

CHARTERED ENGINEER REPORT



Name of Owner

**: Sagar Defence Engineering Pvt. Ltd.,
Plot No. PAP-V-13, Chakan Industrial Area PH – II,
Village – Wasuli, Taluka – Khed, District – Pune, PIN
Code-411 057, State - Maharashtra, Country-India.**

TEV Study Report for

**: State Bank of India, (SBI),
Shivsagar Estate Branch Worli (South)
Devchand House, Ground Floor, Dr. Annie Besant
Road, Worli, Mumbai - 400 018,
State - Maharashtra, Country – India.**

Consultant

**: Vastukala Consultants (I) Private Limited,
B1-001, U/B Floor, Boomerang, Chandivali Farm
Road, Andheri-East, Mumbai – 400072, Maharashtra.**

CONTENTS

Section	Description	Page No.
1.	INTRODUCTION TO TEV STUDY REPORT	03
2.	SCOPE OF WORK	05
3.	BASIS OF CHARTERED ENGINEER REPORT	06
4.	METHODOLOGY	07
5.	CONCISE ON THE COMPANY	08
6.	ABOUT INDIAN NAVY AND INDIAN ARMY CONTRACTS	49
7	DISCLAIMERS	53
	OPINION	55

Vastu/Mumbai/12/2024/12901/2309491

09/27-189-APU

Date: 05.12.2024

1. INTRODUCTION

M/s Sagar Defence Engineering Pvt. Ltd. ("SDE" or "Company") is a Private Limited company incorporated on 16th May 2015. It is classified as non-government company and is registered at Registrar of Companies, Mumbai.

SDE's Corporate Identification Number (CIN) is U29253MH2015PTC264539 and its registration number is 264539. It's registered address of Sagar Defence Engineering is 101/104, Triveni Kripa, Opp. Ambaji Mandir, Carter Road No. 3, Borivali East, Mumbai- 400 066.

SDE is a technology firm based in India, established in 2015 by Mr. Nikunj Parashar, Mr. Mridul Babbar and Mr. Lakshay Dang. The company is engaged in the development of both consumer products and commercial solutions, which have undergone testing by military entities.

SDE has submitted over 43 patent applications, with 17 patents successfully granted. The company prioritizes innovation and employs more than 60 individuals, with 90% of its workforce dedicated to research and development. SDE aims to evolve into a global organization, with plans to serve customers in Europe through its Rotterdam unit.

SDE is a highly skilled start-up, founded with an aim to provide new innovations and complete Unmanned Vehicles solutions in Commercial, Defence and Scientific sector.

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

SDE have become pioneer in India to design, manufacture and supply the first ever Unmanned Marine Surface Vehicle (UMSV) and its technology indigenously in collaboration with Indian Navy.

The company has recently secured three pivotal projects with the India Navy and Indian Army. These projects underscore the versatility of Sagar Defence Engineering's offerings:-

- 1. Autonomous Boat Swarm:-** Involving the delivery of 12 fully autonomous boats and 6 controlling stations to the India Navy. This sailing boat project comes with total project cost of Rs. 300.00 Crores. Operating at a high speed of 74 km/hr, these unmanned boats significantly enhance the capabilities of the Indian Navy.
- 2. Autonomous underwater Swarm Drones:-** The Company is tasked with delivering 30 underwater swarm drones to the India Navy, with a total project cost of Rs. 240.00 Crores. These submarine like vehicles, fully autonomous and unmanned are designed to operate at considerable depths.
- 3. Autonomous Cargo Carrying Aerial Vehicle:-** The Indian Army project involves the delivery of 09 aerial cargo carrying vehicle at the total project cost of Rs. 200.00 Crores. These vehicles play a crucial role in delivering cargo to targeted location. Offering a versatile solution for Military operation and Disaster response.

2. SCOPE OF WORK

Relationship Manager, State Bank of India, Shivsagar Estate Branch Worli (South), Devchand House, Ground Floor, Dr. Annie Besant Road, Worli, Mumbai - 400 018, State - Maharashtra, Country – India, has allotted M/s Vastukala Consultants (I) Pvt. Ltd., Mumbai, (Chartered Engineer) to issued a Chartered Engineer report to examine the capacity to execute the order amounting to Rs. 740.00 Crores, which has been received from the Indian Navy and Indian Army to M/s. Sagar Defence Engineering Pvt. Ltd.

Chartered Engineer has prepared a detailed report covering all the above points in various sections and chapters.

3. BASIS OF CHARTERED ENGINEER REPORT

Chartered Engineer report is based on perusal of following documents / information shared by the company is listed as under:-

- Copy of Sanction Letter for sanction of Cash Credit and Bank Guarantee issued by State Bank of India Shivsagar Estate Branch dated 15.10.2024.
- Copy of Fixed Asset Register.
- Copy of Audited Balance Sheet.
- Copy of List of Plant & Machinery.
- Copy of Deed of Assignment Dated 12.08.2021 between Mr. Ramkamalprasad Tribhuwan Singh (The Assignee) and Mr. Ramkamalprasad Tribhuwan Singh (The Assignor).
- Copy of Letter for the permission to sub-letting to M/s. Sagar Defence Engineering Pvt. Ltd. issued by MIDC vide Letter No. MIDC/RO(PUNE)/Chakan Ph-II/LMS-384/A-06132 dated 02.02.2024.
- Copy of Allotment Letter No. ROP/CH-II/L-4173 Dated 06.07.2023 Issued by Maharashtra Industrial Development Corporation.
- Copy of Occupancy Certificate Vide Letter No. EE(P)/TB/CHK/PH-II/B-54026/ of 2020 by Office of Executive Engineer, MIDC, Project Division, Chinchwad, Pune – 411 019.
- Copy of Investigation of Title in respect of immovable property dated 09.04.2024.
- Copy of Layout Plan approved by MIDC vide Inward No. SWC/237/521/2017/1010/518879 Dated 26.12.2017.
- Company Profile.
- Synopsis of Contact signed with Indian Army and Indian Navy.
- Timeline.
- MOA and AOA.

4. METHODOLOGY

- Chartered Engineer has inspected the SDE's Pune factory on 03.12.2024. We have discussed and studied the need for the proposed project. We have reviewed the land, buildings / structure, process, machinery, technology, manufacturers of machines, raw material required, products, operational parameters, electricity, production capacity.
- Explanation and information given to Chartered Engineer by following officials of the Company,
 - **Shri Nikunj Parashar**, Managing Director & Chief Engineer for Innovation, about Company, future plans, milestones, etc.
 - **Shri. Saurabh Patil**, Chief Engineer for R&D and Future Program, abouts Electronics & Telecommunication
 - **Shri. Lakshay Dang**, Chief Technology Officer & Co-founder, about satel-lited and radar communication.
 - **Shri. Amit Kumar**, Design Production Director, about design and production
 - **Shri Amit Singla**, Director-Commercial, about Contracts and showed the all 3 contracts.
- In Section 5, titled "Concise on the Company", Chartered Engineer has studied the objective pursued by the Company, Profile of Directors and Key Persons. The company is pursuing its main objective, Directors are experienced and expertise in industry.
- In Section 6, Chartered Engineer has reviewed contracts.

5. CONCISE ON THE COMPANY

5.1. ABOUT THE COMPANY

M/s Sagar Defence Engineering Pvt. Ltd. ("SDE" or "Company") is a Private Limited company incorporated on 16th May 2015. It is classified as non-government company and is registered at Registrar of Companies, Mumbai.

SDE's Corporate Identification Number (CIN) is U29253MH2015PTC264539 and its registration number is 264539. It's registered address of Sagar Defence Engineering is 101/104, Triveni Kripa, Opp. Ambaji Mandir, Carter Road No. 3, Borivali East, Mumbai- 400 066.

The main object to be pursued by the Company is,

1. To carry on the business of designing, manufacturing, integrating, testing, operating, exporting, importing, buying, selling, acting as manufacturer for designing, manufacturing, purchase and sale Of and to deal in unmanned marine vehicles, capital equipment, plant and machinery for defence, oil & gas industries, inland waterways, scientific and commercial industries; unmanned marine surface vehicles, autonomous underwater vehicles, unmanned underwater vehicles, radio controlled target boats, antisubmarine targets, anti-submarine warfare decoys, torpedo decoys, midget submarines. unmanned marine patrol vehicles, manned and unmanned submersibles, high density batteries, boats and offshore and inshore petrol vessels; accessories, assemblies, subassemblies, instruments, tools, components, devices and gadgets of engineering and non-engineering types including inland waterways and scientific research and development sector, and defence equipment.

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

2. To turnkey install, manufacture and refit unmanned command controls hardware, software to refine the existing marine boats into unmanned marine vehicles.
3. To engage in the business of engineering, contracting and constructions including the design, manufacture, construction, erection, alteration, repair, testing and trials of unmanned marine vehicles, systems and mechanical, electrical and electronic machinery, equipment, apparatus and devices.
4. To enter either alone or jointly with any other companies for the designing, manufacturing, integrating, testing, operating, repairing, maintaining, exporting, importing, buying, selling, in unmanned marine surface vehicles, autonomous underwater vehicles, anti-submarine warfare decoys unmanned underwater vehicles, midget submarines, manned and unmanned submersibles, high density batteries, boats and offshore and inshore petrol vessels, capital equipment, plant and machinery of every
5. * To engage in the business of engineering, contracting and constructions including the design, manufacture, construction, erection, alteration, repair, testing and trials of unmanned aerial vehicles, unmanned aircraft system, also referred to as drones and remotely piloted aircraft, systems and mechanical, electrical and electronic machinery, equipment, apparatus and devices of any micro, mini and above for defence, oil & gas industries, inland airways, scientific and commercial industries.
6. To Carry on business of dealing in Mining Equipment, Fire Fighting System for mining, Heavy Vehicle for the mining, Heavy Vehicle (Truck) supplier, Special equipment for Mining, Robotic equipment for mining, Electronics system for mining, software application coal mines, Heavy electrical system for mining Other ancillary mining equipment and providing on ground services for mining *

The company is pursuing its main objective.

5.2. PROFILE OF DIRECTORS

The Directors of the Company are as under,

Director's name	DIN	Designation	Appointment Date
Shri Nikunj Parashar	07139877	Managing Director	01.07.2021
Shri Manoj Agarwal	02509181	Whole-time Director.	29.09.2021
Shri Mridul Babbar	07516300	Director	01.12.2021

PROFILE:-

Capt. Nikunj Parashar, Founder and Managing Director

Capt. Nikunj Parashar a Merchant Marine and an Alumni of IIM's Ahmedabad is the CEO and founder of Sagar Defence Engineering Pvt. Ltd., India and Oceanos BV, Rotterdam, Netherlands; which has recently been awarded with the National Award, Jan 2022 in the robotics sector by DPIIT by Government of India and by National Security Guard (NSG) Sep 2022 under aegis of Ministry of home affairs for developing countermeasures for Improvised explosive devices. He holds number of patents to his name for developing electronic and wireless charging systems for unmanned systems. With over 14 years of experience in Shipping Operations, Ship construction, Cargo, and Port Operations, along with Safety Management. There are several education qualifications that support his firm foundation. After completing his Bachelors in Nautical Technology, he went on to do his Masters in (F.G.) – India, and Chief Mate (F.G.) – India. At the same time, he has also done course on Clean-tech from Indian School of Business, Hyderabad. He has represented India on four occasions, first at Los Angeles, USA for clean tech program under the aegis of Ministry of MSME, second at Hague, Netherlands as one of the leading entrepreneurs from India for

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

robotics, third at SLUSH conference Helsinki, Finland in robotics and recently at Vivatech 2022 where India was selected as the country of the year, Paris France once again for robotics. Being a hoarder of knowledge, he has studied several shipment subjects in detail. Following are the significant paper presentations made by him on national as well as international platforms.

- ❖ Presented a Technical Paper Autonomous Shipping at Rotterdam, Netherlands, Haven congress on shipping in April 2017.
- ❖ Presented a Technical Paper at the Confederation of Indian Industries International Seminar about Unmanned Systems in September 2016.
- ❖ Presented a Technical Paper at the Confederation of Indian Industries International Conference on Unmanned Aerial Vehicles in October 2015.
- ❖ During his fulfilling career, Mr. Nikunj Parashar has been bestowed with numerous awards, appreciations, and accolades. He is well deserving of all the recognition that comes his way. His line of work and service activities speak for itself. He has an impressive portfolio for which he has received immense appreciation from renowned and celebrated institutions not just in India but also abroad. Mr. Parashar has represented India on multiple occasions internationally. He has made the country proud with his list of glorious achievements and even won the prestigious National Startup award in year of 2021

Mr. Manoj Kanhaiyalal Agrawal, Director

Commerce Graduate from Mumbai University in 1992. Started his career in Stock Broking. Diversified into Real Estate and Jewellery Business. Has expertise in Investment, Finance, and Taxation. Mr. Manoj Agrawal is the Chief Finance officer of the organisation who has devoted himself to handling the investments, strategic business growth, financial sustainability, and stability of the organisation.

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.****Mr. Mridul Babbar, Director**

Mr. Mridul Babbar has years of work experience in unmanned marine surface vehicles, unmanned aerial vehicles, and personal aerial vehicles. Being Sagar Defence Engineering's Co-Founder, he has worked on various cutting-edge projects such as the nation's first Personal Aerial Vehicle and Maritime Spotter Drone along with other unmanned and autonomous systems. After earning a bachelor's degree in Electrical, Electronics and Communications Engineering, he developed his passion for innovation, designing and developing advanced yet sustainable technologies, and pretty much anything that involves computers and electronics. He has been awarded by NASA, Awarded by Jet Propulsion Laboratory, and the National Startup Award, Department of Commerce under the Ministry of Commerce and Industry, Government of India, and Awarded the NASSCOM League of 10 and recognized by Texas Instruments. He is one of our leading AI experts who is also handling the business development for the organization on a global scale.

The Directors are proficient in the their field. They are supported by the experienced persons who handle day to day operation as under,

Name of the entity	Designation	Experience in years
Shri Saurabh Patil	Chief Engineer for R&D and Future Prog	More than 10 Years
Shri. Lakshay Dang	Chief Technology Officer & Co-founder	More than 10 Years
Shri. Amit Kumar	Design Production Director	More than 10 Years
Shri Amit Singla	Director-Commercial	More than 10 Years

SDE's Directors are supported by experienced, knowledgeable persons who are experts in handling the day to day operations of the company.

5.3. AWARDS/RECOGNITIONS

- ❖ **January 2022:** Awarded Prestigious NASSCOM league of 10 (ten) top hyper growth startup of the year.
- ❖ **December 2021:** Awarded Prestigious National Startup Award by the government of India.
- ❖ **December 2021:** Selected into NASSCOM Deeptech startup club.
- ❖ **December 2021:** Awarded Prestigious 8th international Sagar Manthan Technology provider of the year award for the year 2021
- ❖ **September 2021:** Awarded Prestigious Dare to Dream 2.0 award by Defence Research & Development Organization along with a cash Prize of 10 Lac INR.
- ❖ **February 2021:** Single IDEX winner for development of Autonomous Underwater Swarm Drones with a grant of 1.5 Cr INR from Ministry of Defence
- ❖ **May 2020:** Selected by DGCA, MOCA, AAI for conducting Beyond Visual line of Sight Operation (BVLOS) operations in India
- ❖ **February 2020:** Opportunity given by Startup India to Exhibited Unmanned Marine surface Vessel inside India Pavilion to Honourable Prime Minister of India in Defexpo2020.
- ❖ **December 2019:** Top UAV finalist for Central Reserve Police Force Grand challenge (currently Ongoing), through this challenge is looking for new concepts & innovations in the areas identified. The objective of this program is to address critical issues hampering growth of the security sector in the country by leveraging technical expertise and best fundamental concepts thus helping talented and creative innovators to pursue promising avenues at the frontier of technology.
- ❖ **February 2019:** Winner of Surveillance Fixed VTOL category in Drone Olympics hosted by AERO INDIA 2019 show

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

- ❖ **February 2019:** second in supply drop challenge in in Drone Olympics hosted By AERO INDIA 2019 show.
- ❖ **February 2019:** Most Innovative Startup 2019 by NASSCOM National Technology and Leadership Forum 2019 awarded by Hon'ble CM Maharashtra.
- ❖ **December 2018:** Selected by Government of Andhra Pradesh to represent India at Slush 2018 held at Helsinki, Finland.
- ❖ **September 2018:** Best Electronics manufacturing Company in R&D in Spacetrionics, Deftronics Awards 2018 by IESA.
- ❖ **June 2018:** Selected as top 24 Startups in the Maharashtra Startup Week and signed LOI with Govt. of Maharashtra.
- ❖ **June 2018:** Grant from Netherlands government.
- ❖ **April 2018:** Selected for accelerator batch by 36 INC and for Chhattisgarh State fund under LoFR fund (Debt Fund) 40 Lakhs.
- ❖ **February 2018:** Selected as the best 6 Startups in Magnetic Maharashtra 2018 by Honourable CM of Maharashtra.
- ❖ **January 2018:** Selected by Development Commissioner, Ministry of MSME, GOI, to Represent India at Cleantech Open 2018 Global Forum, Los Angeles, USA.
- ❖ **December 2017:** Awarded 3rd prize at the Jai Hind Entrepreneurship Summit 2017.
- ❖ **December 2017:** Top 4 finalists of Global Cleantech Innovation Programme.
- ❖ **August 2017:** Awarded as the most promising Startup in Aerospace and Defence by IESA Deftronics Awards 2017.
- ❖ **June 2017:** Winners of disruptive technology by IC2 Lab, University of Texas, Austin, USA.
- ❖ **February 2017:** Awarded as the most promising Startup by IESA Technovation Awards 2017.

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

- ❖ **February 2017:** Selected for the second cohort of XLR8 Andhra Pradesh Technology Business Accelerator.
- ❖ **February 2017:** Selected in top 10 Maritime Startups in PORTXL- World Port Accelerator held at Rotterdam, Netherlands.
- ❖ **April 2016:** Selected as the Best Maritime Start by government of India & Shipping Ministry.
- ❖ **April 2016:** Adjudged as the best Maritime time start up by Audience Poll during Maritime India Summit 2016.
- ❖ **April 2016:** Grant from CIIE, IIM (Ahmedabad) and selected as the top ten start up by Economic times in the Power of Ideas contest out of 19000 startups.
- ❖ **October 2015:** Electropreneur Park as one of the top startups in ESDM Sector.

5.4. SERVICES

Name of Services / Business segment	Application/ User segment
Command Control Module	The most compelling value aspect of the technology is that it has been incorporated into SDE hardware. The hybrid technology with smart software algorithm engines/ hardware that can be utilized in manned and unmanned operations; which can be configured to suit the particular vehicle and is not restricted to vehicle type. The single system can be used to control multiple vessels and capable of being used for above/ underwater and aerial applications.
AI based RCW - Genesis	India's first Autonomous Navigation System, called Genesis, uses vessel-based sensors and proprietary hardware, algorithms to give the watercraft a degree of self-awareness, enabling her to efficiently self-motor from point-to-point while avoiding active & passive obstacles or collaborate in tandem with another vessel.

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

Name of Services / Business segment	Application/ User segment
DP Module	SDE Dynamic Positioning (DP) module in Genesis is a step beyond DP. The interface for carrying out DP can be on another vessel then the unmanned vehicle itself. At the same time customized DP can be carried out depending on vessel application.
UAV	Spectre 2H (Heavy Lifting Drone) Weight carrying capacity: up to 2 Kilograms Range: 2 Kilometres Callabilities: Carry and Deploy Payload: Medical Aid, commercial packages
UAV	Spectre 2M (High Endurance Drone) Endurance: 60 minutes Weight: less than 3 Kilograms Range: 6 Kilometres Video Transmission: High Definition Callabilities: Detection, classification and Tracking Payload: Daylight, Thermal and Integrated daylight and Thermal
UAV	Spectre 2T (Tethered Drone) Light weight: payload up to 1 Kilograms Heavy Weight: payload up to 30 Kilograms Endurance: 24 x 7
UAV	Spectre 2F (Fixed Wing Drone) Endurance: 120 minutes Weight: less than 10 Kilograms Range: 15 Kilometres Video Transmission: High Definition Callabilities: Detection, classification and Tracking Payload: Daylight, Thermal and Integrated daylight and Thermal
UAV	Spectre UT Ajna Endurance: 90-120 minutes Weight: less than 15 Kilograms

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

Name of Services / Business segment	Application/ User segment
	Range: 20+ Kilometres Video Transmission: High Definition Callabilities: Detection, classification and Tracking Payload: Daylight, Thermal and Integrated daylight and Thermal Launch & Recovery on Moving Platforms
SKYDOCK	Fully autonomous Artificial Intelligent and cloud compatible system Drone landing position detection Smart drone battery management system Wireless charging Reliable and scalable system Multiple drone landing and charging Modular Architecture Human Safe platform Failsafe features
USV	SDE has already built the first Unmanned Marine vehicle for the Indian armed forces. This vehicle was capable of doing speeds up-to 36 knots in water and could withstand weather upto sea state 6.
UXOR UGV	Unexploded Ordnance Handling Robot(UXOR)

Long gone are those days, when an enemy would be openly fought on the battle grounds. Considering the complexity of the warfare, complex and sophisticated Unmanned Marine, Submarine, Land and Aerial systems can be one of the best solutions. Unmanned Systems provide asymmetric advantages such as stealth, low visibility and engagement from a far distance. In military, unmanned systems can be used in many fields. Already in this arena, SDE have become pioneer in India to design, manufacture and supply the first ever Unmanned Marine Surface Vehicle (UMSV) and its

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

technology indigenously in collaboration with Indian Navy. Our startup aims to provide new innovations and complete Unmanned Marine Vehicles solutions in Defence, Commercial, and Scientific sector.

SDE is a highly skilled start-up, founded with an aim to provide new innovations and complete Unmanned Vehicles solutions in Commercial, Defence and Scientific sector.

The chief problem Sagar solves, is providing an efficient autonomous system solution for the collection of maritime and oceanic data in real-time. The solution puts no human life at risk and reduces OPEX (operation expenditure) by more than 60% and CAPEX (capital expenditure) by 45%. These solutions are utilized across multiple industries.

The degree, to which the Sagar technology solves the problems, is by providing a marine unmanned vehicle system for the collection of maritime and oceanic data in real-time. This solution saves time, money, human lives, and opens the doors to new research.

Sagar will customize the unmanned system needs for each customer. There is some upfront time to build the autonomous unmanned system. This time is determined by the customer and project need.

Switching cost are to be determined for each client. The switching cost are dependent on what each individual client has already invested in this space.

5.5. PRODUCTS

5.5.1 SDE Genesis “Boat in a Box”

SDE builds Autonomous Control and Remote Command Systems technology solutions to enhance the operation of existing or new build marine vessels. The technology collects and communicates ocean data, in real-time, through unpredictable conditions. The technology we call it “Genesis - boat in a box”.

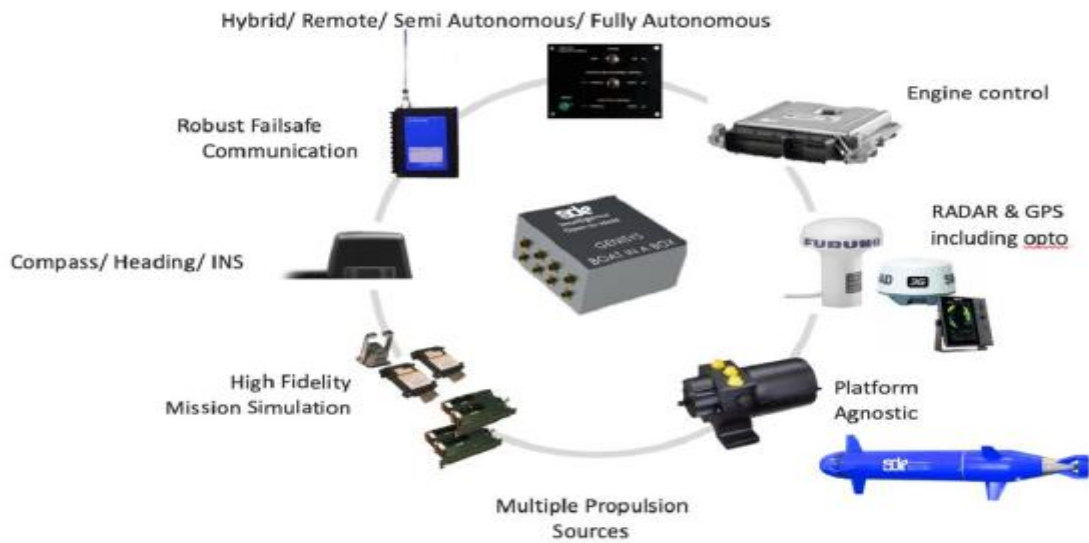
Genesis “Boat in a Box” can be retrofitted to any kinds of vehicles irrespective of shape, size and propulsions. The size can be from 1 meters upto 100 meters with either single engine, dual engine or electric propulsions along with integration capabilities from RF, wifi, 5G and Satcom. Sensors including sonar, GPS, lidar, ISR payloads can be integrated with ease on the platform.

It connects subsea data and communicates it to satellites and land, creating an ocean network. SDE has produced multiple versions of the autonomous control systems. The autonomous control systems are tailored to the customer’s needs. The product can be a new unmanned system or retrofitting an existing system with technology.

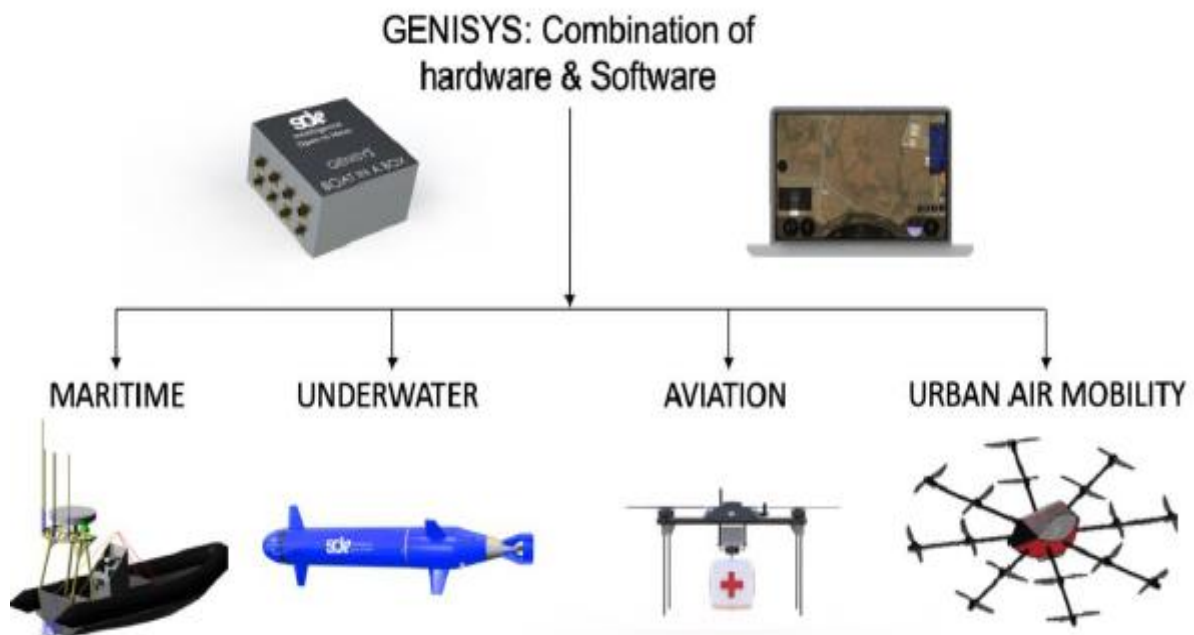
These vehicles are so versatile in nature that the same vehicle can be used in various applications with minimal adjustments and in all weather conditions.

SDE demonstrated proven success, by entering agreements with key customers including Indian Navy, Indian Air Force, Indian Army and State Government. Revenue streams from these agreements and future customers will come from building autonomous systems, USV operation training, USV operation assistance, and other services.

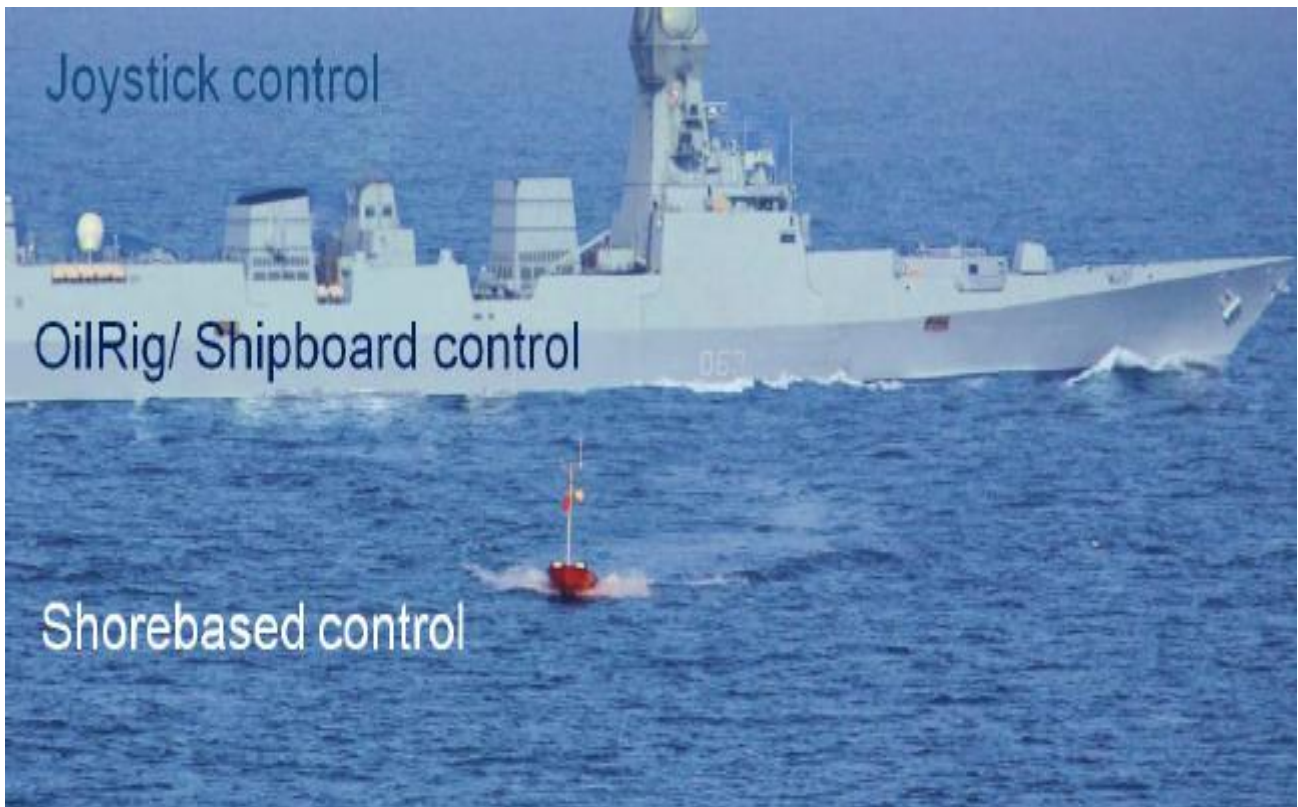
METHODOLOGY:



The Mechanism of Operation:-



The technological advantage is the hybrid technology with smart software algorithm engines/ hardware for both manned and unmanned operations can be configured to suit the vehicle and is not restricted to vehicle type.



The technology is equally suited to controlling a torpedo shaped body and a high-speed boat. It uses self-tuning artificial intelligence algorithms, which it learns from the vehicle responses and adapts itself to it. It can be used as a simple autopilot to a high-end standalone unmanned system. The technology is being used in survey, security, and military applications.

It took over 5 years and numerous sea trials to develop, test and induct SDE's first Artificial Intelligence enabled system with the Indian government.

5.5.2. UNMANNED MARINE SURFACE VEHICLE(UMSV)

SDE has already built the first Unmanned Marine vehicle for the Indian armed force. This vehicle was capable of doing speeds upto 36 knots in water and could withstand weather upto sea state 4. Photographs of the sea trial is as under:-



There after SDE worked with another partner whose vessel was capable of carrying out mission for months. This is where SDE's systems faced storm of wave height 7.5 meters and winds gusting up to 95 knots. This proved that SDE's system were capable for handling heavy weathers. Photographs taken from the onboard camera is as under:



Thereafter suites of self-tuning command controls have been developed and trailed at sea on a range of vehicle modes. This offers heading, speed, depth, height and attitude control, together with dynamic positioning and hovering.

The company's aim is to build systems and applications which caters for broad range of technology and innovative solutions for the Unmanned Marine, and Submarine industries relating to various commercial sectors like Oil & Gas, Inland waterways, Oceanography, Disaster Management and Scientific research community at large as well Indian Navy, Coast Guard & Border Security forces. We are competing with the world's best including the Israel aerospace industries, ECS, Midget Defence, Lockheed Martin and many more.

These Unmanned Marine Surface Vehicles (UMSV) can help the Maritime Industry, Oil & Gas Industry and Scientific Community, with efficient solutions for the collection of maritime and oceanic data in real-time, where no human life risk is involved. Unlike other vehicles these vehicles can not only be operated on oceans but also on lakes and ponds. As these are versatile in their nature, the same vehicle can be used in various applications.

Also, in the year 2017 SDE completed successful pilot with Van Oord in Rotterdam, Netherlands. SDE has turned the vessel given to them into unmanned autonomous vessel making the vessel usable for various applications including survey, surveillance and many more.

5.5.3. Unmanned Aerial Vehicles (UAV)

In 2017, SDE had applied this technology to another domain i.e. of Unmanned Aerial Vehicles (UAV). From Sea to Air, Intelligence Open to Ideas and that is their vision. This proves and puts a new dimension to unmanned systems. Where one system can be adaptive for different domains of physical deployment, whether it is Marine or Aerial or underwater.

i. SDE SPECTRE AJNA

Technical Specifications

- Classification : VTOL (Vertical Takeoff & Lift),
- Rotary Wing Aircraft
- Power Type: Electric Battery
- Payload : Electro Optic with 20X optical Zoom and Thermal Imager
- Safety : Multiple redundancy in propellers, Motors,
- Endurance: 90-120 Minutes *
- Control Range: 20 Km* (Customizable as per requirements)
- Electronics: Dual Redundant Flight Control
- Sensors: Gyroscope, Acceleration sensors, Magnetic field measurement sensors
- Capabilities: Autonomous take off and land from moving platforms
- Failsafe: Return to home on Low Battery, Loss of Communication, High Winds



ii. SPECTRE 2X (High Endurance Drone)

Endurance: 90 minutes

Weight: less than 10 Kilograms

Range: 10 Kilometers

Video Transmission : High Definition

Capabilities: Detection, classification and Tracking

Payload: Daylight, Thermal and Integrated daylight and Thermal



iii. SPECTRE 2M (High Endurance Drone)

Endurance: 60 minutes

Weight: less than 6 Kilograms

Range: 6 Kilometers

Video Transmission : High Definition

Capabilities: Detection, classification and Tracking

- + Payload: Daylight, Thermal and Integrated daylight and Thermal



iv. SPECTRE H15

Technical Specifications

- Classification : VTOL (Vertical Takeoff Lift),
- Rotary Wing Aircraft
- Power Type : Electric Battery
- Maximum Takeoff Weight : 100 Kg
- Payload Capacity : 15 kg*
- Safety : Multiple redundancy in propellers, Motors
- Endurance : 30-45 Minutes*
- Control Range: 10 (Customizable as per requirements)
- Electronics: Dual Redundant Flight control
- Sensors: Gyroscope, Acceleration sensors.
- Magnetic field measurement sensors
- Capabilities : Autonomous take off and land from moving platforms

- Failsafe: Return to home on Low Battery, Loss of Communication, High Winds



v. Spectre 2H (Heavy Lifting Drone)

- Weight carrying capacity: up to 2 Kilograms
- Range: 2 Kilometers
- Capabilities: Carry and Deploy
- Payload: Medical Aid, commercial packages



vi. SPECTRE 50T

Technical Specifications

- Classification : VTOL(Vertical Takeoff & Lift),
- Rotary Wing Aircraft
- Power Type : Electric Battery from Ground
- Maximum Takeoff Weight : 180 Kg
- Payload Capacity: 50 kg*
- Safety : Multiple redundancy in propellers Motors
- Endurance : Unlimited*
- Electronics: Dual Redundant Flight Control
- Sensors: Gyroscope, Acceleration sensors,
- Magnetic field measurement sensors
- Capabilities : Autonomous take off and land from moving platforms.
- Failsafe: Landing on Loss of Power Landing on Loss of Communication, Landing on High Winds



vii. Spectre 3T (Tethered Drone)

- Light weight: payload up to 3 Kilograms
- Endurance: 24 x 7*



viii. Spectre 2T (Tethered Drone)

- Light weight: payload up to 1 Kilograms
- Endurance: 24 x 7*



ix. Spectre 2F (Fixed Wing Drone)

- Endurance: 120 minutes
- Weight: less than 10 Kilograms
- Range: 15 Kilometers
- Video Transmission : High Definition
- Capabilities: Detection, classification and Tracking
- Payload: Daylight, Thermal and Integrated daylight and Thermal



Applications of UAV (Unmanned Aviation Vehicle):

- **For First response:-** Spectre is a vertical take-off and landing UAS and can be used in various terrains. Using Spectre instead of, or to supplement, other aerial assets leads to improved safety and cost savings in managing response to a fire, accident or missing person case.
- **Fire Fighting:-** Using our Spectre, firefighters will able to reduce the size and duration of the fire, reduce the impact on the community, and realize cost savings in managing the response.
- **Disaster Relief:-** The Spectre is able to operate in extreme weather conditions, even when other aircraft were grounded.

- Transportation
- Special Forces
- **ISTAR (Information, Surveillance, Target Acquisition and Reconnaissance)**

Capabilities:

- ❖ High Resolution Video and Stills Cameras
- ❖ Digital image processing
- ❖ Thermal and Infra-red cameras
- ❖ Real time data transmission
- ❖ Narrow and Broadband SONAR
- ❖ Intelligence gathering
- ❖ Covert monitoring and Mission Planning

x. Personal Aerial Vehicle

- Classification : VTOL(Vertical Takeoff &Lift).
- Rotary Wing Aircraft
- Power Type : Electric Battery
- Maximum Takeoff Weight : 240 Kg
- Payload Capacity : 100 kg*
- safety : Multiple redundancy in propellers,
- Motors, Power Source, Electronic, Flight
- Controls, Displays
- Endurance : 25-40 Minutes
- Control Range: 20 Km(Customizable as per requirements)
- Electronics : Quad Redundant Flight Control
- Sensors: Gyroscope. Acceleration sensors,
- Magnetic field measurement sensors
- Capabilities: Autonomous take off and land from moving Platforms
- Failsafe: Low Battery, Loss of Communication, High Winds



xi. Human Power Flight on Personal Aerial Vehicle



5.5.4. Marine Surface Vessel 2.0 for Security, Surveillance and data collection

The vessel allows for both manual and fully autonomous operation. The UMSV is intended for identification, classification, tracking and interception of ships and boats at long ranges. It can be deployed in search and rescue, intelligence gathering, protection of exclusive economic zones, homeland and harbour security, and surveillance of coastal, as well as shallow and territorial waters, fire-fighting, and public safety and security. It can also be used for surveillance and protection of oil and gas, and other critical assets.



5.5.5 Unmanned Surface Vessels with advanced multi-mission capabilities

The SDE unmanned surface vessel (USV) -3 system provides naval forces with significant tactical advantages in underwater and surface warfare. The vessel act as a Naval force multiplier with Multi-mission payloads capabilities. Capability to integrate modular and switchable mission payload suites with advanced sonars and subsystems, the fully autonomous SDE USV -3 can be deployed for multiple manned and unmanned missions. The SDE USV- 3 has the capability to integrate with mine detection, submarine detection, diver detection, maritime security (MS), electronic warfare (EW) and other advanced systems and technologies.

The only vessel of its kind that integrates with all operational modes on one platform, the SDE USV- 3 enables conducting ASW, MCM, EW, MS, hydrography and other operations from a single mission control system. The SDE USV- 3 complies with all international maritime and Mil-Spec standards.

Operational capabilities and systems

The fully autonomous SDE USV 3 can operate at cruising speed for more than 12 hours at sea and is equipped to perform extensive missions. Comprised of composite and aluminium materials, the vessel incorporates removable floats and dynamic positioning.

The 3m SDE USV 3 is easily deployed from port or mother ship and can be transported with ease.

Underwater systems and sensors: The SDE USV 3 will provide high-performance operational capabilities with integration capabilities with leading sonar technologies, including towed sonar systems.

Weapon systems: The SDE USV 3 has a payload capacity to 110 kg which enables to mount multiple weapon systems on board.

Advanced Mission Control System: The SDE USV 3 can be operated in manned and unmanned modes using line-of-sight and SATCOM data links and an integrated navigation, sailing and safety suite. The Mission Control System (MCS) can be located on a mother ship, headquarters, or land vehicle. Featuring integrated C4I capabilities, the MCS can control multiple vessels simultaneously.

Mine Counter Measures: The SDE USV 3 MCM has the capability with multiple MCM suites which enables detection, classification, localization, identification of bottom, moored and drifting sea mines and navigation out of the mine-field.

Anti-Submarine Warfare: The SDE USV 3 can performs low-risk ASW missions while in motion, with enhanced detection capabilities.

- Advanced sonar technologies and systems Integration capability
- Line-of-sight and SATCOM data links
- Modular payloads
- Mission control system for multiple vessels
- Multi-mission capabilities
- Manned/unmanned modes of operation
- Low-risk operations
- Reduces naval procurement and operating costs
- Transportable

i. USV (Unmanned Surface Vessel) 3

Technical Specifications

- Hull Length: 3.2 Meters
- Hull Width: 1.3 Meters
- Hull Weight : 86 Kg
- Payload Capacity : 110 Kg

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

- Speed : 4 -7.5 Knots
- Endurance : 7 - 12 Hours* (Customizable as per requirements)
- Control Range : 5 km* (Customizable as per requirements)
- Craft std: JSS 55555 Std/ Mil std 810f and IP67
- Operator Control: Heading control, Boat tracking on map, Navigation chart, arc charts & Uploading facility Of Video extracting the Video, Follow predefined path, collision avoidance (Optional).
- Third party software integration capability

**ii. USV (Unmanned Surface Vessel) 4**

Technical Specifications

- Hull Length : 4.2 Meters
- Hull Width: 2.2 Meters
- Hull Weight: 150 Kg
- Payload Capacity : 250 Kg
- Speed : 6 -12 Knots
- Endurance : 12 - 24 Hours* (Customizable as per requirements)

- Control Range : 15 km* (Customizable as per requirements)
- Craft std: JSS 55555 std/ Mil std 810f and IP67
- operator control: Heading control, Boat tracking on map, Navigation Chart, arc charts & Uploading facility of video extracting the video, Follow predefined path, collision avoidance(Optional).
- Third party software integration capability



iii. USV (Unmanned Surface Vessel) 5

Technical Specifications

- Hull Length: 5.5 Meters
- Hull Width: 2.8 Meters
- Hull Weight : 190 kg
- Payload Capacity : 350 Kg, MCM, ASW, Weaponry
- Speed : 8 - 15 Knots
- Endurance: 12 Hours* (Customizable as per requirements)
- Control Range: 15* (Customizable as per requirements)
- Craft Std: JSS 55555 Std/ Mil Std 810f and IP67

- Operator Control: Heading control, Boat tracking on map, Navigation chart, arc charts &
- Uploading facility Of video extracting the video, Follow predefined path, collision avoidance(Optional).
- Third party software integration Capability



iv. USV (Unmanned Surface Vessel) 7

Technical Specifications

- Hull Length : 7.1 Meters
- Hull Width : 2.5 Meters
- Hull Weight : 800 Kg
- Payload capacity: 600 Kg, MCM, ASW,
- Weaponry, Skydeck with Tactical Drone
- Speed : 8 - 15 Knots
- Endurance: 7-12 Hours* (Customizable as per requirements)
- Control Range : 20 Km* (Customizable as per requirements)
- Craft Std : JSS 55555 Std/ Mil Std 810f and IP67

- Operator Control: Heading control, Boat tracking on map, navigation Chart, arc Charts & Uploading facility of video extracting the video, Follow predefined path, collision avoidance(Optional).
- Third party software integration capability



v. USV (Unmanned Surface Vessel) 10

Technical Specifications

- Hull Length: 10.8 Meters
- Hull Width: 4.1 Meters
- Hull Weight : 2000 Kg
- Payload Capacity : 1000 Kg, MCM, ASW,
- Weaponry, Skydeck with Tactical Drone
- Speed : 20-35 Knots
- Endurance: 7-12 Hours* (Customizable as per requirements)
- Control Range: 20 km* (Customizable as per requirements)
- Craft Std: JSS 55555 Std/ Mil Std 810f and IP67
- Operator Control: Heading control, Boat tracking on map, Navigation chart, arc charts &

CHARTERED ENGINEER CERTIFICATE

SAGAR DEFENCE ENGINEERING PVT LTD.

- Uploading facility Of video extracting the video, Follow predefined path, collision avoidance(Optional).
- Third party software integration Capability



Autonomous Systems for offshore, Coastal and Inland Operations

Genisys™ Boat in a Box™
Autonomous Navigation
Semi Autonomous
Collision Avoidance
Dynamic Positioning

Engine: Twin/Single
Inboard/Outboard
Electric

Hull: FRP / GRP
Carbon Fiber
Aluminum / Steel

Data Link: RF
WIFI
Satellite

sde Intelligence
Open to Ideas

Unmanned Operations with Multiple Platforms Together



5.5.6. AI Based hardware for precision take-off and Landing from Static and Moving Platforms

The Artificial Intelligence Based system combination of software and hardware has been developed enabling unmanned aircrafts to operate safely and autonomously from moving vessels and vehicles on land and at sea. This will enable any existing and new aircraft to land on moving platforms with vision based navigation, reliable failsafe behaviours and much more.



5.5.7. Ship Launched Tactical Spotting Drones

The Ship Launched Tactical Spotting Multi-copter Drones are made to meet the tactical requirement of the fleet ships as mentioned below. The drones are capable of day and night operation in a maritime environment and provide real time video to the control station onboard the operating ship. These multicopter are one of its kind platform in the globe having operational endurance of 90-120 minutes on electric propulsion and have long range upto 20 Km+ out at sea. They have the capability to launch and land on moving vessels having recovery.

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

- (a) EO/IR surveillance around the ship.
- (b) Situational Awareness of the disengaged side during Visit Board Search and Seize operations.
- (c) Investigation of fishing boats.
- (d) Aerial photography of the ship during important evolutions.
- (e) Berth sanitisation.
- (f) Assistance in Search and Rescue.
- (g) Target spotting for weapon system.



5.5.8. Sky Dock | Intelligently Simple

SDE has developed Sky Dock India's first "Drone in a Box" solution aimed at minimizing the response time for multiple drone operations. Sky Dock is designed to be a revolutionary new way for rapid UAV deployment, autonomous operations, and remote location monitoring. It is drone storage and deployment solution that can automatically wirelessly charge the drone after completing its mission. At the push of a button, the UAV is ready to take-off and execute its mission. After completing its mission, the UAV autonomously makes a precision landing on Sky Dock's wireless charging pad. It is designed to enhance the productivity in ISR, first response, kamikaze, search & rescue operations.



- Indigenously designed and manufactured from the ground up.
- Made in India, Made for India and beyond. Patent pending charging system with no moving parts for increased reliability.
- Retrofittable design
- UAV from different manufacturers can be integrated with Sky Dock.
- Fully autonomous
- Artificial Intelligent and cloud compatible system
- Drone landing position detection

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

- Smart drone battery management system
- Wireless charging
- Reliable and scalable system
- Multiple drone landing and charging
- Modular Architecture
- Human Safe platform
- Failsafe features
- Self-diagnoses of Electronics hardware
- Auto termination of battery charging
- Multiple Sensor fusion based precision landing
- Kill switch for box lid control
- Failsafe in case of water and dust ingress

The developed platform has the capability to be deployed as hubs for multiple drone launch recovery, charging and storage acting as one of its kind solution in logistics sector





5.5.9. Autonomous Underwater Vehicle

Sagar Defence Engineering is the single winner for development of Autonomous Underwater Swarm Drones to be inducted by Indian Navy under IDEX DISC 4, Ministry of Defence. Mazagaon Dock Shipbuilders Limited has collaborated with Sagar Defence for the development and is contributing for the project. A memorandum of understanding (MoU) has been signed by SDEPL and MDL for the same and the Escrow account opening is currently in progress. This collaboration will open new opportunities for export orders.



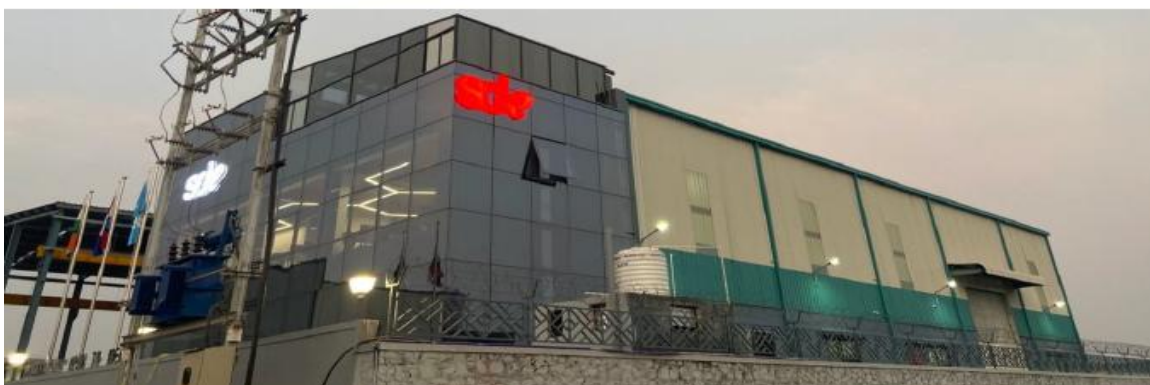
CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.****Features:**

- - Intelligence, Surveillance and Reconnaissance (ISR)
- - Mine Counter Measures(MCM)
- - Anti-Submarine Warfare(ASW)
- - Search & Rescue
- - Integration with Satcom and weapon systems along with a 45% reduction in cost when compared to the current propositions from foreign companies
- - Mission Swarming Capabilities
- - Multiple Sensor Integration Capabilities
- - Payload Carrying Capability

5.6. FACILITY:-

SDE's manufacturing facility is spread across 1,215 Sq. M. land in MIDC, Pune. It is equipped with a highly specialized and advanced R&D laboratory on the 1st floor of the organization building. The facility has separate production and manufacturing space which has various heavy machinery along with a huge capability to handle multiple productions requirements simultaneously. Second floor is specially designed for the IT/ Software department with maximum security to safeguard the criticality and confidentiality of multiple as well as extremely classified projects under Sagar Defence Engineering.

- Dedicated Electronics Lab
- Dedicated Software Lab
- Dedicated Mechanical Shop Floor
- State of the Equipment's enabling Self Sustainability in R&D



6. About Indian Navy and Indian Army Contracts

The company has recently secured three pivotal projects with the India Navy and Indian Army. During the date and time of our visit, company official showed the 3 contracts, however company has not provided the copy of the contract due to non disclosure agreement with India Navy and Indian Army. The details of the contract is as under:-

- 1. Autonomous Boat Swarm:-** Involving the delivery of 12 fully autonomous boats and 6 controlling stations to the India Navy. This sailing boat project comes with total project cost of Rs. 300.00 Crores. Operating at a high speed of 74 km/hr, these unmanned boats significantly enhance the capabilities of the Indian Navy.
- 2. Autonomous underwater Swarm Drones:-** The Company is tasked with delivering 30 underwater swarm drones to the India Navy, with a total project cost of Rs. 240.00 Crores. These submarine like vehicles, fully autonomous and unmanned are designed to operate at considerable depths.
- 3. Autonomous Cargo Carrying Aerial Vehicle:-** The Indian Army project involves the delivery of 09 aerial cargo carrying vehicle at the total project cost of Rs. 200.00 Crores. These vehicles play a crucial role in delivering cargo to targeted location. Offering a versatile solution for Military operation and Disaster response.

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.****6.1. ORDER EXECUTED:-**

Order executed for Unmanned Aerial Systems, Unmanned Ground Systems, Unmanned surface vehicles by the Company in the FY2023-24 is as under:-

S. No.	Description	Value (Rs.)
1	Ministry of Railways	9,80,000
2	Indian Army	39,00,000
3	Indian Army	3,50,000
4	Indian Army	10,51,800
5	Indian Army	3,81,45,250
6	Indian Army	3,30,000
7	Indian Army	15,000
8	Indian Army	1,05,000
9	Indian Army	6,34,000
10	DRDO	1,69,92,000
11	NFSU	33,96,000
12	Indian Navy	27,35,00,000
13	Indian Army	2,27,46,800
14	DRDO	2,91,46,000
15	BSF	1,78,000
16	DRDO	74,00,000
17	Indian Navy	1,17,88,200
18	DRDO	7,19,800
19	DRDO	6,96,000
20	UP Police	48,40,360
21	Indian Navy	3,24,000
22	CDAC	12,99,600

6.2. Process of Selection for the Contract:-

SDE was selected for the contract due to their ability to design and develop products tailored to the specific requirements of the Indian Navy and Indian Army. The process began with the design of the product and the approval of its prototype. After producing a sample, the company conducted a trial run and provided a comprehensive demonstration to the relevant authorities. Upon successful completion of these steps, the agreement was signed. Additionally, the Ministry allocated special funds for this project to ensure its successful execution.

6.3. Time Line:-

Company has provide the timeline for the delivery of 12 fully autonomous boats with 6 controlling stations and 30 underwater swarm drones to the India Navy and 09 aerial cardo carrying vehicle to Indian Army

S. No.	Description	Timeline (Months)
A	Project-1-AWBS	T0
1	Contract Signing AWBS	T0+09
2	2 AWBS + 01 MCS	T0+12
3	2 AWBS + 01 MCS	T0+15
4	2 AWBS + 01 MCS	T0+18
5	2 AWBS + 01 MCS	T0+21
6	2 AWBS + 01 MCS	T0+24
7	2 AWBS + 01 MCS	T0+21
8	SME/STE(5 Locations)	T0+09
9	Operater Training	
10	Maintaner Training	
B	Project-2:- AUAV	
1	Contract Signing AWBS	T0
2	10 AUAV +1 MCS	T0+10
3	20 AUAV +1 MCS	T0+15

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

S. No.	Description	Timeline (Months)
4	SATS	T0+18
C	Project:-3-ACAV	
1	Contract Signing ACAV	T0+09
2	Delivery of 09 ACAV	T0+16
3	FATS, SATS	T0+18
4	Training	T0+18

7. DISCLAIMERS

- We have inspected SDE's manufacturing facility. The Chartered Engineer report is based on our inspection, documents / information provided to us and discussions held with the company officials.
- Since this being a registered and established Company, Chartered Engineer have relied on the documents and information provided by the company.
- Company is confident for executing the project as per schedule and sanctioned of credit facilities.
- This report does not certify valid or legal or marketable title of any of the parties over the property.
- The report does not cover verification of ownership, title clearance, or legality and subject to adequacy of engineering / structural design.
- The Chartered Engineer report is only for the use of SBI and no responsibility is accepted to any third party.
- The Chartered Engineer report should not be held responsible if there is any conclusion / opinion from others about the viability of the proposed project activities to be undertaken by the company.
- Chartered Engineer should not be held responsible if the project / company does not come up to the expectation of the lenders. The bank to monitor the progress of the project independently.
- The Chartered Engineer report is submitted on the basis that this Report & its contents will be held in complete confidence. Accordingly, by accepting a copy of this report, the recipient agrees to keep its contents and any other information, which is disclosed to such recipient, confidential and shall not divulge, distribute or disseminate any information contained here-

CHARTERED ENGINEER CERTIFICATE**SAGAR DEFENCE ENGINEERING PVT LTD.**

in, in part or in full, without the prior written approval of **Vastukala Consulting (I) Pvt. Ltd.**

- The Chartered Engineer report has been prepared for private circulation to the bankers for evaluating the Project.
- This report is purely an opinion and has no legal or contractual obligation on consultant part.
- We have no direct or indirect interest in the company, its directors, or its project.

OPINION

Based on the points discussed in the report, on general, managerial, technical, industrial, marketing and background of directors; past performance, business plans, Company's present operations, physical inspection of manufacturing facility, Order executed, prototype product; we are of the opinion that the M/s. Sagar Defence Engineering Pvt. Ltd, is having the capacity to execute work order/manufacture the 12 fully autonomous boats with 6 controlling stations and 30 underwater swarm drones to the India Navy and 09 aerial cargo carrying vehicle with total value of this order amount to Rs.740.00 Crores within the timelines of having over the boats and drones as mentioned in the contract subject to observations made in the main report.

DATE: - 05/12/2024

PLACE: - MUMBAI.

Vastukala Consultants (I) Pvt. Ltd., Mumbai



Sharadkumar B. Chalikwar

B.E. (Civil), M.E. (Civil), M.Sc. (Real Estate Valuation),

M.Sc. (P&M Valuation), FIE (I),

FIV, FIWRS Chairman & Managing Director Govt. Reg. Valuer Chartered Engineer (India)

Reg. No. (N) CCIT/1-14/52/2008-09 IBBI Reg.No. IBBI/RV/07/2019/11744