



x **bharat**
INNOVATES 2026

Arishna IoT Solutions

mARine: The AIoT + AR Platform for Smarter Ocean Exploration

Empowering Marine Research, Education, and Conservation

Bharat Innovates 2026 – Pitch Deck



ARISHNA – Advanced Research Innovation in Smart Human Networked Applications 



The Global Ocean Challenge

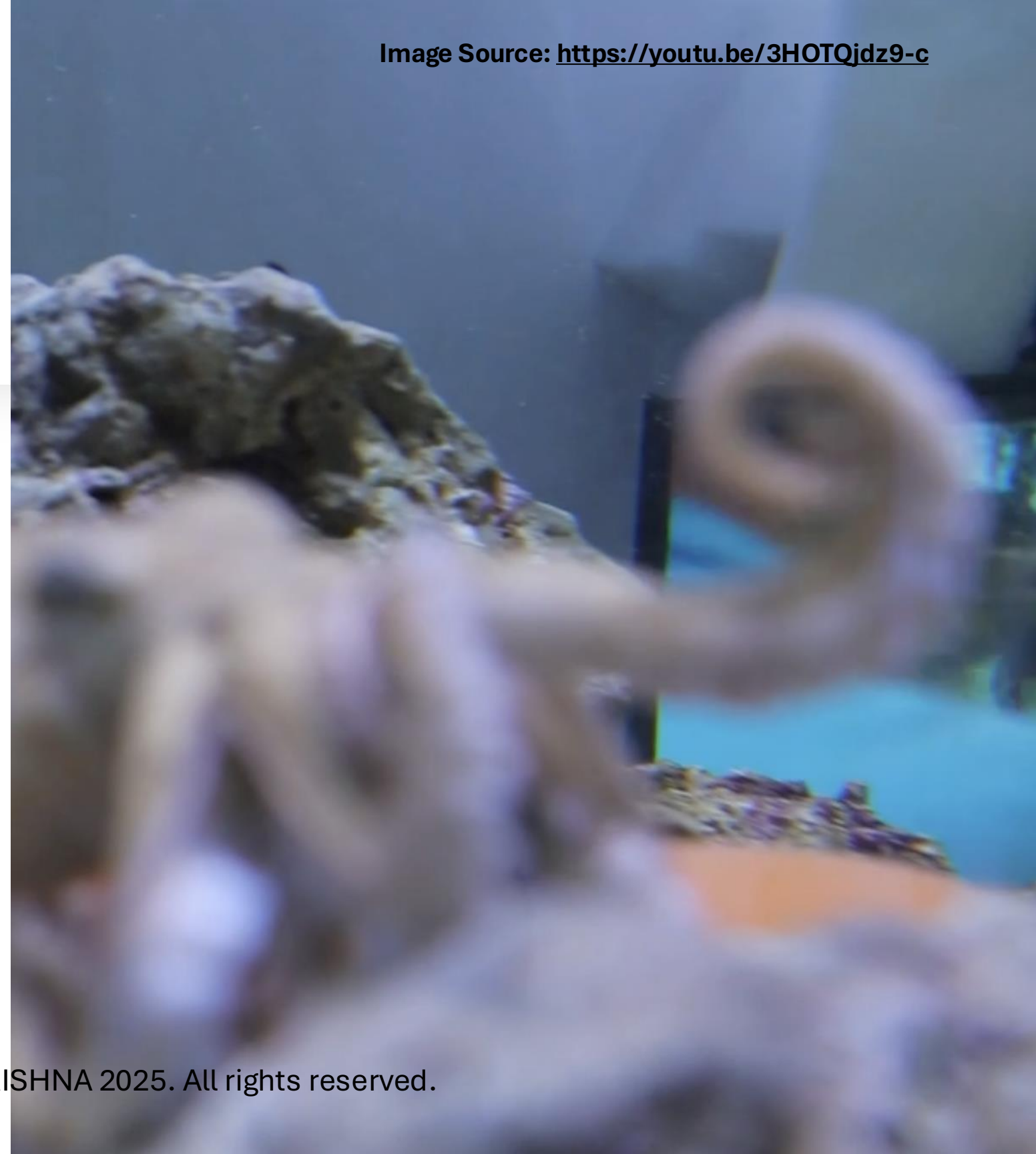
OCEANS COVER 70% OF EARTH BUT REMAIN
LARGELY UNEXPLORED

MARINE BIODIVERSITY STUDIES ARE LIMITED BY
HIGH COST AND COMPLEXITY

EXISTING TOOLS ARE EXPENSIVE, BULKY, AND NOT
STUDENT/RESEARCHER FRIENDLY

URGENT NEED FOR AFFORDABLE, REAL-TIME, AND
AI-DRIVEN OBSERVATION SYSTEMS

 SUPPORTS SDG 4, SDG 13 & SDG 14





Problem Statement

- 🐛 Lack of **accessible tools** for marine data collection & analysis
- 🐛 Difficulty in **understanding ecosystem health** and **octopuses' behavior**
- 🏠 Educational institutes have **no hands-on tech** for marine learning
- 🌐 Validated through collaborations with **TU Graz, Arishna IoT Solutions**, and **marine research labs** in India and Europe

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Our Vision



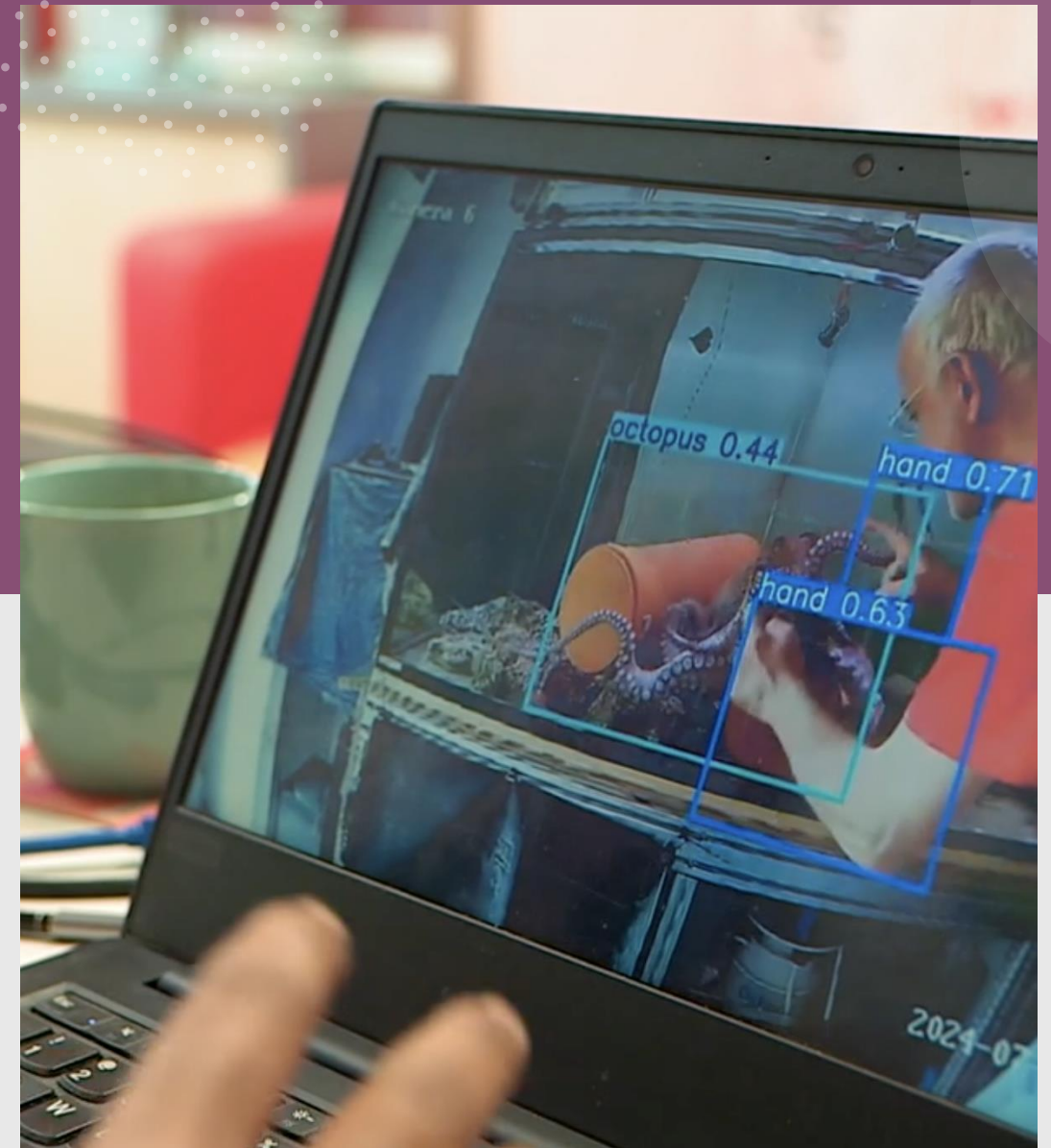
“To democratize marine research and education using AI, IoT, and AR technologies making ocean exploration accessible to all.”



Build **smart marine ecosystems** for research, learning, and awareness



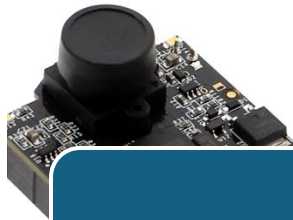
Inspire the **next generation of ocean innovators**



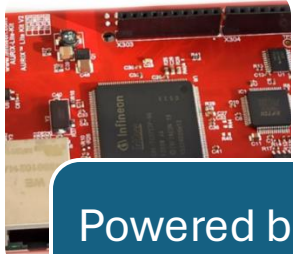
Product idea



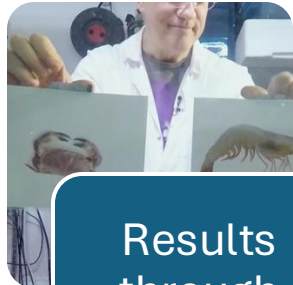
Live Video Feed



PI Cam



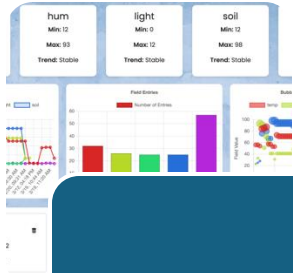
Powered by
TinyML on
Infineon
Board



Results
through
logs and
alerts

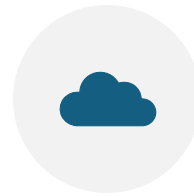


AR
Application

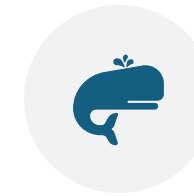


IoT Cloud
Dashboard

The mARine Solution



**mARine = AIoT Hardware
+ AR Visualization +
Cloud Analytics**



AI-enabled underwater
sensors (Temp, Pressure,
Acoustic, Camera)



IoT cloud for real-time
data transfer

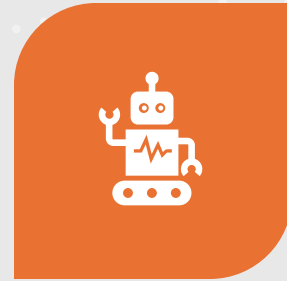


AR/VR visualization for
immersive learning &
research



Modular, portable, and
low-cost design

Key Innovation



COMBINES **AI, IOT, AND AR**
IN A SINGLE COMPACT
SYSTEM



“**ARTIFICIAL OCTOPUS
CAVE**” SIMULATES MARINE
HABITATS



INTEGRATES WITH
**FLOWCAM & FINDROP
ACOUSTIC SYSTEMS**



DUAL-PURPOSE:
RESEARCH + EDUCATION



OPEN-SOURCE FOR
SCHOOLS, YET POWERFUL
FOR SCIENTISTS

Impact Potential

Social Impact:

- Students gain hands-on learning in marine science & robotics

Environmental Impact:

- Enables non-invasive monitoring & conservation

Economic Impact:

- Supports India's **Blue Economy** and tech skill development

Impact Measurement:

- Educational adoption
- Research data collected
- Partnerships & publications

Market Opportunity

Global **BlueTech** market projected to exceed **\$5 billion** by **2030**

Target sectors:

- Research labs & aquariums
- AQUACULTURE & BLUE ECONOMY STARTUPS
- GOVERNMENT & CLIMATE AGENCIES

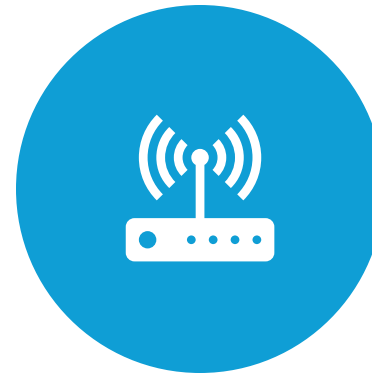
Scalability & Replicability



MODULAR HARDWARE AND
OPEN-SOURCE SOFTWARE



ADAPTABLE FOR GLOBAL WATERS
(SALINITY, DEPTH CALIBRATION)



MINIMAL INFRASTRUCTURE:
POWER + INTERNET + IOT ACCESS



SCALABLE TO MULTIPLE REGIONS
AND EDUCATION SYSTEMS

Current Stage & Roadmap



Current TRL:

4-5 (Prototype validated in lab tests)



Next 12 months:

- Pilot production with Partner Institutions
- Field testing at marine labs (India & EU)
- IP filing & design registration
- Launch “mARine Biology AR” App
- Collaboration with universities



Future Vision



Q1 2026:

Pilot deployments with aquariums in India



Q2 2026:

Dataset expansion, species-specific models



Q3 2026:

Commercial launch with EdTech & research toolkits



Beyond:

Expansion to broader marine life sentiment systems

Traction & Achievements

Key Metrics:

5+

Partner Institutions

3

Countries Active

- Featured in 3sat Nano (German National TV)
- Recognized by Google Summer of Code
- IMC 2025 EdTech Innovator Award

Major Partnerships:

- Technical University of Graz
- World Environment Council
- International Catrobat Association
- Mrimundi Institute Krick
- UN Global Compact




Teams



Thank You



“Empowering ocean intelligence for a sustainable and hunger-free future.”

 Innovate. Educate. Conserve.



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Krishna Mohan Patel
(Team Lead and Project Co-Ordinator)

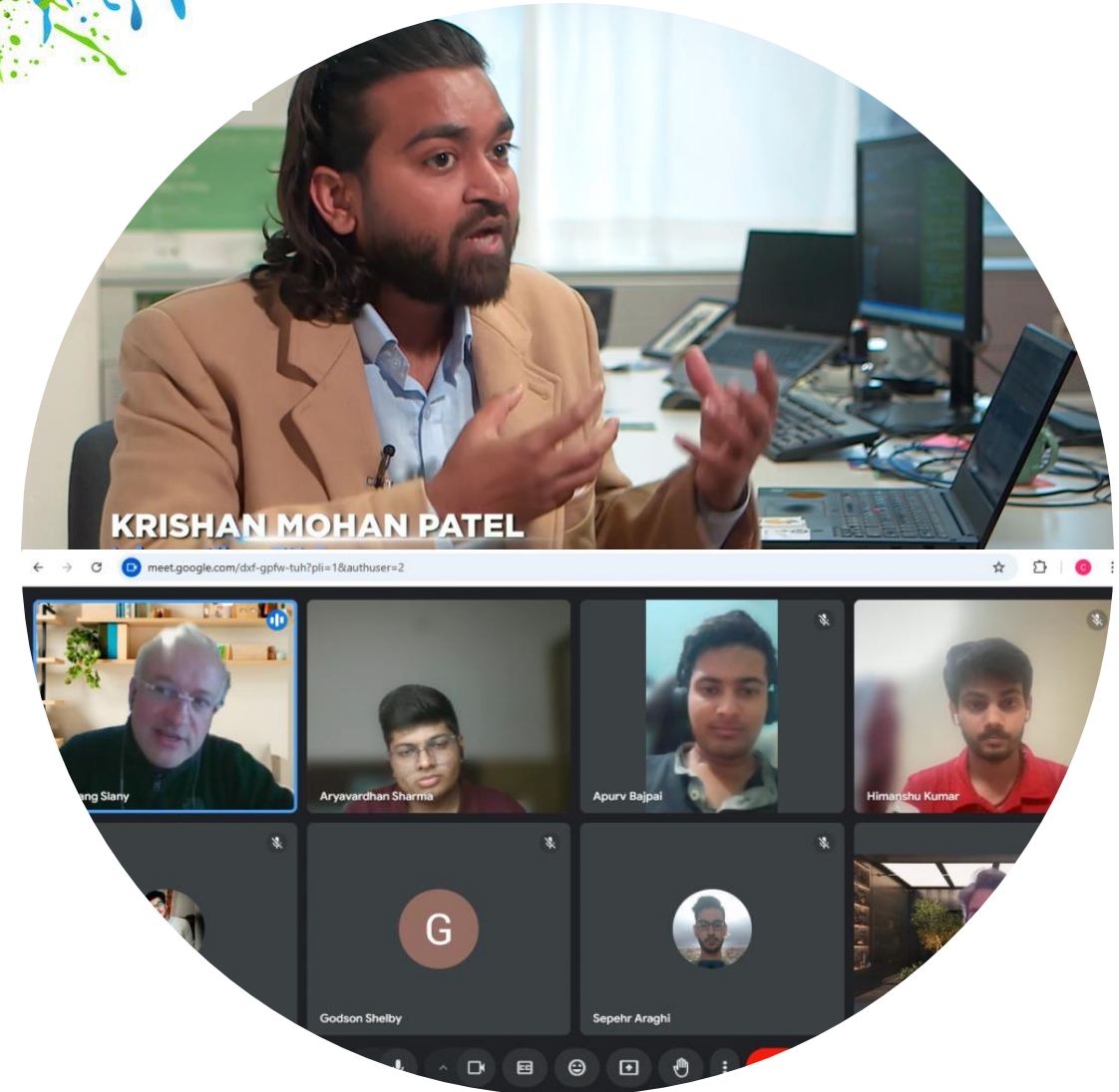
Arishna IoT Solutions 1

Cephalopod Behavioral Sentiment Analysis System

Project Proposal for Imagimob Startup Challenge 2025

Company: Arishna IoT Solutions
Team Members: Himanshu Kumar, Biky Chouhan, Naveen Pragaash, Prabhakar Joshi& others
Date: 15th June 2025

10/15/2025



Detailed Project Proposal for Bharat Innovates 2026 Startup Challenge 2025 [Click Here](#)

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