

**Business Case: Reducing Carbon Emissions in Last-Mile-Delivery Optimisation & Green Supply Chain Propositions**

### General Information

CK Shipping (S) Pte Ltd would like to engage the team to conduct fact-finding, collection, and analysis of data to propose & recommend optimal plans to deliver goods to both client-designated warehouses and customers' residences in sustainable "green" ways.

Our clientele includes B2B primarily while we are starting to build up our B2C capabilities and "green" approaches in our operation.

1. Products

For our B2B clients, it consists of big mechanical/electrical components for the aviation industry. For now, the delivery schedules are sporadic & reactive. As for our starting B2C business, it will include items like furniture & toiletries. We intend to optimise as many deliveries as possible in a single trip to minimise delivery trips, thus reducing carbon emissions.

2. Places

B2B deliveries span around 75 trips monthly for the aviation industry while other B2B businesses are random & a case-by-case basis. Given that our company has also embarked on B2C offerings soon through E-Commerce, we envisage that the deliveries could be well beyond 200 trips monthly.

3. Strategy Planning

We are undergoing digital transformation and optimising this business case would allow us to gain better insights into digital implementations to support our business.

4. Sustainable "green" ways refer to less waste such as "downtime", damages to pallets, and re-working, and higher returns on deployed assets like trucks, warehouse space, equipment, and others.

### Issues Encountered

CK Shipping (S) Pte Ltd has recognised that other than digital transformation, our company also must ensure that the business moves towards green supply chain management for better environmental performance.

1. Most processes such as processing, packing and labelling are still done manually. This must be done efficiently to reduce waste, materials and time.
2. No visibility of energy consumption on building services such as air conditioning, lighting and charging of electric forklift to identify areas of high consumption.
3. Currently, there is no system to manage asset (trucks and other vehicles) visibility. Delivery routes are planned manually without utilising Artificial Intelligence for optimisation. Orders to Last Miles Delivery requests are still processed manually with a man in the loop without optimization of delivery route.
4. Warehouse storage location is not optimized resulting in wastage of time and energy consumption in allocating cargos.

## Requirements

Provide insights and optimisations based on the analysed situation:

1. Work alongside our Digital Core Team to identify areas where wastage can be minimized and improve operation and business processes aligning to GSCM.
2. We are transiting from CCFL to LED to kick start first transformation, IOT solutions will be identified and incorporated for more efficient energy management and consumption. Auto control of temperature and workplace luminous level are first to be addressed.
3. We are transiting from petrol to electric vehicle for the entire fleet of last mile delivery vans. Utilizing the information collected from the electric vehicles, models of vehicle performance, router optimization and drivers' behaviours are to be created and analysed to improve efficiency.
4. Test out the last mile delivery system and analyse if system is efficient and reduces carbon emissions.
5. Work alongside our warehouse expertise to continuously improve and streamline warehouse operation.
6. Develop a strategy to further optimise our company's development in green supply chain management.
7. Identify "base line" for each initiative that could be used to establish short and long term targets and for measuring progress.

## Open House

The Open House will be held at:

### **CK Shipping (S) Pte Ltd**

23C Loyang Crescent, Block 401, Tops Ave, #2, 509019

03 May 2023, Wednesday	– 1330 hr to 1730 hr
04 May 2023, Thursday	– 1330 hr to 1730 hr
05 May 2023, Friday	– 1330 hr to 1730 hr
08 May 2023, Monday	– 1330 hr to 1730 hr

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***Team leader to send email to the contact person in advance regarding the number of persons going to the open house.***