



Aarav Unmanned Systems Pvt. Ltd.

Extending vision beyond reach.....

What we do?

- Developing more advanced, more affordable and indigenous unmanned aerial systems.
- Portable, autonomous and revolutionary solutions for civil applications e.g. asset management, aerial mapping, precision agriculture etc.



Team at AUS



Nikhil

Dual Degree IITK
Image processing,
Software Development
Controls & Technology



Suhas

Dual Degree IITK
Navigation & Control
Robotics



Vipul

Amity University,
RA @ IITK
Systems Engineering
Business development



Yeshwanth

Post graduation, IITB
Aerodynamics, CFD
Testing,
Business development



Piyush

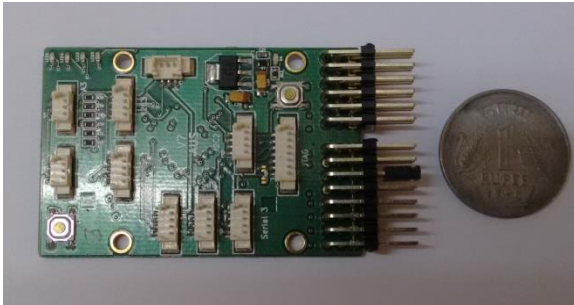
Dual Degree IITK
Concepts,
Design,
Flight dynamics
Fabrication



Prashanth

Amity University
CAD modelling
Fabrication drawings

Product & Technologies at AUS



Multi rotor Autopilot with autonomous mission capable flight control system



Small fixed wing Autopilot with autonomous mission capable flight control system



Dual processor autopilot with one open computer for parallel processing of additional algorithm



FDAS-450, Flight data acquisition system for small sized manned and unmanned aircraft.



NAYAN 1, a quad copter as research & development platform for vision based navigation and control algorithms



DRISHTI (under development), a quad copter with long endurance and high payload capacity for mapping and surveillance applications.

NAYAN 1 features

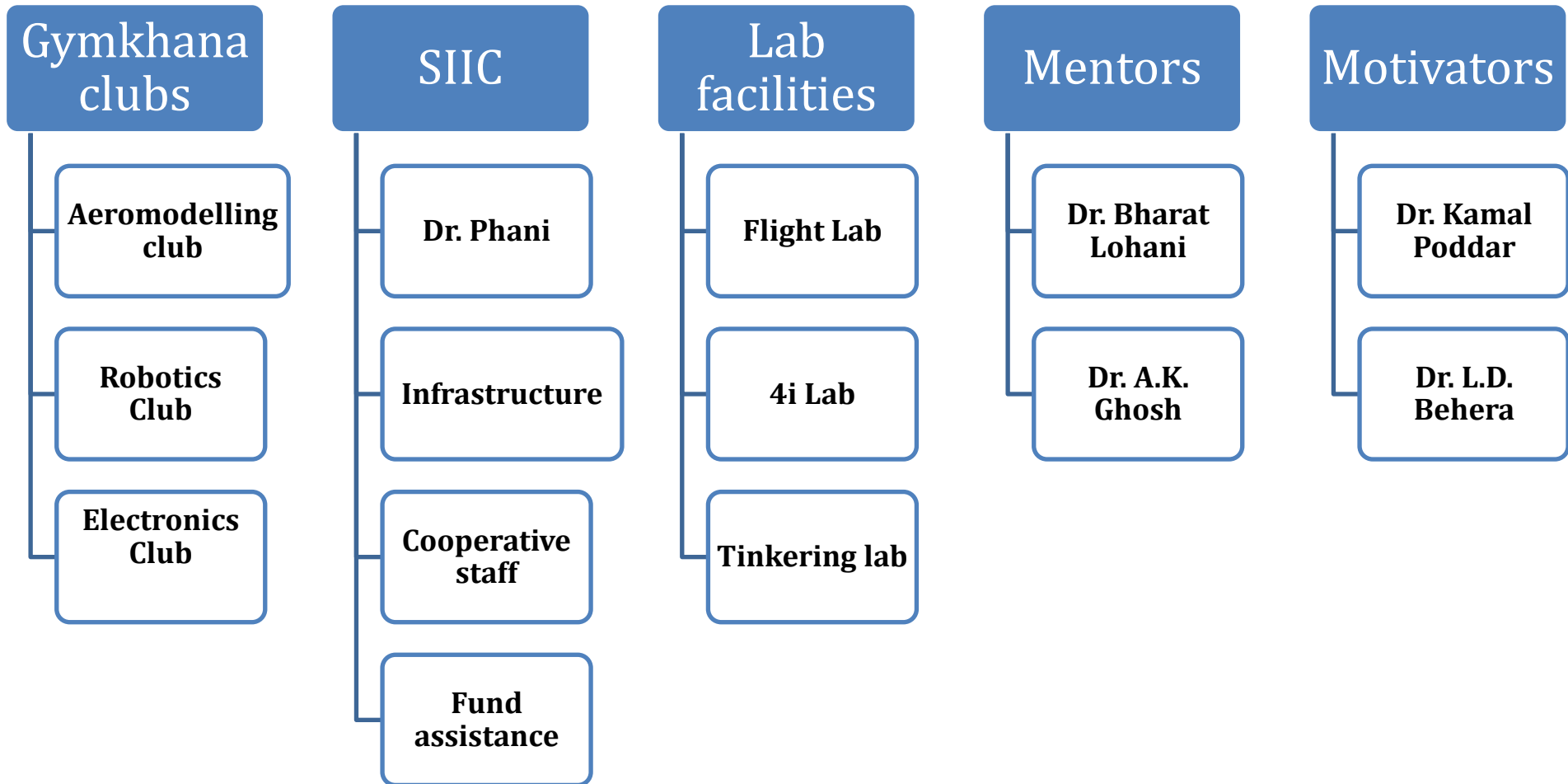
- Autonomous mission capable
- Multiple fail safe options
- 1.8 kg All up weight
- 20 minute endurance
- Two 90 fps global shutter CMOS cameras for stereo vision
- 2 GHz octa core onboard processor with 2 GB RAM
- Dual processor autopilot to enable parallel processing of control system
- Mote to enable multiple sensor integration and swarming.
- Optic flow sensor and sonar to enable indoor position holding without GPS signal
- Smart and rugged carbon fiber structure to enable easy use



Projects Undertaken

- Wind tunnel test model design for ADE, DRDO Rustom-II UAV and SPICE flying wing.
- Flight data acquisition system for HANSA aircraft.
- Part of joint project with University of Amsterdam and IISC Bengaluru for “The Kumbh Mela Experiment: Measuring and Understanding the dynamics of mankind’s largest crowd” under Indo-Dutch Joint Research Program for ICT

IITK ecosystem for AUS



Our take on IITK innovation ecosystem

- Contents are perfect, system needs to be rearranged
- Potential of SIIC to be enhanced and promoted among students
- Temporary incubation to allow failures
- Make gymkhana clubs the primary incubators
- First priority to execution before innovation
- Knowledge creation for Systems engineering
- Industry tie-ups to enable world class prototyping and fabrication
- Outstation incubator to tackle human resource and fund raising challenges

THANK YOU

