# **BANNARI AMMAN INSTITUTE OF TECHNOLOGY**

SATHYAMANGALAM - 638401

# **BIT - INNOVATION AND STARTUP**

THE LATEST NEWS, VIEWS & ANNOUNCEMENTS - JUNE 2022

#### **BIT - STARTUP QUARTERLY NEWS BULLETIN**

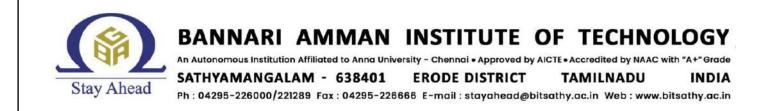
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**ISSUE 04** 





Edited by O/o Dean PDS, Feedbacks and Suggestions may be sent to officestartup@bitsathy.ac.in



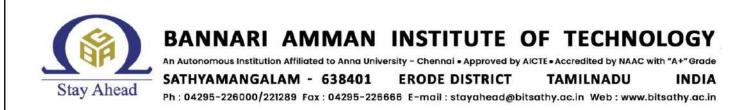
#### **FACULTY AND STUDENTS STARTUP**

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### **STUDENT'S STARTUP**

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stayahead@bitsathy.ac.in

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#### **OBJECTIVE OF THE FIRM**

- Build up development delivery ability, with predictable and lower costs.
- Build additional product features in a cost effective, yet a future proof and high quality manner.
- Improve quality and efficiency
- Drive the effort to provide a system high availability, redundancy, failure handling and monitoring.
- Implement modern software development methodology, towards goal of the self organizing team, and delivery commitments.
- To maintain the high quality standards

IN THIS ISSUE

NUMBER OF PRODUCTS COMPLETED - 3

NUMBER OF ONGOING PRODUCTS - 3

NUMBER OF PRODUCTS

SOLD - 1

CONTACT DETAILS Mail\_ID: uvarajavc@bitsathy.ac.in Ph. No. : +919894459784



#### MULTI-PURPOSE MINI TILLER

Power tiller machines generally help in preparing the soil, sowing seeds, planting seeds, spreading fertilizer and irrigation. Besides, it also helps in various work like harvesting, threshing and transporting crops. It is used for smooth functioning with rotary farm implements and comes in handy to work in mini areas. The maximum speed of the tiller shall not exceed 5 RPM. The maximum weight of the Power tiller shall not exceed 45 kg. Power tillers are versatile machines that can power the operation of various farm implements such as; plow disc, rotary puddle, leveler and thresher. It is light and easy to manipulate in the field when it is wet or dry. All implements can be manufactured locally.

#### NARROW HUB MINI TILLER

Tiller is normally used to plough the farm with a series of blades that breaks the hardpan, moisturizes the soil and pulverizes the soil to cultivate plants and get a high yield in which limited actions can be performed but the product developed can do multiple functions. A power tiller is the type of agricultural machinery used for soil preparation having a single axle in which the direction of travel and its control for field operation is performed by the operator walking behind it. The maximum speed of the tiller shall not exceed 5 RPM. The maximum weight of the Power tiller shall not exceed 77 kg. Power tillers are versatile machines that can power the operation of various farm implements such as; plough disc, rotary puddle, leveller and thresher. It is light and easy to manipulate in the field when it is wet or dry. All implements can be manufactured locally.



#### SUGARCANE LEAF PEELER

The sugarcane peeler is used to peel the dried sugarcane leaf, which comprises a single electrical motor operated by the battery system. The sugarcane is peeled by the high speed rotating nylon strip attached to the shaft at a uniform RPM by the BLDC motor. The operation is directed through the handle by manual, thereby peeling the dried sugarcane leaf matter up to the required sugarcane height. Its helps to avoid conversion of the traditional sugarcane cultivation to any other form of cultivation.

# ACTION PLAN FOR THE UPCOMING MONTHS

\* To design and fabricate a broomstick making machine, Concept has been generated and discussed with students for fabricating the prototype model. Need to purchase the raw materials for it and we are planning to complete it in a month.

\*And equipment for tillage, sowing, irrigation, plant protection and threshing have been widely accepted by the farmers in Sathyamangalam.

#### **BIT Startup Newsletter**



# **ELECTEK** Driving to the future



#### OBJECTIVE OF THE FIRM

- Our main objective is to develop the future technology in E-Mobility and to develop all accessories required for E-Mobility in our premises.
- To empower technical skills to students in Electrical and Electronics engineering.

IN THIS ISSUE

NUMBER OF PRODUCTS COMPLETED - 2

NUMBER OF ONGOING PRODUCTS - 2

NUMBER OF PRODUCTS SOLD - 2

#### CONTACT DETAILS

Mail\_ID.sathishkumars@bitsathy.ac.in Ph. No. : +91 9942130500



#### ENERGY SAVER

The Power Saver stores the electricity inside of it using a system of capacitors and they release it in a smoother way without spikes. The system automatically removes carbon from the circuit which ensures a smoother electrical flow. This means that we will have less power spikes. Also, it maintains the unity power factor which improves the power flow and reduces the power consumption

#### SOLAR POWER BANK

Solar Power Bank is purely an eco-friendly charger, collects power from the sun using PV, and then converts that power into electricity. This electricity is used for charging electronic devices such as mobile phones, laptops, power banks, cameras etc



# ACTION PLAN FOR THE UPCOMING MONTHS

\* To design and develop hybrid bikes, electric cars and other products like portable kitchen vessel cleaning machine, solar lamp in agriculture fields, GPS based tracking and controlling device and low cost wireless calling system for restaurants and hospitals

#### **BIT Startup Newsletter**

# EMBETRONICS

Your Techno Partner



#### OBJECTIVE OF THE FIRM

To provide World-class design services for complete end-to-end electronic product development from concept definition till production for numerous application areas such as Embedded System, IoT, Embedded Vision and AI. IN THIS ISSUE

NUMBER OF PRODUCTS COMPLETED - 2

NUMBER OF ONGOING PRODUCTS - 2

NUMBER OF PRODUCTS

SOLD - 1

#### CONTACT DETAILS

Mail\_ID: rajasekarl@bitsathy.ac.in Ph. No. : +919600766788

#### LOW COST ENERGY SAVING SYSTEM

The Motion Sensor is small in size and it looks like spot light. It is a PIR motion sensor and it is ideal for your bathroom, lobby, passage area, corridor etc. PIR or Passive Infrared motion sensors are designed to reliably detect people, large pets & other large warm moving objects.. Motion sensors are used primarily in home and business security systems. Motion sensors do not work through glass. Benefits are, it is more Convenience, Energy Savings & Cost Savings. It consumes less energy (0.8W to 1.0W) compared to a microwave sensor.





#### THERMO SCAN

Many people all over the world do not have immediate and easy access to health care. For some, that means thinking of creative ways of contributing toward taking better care of ourselves and preventing potential illness.THERMO SCAN will help you verify with temperature data and imaging. Human skin has an average temperature of 32°C to 34°C (that is 89°F to 93°F), values below or above that range are not considered healthy and could be an indication of a possible health issue.

# ACTION PLAN FOR THE UPCOMING MONTHS

\* To design and fabricate Smart Gate. It has the features of sensing of human body temperature, BITBOT-ROS and face mask dispensing. It is planned to complete in 3 months.

\* To develop AI-driven grocery product recognition models for vending machines.

# FAB SOLUTIONS



#### OBJECTIVE OF THE FIRM

To become the best provider for technical accessories and product. To provide the highest quality & innovative product possible through our highly skilled and dedicated team members and state-of-the-art and patented products and manufacturing process IN THIS ISSUE NUMBER OF PRODUCTS COMPLETED - 2

NUMBER OF ONGOING PRODUCTS - 3

NUMBER OF PRODUCTS

SOLD - 1

Mail\_ID: karthickkn@bitsathy.ac.in Ph. No: 9952272735

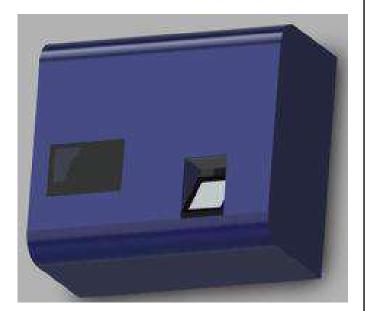


#### TRACTOR RETROFIT FOR ROOT CROP HARVESTING

It is an agro based Retrofit designed to fit the existing tractor design, so with the help of this retrofit machine it will be able to harvest both the bulb type and tube type root crop. The retrofit consists of a digger, conveyor and collection system which increases the versatility of any tractor to which the retrofit is attached

#### **BIO-OXYMETER**

It's an integrated device which enables the student to register the attendance, measure and monitor the oxygen level of the individual student. While students register their attendance via a biometric device, simultaneously the oxygen level of the particular student will be measured, monitored and mapped to the student's database. If the measured oxygen level goes below the allowable value, intimation will be given to the college management so that the preventive measures could be taken accordingly





#### VACUUM METAL PLATE LIFTER

It is a portable metal plate lifter, capable of lifting metal plate weight upto 150kg. Lifting and holding of plates will be done with the help of air pressure and along with magnetic lock

# ACTION PLAN FOR THE UPCOMING MONTHS

\* As we planning to address a variety of customers through our new products we identified a product which could support different domain like agricultural sector, industrial sector, corporate office

#### BIT Startup Newsletter

# FIRST CHOICE AC SOLUTIONS





#### OBJECTIVE OF THE FIRM

- To develop a diverse set of design and real time problem solutions in our domain and extend to address the social problems.
- To provide high quality service and maintenance support with low cost in the area of renewable energy and HVAC.
- To generate revenue by doing consultancy work for industries/ commercial sectors.

IN THIS ISSUE NUMBER OF PRODUCTS COMPLETED - 3

NUMBER OF ONGOING PRODUCTS - 1

NUMBER OF PRODUCTS SOLD - 1

#### CONTACT DETAILS

Mail\_ID: ravikumarm@bitsathy.ac.in Ph. No. : +919786079032

#### HYBRID SOLAR DRYER

The existing Solar dryer can be used only during day time. During night time, dryer products get more humid and come to their original state. This spoils the dried food and redrying is required. Also Using the individual system for water heating applications in domestic applications, consumes more power and an Air conditioner (VCR system) cools the room by removing heat from the room. That removed heat is wasted to the environment. Hence, this waste heat is recovered to heat the solar collector during night time and PCM is used to store the heat given by the sun during day time as latent heat.



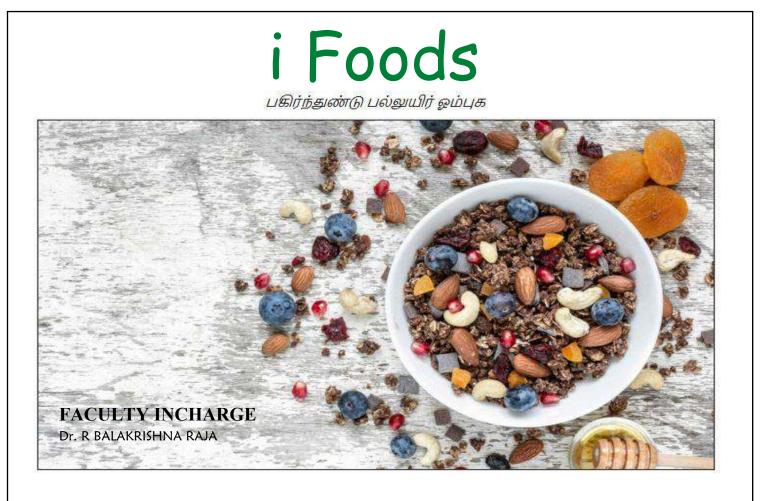


#### SOLAR COKOKER

In this day and age, we are dependent on solar energy because of energy crises. Therefore, cooking energy with higher efficiency is focused on this work. The tracking system is used to track the sun's presence during the day time. In the case of the receiver side the shape factor improved by truncating the receiver and the surface focused on the collector at maximum. Parabolic shaped collector of a 2m2 area is used to harvest solar arrays.

## ACTION PLAN FOR THE UPCOMING MONTHS

\* Schedule operated vapor absorption (with nano additives) and VCR integrated refrigeration system is one of the optimistic approaches to maintain the temperature in the massive desired zone. However to match thermodynamics for continuous operation will be a tedious job that is encountered by adding a lot of observations and corrections.



#### OBJECTIVE OF THE FIRM

- To plan to develop healthy food with fortified nutraceuticals
- To enhance the quality of functional foods using the concept of waste to wealth
- To create the customer base through the WA & other social sites. (if possible will develop app based order & bill maintenance)

NUMBER OF ONGOING

IN THIS ISSUE

NUMBER OF PRODUCTS COMPLETED - 3

NUMBER OF ONGOING PRODUCTS - 3

NUMBER OF PRODUCTS

SOLD - 6

CONTACT DETAILS Mail\_ID: balakrishnarajar@bitsathy.ac.in Ph. No. : +919488570421



#### Prebiotic green gram chocolate

In addition to being abundant in protein, green gram also lowers cholesterol levels. It can help lessen disorders caused by protein deficiencies. Probiotics, such as the polydextrose in green gram, have a lower glycemic index than sucrose and are also good for the gut's bacterial population. This product aids in fighting cancer and is appropriate for users of all ages.

#### Frozen dessert from Quinoa milk and Coconut milk

Ice cream is a frozen confection and is often consumed as a snack or dessert. This product is created to prepare ice cream with the same texture but with different ingredients that would serve as a dietary supplement. Quinoa is one of three ingredients that functions as a dietary supplement. One of the primary ingredients is milk made from guinoa. Quinoa is a grain that is free of gluten, low in sugar, and is rich in protein. It also contains all the eight essential amino acids. It has a low glycemic index, which helps to keep blood sugar levels stable. Medium chain triglycerides included in coconut milk promote the immune system and metabolism. This dish has been designed to be age-appropriate



GREENGRAM AND CHOCOLATE



# ACTION PLAN FOR THE UPCOMING MONTHS

\*To design edible cups with increased stability for mechanical stress and moisture. Product optimization by varying ingredients and ingredient percentages and also planning on creating a DIE for occupying oven area efficiently and to decrease production time. Planning to complete it within 90 days

\*We are also planned to formulate nutraceutical products

# HEART2ART

Giving heart to art



#### OBJECTIVE OF THE FIRM

- To develop meticulously handcrafted products with a sustainable approach.
  To cater to the customized design needs of users.
- To develop digital designs digital art, package designs, logos, and graphics.

IN THIS ISSUE

COMPLETED - 2

NUMBER OF ONGOING PRODUCTS - 2

NUMBER OF PRODUCTS

Mail\_ID: saranyadv@bitsathy.ac.in Ph. No: 9842750207

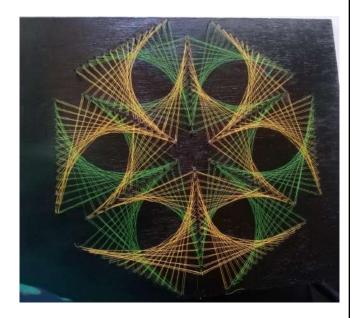


#### WALL DECOR STRING ART

String art is a technique used by artists to create abstract images which are composed of straight lines of strings tensioned between pins distributed on a frame. Together the strings fuse into a perceptible image. String art or pin and thread art is characterized by an arrangement of coloured thread strung between points to form geometric patterns or representational designs with other materials comprising the remainder of the work. Thread, wire, or string is wound around a grid of nails hammered into wooden boards. Though straight lines are formed by the string, the slightly different angles and metric positions at which strings intersect give the appearance.

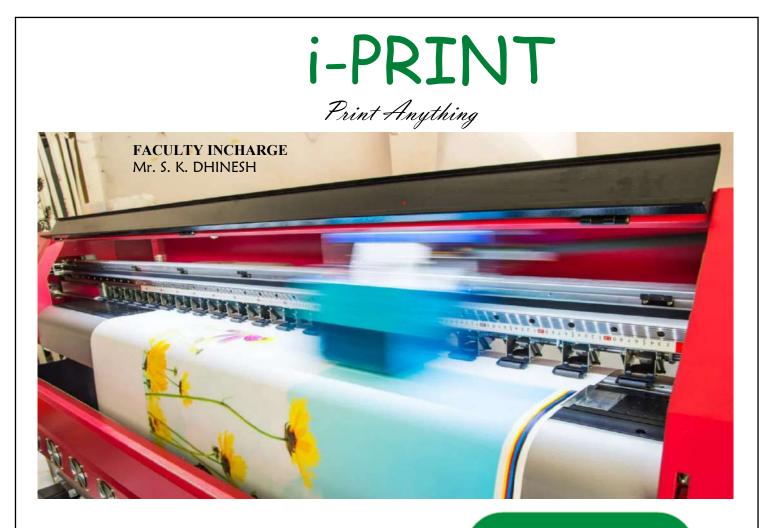
#### **DECORATIVE LANTERNS**

The decorative Lanterns are simple and elegant accessories to elevate the decorative quotient of a space. There are multiple ways to style spaces with these decorative lanterns. These decorative lanterns are made with decorative thin black sheets and MDF boards.



# ACTION PLAN FOR THE UPCOMING MONTHS

\* To design and develop sustainable handcrafted jewelry products using resin and polymer clay.



#### **OBJECTIVE OF THE FIRM**

- To design and fabricate low cost CNC based machines to match the need of the customer.
- To develop next-generation machines that would otherwise be impossible/impractical to manufacture, including the creation and incubation of new applications for additive manufacturing and attendant first-to-market advantages.

IN THIS ISSUE NUMBER OF PRODUCTS COMPLETED - 2

NUMBER OF ONGOING PRODUCTS - 3

NUMBER OF PRODUCTS SOLD - 1

CONTACT DETAILS Mail\_ID: dhineshsk@bitsathy.ac.in Ph. No. : +919715367724

#### **BIONIC ARM**



#### SOLAR PANEL CLEANING MACHINE

Solar photovoltaic technology is used all over the world to meet up with the energy demand because of its effortless availability in nature than other resources. It is also the basic source of other sources. The invention of the solar panel makes the task of storing energy simple. They convert solar energy from the sun into electrical energy which can be used for many industrial and domestic purposes. Since the solar panels are placed in an open environment the dust and other dirt like bird excretion and pollen grains are deposited on the surface of the panel. This reduces the efficiency of the panel. So, cleaning is required to overcome this predicament. To resolve this issue, the development of an automated solar panel cleaning system is done to reduce human interference in the cleaning process.

The octo bouncer works on image processing, and focuses on bouncing and balancing the ball at the centre and in the desired pattern. This machine uses Teensy 4.0 Microcontroller and e-con systems' See3CAM\_CU135 camera with OpenCV platform.The bionic arm is an electro-mechanical device that can be primarily used and applied in the field of disability. The whole device; is the combination of electrodes governed by the EMG muscle sensor that is merged in a 3D printed mechanical design along with other smaller units. The device detects the type of muscular movement based on the voltage level provided by the EMG sensor and based on the motion performed with the help of servo motors. The voltage level of the muscles varies depending on their movement. This phenomenon happens due to the tension generated by the muscles during the contraction. The readings collected by the sensors allow the robotic arm to interpret the movement of the muscles.



## ACTION PLAN FOR THE UPCOMING MONTHS

\* In the future, we have planned to fabricate surveys and multi-purpose drones. As per the Government Drone Policy, there is a huge requirement for drone manufacturing and servicing sectors. \*Our firm is also involved in developing full-fledged open source software for our 3D printers.

# SKY VIEW

Fly above and Beyond



# OBJECTIVE OF THE FIRM

Sky View aims at developing quality drone parts and provide expert drone services. Sky View design and develop drone parts and assemble them to meet customer requirements. We are capable of building drone for applications like Agricultural Drones, Pesticide Spraying Drones, Crop Monitoring Drones, Surveillance Drones, Drones Camera, and Photography Drones. As a service provider the company offers solutions in Drone Manufacturing, Aerial Photography, Surveillance Drone, and services to the Digital Photography customers. We also aims in providing intelligent solutions to industry by promoting the usage of drone

IN THIS ISSUE NUMBER OF PRODUCTS COMPLETED - 2

NUMBER OF ONGOING PRODUCTS - 2

NUMBER OF PRODUCTS SOLD - 1

#### CONTACT DETAILS

Mail\_ID: lakshmanand@bitsathy.ac.in Ph. No: 9047464901

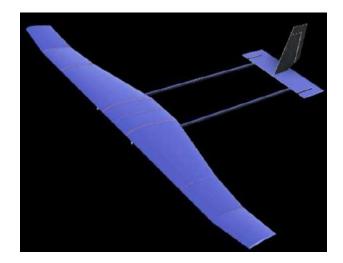


#### TWIN BOOM UAV

The twin boom Fixed Wing UAV is made of lightweight balsa wood. The UAV propelled using a single powerful 980 kV motor with AP9\*6 carbon fiber propellers. In order to provide enhanced flight time, the model is powered using 1600 mAh LiPo battery. The twin boom has two sets of vertical stabilizers which provide the necessary maneuverability in tight spots. The pusher type UAV model is capable of gliding for longer distances, making it a favourable choice for the transportation of heavy payloads. The blended wing configuration generates sufficient lift to support the lifting of heavy medical and commercial payloads.

#### TWIN MOTOR UAV

The twin motor UAV is the newest addition to the Sky View product lineup. The twin-motor UAV is powered by two 950 KV BLDC motors and 1045 propellers. The model is made of balsa wood to ensure that it is at ease while handling. The model is designed to provide the pilot the ability to accelerate the Fixed Wing UAV to reach higher airspeed which helps quick completion of the mission. The twin motor configuration provides the necessary capability to support and carry additional payload for the mission when needed. The secondary motor and propeller configuration will ensure the safe landing of the UAV even at the failure mode



# ACTION PLAN FOR THE UPCOMING MONTHS

\*To design a Fixed Wing UAV Kit with mid-wing and low-wing configurations. The mid-wing and low-wing configuration UAV is mainly intended to perform acrobatics effectively.

\*To design electronic speed controllers with the help of printed circuit boards. The 30 Amp electronic speed controller can be used in the flying of Fixed Wing UAV as well as multi-copter drones.

# SMILO BIO

SMILOBIO CARE FOR YOU



#### OBJECTIVE OF THE FIRM

- To deliver a healthy and quality product. To reveal the traditional food as per today needs and acceptance.
- > To serve the society with simplicity.

IN THIS ISSUE NUMBER OF PRODUCTS COMPLETED - 3

NUMBER OF ONGOING PRODUCTS - 1

NUMBER OF PRODUCTS SOLD - 1

#### CONTACT DETAILS

Mail\_ID kirupasankarm@bitsathy.ac.in Ph. No. :+91 9994624674



#### FIREFREE Woods

The product involves the development of a flame retardant composite material using Areca leaf fiber coated with carbon ash nanoparticles which could be utilized in aircraft and military tents.

Specifications:

- \* Made of Areca Fibers
- \* Rice husk Ash coated
- \* Flame retardant Can be fabricated with different dimensions.

#### RaFi FOODS

The product involves the development of fish food using the ragi husk. The byproduct obtained after taking out the milk from raw ragi was used to make up this product. The husk will act as a protein supplement for the fish.

Specifications:

- \* Protein rich.
- \* Cheap and non-dissolvable in water.
- \* Enhances the growth of fish.



#### FACE PRO FLIM

Face Pro film is a product made of biopolymers and has a consistency of gel. The gel will turn into a film when applied all over the face and dried up. This protects the face from environmental pollutants while traveling. It can be easily removed from the face by washing it with water.



Specifications:

- \* Available in gel form
- \* Dries in 10 min
- \* Easy to remove
- \* Harmless to skin
- \* An extra nourishment for skin

# ACTION PLAN FOR THE UPCOMING MONTHS

\* SIMLOBIO aiming to produce products having the potential to clean the toilet in an eco-friendly nature and also to minimize the usage of water for cleaning.



#### OBJECTIVE OF THE FIRM

To design and development various wildlife and nature conservation technologies through in-depth R&D.Research outreach to forest department, farmers and NGOs through consultancy IN THIS ISSUE

NUMBER OF PRODUCTS COMPLETED - 2

NUMBER OF ONGOING PRODUCTS - 2

NUMBER OF PRODUCTS SOLD - 2

#### CONTACT DETAILS

Mail\_ID: saravanakumar@bitsathy.ac.in Ph. No. : +916381311652

#### Low cost LASER Fence animal Detection system

A fully automated Low cost LASER Fence animal Detection system with transmitter and receiver separation is 100m+. The movement of the elephant is tracked down when it crosses the fence. The fence doesn't create any obstruction to elephant movement, only detects its movement. Identification is based on two parameters 'Elephant Height' and 'Activation Time'. LASER light is fixed at 1.8m (average height of an Elephant) and added with a contentious line blockage time of 5 sec (activation time which elephant takes to cross the line and it's experimentally verified). This system could be fixed in any pole or tree and this system cost is very low compared to our previous elephant detection systems.





#### Personal Safety Sparking Device

Personal Safety Sparking Device is a low cost safety device and proven to be highly effective at short distance. It is designed to save forest guards from animal attack.

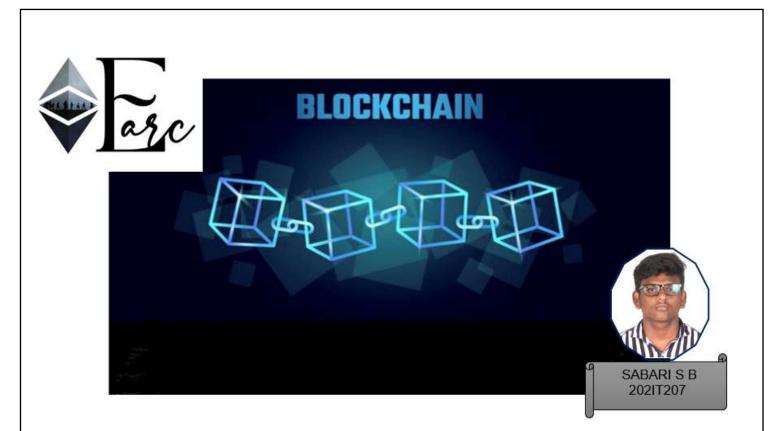
Specification:

- \* Voltage- 40Kv with 100 ma current
- \* Body- Strong hot water pipe
- \* Mode non contact (spark) or contact (electric shock)
- \* Power- Integrated battery and charging solar panel
- \* Weight 1.3kg

# ACTION PLAN FOR THE UPCOMING MONTHS

\*TECHNOWILD focused on achieving peaceful coexistence among human and wildlife. It is one of the fundamental requirements for wildlife conservation. 'Animal Crop Raiding' and subsequent tension and anger among the farmers are the prime factors which are hindering the achievement of the objective. Providing a much needed safe, secure and effective animal drive away tool to the farmers, will be able to mitigate the tension considerably and thus will help to achieve the target.

# **STUDENT'S STARTUP**



#### ABOUT THE FIRM

Earc (Ethereum Attestation Research Community) is a 1ST Student Start-up in Tamilnadu, which has 100% service focus rate on Blockchain Technology. Earc is a Blockchain Technology domain based Educational Start-up specially on Ethereum. We provide Theoretical Training and Hands - on training from Beginner to Advanced Level like Blockchain, Dapps, NFTs, Wallets, Defi, DAO and Solidity. Training is structured to help students not just to learn concepts but also practice them and create project ideas on Blockchain Technology.



# ACTION PLAN FOR THE UPCOMING MONTHS

\* The Goal of Earc is to familiarize people that what is Blockchain Technology ? and its Future and to change the world of Blockchain Technology among people from Investment to Intelligence



#### ABOUT THE FIRM

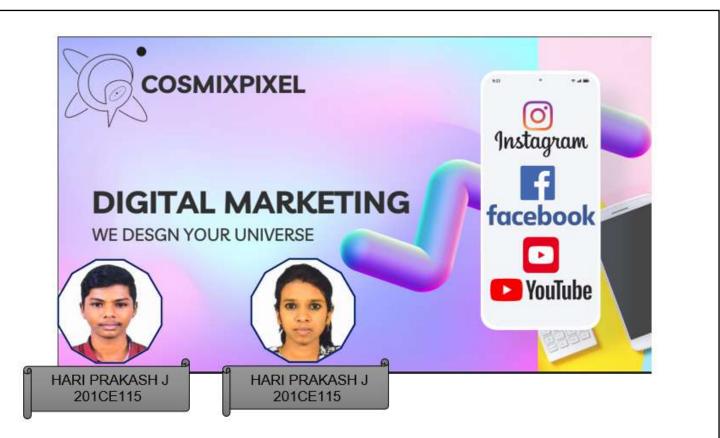
Due to the rapid development of industrialization and urbanization, a large amount of construction waste are being generated from the building industry, which are a worldwide problem for the governments and local administrators to ensure a sustainable through effective management of construction waste. The construction and demolition wastes (CDW) are found suitable for partial replacement of the conventional building and can be a very promising approach to solve the problems of the rapidly increasing amount of construction materials. The use of CDW in the production of building blocks such as bricks, hollow blocks and infrastructure construction and other engineering works promotes a sustainable way ofrecycling this material



# ACTION PLAN FOR THE UPCOMING MONTHS

\* Optimizing the design parameters like structural integrity, amount of absorbent, absorbent particle size, absorption efficiencies, leak proof capabilities of the Sanitary napkin.

\* Planned to conduct a Market Survey Analysis on the proposed biodegradable hygiene product to standardize the customer satisfaction stakes. This could help in the commercialization aspect.



#### ABOUT THE FIRM

Transforming Small Businesses into Bigshot Brandslevery people in this world are born with some special talents, but not everyone makes use of it. Some people are good at arts, crafts, and developing products for people but they don't know how to showcase their products to the world and sell them to the people who are really in need of them. We help those people who are struggling with the of development their company (small/medium) by using our 100%working strategies and tools.



# ACTION PLAN FOR THE UPCOMING MONTHS

\* We are currently building our official website to make it easy for clients to explore our works and contact us when needed. Become the most- advanced and trusted digital marketer