

Bilateral Cleft Lip & Palate



Unilateral Cleft Lip & Palate



Boond™ AdditionalNeeds™ Cleft Lip and Palate Infant Feeder

Ms. Nameeta Sohoni | Samsara Paediacare (OPC) Pvt. Ltd.

Problem Statement

Feeding is one of the main challenges of cleft affected infants. Due to an incomplete oro-facial anatomy, most infants cannot nurse directly from their mothers. There are high chances of aspiration & reflux resulting in low weight gain and sometimes failure to thrive. Often, these babies do not meet the WHO recommended growth curve. Only method available locally, is to feed the babies with a vaati, Chamcha/Paladai. This poses a significant challenge to the parents especially for round the clock and through the night feeding. Internationally available brands are too expensive for grassroots level buyers and there is nothing in the market yet addresses the challenge of post operative feeding.

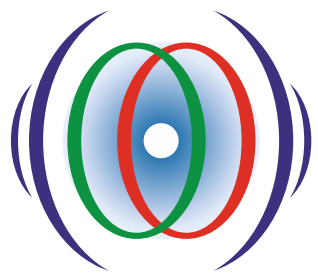
Concept & Innovative Technology

Boond™ is an AdditionalNeeds™ medical grade feeder designed to feed cleft affected infants from birth up to the age of one. The Boond™ Bottle helps with post-operative feeding and is medically compliant to all post-operative feeding restrictions. It has different attachment which address: 1: Colostrum feeding 2: Post operative feeding 3: Prolonged feeding support.

Benefits & Applications

Colostrum feeding, Post-operative feeding, Prolonged feeding support until palate repair

NURTURING IDEAS



Automatic Gear Transmission Kit for Motorcycles

Mr. Sagar Patil | Archat Technologies Pvt. Ltd.

Problem Statement

Tiresome use of the clutch and the gear peddle for shifting the gears in Manual Transmission motorcycle. Needs continuous effort in traffic while driving the motorcycle. Need to control clutch, throttle & brake simultaneously while stopping the motorcycle. Available automatic gear transmission technologies are expensive and needs higher maintenance cost.

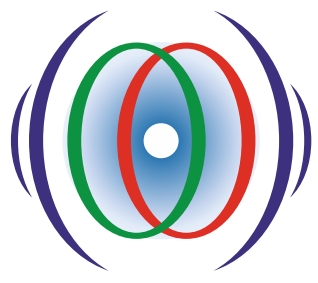
Concept & Innovative Technology

The Innovative Automatic Transmission device converts the existing manual transmission of the motorcycle into automatic gear transmission. The system automatically controls the clutch, the gear shifter and throttle for shifting the gears. The simultaneous control of the clutch, gear shifter and throttle through one actuator makes the system more simple & reliable. The technology can be adaptable to any model of manual gear transmission motorcycle.

Benefits & Applications

This technology solves the problem of taking continuous effort during driving in traffic. Motorcycle user experiences more enjoyable & comfortable ride. Less expensive compared to other automatic transmission system. Needs low maintenance cost. Motorcycle user can make choice of Automatic or Semi-automatic gear transmission while driving. Motorcycle user gets high pickup and mileage compared to CVT transmission.

NURTURING IDEAS



SquatEase Toilet Pot

Mr. Satyajit Mittal | Sanotion Pvt. Ltd.

Problem Statement

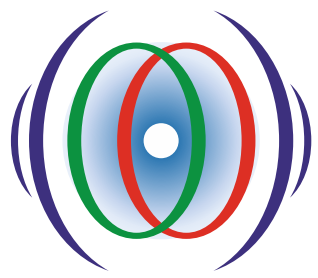
The squat toilet can be extremely uncomfortable to use for the user as it causes stress on the knees, the toes and makes the experience completely tiresome, difficult to balance. Most people squat on the Indian toilet with their heels up and balance themselves on their toes because they find it difficult to squat with a flat foot.

Concept & Innovative Technology

The new footrest has an inclined plane that divides the pressure on the entire foot instead of the toes as opposed to the current scenario, thus reducing the pressure on the knees and making it comfortable to squat, reducing Stress on Knees and thighs. Since the toilet footrest have a slope, its impossible to squat in the odd direction thus changing user behaviour. Floor markings on the toilet are designed as a guide for the Visually impaired to identify the correct spot to turn and squat to aim correctly. Ergonomics aids to the people with joint/knee problems to squat easily.

Benefits & Applications

Comfort for Squatting specially with elderly, people with joint and knee problems. Correct Usage leading to behaviour change. Easier to clean and maintain toilets using less water.



Low Cost Electric Bicycle with Drive System Integrated in Chassis

Mr. Jaywant Mahajan | GetMy Solutions Pvt. Ltd.

Problem Statement

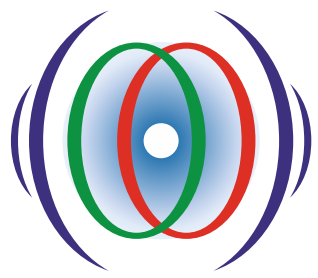
In wheel motors, we find lot of maintenance issues and other structural and wiring problems. Cost of ebikes is very high and not affordable to masses. Ebike motors are not manufactured in India, all imported

Concept & Innovative Technology

A new motor developed integrated in the pedal which has no maintenance issues. Pedal assist system integrated inside the motor and controller for better range. Integrated planetary gearbox with clutch system.

Benefits & Applications

Low cost Ebike solutions - can be made at less than Rs. 14,000/- for high volume. All parts designed and manufactured made in India. Affordable mobility for school kids, lower income groups, girls/women, elder people.



Salivary Test Kit for Cancer Detection

Mr. Manish Pungliya | Ayugen Biosciences Pvt. Ltd.

Problem Statement

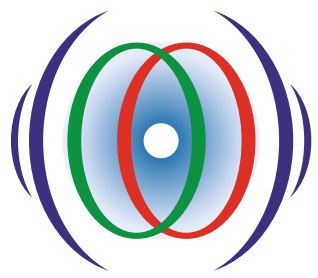
Oral cancer is the most common cancer in Indian population. There aren't currently available non-invasive screening tests. The collection devices available for genomic markers are mostly imported

Concept & Innovative Technology

Develop a salivary collection kit for testing for genomic markers related to oral cancer and other diseases.

Benefits & Applications

The kit if proven to show similar results compared to already approved imported kit then we can commercialize it. The kit may also be used for other applications like genetic testing where it can replace the need for invasive blood sampling. Being non-invasive the kits can be used for collection of samples from home of the patient.



Retrofit Electric Drive Kit for Small Boats

Mr. Rajeev Ranadive | Pixy Electric Cars Pvt. Ltd.

Problem Statement

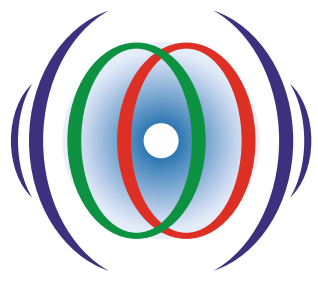
Boats and fishing crafts used in lakes, rivers and along the sea coast for fishing, tourism, transportation etc. are mostly driven by diesel engines. Spillage of diesel and exhaust causes pollution as well as motor generator also causes noise pollution.

Concept & Innovative Technology

The proposed drive kit will provide a safe and convenient electric propulsion system, working on low voltage and recharged by solar panels.

Benefits & Applications

Main Applications for which these boats are used include Traditional fishing and Tourism.



Multiple Antenna High Density Ion Generators for Pollution Control

Dr. D. B. Jadhav | Jclean Weather Tech Pvt. Ltd.

Problem Statement

The ill-effects of air borne pollution are seen through widespread respiratory ailments, accidents due to lowered visibility and impact on land and air traffic movement. along with the risk of developing cardiovascular, respiratory diseases as well as lung cancer.

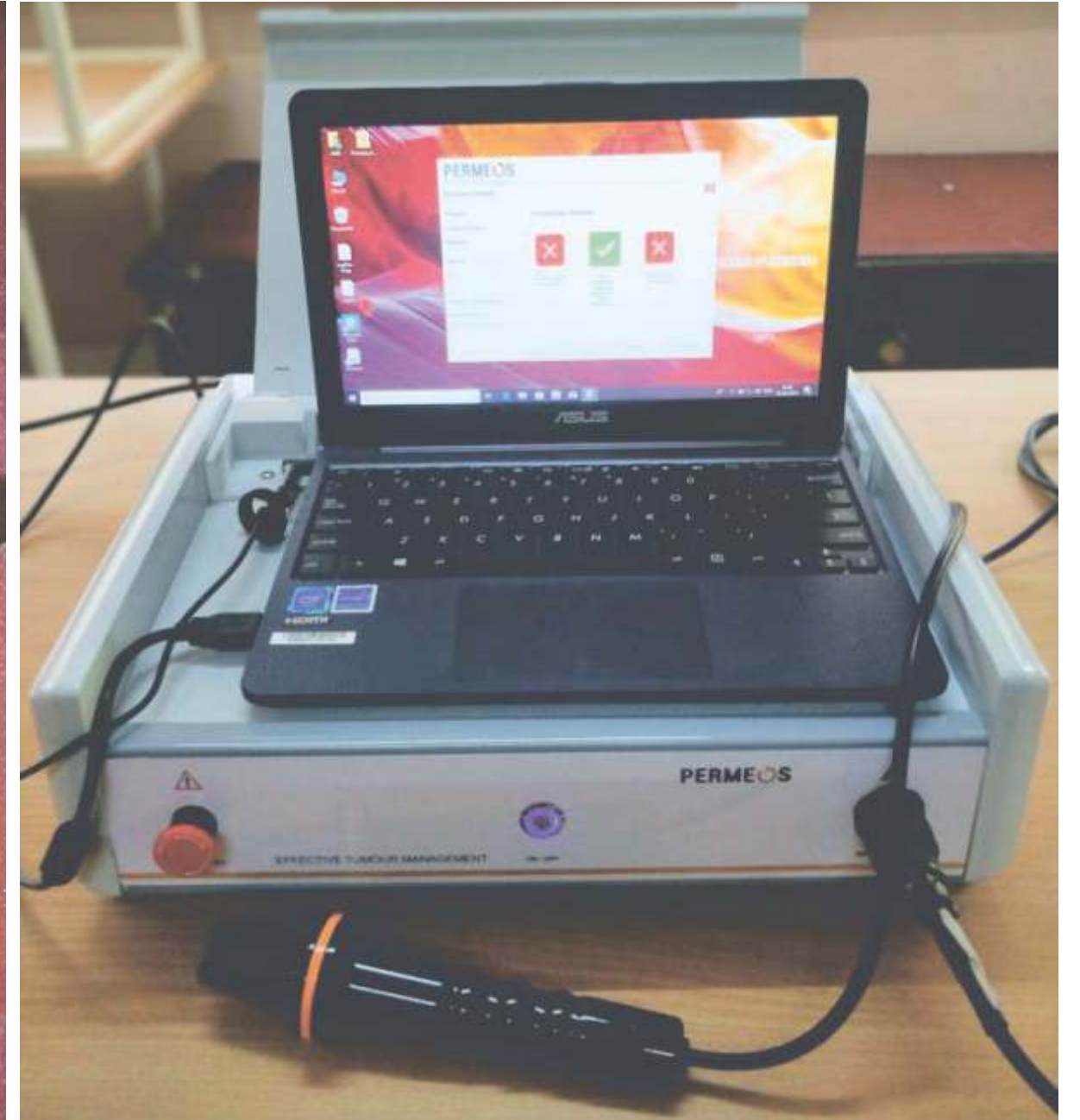
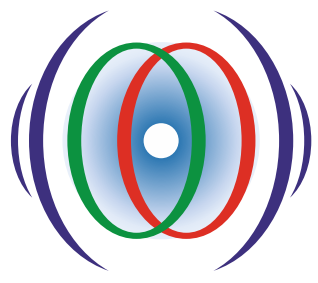
Concept & Innovative Technology

The basic pollutants in the atmosphere are suspended particles, CO, SO , volatile organic compounds, Ozone, Air borne Virus, Bacterial, Pollen grains. etc. Our aim is to either decompose these pollutants or settle down these elements by use of Negative ions (Super Oxide i.e. Negative ion of Oxygen) in the atmosphere.

Benefits & Applications

The High Density Ion Generator generates ions and decomposes pollutants like NOx, Volatile Organic Compounds, CO. It produces a cooling effect in atmosphere due to settlement of Aerosols. It also produce Super Oxide (O₂ negative ions) which is the basic requirements of plants and animals. It produces Hydroxide Molecule and Hydrogen Peroxide which are atmospheric detergents. Decomposes volatile organic compounds (smells) into water vapor and carbon dioxide, hence useful to reduce odour. Breaks down the outer protein of allergens, viruses, bacteria etc., hence useful to control

NURTURING IDEAS



Electroporation Device for Treating Cancer Patients

Mr. Jaydip Deshpande | Tenon Meditech LLP

Problem Statement

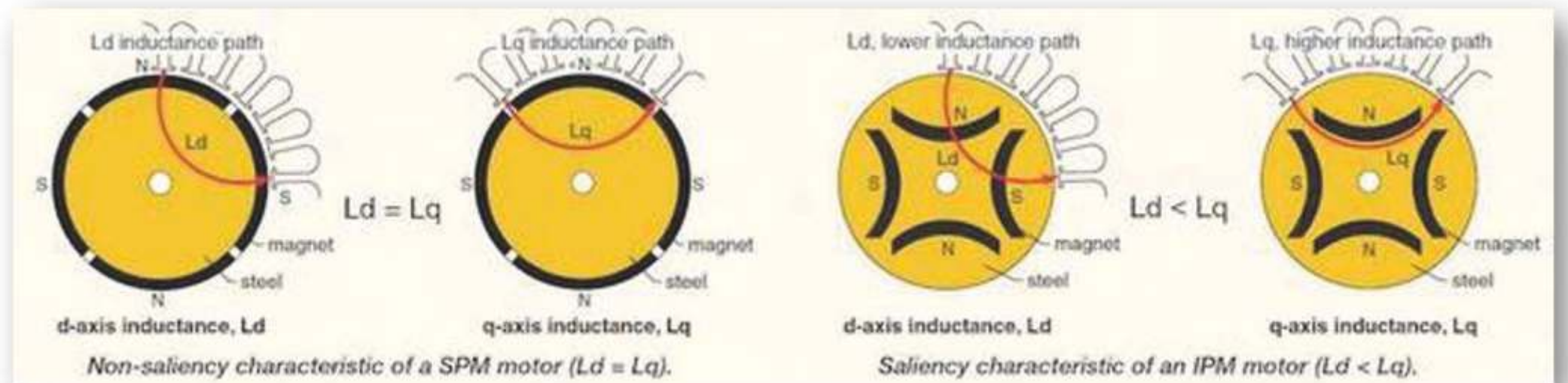
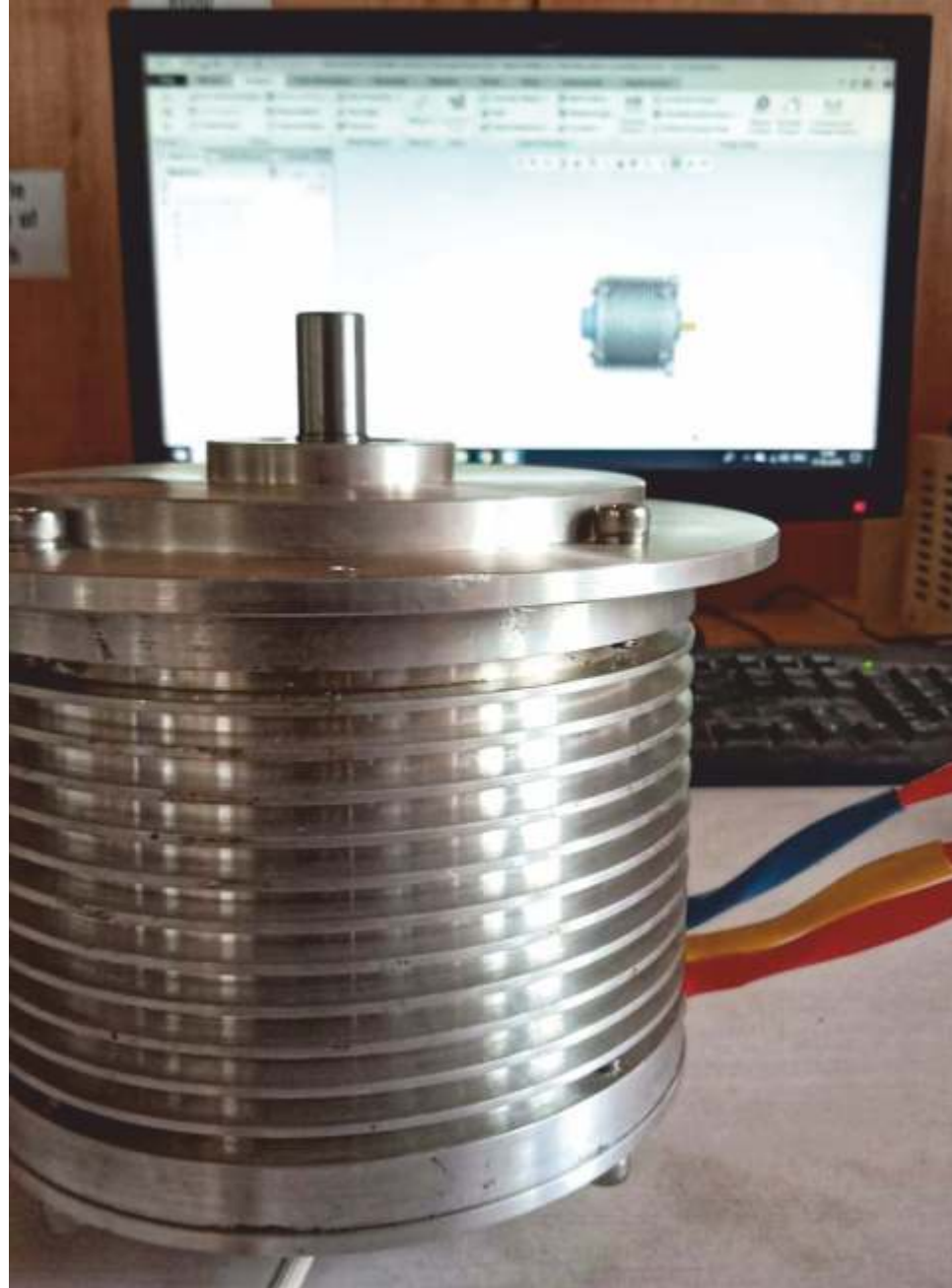
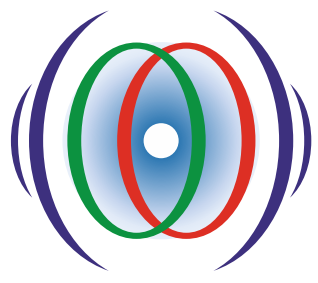
Chemo drugs have lot of side effects and thus can not be used in very large quantity. We can use electroporation to increase the drug uptake. This can help us to get better results with smaller quantity of medicines.

Concept & Innovative Technology

At certain voltage and with certain frequency the cancer cells change permeability. This change of permeability is reversible and this helps in better results. This type of device has not been designed and developed in India with R&D focus being India.

Benefits & Applications

Application to superficial cancer tumours. Better treatment, better results with much smaller quantity of medicines. Better results with lesser medicines and lesser side effects.



Air Cooled IPM AC Synchronous Motor for Electric Vehicles

Mr. Mahesh Toraskar | Matel Motion and Energy Solutions Pvt. Ltd.

Problem Statement

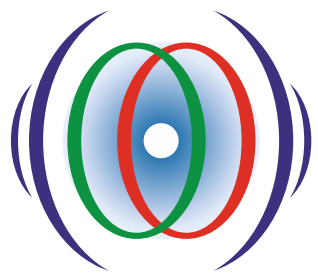
Limitations on Motor Efficiency, Dependency on Chinese Import and High Cost due to usage of rare Earth Magnets.

Concept & Innovative Technology

Usage of saliency present in IPM construction to get advantage of Reluctance Torque. Usage of Ferrite magnets in IPM Motor for Electric Vehicles.

Benefits & Applications

Eliminated dependency on Chinese import and prices fluctuation due to fluctuating prices of Rare Earth Materials. High efficiency of the Motor due to use of reluctance torque.



Farm Utility Vehicle

Mr. Shrilesh Mande | Industill Farmtech Pvt. Ltd.

Problem Statement

Ever increasing labour and machinery hiring costs and continuous fragmentation of farmlands is responsible for reduction in farmland productivity and farmer's income. There's lack of innovation for developing solutions to solve specific problems of small and marginal farmers of India.

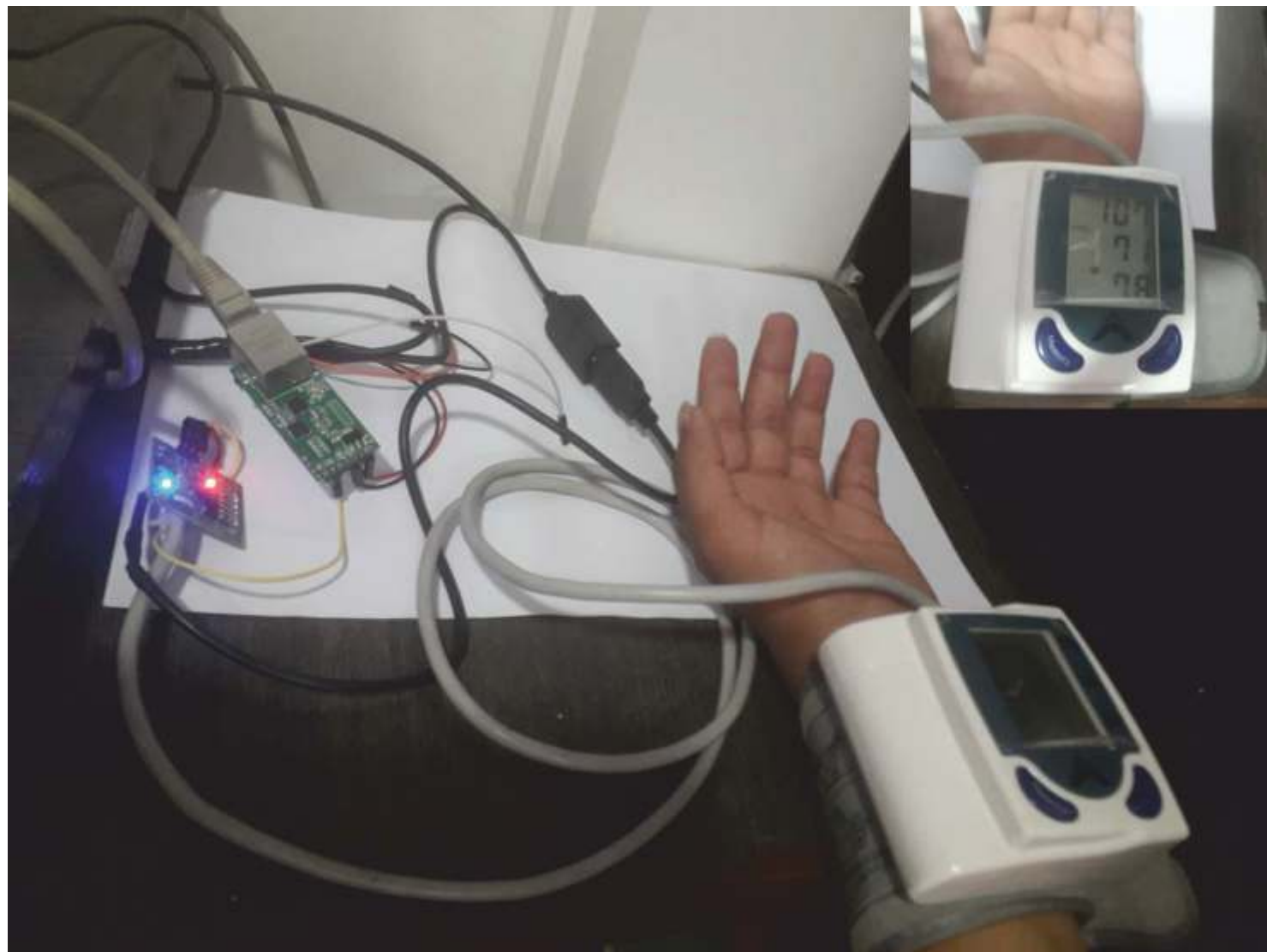
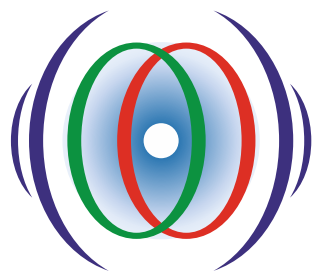
Concept & Innovative Technology

An affordable smart agricultural vehicle for marginal farmers which has the ability to mechanize 90% of the farm activities reducing the labour cost by 50%, machinery hiring cost by 80% and increases productivity by 20 to 30%. It has IoT enabled in-built precision sprayer and seed-fertilizer drill reducing the cost of labour and inputs such as fertilizers, pesticides, herbicides and multi-nutrients by their precise application. This vehicle will enhance precision farming for marginal farmers who couldn't afford both.

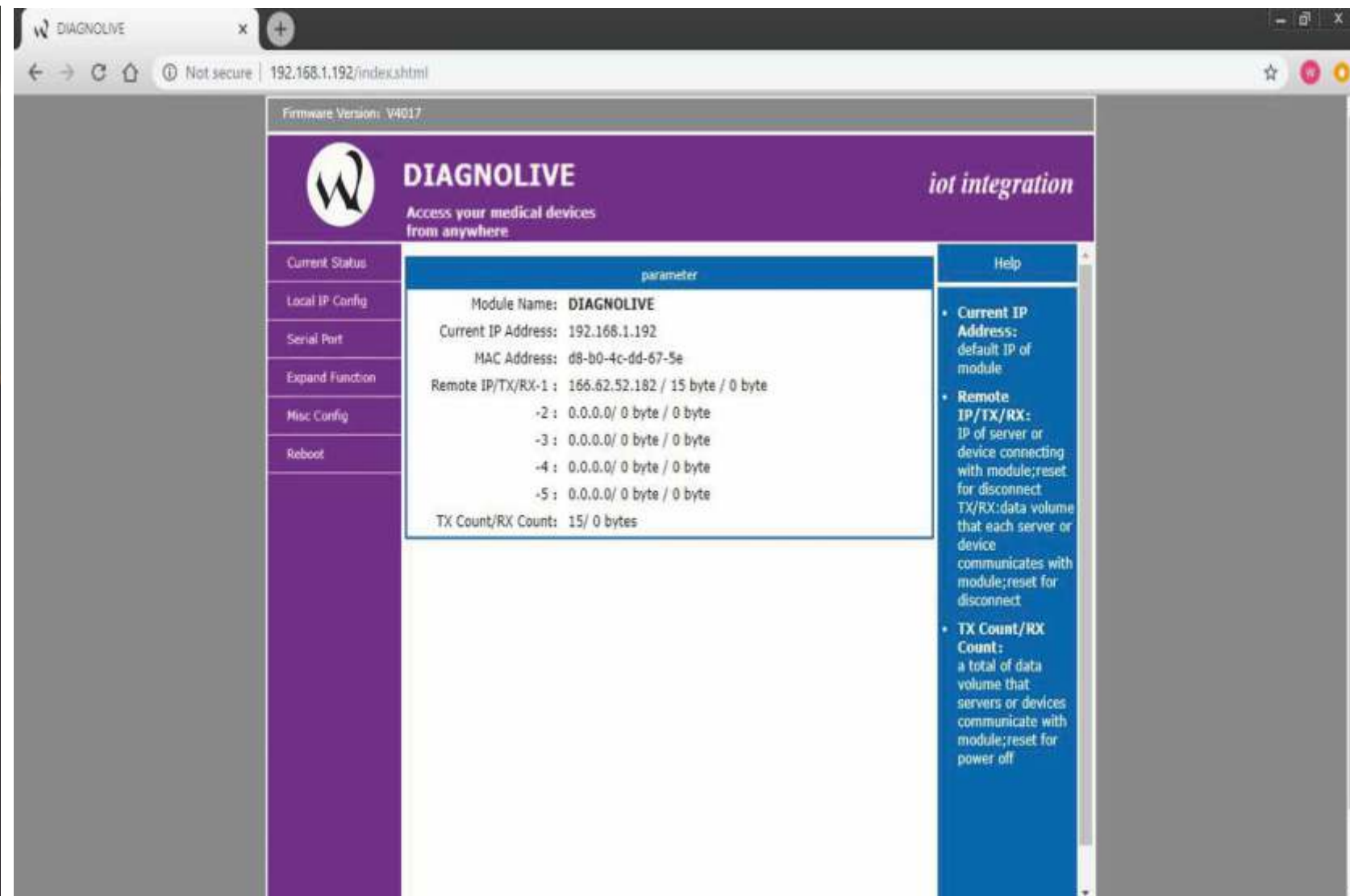
Benefits & Applications

Compact size allows it to be used for inter-cultivation activities and tractor like appearance allows it to be used for pre/post and transportation activities. Ergonomic considerations in design reduces overall discomfort rating of using power tiller by 55%. It will reduce farmers' dependency on labour and machinery owners. Timely operation due to self ownership increases productivity by 140%.

NURTURING IDEAS



DIAGNOLIVE Prototype Connected to Digital B.P.
via TTL & internet using RJ45 Lan



DIAGNOLIVE as TCP client connected to DIAGNOLIVE Server



DIAGNOLIVE

Mr. Kunal Karnik | Watchwitz Technologies Pvt. Ltd.

Problem Statement

Medical devices such as BP, ECG, Spirometer, Pulse Oxymeter, EKG, etc. and Electronic devices such as various lab instruments typically use direct cable connection to interact with a computer and send data to communicate with proprietary software of that device. These devices are not accessible remotely. Currently we need a huge setup for conducting telemedicine session or medical camps in rural areas.

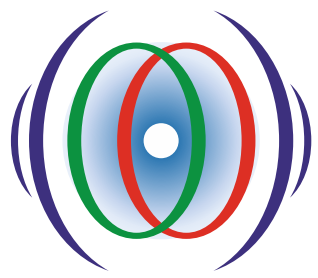
Concept & Innovative Technology

Diagnolive will provide a real-time omnipresent medical and electronic device sharing platform over internet, which will emulate device to remote location as locally available. Diagnolive will help doctors and hospitals to use their existing and legacy medical devices efficiently for remote diagnosis.

Benefits & Applications

DIAGNOLIVE will enable medical and industrial devices to be accessible remotely over internet even on low bandwidth connections. In developing countries where price and connectivity is major problem for implementation of telemedicine, this device will convert existing infrastructure to telemedicine enable system. Apart from medical sector, industrial automation & robotics can also use it for signaling and real-time data processing, remote controlling and monitoring

NURTURING IDEAS



High Temperature Multi-jet Updraft Gasifier

Mr. Ajit Gadgil | G.D. Environmental Pvt. Ltd.

Problem Statement

Municipal solid waste (dry) contains a lot of non recyclables which usually end up in landfill. The method adopted for its disposal is usually incineration which gives rise to air pollutants and needs external fuel. The existing waste to energy projects take up large area and lot of money is lost in transporting waste, and are usually not welcomed by the general public situated near the project.

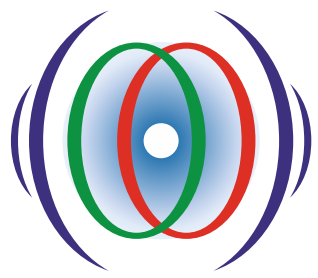
Concept & Innovative Technology

Developing a decentralized processing module of Dry municipal solid waste processing of up to 5 tons/day. Using the calorific value of the waste feed and air jets to develop temperature of processing up to 1260 degree centigrade. Generating value added products by utilizing the heat generated and not just limited to electricity but direct application to processes using steam, hot oil etc. Utilising ash to make pavement blocks and achieving zero material for landfill.

Benefits & Applications

A complete solution to dry municipal solid waste disposal without generation of air pollutants. Decentralised setup of waste processing with commercially feasibility and job generation.

NURTURING IDEAS



Neonatal Phototherapy Goggles

Ms. Shatakshi Wagh

Problem Statement

2 million newborn babies in India undergo phototherapy treatment for jaundice every year. There is no proper gear to protect their eyes safely and comfortably during phototherapy. The babies eyes are covered with cotton pads which wound around the head making the baby uncomfortable, irritable, and also causes corneal ulcers and nasal blockages in extreme cases.

Concept & Innovative Technology

We are working on a concept to eliminate the irritation, fatigue and other risks associated. Our proposed concept will be a sterilizable model.

Benefits & Applications

An approach to make the babies more comfortable, better fitment technique and an aesthetic appearance will be a lot better creating positive impact on the parents.