

---

# s u s t A i n

## ESD Digitalization Proposal

GreenA Consultants

[enquiries@thesustain.co](mailto:enquiries@thesustain.co)

28.10.2024



## 1.0 Introduction

The green building industry in Singapore is undergoing rapid transformation. With increasing regulatory mandates and attractive government incentives, building owners are embracing sustainability. However, the journey towards compliance and green certification remains a highly manual and fragmented process, leading to delays, inefficiencies, and risks of non-compliance.

At the same time, the AI revolution is redefining how businesses operate by automating repetitive tasks and enhancing decision-making capabilities. Sustain stands at the intersection of these two trends—empowering Environmental Sustainable Design (ESD) consultants through technology-driven solutions.

We are a dynamic startup offering a fresh, innovative approach in an established market. Our mission is to simplify workflows, increase accuracy, and enhance productivity for sustainability consultants. This proposal presents how our platform will address GreenA's pain points while setting the foundation for seamless operations and long-term growth.

## 2.0 Understanding GreenA's Needs

GreenA seeks a digital platform that will streamline and enhance various aspects of their consulting workflow—from **client engagement and documentation for project tracking and certification maintenance**.

### 2.1 Objectives

- Automate repetitive tasks in the ESD consulting process.
- Improve communication and collaboration between consultants, clients, and contractors.
- Streamline documentation management and submission processes.
- Enable real-time project tracking with actionable insights.
- Facilitate long-term certification maintenance.
- Ensure scalability to accommodate future certifications and evolving green standards.
- Dealing with new regulations

## 3.0 Our Comprehensive Solution

Sustain proposes a scalable, modular platform that aligns with GreenA's goals, addressing your challenges through automation, AI-powered tools, and seamless project management capabilities. This modular design ensures that each tool operates independently while integrating smoothly with the broader system, allowing for future upgrades and expansion. Additionally, widget-based functionality will enhance usability by enabling users to personalize their dashboards with relevant, real-time information. The platform will offer the following components:

- Consolidated Project Repository
- Pre-Scoring Tool
- Automated Action List Generator
- Automated Tender Specifications Generator
- Project Progress Tracking
- AI Copilot
  - AI Chatbot
  - Credit Compliance Monitoring Tool (*beta*)

### 3.1 Project Repository

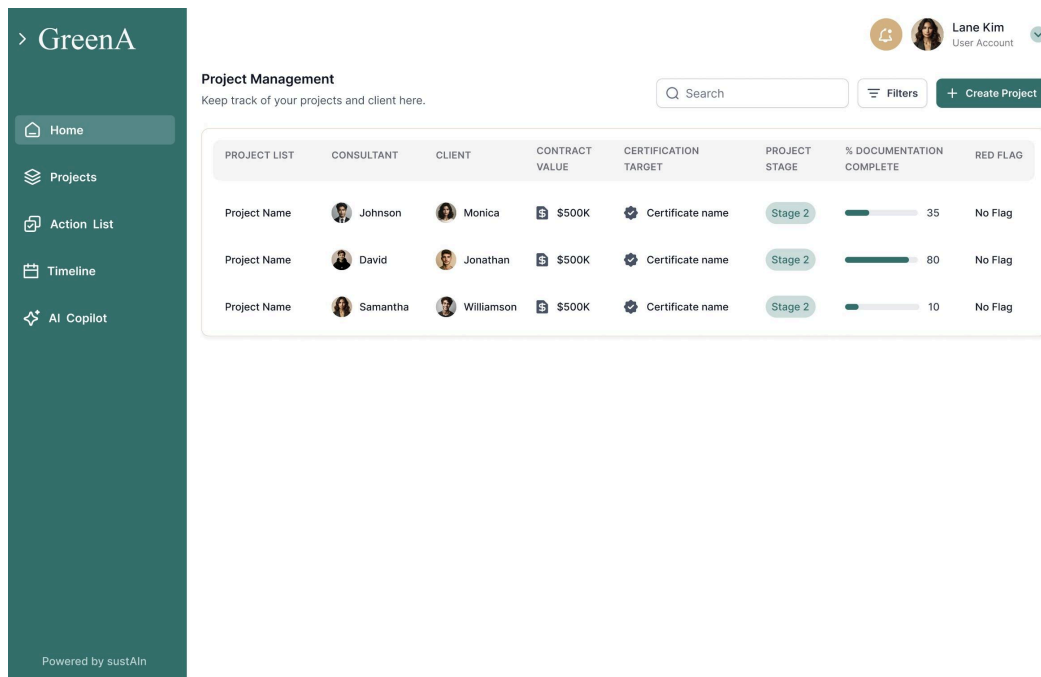


Figure 1: Homepage with **Project Repository**

A centralized repository that consolidates all project-related information for easy access and efficient management.

- **For Management:**

- Bird's-eye view of all projects with filtering by consultant, certification type, contract value, typology, project stage, and documentation status.
- Early detection of red-flag projects to mitigate risks.

- **For Consultants:**

- Personalized dashboards displaying all active projects, including client details, certification targets, timelines, and stage-specific status.

## 3.2 Pre-Scoring Tool

A **predictive** tool built on GreenA's historical project data to **automatically generate initial scorecards** for new projects. Input parameters such as project location, typology, certification type, and target score will generate a **pre-filled scorecard** to fast-track early assessments.

## 3.3 Automated Action List Generator

The Action List Generator tool shall help consultants produce automated action lists for various stages of the project (pre design / construction stage / verification stage) and for various parties

and disciplines (architect / M&E / C&S / contractor / client). It shall have the following functionalities:

- Upload project-specific Excel scorecards, and the tool will automatically extract the scored credits.
- Generates action lists based on the selected project stage to keep consultants focused on relevant tasks.
- Leverages the **main project timeline** (set by the consultant) to predict the **expected submission dates** of documents from each stakeholder.
- Ensures that deadlines are realistic and aligned with the project's overall schedule.
- Uses **predefined logic** to assign tasks to the appropriate **disciplines and parties** (e.g., architects, contractors) based on project needs.
- Creates **customized Excel outputs** for each party and discipline to facilitate seamless collaboration and document sharing.
- Provides a **timeline view** for consultants to plan **assessment dates** effectively, ensuring smooth progress across project milestones.
- Automatically generates weekly or monthly action lists to track tasks and deadlines on a day-to-day basis, improving accountability and visibility.

### 3.4 Automated Tender Specifications Generator

The Tender Specifications Generator simplifies the creation of sustainability-related tender documents by producing editable specifications based on the contract type (Design & Build / Build Only) and the finalized scorecard of the project. Besides the basic functionality, it shall also help in the following:

- Automatically divides the tender specifications into sections tailored to specific disciplines (e.g., architecture, M&E, C&S).
- AI-powered validation of tender specifications to ensure no sustainability requirements are overlooked in other consultants' documents.
- Provides a comprehensive dashboard where consultants can access detailed prerequisites, credits, and associated requirements. Allows consultants to view tender requirements for each credit directly from the dashboard while uploading documents, eliminating the need to reopen documents repeatedly.

### 3.5 Project Progress Tracking

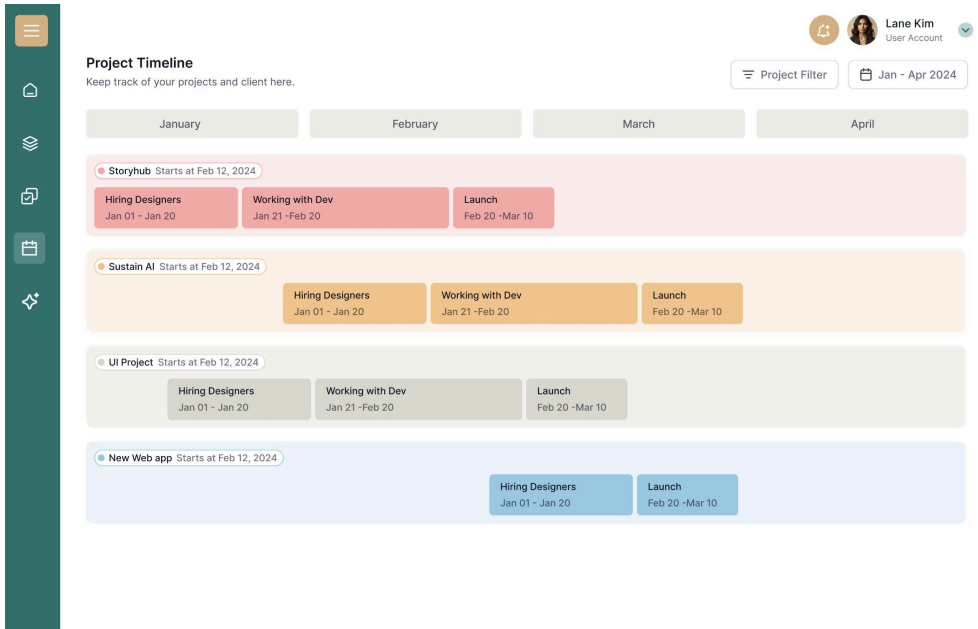


Figure 3: Overall Project Timeline

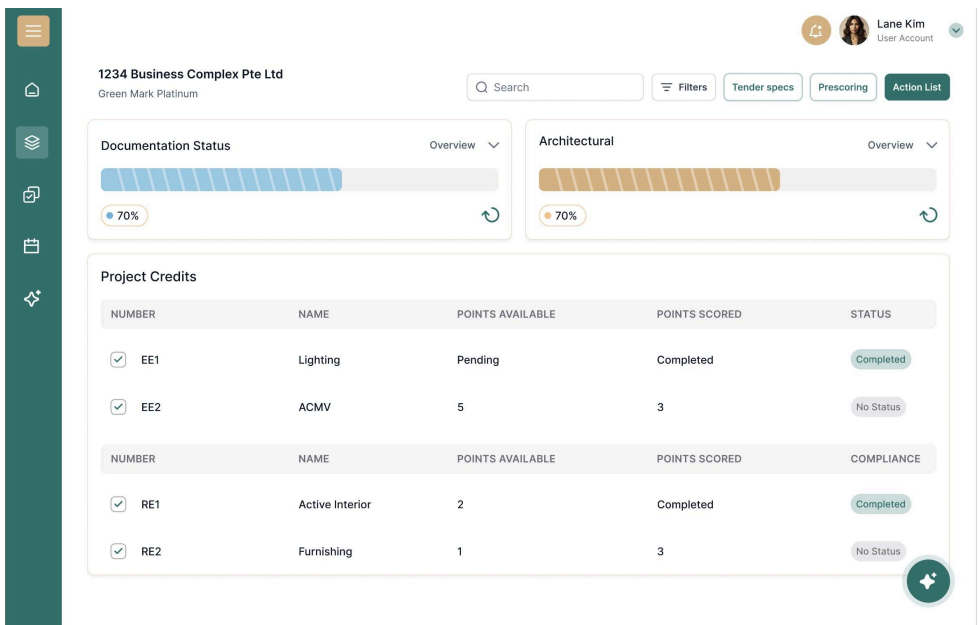


Figure 2: Credit Tracking View

This feature provides real-time visibility into overall project progress and specific credit tracking, as follows:

- **Overall Project Tracking:**
  - Ability to view timelines of multiple projects at once for the consultant to plan their workload accordingly.

- Comprehensive view of attempted credits, scores, and documentation progress.
- Alerts for upcoming deadlines and red-flag issues.
- Workload management with multi-project timelines for consultants.
- **Prerequisite / Credit Tracking:**
  - Detailed requirements, documentation list and templates for each credit.
  - Track credit-specific completion status and expected timelines.

## 3.6 AI Copilot

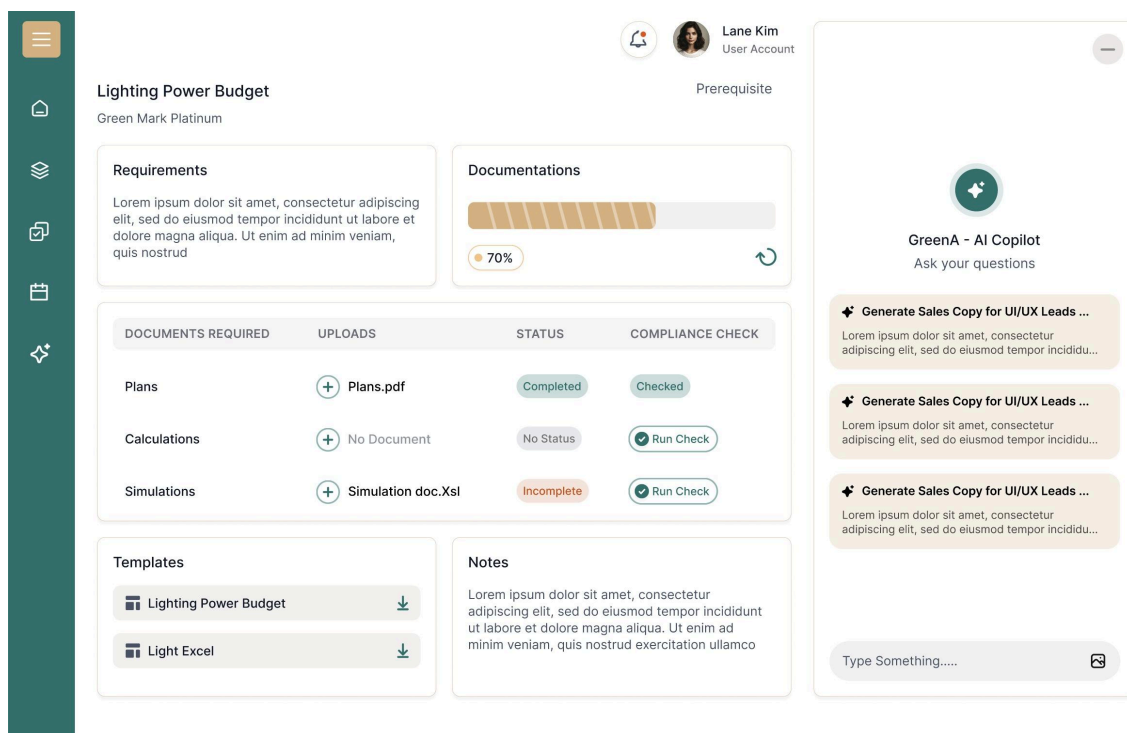


Figure 4: AI Copilot comprising of **AI Chatbot** and **Compliance Monitoring tool**

AI Copilot offers two distinct yet complementary tools—a **conversational AI Chatbot** and a **Compliance Monitoring Tool**—designed to assist professionals in the green building industry, including consultants and contractors. Together, these tools leverage AI-powered automation and intelligence to simplify workflows, ensure regulatory compliance, and enhance productivity. Though distinct in purpose, these tools form a comprehensive solution that tackles key industry challenges.

### 3.6.1 AI Chatbot:

An interactive assistant providing **immediate answers** to queries related to **green building practices, standards, and project-specific queries**. It utilizes advanced natural language

processing to understand and deliver relevant information in real time, streamlining decision-making processes.

**Capabilities:**

- Connects to a **comprehensive database** of certifications (e.g., Green Mark, LEED) to ensure responses align with **current regulations and best practices**.
- Provides **green certification guidelines** and best practices on demand.
- **Summarizes** lengthy documents (both scanned and digital) into actionable points.
- Ability to upload complex documents and extract tables, structured data, and key insights from project files.
- Private LLM APIs can be deployed for sensitive data management to meet privacy requirements.
- Guardrails to ensure the model doesn't hallucinate or deviate.

**When to Use:**

- To quickly **clarify certification requirements** or best practices during design stage and project meetings.
- For **on-the-spot answers** to certification-specific queries without digging through technical documents.
- To **reduce consultant workload** by providing easy access to stored knowledge and certification criteria.

### 3.6.2 Compliance Monitoring Tool *(beta)*:

The Compliance Monitoring Tool automates the process of verifying project documentation against industry standards and certification criteria. It leverages OCR (Optical Character Recognition) and AI-powered rule-based analysis to assess uploaded documents for compliance, minimizing errors and saving time.

**Capabilities:**

- Designed for ease of use with **minimal interaction** required.
- Regularly **updates** its database to reflect **current regulations** and standards.
- Compares **relevant content** against an AI-powered **database of prerequisites** and credits.
- Generates **detailed reports** highlighting compliant and non-compliant elements.
- Provides **actionable insights** for rectifying issues.

**When to Use:**



- During the **construction and document collection stage**, to verify that documentation complies with green building prerequisites and credits.
- To generate compliance reports for **internal audits** or **certification submissions**.
- To reduce manual compliance checks and focus more on higher-value consulting activities.