

Dr. V.S.Thangarasu M.E.,M.B.A.,Ph.D.,
Principal



Indra Ganesan
COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012
Approved by AN ET, Mysore & Affiliated to Anna University, Chennai
NAAC Accredited, 2B) status Institution by LGC



13.07.2022

Trichy.

To

The Manager,
New Propeller Technologies,
No.30, 1st Main road, Kalyanasundaram Nagar,
Karumandabam,
Trichy - 620001

Dear Sir/Madam,

Sub: Requisition letter for short-term project -Reg.

Greetings!

Indra Ganesan College of Engineering, Manikandam, Tiruchirappalli, Tamil Nadu was established with a noble vision of providing higher education in the field of Engineering for the student community, especially from the rural areas.

Indra Ganesan College of Engineering, Trichy is one of the institutions affiliated with Anna University, Chennai. Our institution promotes and encourages the students to undergo short-term projects to cultivate their practical knowledge to bridge the gap between industry and academic curriculum.

Students of the Electronics Communication Engineering department are interested to do short term project related to new innovation in robotics field with the facilities available in our college. We had well trained and efficient faculty members had completed many short term project related to this field. I request you to accept our request and guide them to achieve their goal.



Dr. V.S.THANGARASU
PRINCIPAL

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

NEW PROPELLER TECHNOLOGIES

Research & Development Pvt Ltd
No 30, 1st Main Road, Kalyanasundaram Nagar,
Karamandabam, Trichy, Tamilnadu, India-620001



Propeller Technologies

Trichy

20.07.2022

To

The Principal,
Indra Ganesan College of Engineering,
Madurai Main Road (NH-45B), Manikandam,
Trichy – 620 012

Dear sir/Madam,

Sub: Invitation to collaborate on a Short term project endowment “Pesticide Drone”

We are accept your invitation from Electronics and Communication department of Indra Ganesan College of Engineering, Trichy to collaborate with us on a short-term project on “**Pesticide Drone**” in time period of Six weeks. Manipulating each other's strengths can indeed lead to great outcomes. By working together effectively, you can achieve more than what each of you could accomplish individually. Let us know your early convenient to explore the budget details to complete the “**Pesticide Drone**” consultancy development. We are open to scheduling a meeting to discuss the project details in person or via a virtual platform.

With regards

M. Ruthra Moorthy
(Manager, Propeller Technologies)

+916374146856
propellertechs@gmail.com
www.propellertechnologies.in

Dr. G. Balakrishnan, M.E., Ph.D.,
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COLLEGE OF ENGINEERING

Madurai Main Road (M-45B), Manikandam, Tiruchtrappoli - 620 012
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22.07.2022
Trichy.

To

The Manager,
New Propeller Technologies,
No.30, 1st Main road, Kalyanasundaram Nagar,
Karumandabam,
Trichy - 620001

Respect Sir/Madam,

Sub: Submission of Short-term project endowment quotation – Reg

Ref.: Your Letter Dated 20.07.2022.

We would like to thank for considering our short-term project proposal. To follow up on your letter, the ECE Department has assigned team of 1 student with Project Investigator Dr.R.Raja Mohamed to carry out the consultancy endowment for your esteemed organization. We would like to bring to your kind notice that the quotation for the consultancy endowment "Pesticide Drone" and may cost Rs 1, 05,000/-. The quotation details and time line for each stage of work is presented below.

FINANCIAL DETAILS

S.N O	DESCRIPTION	TIME DURATION IN WEEKS	COST IN Rs
1.	Circuit Design	1 Week	10,000
2.	Sensor purchase	1 Week	65,000
3.	Development Phase	2 Weeks	15,000
4.	Product testing and Delivery	1 Week	10,000
5.	Training and Documentation	1 Weeks	5,000
Total		6 Weeks	1,05,000

We commit to provide technical assistance from our end to ensure successful completion of project with prompt delivery and we are looking forward to your kind consideration of our consultancy endowment proposal. In this regard, we request you to contact us with any queries about the design and delivery of the project.

Project Investigator
[Dr.R.Raja Mohamed]



DR.V.S.THANGARASU
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NEW PROPELLER TECHNOLOGIES

Research & Development Pvt Ltd
No 30, 1st Main Road, Kalyanasundaram Nagar,
Karumandabam, Trichy, Tamilnadu, India-620001



Propeller Technologies

Trichy

25.07.2022

To

The Principal,
Indra Ganesan College of Engineering,
Madurai Main Road (NH-45B), Manikandam,
Trichy – 620 012

Dear Sir,

Sub.: Sanction of Fund for “Pesticide Drone”-reg.

We really appreciate all of your hard work in making this short term project endowment, and we are pleased to inform you that, we are accepted and approving a sum of Rs.1,05,000/- (Rupees One Lakh five thousand Only) towards the “Pesticide Drone” project work. It is essential that the work is to complete within the stipulated time.

With regards

M. Ruthra Moorthy
(Manager, Propeller Technologies)

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Madurai Main Road (NH-45B), Manikandam, Tiruchirapalli- 620 012
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SHORT TERM PROJECT ENDOWMENT REPORT

Pesticide Drone

Submitted to

The Manager,
New Propeller Technologies,
No.30, 1st Main road, Kalyanasundaram Nagar,
Karumandabam,
Trichy - 620001

Delivery Date: 14.09.2022

Dr. G. Balakrishnan, M.E., Ph.D.,
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20.09.2022

Trichy

UTILIZATION CERTIFICATE

Certified that the amount of **Rs.1,05,000/-** (One Lakh five thousand Only) was sanctioned by New Propeller Technologies during the academic year (2022-2023), in favor of department of Electronics Communication Engineering, Indra Ganesan College of Engineering, Manikandam, Trichy for short term project endowment titled "**Pesticide Drone**". The purpose of amount sanctioned has been fulfilled and delivered as per conditions of grant were satisfied.

Project Investigator
[Dr.R.Raja Mohamed]

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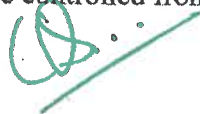
PROJECT REPORT

Objective:

Manual pesticide spraying causes many harmful side effects to the personnel involved in the spraying process. The Exposure effects can range from mild skin irritation to birth defects, tumors, genetic changes, blood and nerve disorders, endocrine disruption, coma or death. This paved the way to design a drone mounted with spraying mechanism having 12 V pump, 6 Litre storage capacity tank, 4 nozzles to atomize in fine spray, an octocopter configuration frame, suitable landing frame, 8 Brushless Direct Current (BLDC) motors with suitable propellers to produce required thrust about 38.2 KG(at 100% RPM) and suitable Lithium Polymer (LI-PO) battery of current capacity 22000 mAh and 22.2 V to meet necessary current and voltage requirements. A First-Person View (FPV) camera and transmitter can also be fixed in the drone for monitoring the spraying process and also for checking pest attacks on plants. This pesticide spraying drone reduces the time, number of labor and cost of pesticide application. This type of drone can also be used to spray disinfectant liquids over buildings, water bodies and in highly populated areas by changing the flow discharge of the pump.

Project Description:

The signals will be transmitted from Transmitter and it will be received by the Receiver in the drone. From the receiver the signal goes to the Flight controller where the signal will be processed with accelerometer and gyroscope sensors. The processed signal will be sent to the ESC, which allows the specific amount of current to the motor based on the signal it receives. The propellers are mechanically coupled to the motors so that they rotate and produce thrust. The FPV camera takes current supply from the flight controller and it records the video, the video signals will be processed by the transmitter and it will be received by the receiver in ground. The pump takes current supply from the Li-Po battery and pressurizes the liquid from the storage tank then the pressurized liquid flows through the pipeline and enters the nozzle then gets sprayed. The flow rate of the pump can be controlled by varying the input current which can be controlled from the transmitter.



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Conclusion:

Design of a drone mounted spraying mechanism for Agricultural purpose and for spraying disinfectants. This method of spraying pesticides on Agricultural fields reduces the number of labours, time, cost and the risk involved to the personnel involved in spraying the liquids. This drone can also be used in spraying disinfectant liquids over buildings, water bodies and highly populated areas.



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