ENQUIRY MANAGEMENT AND CUSTOMER SEGMENTATION FOR STREAMLINED SALES OPERATIONS AND DECISION-MAKING

CHALLENGE OWNER

The Challenge Owner is a Singapore-based marine turbocharger service provider, specialising providing crucial maintenance and repair services for the shipping, offshore, and power generation sectors. It serves numerous companies and offshore operations worldwide, including Singapore, China, Europe, and the Middle East.

The Challenge Owner's core product and service offerings include turbocharger maintenance, repair, and overhaul (MRO), supply of genuine spare parts for various turbocharger models and provision of expert solutions to optimise turbocharger operations to minimise vessel downtime. It is committed to improving its competitive advantage by enhancing operational efficiency and delivering innovative solutions that enhance the efficiency and reliability of marine engines.

This sector-wide challenge is supported by the Advanced Remanufacturing and Technology Centre (ARTC), as part of the **A*STAR Advanced Manufacturing Startup Challenge 2024**, focused on the theme of "Artificial Intelligence in Manufacturing". ARTC is led by the Agency for Science, Technology and Research (A*STAR), in partnership with Nanyang Technological University Singapore. ARTC's expertise in advanced manufacturing and remanufacturing accelerates the transfer of innovation from applied research to industrial applications and solutions, building capabilities through collaboration with their industry members. A*STAR aims to catalyse startup challenge winners to co-innovate and co-deploy advanced manufacturing solutions through ARTC's consortium.

To Note: Participants should approach this challenge with the intent to utilise A*STAR's intellectual property to resolve the problem statement and give due consideration to license, post-challenge.

CONTEXT

The Challenge Owner operates within the fast-paced and dynamic maritime industry, providing services including maintenance for vessels, docking repairs and emergency breakdowns. The company's business model revolves around on-demand and ad-hoc jobs, necessitating swift and efficient responses to secure deals promptly.

Given the unpredictable nature of its sales pipeline, the company relies heavily on cohesive cross-department operations planning and quick decision-making. This ensures a seamless sales experience for customers and increases customer retention.

The Challenge Owner receives about 200-300 email enquiries each month, which the marketing department is expected to respond to within 24 hours, with a quotation. However, several factors affect this service standard:

- The marketing department is unable to systematically identify and prioritise enquiries from high-potential customers in order to provide value-added and curated experiences to such genuine leads. Expending equal effort to attend to all enquiries regardless of potential for conversion greatly reduces productivity.

- Currently, marketing staff rely on discrete datasets (e.g. outstanding payment due, past transactions, lifetime value, enquiry types, etc.) and personal experience to qualify a genuine lead. In some cases, such as requests for spare parts sales and service, other departments

must be consulted before a quotation can generated. This may lead to inconsistencies and delays.

Without effective customer profiling and a consolidated enquiry overview to track and respond to qualified leads, there may be delayed replies resulting in loss of business opportunities since the ships only dock at the port for a short window. There is also opportunity cost to the marketing team as they have to dedicate already limited resources to answer all these enquiries, impacting their ability to source for new business, potentially affecting long-term growth.

PROBLEM STATEMENT

How might we develop an enquiry management system to assess and segment customers to support sales decision-making, improve customer retention, and streamline internal operations?

WHAT ARE WE LOOKING FOR?

The Challenge Owner is seeking an enquiry management solution to efficiently consolidate and track customer enquiries, analyse and qualify high potential customers using existing datasets, and prioritise enquiries accordingly. This would facilitate a cohesive approach to closing sales opportunities and delivering excellent customer service.

The solution should meet the following criteria:

- Centralised platform. Consolidation and tracking of enquiries in one platform to facilitate better communication between sales and marketing, ensuring timely and consistent follow-ups.
- System integration and data consolidation. Utilize the existing centralized SQL database that links the Enterprise Resource Planning (ERP) system, Customer Relationship Management (CRM) system, and the Manufacturing Execution System (MES). Extract additional data from the ERP, CRM, and MES systems into the centralized SQL database to ensure quick access to comprehensive customer information and insights, enabling accurate and timely responses to parts enquiries.
- Predictive segmentation. Assess and segment customer enquiries according to importance, urgency, genuineness, and potential value.
- Machine learning capability. Continuously learn from new data and identify and adapt over time to the most relevant datasets to improve the accuracy of customer and lead segmentation.
- Alerts and prompts. Automatically notifies relevant team members to ensure timely responses to high-priority customer enquiries and necessary follow-up actions. Staff can set reminders, triggering prompts for interim replies when additional time is needed.
- Data insights and visualisation. Dashboard to present relevant and easy-to-understand data insights to help staff understand their customer data.

Optional but good to have features:

- Predictive analysis of customer behaviour. Provide insights into potential future sales requests of customers to enable marketing and sales teams to preemptively and proactively address their needs and intervene accordingly.
- Leveraging Generative AI. Use of Generative AI to prompt and generate responses based on customer data and Challenge Owner data, enhancing the interaction with customers and streamlining enquiry handling.
- Integrated Sales and Production Planning. Synchronize sales forecasts with production schedules to ensure alignment between sales targets and manufacturing capacity. This helps in minimizing production bottlenecks, optimizing resource utilization, and meeting customer demand efficiently.

OVERALL PERFORMANCE REQUIREMENTS

- User-friendly and intuitive. The solution should have a clean and simple interface that is intuitive and easy to navigate for all users.
- Scalability. Solution should be scalable with potential for future deployment in the Challenge Owner's global stations.
- Secure. The solution should be in compliance with the Challenge Owner's data governance framework. It should have security measures in place to protect user data and production information, and access should be strictly limited to registered users.

There are no restrictions on the geographical location of the problem solvers who may choose to apply to this challenge. However, the problem solvers who are keen to utilise A*STAR's funding for technology development must register/have registered a private limited company in Singapore.

METRICS OF SUCCESS

The solution should aim to have the following desired outcomes:

- Increase in productivity. Reduction of time needed to assess genuineness of customer enquiries, freeing up 20 to 30% of the sales team's time to acquire new customers.
- Increase in conversion rate. Overall increase in customer enquiries conversion rate from 35 to 45%.
- Increase in revenue. Overall increase in company revenue by 10%.

POSSIBLE USE CASES

1. Making data-driven decisions. Ben works in the sales department and is responsible for building customer relationships with new and existing customers. With the solution, Ben gains a comprehensive overview of all outstanding customer enquiries, prioritised based on their importance and urgency. Ben can access critical insights of the customer such as lifetime value, past transactions, any previous complaints, and outstanding payment amounts. With this detailed information, Ben can confidently prioritise qualified leads to curate the most effective follow-up approaches to secure the deal. The streamlined access to customer data frees up Ben's time that he can now dedicate to acquiring new leads.

2. Seamless customer enquiry follow-up. Helen oversees generating quotations for customer enquiries, including those with spare parts sales and servicing. Using the solution, she directly accesses inventory data, notices a three-month wait for the spare part, and sends an interim reply to the customer. The solution continues to the track this engagement and prompts the team to confirm the parts' arrival within three months and initiate a follow-up with the customer, ensuring timely and proactive service delivery.

WHAT'S IN IT FOR YOU

- SGD50,000 of prize money for each winner of this challenge (see Award Model)
- SGD150,000 A*STAR funding for technology development*
- 2-year ARTC Consortium Membership
- 1 shortlisted problem solver to be fast tracked to ESG's SLINGSHOT Top 50 and can look forward to a SGD20,000 Startup SG Grant
- Access to IMDA's PIXEL corporate innovation hub and complimentary innovation consultancies (e.g. Design Thinking, Digital Storytelling) for the prototype development and commercialisation
- Opportunity to commercialise solution for deployment and adoption by ARTC members

**To access the A*STAR funding for technology development problem solvers must register/have registered a private limited company in Singapore to utilise the funding.*

EVALUATION CRITERIA

The evaluation process shall take place over two stages. Proposals shall be evaluated based on the evaluation criteria set out for the first stage. Thereafter, shortlisted proposals shall be subjected to a second stage evaluation in the form of an interview / pitch, and the scoring shall be based on a re-defined assessment criteria for the selection of the challenge finalist(s).

Solution Fit (30%)	Relevance: To what extent does the proposed solution address the problem statement effectively?
Solution Readiness (30%)	Maturity: How ready is the proposed solution to go to the market? Scalability: Is there any evidence to suggest capacity to scale?
Solution Advantage (20%)	Quality of Innovation: Is the solution cost effective and truly innovative? Does it make use of new technologies in the market, and can it potentially generate new IP?
Company Profile (20%)	Business Traction: Does the product have user and revenue traction? Team Experience: Do the team members possess strong scientific/technical background?

AWARD MODEL

30% of the prize money will be awarded to each selected finalist at the start of the POC/prototype development process. The remaining 70% will be awarded after completion of the POC/prototype solution, based on milestones agreed between Challenge Owner(s) and the solver. Prize money will be inclusive of any applicable taxes and duties that any of the parties may incur.

Note that a finalist who is selected to undertake the prototype development process will be required to:

- Enter into an agreement with Challenge Owner(s) that will include more detailed conditions pertaining to the prototype development;
- Complete an application form with IMDA that will require more financial and other related documents for potential co-funding support.

DEADLINE

All submissions must be made by **13 Sep 2024, 1600 hours (SGT/GMT +8)**. Challenge Owner(s) and IMDA may extend the deadline of the submission at their discretion. Late submissions on the OIP, or submissions via GeBIZ, will not be considered.