional)
Resolution	1920*1080 30 fps
Modes	PPK/RTK
Corrections	NTRIP, VRS, RTCM3
GCS Format	Tablet with Integrated Joystick
Operating Envelope	VLOS (BVLOS Ready)
ADS-B	Enabled
DGCA NPNT Compliant	Yes
Geofencing	Yes
Guided Missions	Yes (Auto)

Failsafe Features

Redundant GPS   IMU   Barometer   RTH on Low-battery

TELENNAE

CONTACT US AT

86582-62778, 6372777905,
7735037464
telennae4world@gmail.com

01 YAGI UDA ANTENNA

* 2.4 GHZ
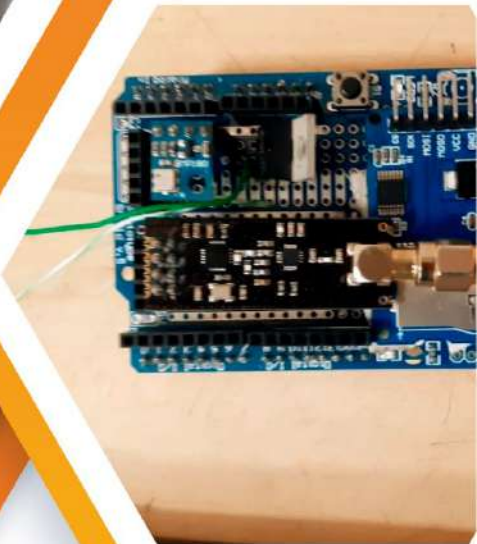* 13 DBI GAIN
* TO INCREASE THE RANGE OF COMMUNICATION

02 MICROSTRIP PATCH ARRAY ANTENNA

* 2.4 GHZ
* 7 DBI GAIN
* 0.27 AXIAL RATIO
* CIRCULAR POLARISED

03 TELEMETRY SUB SYSTEM

USING NRF AND OUR ANTENNA LIVE COMMUNICATION WITH SOUNDING ROCKET OF 2KM

TIDAL WAVE TECHNOLOGIES is an Indigenous player specialising in 4G and 5G Software Defined RAN. We address both Public and Private Networks, offering a range of products including

- Turnkey RAN for 4G and 5G,
- Network in a Box
- 5G Labs and COEs.

Focused Products for 4G and 5G Radio Access Networks

Our Turnkey RAN solution provides a complete, end-to-end network setup, including all hardware and software necessary for operation. Our Network in a Box product is a compact, portable solution designed for quick deployment in emergency situations or remote locations. Our 5G Labs and COEs offer a space for skill development, experimentation and collaboration in the development of 5G technology.

In the Private Network space, we address a range of verticals including Railways, Defence, Public Safety Networks, Manufacturing, Ports, Airports, and Mines. We offer both High Band and Low Band radios for 5G, providing flexibility and customization for our clients' specific needs. Our 5G technology offers increased speed and capacity, as well as reduced latency and improved energy efficiency.

Mumbai Office Location that also runs our COE

Rupa Solitaire, Mahape, Navi Mumbai

Contact for more information

TIDAL WAVE TECHNOLOGIES PVT. LTD.
202, 2nd Floor, Rupa Plaza, Jawahar Road,
Ghatkopar (E), Mumbai - 400077
www.tidalwave.tech
office@tidalwave.tech

EWARN SYSTEM PRIVATE LIMITED

Smarter Way Towards Healthy Life

EWARN SYSTEM PRIVATE LIMITED

TI-310, FTBI, TIIR Building,

NIT Rourkela, Odisha – 769008.

Email: contact@ewarnsystem.com

Mobile: 75378 37107, 7437985137.

Website: www.ewarnsystem.com

1. Company, Administrative & Contact Information

a. Company name: EWARN SYSTEM PRIVATE LIMITED

b. Business type: Private Limited Company

c. Permanent Account Number (PAN)- AAFCE9353G

d. GSTIN number: 21AAFCE9353G1ZR

e. CIN number: U72900OR2020PTC033202

f. Tel: 75378 37107, 7437985137

g. E-mail: contact@ewarnsystem.com, vinod@ewarnsystem.com

2. Company History

We have started our journey by involving in IMPRINT project since 2017. As this one is a Make in India Initiative project, the main objective was product development. It was always about how to develop a commercial product for the benefit of Smart City with societal impacts.

We are working on different applications with emergency alert services such as crime detection, accident detection, pollution monitoring, traffic management, smart parking, and data analytics. Now, we are at this stage with a hunger to contribute something for the nation and would like to be part of Make in India initiatives.

3. Recognition and Achievements:

- ❖ We are recognized with Startup India (DPIIT Certificate No.: DIPP77540)
- ❖ We are recognized with Startup Odisha: Registration No. : OSP/SP/00690
- ❖ We have been certified by UNDP for fulfilling Sustainable Development Goals while doing business.
- ❖ We are the runner up for business plan competition organized by MCL Innovation Carnival, March-2021 in FTBI, NIT Rourkela.
- ❖ Won the Best Optics based start-ups in India award for "Free-Space Optical Communication for Building to Building with an Auto-Tracking System" at OSI Symposium Frontiers in Optics & Photonics 2021, IIT Delhi.

4. Business goals & objectives

To provide citizens with an affordable, robust and easy to use technologies for their own benefits along with achieving the goal of Smart city development initiative.
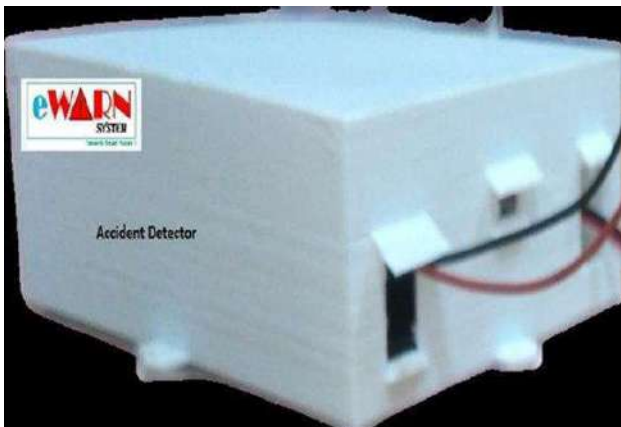
5. Products

❖ **High-Speed Free Space Optical (FSO) Transceiver**

❖ Design of a FSO transceiver with 1Gbps data transmission system.
❖ Development of an auto-tracking mechanism for re-establishing the misaligned link.

❖ **Automatic Accident Detection**

❖ A portable multi-sensor based plug and play wireless enabled device which can be easily installed in any type of car.
❖ Four sensor modules measuring changes in acceleration, vibration, tilt, sound intensity for accident detection in real-time.
❖ It facilitates users to locate the accident spot and navigates them to reach there in real-time through Google map and also provides the vehicle tracking information.
❖ SMS, Email alert features included.
❖ Built-in Wi-Fi/Ethernet connectivity for easy set up.

❖ **Crime Event Analysis**
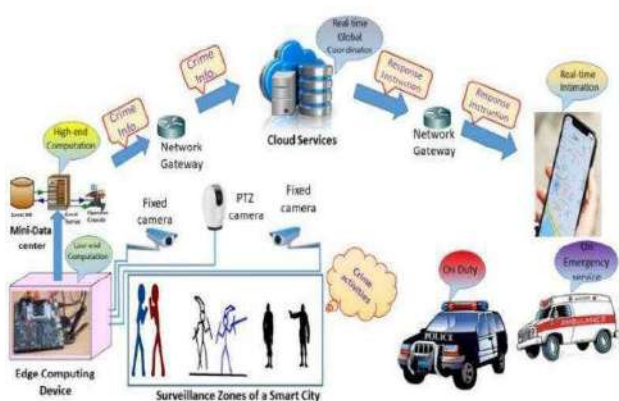
❖ Automatic intrusion detection system (IDS)
❖ Automatic loitering detection system (LDS)
❖ Automatic weapon detection system (WDS)
❖ Automatic human crime activities recognition system (HCARS)
❖ Real-time detection and intimation of the crime activities at the finger tips
❖ Query based Mobile and Web applications

❖ Adaptive Traffic Signalling
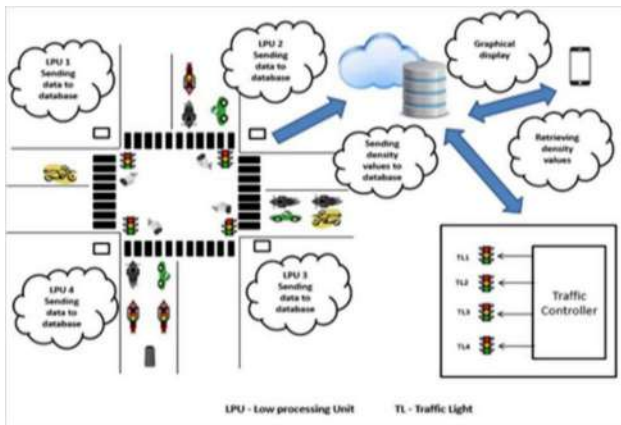
- ❖ Automate the traffic signaling system based on vehicle classification and density estimation in a heterogeneous traffic environment.
- ❖ Architecture for vehicle detection, classification and density estimation controlled by the edge-computing device.
- ❖ Methodology to operate the traffic signaling system in static mode or dynamic mode.
- ❖ Mobile application operated by the traffic police
- ❖ Only software module will help the traffic department for manual computation of traffic density and sending alert messages

❖ Personalised Pollution Monitoring

- ❖ Real time AQI monitoring for Greenhouse gases, Acid rain gases and weather parameters for both indoor and outdoor applications.
- ❖ Built-in Wi-Fi/Ethernet/LTE/GSM/NB-IoT connectivity makes it easy to complete the set up.
- ❖ Prediction of AQI based on past parameters.
- ❖ The proposed system will compare the safest route over the shortest route.
- ❖ Users can access the safest path by accessing developed web applications and mobile applications.

❖ Emergency Notification and App management system

- ❖ Automatic emergency response service to accident detection devices.
- ❖ Automatic emergency response service to crime detection devices.
- ❖ Automatic emergency response service to fire detection devices.
- ❖ Automatic emergency response service to health monitoring devices.
- ❖ Query based Mobile and Web applications.

6. Social Media Profiles

Facebook:
https://www.facebook.com/eWARN-System-110131844168202/

Twitter:
https://twitter.com/ewarnsystem2020

LinkedIn:
https://www.linkedin.com/in/ewarnsystem2020/

Website:
www.ewarnsystem.com

YouTube:
https://www.youtube.com/channel/UCRFtJhVGHeiIjrI6iTJcSUQ/videos

Integency

inspire.integrate.intelligence

Smart **Power**

Switching **System**

Automation Device for Telecom
Tower Operation Remotely

Telecom Service, UX Designing, Website Designing & Development, CMS Development, Travel Portal, Digital Marketing, Search Engine Optimization, Social Media Marketing, Payment Gateway Integration, SSL Service

Product -Telecom Infra Operation Device (Smart Power Switching System) SPSS

Automatic Mains Failure (AMF) Panels with RS485 / RS232 interface help in remote operating, optimizing power supply, activate the backup generator, and transfer the System's load from the mains to the generating set.

We have designed and implemented a smart Automation device for telecom Tower operation remotely.

We are going to solve one of the major Telecom Tower operation issue in telecom IP industries, as telecom IP providers are facing many challenges to runn the operation manually thru their field technician, but during the night time it's very critical to move to tech to tower if any fault happened. Then one idea has came to my mind that, why not implement one device which will be help us to operate remotely during the night time and every time. and get the site Every data thru the device. Then we have implemented our device Smart Power Switching System (SPSS)
there is no any technology available in telecom sector to run telecom infra assets remotely, which we are going to solve this big issue for telecom sector with this technology telecom infra provider will be save the operation cost up to 5k-10k/month from one site, presently telecom infra assets are running manually by field tech ,they are working 24*7 job to deliver 100% network and in this case they are running day & night with taking Diesel and DG Battery due to which field tech are facing road accidents and other Hazards which is losing their life. which is very critical for their family members.
Presently telecom infra providers are facing very much challenge to run their tower remotely ,they unable to track how much diesel consuming at field and how much diesel pilfering at field by diesel filler or vendor. they unable to billing proper power and fuel to their customers and getting loss ang getting huge penalty from their costumer .
So we have implemented one device to solve this issue with IOT tech base model .which will be very easy to run the DG and other passive assets and they can operate to DG remotely, they can know the live site status and know the actual power/fuel consumption and no need to go day,night to the tower for manual operating.

IoT Project for Telecom	
Oparation	
A	IoT Cloud base device will oparate thru Mobil App/Web Portal with IP adress/Google Assist
B	Device Will run with 12/48V DC
C	Device will controll the Telecom infa assets thru Mobile app/Web portal/Google Assit
Function	
1	Device will capture the run Hour from 220V AC source from Generator
2	Device will capture the run Hour from 220V AC source from Other Equipment
3	Device will capture the run Hour from Genrator Sound 70-85Db sound
4	Device will controll the Start/Stop to Generator from mobile app/Google Assist
5	Device will alert the Generator run alarm on mobile app during Generator running
6	DG battery Voltage Sensor should be show in mobile app
7	Other equipment voltage will show in mobile app
8	PIU in/out Voltage show in app
9	SMPS in/out voltage show in app
10	We can see the LVD disconnect status channel wise including voltage with load Amp
11	Device will sense the Indoor theft incident instantly

Telecom Infra Operation Device Type- AMF Panels (Smart Power Switching System) SPSS

Automatic Mains Failure (AMF) Panels with RS485 / RS232 interface help in remote operating, optimizing power supply, activate the backup generator, and transfer the System's load from the mains to the generating set.

Device Features

A. Comes with an inbuilt phase selector and compact battery charger that optimizes the usage of Mains Power
Integrated with Contactor less relay-based Phase Selector, DG & Mains switching arrangement

B. Capacity 25Kva-40Kva AC .

C. Complete Automation between Mains, Site Battery & DG Set (Suitable for all DG sets).

D. System will be run with 12v / 48v DC and switching 220v AC .

E. System will be operate remotely thru mobile application.

SANKHYA™ Teraptor™ SPDP

Modeling; Abstraction and Synthesis

The Synthetic Processor - 4th Generation Computer Technology

Processor technologies have evolved over the last 3 decades. This evolution can be broadly categorized into 4 generations of processor technologies. Generation-1 consisting of hard chips, Generation-2 consisting of soft or hard cores, Generation-3 consisting of configurable cores and Generation-4 being synthetic cores.

A synthetic processor core is automatically synthesized from an architectural model of the processor. A model consists of an ISA model and a uA model.

Key Benefits of Synthetic Processor – full life cycle design automation leading to faster TTM (3-12 months) and multi-dimensional design optimization leading to better QoR.

Teraptor Synthetic Processor Design Platform (SPDP)

Teraptor SPDP offers languages, IDE, SDK, Simulation, Verification and Synthesis tools required to specify, model, design, simulate, verify and synthesize a synthetic processor.

Teraptor SPDP is available in 4 convenient subscription options. We can create a custom option to meet your specific requirement as well.

SNO	Feature	SPDP-SC-32	SPDP-SC-64	SPDP-MC4-32	SPDP-MC32-64	SPDP-HC4-32
1	Architecture	32-Bit RiSC	64-Bit RISC	32 Bit RISC 4 Core	64 Bit RISC 32 Core	32-Bit Hybrid 4 Cores
2	Instructions	Upto 128	Upto 256	Upto 156	Upto 310	4 x 64
3	Est. FPGA Impl Time	6 Months	12-15 Months	12-15 Months	15-18 Months	12-15 Months
4	Subscription Period	3 Years	3 Years	3 Years	3 Years	3 Years
5	Number of Users	4	8	8	16	8
6	Support	Standard	Standard	Standard	Standard	Standard

For a presentation or purchase, please contact: sales@sankhya.com or call
Gopi Bulusu **+91 94408 78042**.

Teraptor Synthetic Processor Design Platform

Dreamchip Siddhi Digital School Bag

Native Indian Language Support

Siddhi Soc

Powered by Siddhi™
32-bit Synthetic Processor & SoC

DreamChip
Built Better.

Siddhi Ed1 Digital School Bag

Sleek & Lightweight
at just 1.18 kgs*

Affordable

Eco-Friendly

Scan to Pre-order

Dreamchip Electronics Private Limited
www.dreamchip.in | Vizag | Chennai | CIN: U72900TN2012PTC086722

📞 + 91 94449 72818   ✉ info@dreamchip.in

13110310-013

* under lab conditions using general and commonly carried stationery placed inside the storage.

** the image shown is a prototype only and the designs are subject to change without prior notice.

BHARATNET UDYAMI PROGRAMME:

- Through BHARATNET UDYAMI Programme; High Speed Broadband Connections with FREE ONT will be provided to the rural customers through Partner OLTs integrated in Gram Panchayats connected through BharatNet Network.
- Connection can be provided under any of the existing FTTH Plans.
- Incentives for Rs. 3000/- (For ONT) (Rs.2800+Rs.200) and Installation Charges should be paid to the BharatNet Udyami Partner.
- No payment is to be taken from the Customer for Installation or ONT.
- This will be confirmed by the Customer in My BSNL App at the time of connection activation.
- Once the service is verified, service utilization certificate shall be made available in the FMS and the amount shall be transferred to the wallet of the Udyami partner.
- After submission of the Invoice in a fortnight, it will be processed in the BA and the amount will be transferred to the Bank account of the partner.
- An additional retention Incentives to BU Partner quarterly of Rs.200/- for One year.

SATURATION PROJECT:

- The vision of this project is to provide 4G mobile connectivity to all the unconnected rural and remote villages.
- 1630 mobile towers are being installed to cover remaining 2813 villages in Odisha under 4G Saturation Project.
- In addition to this, 256 mobile towers having only 2G connectivity in Left-wing Extremist areas will be upgraded to 4G service.
- Equipment with Indigenous 4G technology stack under Atmanirbhar Bharat initiative of Govt. of India will be used.
- It will promote the delivery of various e-governance services, banking services, telemedicine, tele-education etc. through mobile broadband and generate employment in rural areas.

Education - Immersive learning
Traditional methods of Learning using textbooks and picture often pose a challenge for students attempting to visualize and understand complex subjects such as functioning of the heart, chemical reactions, geography, and history among others
Using Augmented Reality, Schools can now have a "3D Reality lab" in which all students can wear a Jio Glass to visualize topics from their syllabus

Healthcare - Community Clinic
In India, the doctor patient ration is as low as 1:2000. Many patients, specially in rural areas have to travel long distances to consult quality medical specialists. The Physical barrier often leads to delayed detection of diseases, escalated treatment costs and higher mortalities.
- Jio True 5G enabled Community Clinics will bring quality Healthcare specialists to geographies with limited healthcare facilities using the "Clinic in a Bag" platform. Paramedics or Asha workers can carry connected probes such as Stethoscope, ECG machine, Glucose motinors, ENT probes etc to patients in far flung Locations and this feedback can be relayed real time to a specialized doctor at any location

Smart Office
With Connectivity powered by Jio True 5G and Jio AirFiber office are set to become smarter with easy and wireless plug and play solutions such as - Jio Airfiber /Cloud PC/Video Telephony/Digital Signage

Smart City
Jio True 5G will help in real data processing, shift to edge cloud and enable multiple streaming across devices. In addition, 5G will enable quicker deployment of CCTV over traditional cabling with no limitation on installation

Cloud Gaming
With Ultra Low latency and high bandwidth of Jio True 5G, gamers will now have OTT Like service on JioCloud Gaming wherein they will be able to access high quality games from anywhere without the need for expensive hardware or separate purchase of costly game titles

a) **VR Education**

   Innovation in Education with Airtel 5G Plus
   5G technology provides a unique understanding of subjects and learning, especially in primary education. By powering learning through immersive VR experiences, primary education can become experiential – thus becoming more creative and interactive. In this demonstration, Airtel 5G Plus, in partnership with a startup, created a solar system meta-verse, in which students learnt about different planets. The entire learning experience was very creative and interactive, as students walked on Mars and took a trip around Earth.

b) **Healthcare**

   5G Connected Ambulance
   A huge number of deaths happen in ambulances while they're in transit. This is because the ambulances are not perfectly equipped to provide patients with the critical care they need while on the move. 5G technology can virtually transmit emergency care methods to the ambulance by remotely connecting doctors to the patients, to monitor their vitals in real-time and act promptly to make the best use of the golden hour.
   Airtel, Apollo Hospitals, and Cisco have joined forces to demonstrate this incredible capability with the 5G Connected Ambulance. The 5G Connected Ambulance is revolutionary in providing ICU-like emergency care to patients. These ambulances are fitted with three cameras to provide a live feed to the control room, giving the in-ambulance emergency care provider the virtual assistance of a doctor, especially for life-saving procedures. The high-speed and low latency Airtel 5G network can thus help reduce in-transit deaths by instantaneous data transmission to the control room, truly revolutionizing healthcare

   Ambupod – Rural Mobile Clinic powered by 5G
   People in the rural areas lack access to proper healthcare. In case of an emergency, they sometimes have to travel 10-15 kms to receive proper medical aid. Airtel's 5G technology can help medical personnel connect virtually with people in remote areas through a mobile clinic. These hospitals-on-wheels offer support to people in remote areas through live doctor consultations. Equipped with Advanced Life Support, Basic Life Support, and live cameras, these 'On-the-Go' clinics bring the hospital to the patient for quick and immediate medical support. The high-speed and low latency Airtel 5G network will connect remote areas to quick, safe, and efficient medical care across India

c) **The 175 Replayed**

Innovation in entertainment with Airtel 5G Plus

Airtel 5G Plus's network helps build a seamless experience of live sports and entertainment. As a game-changer for LIVE sports and entertainment, Airtel recreated Kapil Dev's meteoric innings of 175* which was experienced in a way that live sports will be consumed in the future. Viewers can choose from any camera angle to watch the live stream of the match and can switch seamlessly between multiple angles. They can get real time stats on the AI-recreated ground and can experience the match in full 360 view, thus bringing the in-stadium experience to viewers sitting in their homes.

d) **Cloud gaming**

Revolutionizing Gaming with India's First 5G Cloud Gaming Experience

More and more games today boast of heavy graphics for high performance and experience, leading to a lack of storage space and heavy lag in their functioning.5G network uses cloud storage and real-time streaming from the cloud for effortless and lag-free gaming. Airtel introduces India's first 5G cloud gaming experience, which offers expansive storage of large gaming programs. Using high-speed data transfer from the cloud to the device, gamers can enjoy seamless streaming of graphic-heavy mobile games. The low latency and high speed of Airtel 5G is revolutionizing gaming, paving the way for innovative ideas that are not restricted by size.

e) **Airtel 5G Plus Speed Zone**

Airtel 5G Plus unlocks blazing fast speeds of up to 30X, which opens up infinite possibilities in terms of mobility experiences for consumers. These ultra-fast speeds equip all the use cases and so much more, unleashing the power of Airtel 5G Plus

Public Safety

The use case will demonstrate how UHD Video cameras through 5G network capabilities can help first response teams during emergency & disaster situations such as traffic violations, crowd detection, an alone woman in an unsafe environment, unidentified object detection and alert. CCTV surveillance cameras will be able to transmit the ultra-high-definition videos beyond 4K that are captured by UHD cameras for subsequent AI recognition & Analytics.

Connected Healthcare

Showcasing how to utilize the Golden Time to comence diagnostics, get expert views, and infrastructure ready at hospital for emergency procedures while the patient is enroute to the hospital.The ambulance is equipped with a camera focused on the patient and a mobile app is connected to the ECG machine showing necessary metrics. The doctor can view the ECG output of the patience in ambulance from the app and assit the paramedic to stabilize the patient's vitals whenever necessary

Digital Twin for Worker's Safety

Athonet   This use case is for smart construction. We plan to demonstrate following sub use cases:

- Digital Twin/Digital replica of metro tunnel construction site - Navigate through the tunnel and experience the tunnel construction virtually.
- Realtime video feed of metro tunnel construction site - 4 cameras positioned at entry, exit, face and surface of the tunnel delivering realtime feed to HoloLens.
  In real world, 50-100 cameras can run on 5G with higher codec which cannot be supported in 4G
- Tunnel workers' health and safety monitored using AI driven video analytics
  Automated real time notification and alert of mishaps monitored via video analytics

EV and Battery Management System

This solution enables overall monitoring of vehicle movement and it caters across the daily operations like, movement of vehicle from point a to b, vehicle stop and idling, geofence entry/exit. It also helps customer to remotely lock and unlock the wheel, remote vehicle immobilisation and keyless ignition on/off using app

Customers can also get safety alerts in case of vehicle tampering.

One of the critical components in electric vehicles is battery which is one of the costliest part of the vehicle and that is where our EV battery monitoring solution plays a vital role.

Our solution not only provides vehicle visibility and monitoring but also enhance safety and security of the battery that goes in the EV. Our solution helps provides location of battery, it helps track the battery cell performance like cell voltage and temperature. It also notifies on malfunctioning/ non-functioning of battery (battery error codes) for preventive maintenance. We will showcase how our IoT EV solution is enabling battery monitoring.

Automated Guided Vehicle (AGV)

This intelligent robot powered by AI/ML with IoT capabilities enables shop floor automation and facilitate intra-logistics operations. The robot can find the best path to reach its destination without human intervention due to its anti-collision feature. This solution offers absolute flexibility and scalability of operations with enhanced safety. We will demonstrate how the solution enables movement of material from one place to another using AI and ML without any manual assistance. This robot will pick up the package from loading bay and drop it to the unloading bay through a predefined path that has been set up for the demo.

MICROSOFT MIXED REALITY AND HOLOLENS 2

Mixed reality is the next wave in computing followed by mainframes, PCs, and smartphones. With 5G, it is going to be a mainstream for the enterprises which liberate us from screen-bound experiences by offering instinctual interactions with data in our living spaces and with our friends. It is a blend of physical and digital worlds, unlocking natural and intuitive 3D human, computer, and environmental interactions. Microsoft HoloLens 2 is a mixed reality untethered holographic computer which refines the holographic computing journey started by HoloLens (1st Gen) to provide a more comfortable and immersive experience paired with more options for collaborating in mixed reality. Using HoloLens 2, user can collaborate without boundaries and act with precision to increase productivity with mixed reality applications. Staying engaged heads-up, hands free longer and more comfortably with built-in voice commands, eye tracking, and world-anchoring for continuous focus on safely completing tasks without errors are few rewards of HoloLens 2. Also, we can now connect with remote colleagues in real-time and work together across an extensive holographic canvas overlayed in your physical environment to quickly resolve issues at the point of work.

Use cases for demonstrations:

1. Collaborative medicine scenario – VSI HoloMedicine® application leverages Microsoft HoloLens 2 hardware to transform medical images, clinical workflows, and medical education into an interactive 3D mixed reality environment. The solution is agnostic with respect to medical field, entirely independent from other physical hardware, and supports the surgical episode of care. It can be used to collaborate with other physicians globally as virtual avatars, conduct surgical planning in 3D, engage patients, and educate future doctors in medical academia.


2. An expedition to the human heart – Insight Heart application will guide you through various states of the heart, trigger impressive visualizations of various conditions, such as normal heart rate, myocardial

infarction, arterial hyperextension, arterial fibrillation, and more. User can view the heart from the inside or move, rotate, and scale the resolution. Also, they can tap on spatial annotations to get more dedicated information for each region of the heart from every angle.

3. <u>Immersive training and learning</u> - Altoura application is the productivity platform for the metaverse. With a secure enterprise infrastructure, spatial collaboration tools, and a no code Experience Builder®, Altoura helps organizations transform their physical assets into high fidelity 3D models that power immersive, interactive, and collaborative experiences for remote workers. Altoura represents both a technology and productivity breakthrough used today by the most innovative and successful organizations in manufacturing, retail, healthcare, AEC, technology, and service industries to generate business impact.
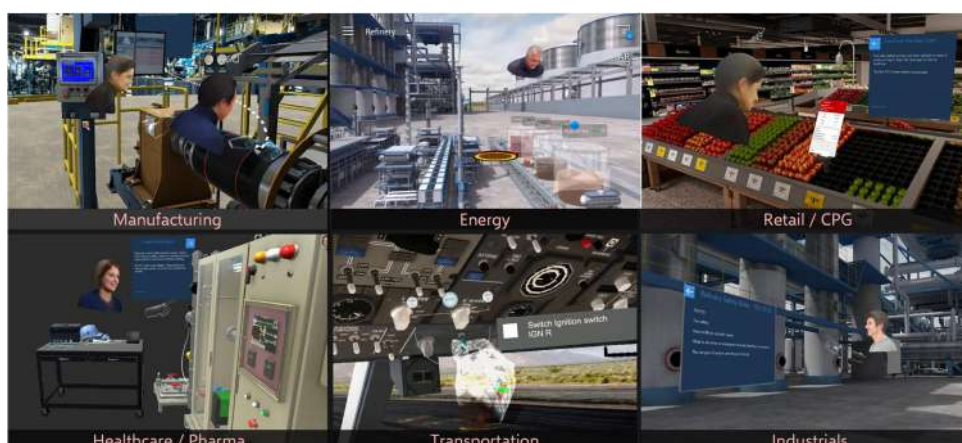
SHOWCASE

1. **Building the Metaverse**

   Videos showcasing possibilities of augmented reality and virtual reality on screen

2. **Augmenting Reality**

   Users will be able to experience augmented reality technology

3. **MyGov Helpdesk on WhatsApp Podium**

   MyGov Helpdesk on WhatsApp will be put on display here. users will be able to experience this

4. **Empowering Communities**

   Videos on how communities in Odisha have leveraged technologies provided by Meta will be showcased here.