

YOTUH™

Refrigeration Electrified

CIN U34100DL2022PTC402697
DIPP106622

Yotuh Energy

We are electrifying refrigeration for cold logistics vehicles.

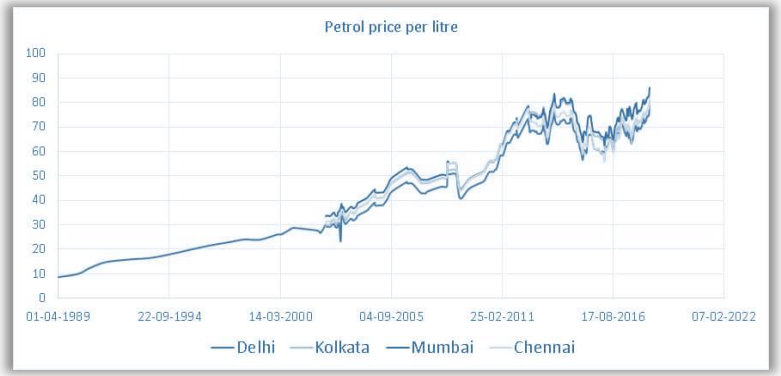
Incorporated on 02nd Aug. 2022 and Incubated at IIT Madras IC and DICV Joint Incubator

Perishables transported in refrigerated transportation	INR equivalent food lost per year	Wastage of post harvest food	Tonne CO_2 emissions annually
4%	**96,000 Cr**	**30-40%**	**100+ M**

Low cold chain penetration in India

We envision to make cold chain transport affordable to low economic value perishables items.

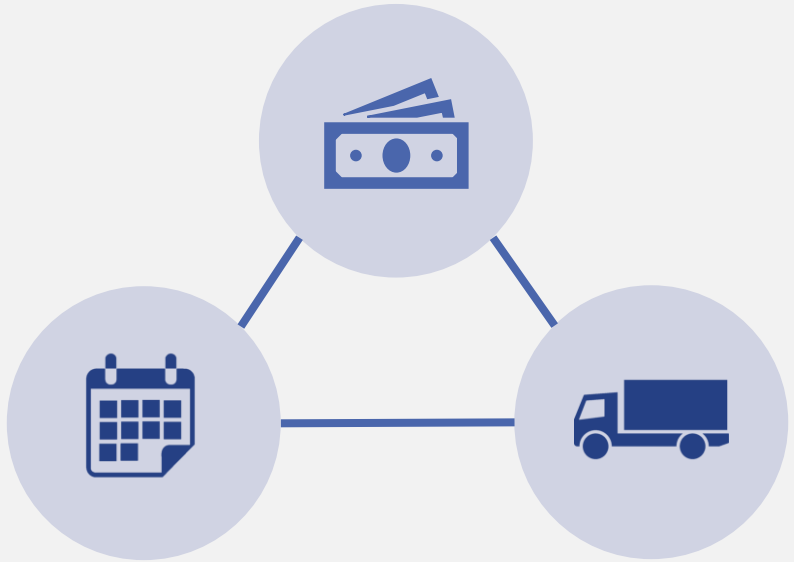
Major problems faced by logistic companies

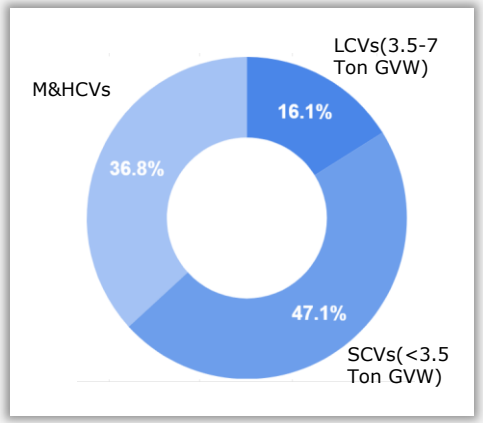


Fuel prices skyrocketing from last decade

Declining Profit margins

Up to 35% fuel used for refrigeration





Major shares of small vehicles in Logistics which are currently unable to serve cold chain

Reduced vehicle life by 2-3 years

Vehicle engine dependent AC units – High idling

Unable to refrigerate SCVs & EVs

Compatible only with high power vehicle

Our Solution – 100% Electric Refrigeration Unit



Refrigeration unit with
E-Compressor | Smart Controller



Li-ion battery pack | Onboarded charger



*Actual image of our first prototype installed on vehicle

80% Savings of refrigeration running cost

2x Profit margins for Fleet operator

Reduced TCO by 58%

Freedom to install in any vehicle

Tech Architecture

100% electric refrigeration system powered by an independent Li-ion battery

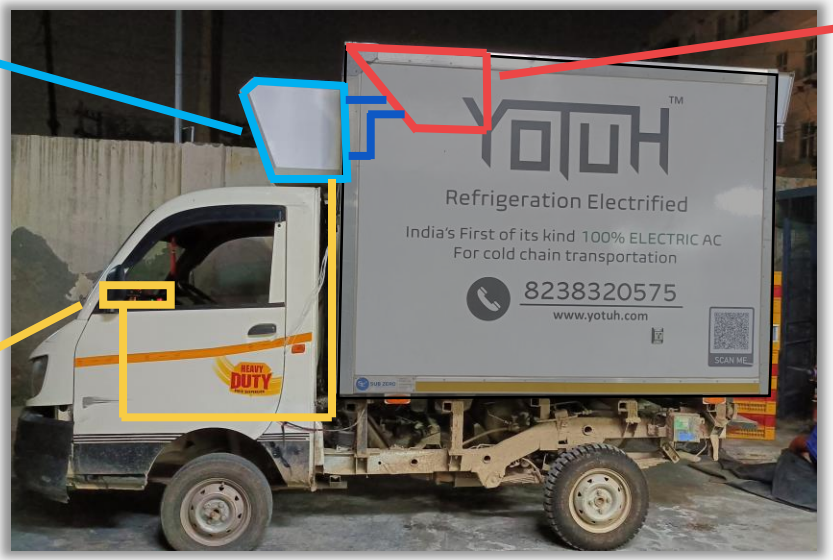
Condenser unit



(Battery inside this unit)

Control Box





Evaporator unit



Efficient & Fast

25% more efficient & 2X fast

Adaptive Cooling

From fastest pull down to most energy efficient mode

Standby option

Refrigeration running even in the case of Vehicle breakdown

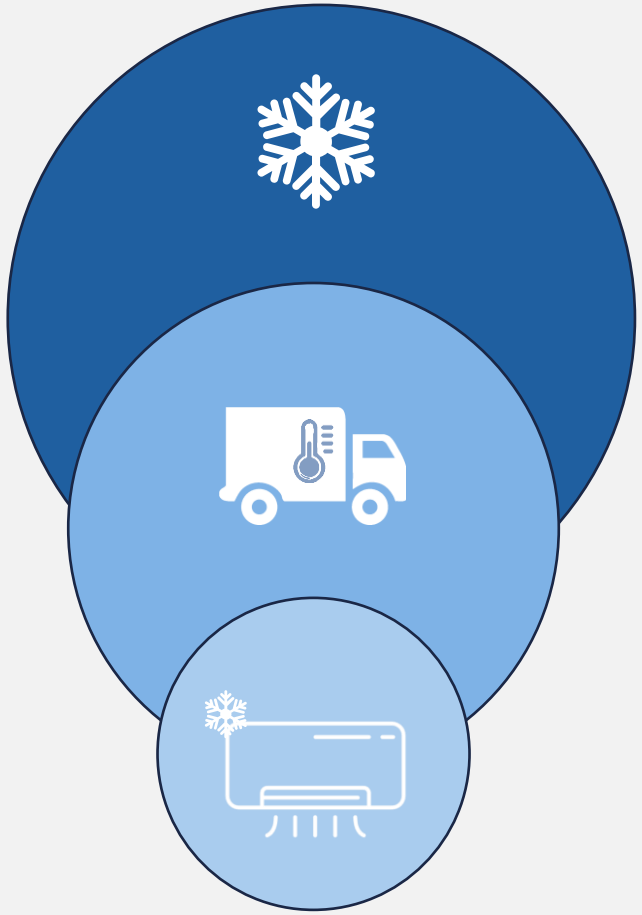
Smart system

Preventive maintenance, Temperature monitoring etc.

Competitive Landscape

	Carrier / THERMO KING	TESSOL PLUSS® Viable. Reliable. Sustainable	YOTUH™
Refrigeration type	Diesel/engine based active refrigeration	Phase Change Material based passive refrigeration	Electrically powered active refrigeration
Operating expense	**HIGHEST**	**IN BETWEEN**	**LOWEST**
Functional AC during Vehicle breakdown	✗	✓	✓
Flexibility to set any temperature	✓	✗	✓
Independent of Vehicle powertrain	✗	✓	✓
Adaptive cooling control	✗	✗	✓
Total Cost of Ownership	**HIGHEST**	**IN BETWEEN**	**LOWEST**

Market Opportunity



TAM Indian Cold Chain Market ~ 48,000 Cr (~6 Bn $)

CAGR 15 %

37 Million MT of storage capacity

400 Million MT of perishables are produced every year

SAM Cold Chain logistics Market ~ 21,000 Cr (~2.5 Bn $)

70-75,000 of Reefer vehicles presently – **10K** vehicle added each year

India **still needs 2x** such vehicle to ensure food security

SOM Cold Chain vehicle refrigeration Market ~ 12,000 Cr (~1.45 Bn $)

Refrigeration for LCV segment is potentially **~1800 Cr ($0.21 Bn)** market

Customer segmentation



Long Haul

Inter-city supply chain

- 500-2500 km, 3-8 days of operations
- 10 ft to 40 ft container size
- High energy demand (4L/hour)

Product reliability – Energy management – Cost effectiveness



Short Haul

Intra-city supply chain

- 100-200 km daily, 8-10 hours of operations
- 5ft – 8ft container size
- 300-600 kgs of goods to transport
- Chiller and Frozen requirements

Better predictability – Ideal first customer

High growth - Low hanging fruit

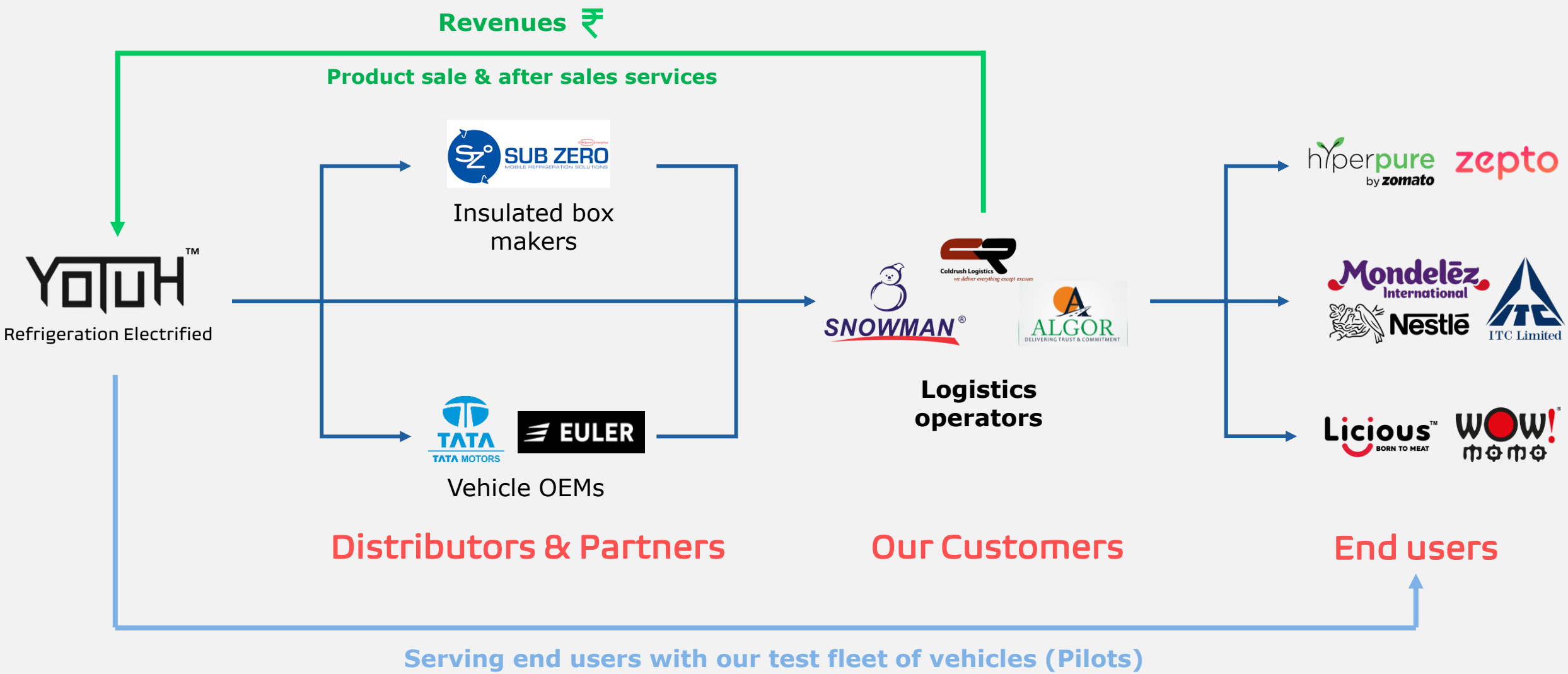


Import/Export

Global supply chain

- 40 ft to 80 ft container size
- Entire different set of challenges

Business Model



Progress & Roadmap



PoC testing & NIDHI EIR Grant

Apr 22



MVP On-road pilot testing

Mar 23

Selling first 10 units of

7ft (SCV) chiller product

Jan 24

75 products Sale targeted

Dec 24

Feb 22

Inception & Ideation



Dec 22

NEXUS Grant (US Embassy)



Jun 23

Frozen product pilots



Apr 24

7ft & 5ft (EV) Frozen units launch

Our Traction

Letter of Interests

- From the potential customers having combined fleet of more than 500 vehicles
- Well-connected among the cold chain industry
- Pilot testing commitments from partners











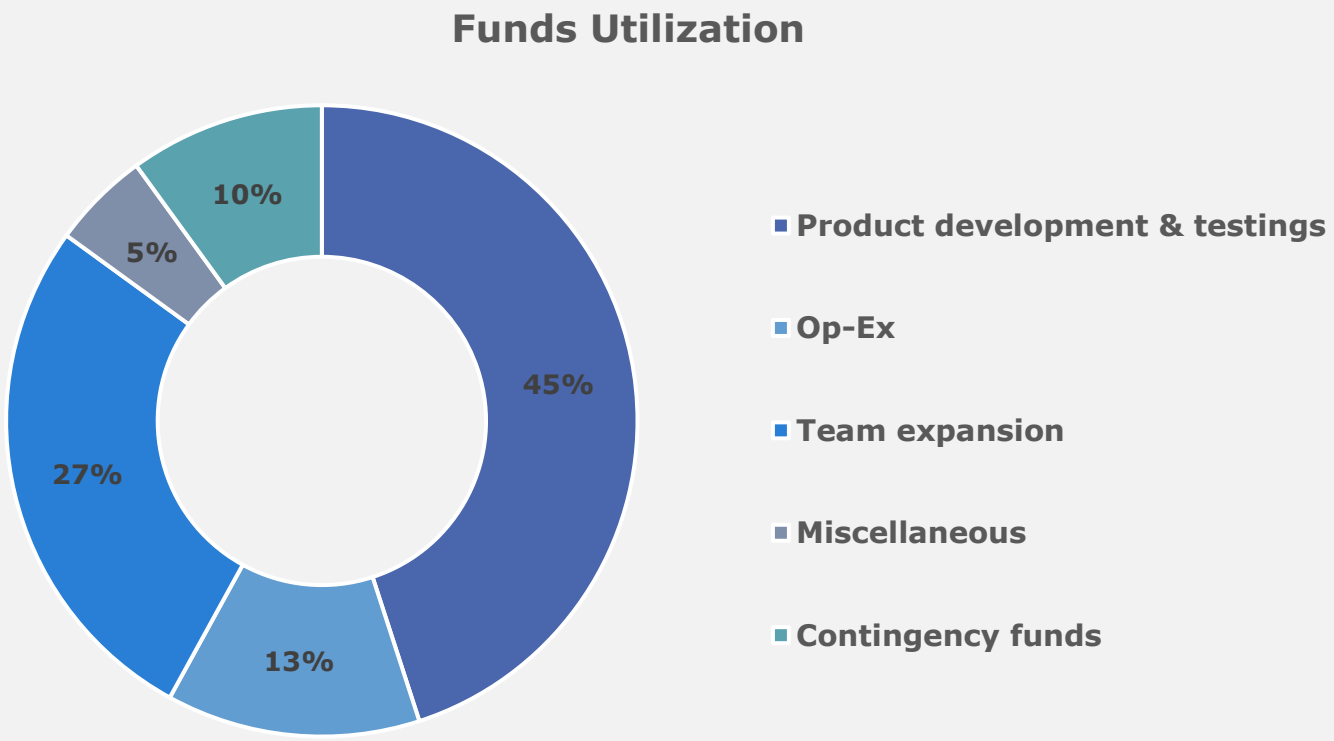
MVP1.0 - Chiller pilot vehicle

Pilot Dashboard (40 days)

7200+ Kms travelled	**250+** AC running hrs	**347** Kg fuel saved
260+ Successful deliveries	**35,000+** Money saved (₹)	**930+** Kg of CO2 saved

Our Ask

We are raising a pre-seed round of total **$150K (~1.25 Cr INR)** to get our technology in the market and to generate early traction and POs



The core team



Vivek Mahindrakar
Co-founder, Product Lead

Axlr8r Formula Racing (2017-22)
- Team Captain'21
- Chassis Engineer
- Technical Advancements

B.Tech'2021 **@ IIT Delhi**



Shaivee Malik
Co-founder, Operations Lead

Axlr8r Formula Racing (2017-21)
- Vice Captain'21
- E Powertrain Engineer
- Operation & Sponsorship

B.Tech'2021 **@ IIT Delhi**



Dharmik Bapodara
Co-founder, Business Lead

Axlr8r Formula Racing (2018-22)
- Team Captain'22
- Suspension Engineer
- Business plan & Budget lead

B.Tech'2022 **@ IIT Delhi**



Tanmay Gupta
Head - System Intelligence

Axlr8r Formula Racing (2019-23)
- Head of structures
- Composites & controls
- Design Lead

B.Tech'2023 **@ IIT Delhi**

We are supported by

Incubation support – IITMIC & DICV

Selected for Acumen: The energy for livelihood accelerator

Agri-tech grant from the ministry

NEXUS grant from the US Embassy

Won "The next startup dragon" challenge

IIT Startups Accelerator Cohot-10.1

NIDHI-EIR grant from the DST

Selected for UNDP Women Accelerator programme

Won 'The Rising Star' Award by WEE Foundation & DST

IIT Delhi alumni network

Mentorship & workspace support

Thank You!

YOTUH™

Refrigeration Electrified

Contact us:

Dharmik Bapodara – Co-founder
Mo: +91-823-832-0575
Email: founders@yotuh.com
Location: Uttam nagar, Delhi

Let's stay connected on:

Appendix

Letter Of Interest



Coldrush Logistics Pvt Ltd

B1-1001, Marathon Innova,
Off Ganpatrao Kadam Marg, Lower Parel, Mumbai - 13.
Tel.: 022-62676767
info@coldrushlogistics.com • http//:www.coldrushlogistics.com

Date: 09 June 2022

From:

Kartik Shah
CEO
Coldrush Logistics Pvt Ltd
Mumbai - 400013

To:

Vivek Mahindrakar
Co-founder
Yotuh Tech Pvt Ltd,
Delhi -110016

Subject: Letter of Interest towards electric powertrain to run refrigeration unit in Reefer trucks.

Dear Vivek,

We had few calls and meetings discussing the problems associated in cold chain logistics. Your initial trials, demonstrating cooling in 8 ft delivery van seems promising.

I am writing out this letter of interest to pilot the electric powertrain for powering refrigeration unit in 2-3 vehicles once product is ready.

This Letter of Interest does not create any binding obligation, expressed or implied.

Sincerely,

Kartik Shah
CEO
Coldrush Logistics Pvt Ltd
Mumbai - 400013

Cold Rush Logistics

Mumbai

Algor Logistics

Mumbai



ALGOR
DELIVERING TRUST & COMMITMENT

Date: 08 June 2022

To,
Vivek Mahindrakar
Co-founder
Yotuh Tech Pvt Ltd,
Delhi -110016

Subject: Letter of Interest towards electric powertrain to run refrigeration unit in Reefer trucks.

Dear Vivek,

We had few calls and meetings discussing the problems associated in cold chain logistics. Your initial trials, demonstrating cooling in 8 ft delivery van seems promising.

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For Algor Supply Chain Solutions Pvt Ltd

Vijay Ghotia

FOR ALGOR SUPPLY CHAIN SOLUTIONS PVT LTD

Director

ALGOR SUPPLY CHAIN SOLUTIONS PVT. LTD.
Bhumiraj Costarica, Office No. 806, Sector - 18, Palm Beach Road, Sanpada, Navi Mumbai - 400 705.
Tel. : +91-22-2781 1444 | Email : info@algor.in | Website : www.algor.in



AVN

Date-May 03, 2023

To: Ms. Shaivee Malik
Director/Cofounder
Yotuh Energy Pvt. Ltd.

Subject: Letter of Intent to purchase Electric refrigeration unit

Dear Shaivee

We take the opportunity to declare our intention to purchase your developed battery operated Electric AC units, Sheen. Our company, AVN Logistics is duly organized and exists under the laws of the Company Act, 2013. Our primary activities include transportation of perishable fresh & frozen food items.

The initial run, demonstrating an Electric AC unit developed by Yotuh Energy, running with a separate battery, seems promising for converting SCV and electric vehicles for cold chain. We have successfully completed a pilot test run of the vehicle with your developed unit for 25 days, covering 5200 km and completed 220 successful deliveries. We have sent the vehicle on a long route also, from Delhi to Lucknow and successfully delivered the products.

In line with the above stated, we, AVN Logistics, hereby confirm that we are willing and able to enter into a contract for purchase of your product, once they are ready. We will send our purchase orders as soon as we receive an update from your end.

This document serves as a Letter of Intent only, and is not intended to be, and shall not constitute in any way, a legal agreement, nor does it impose any obligation or duty on either party.

Regards

For AVN LOGISTICS

Nirender Narwar
Director, AVN Logistics

AVN Logistics

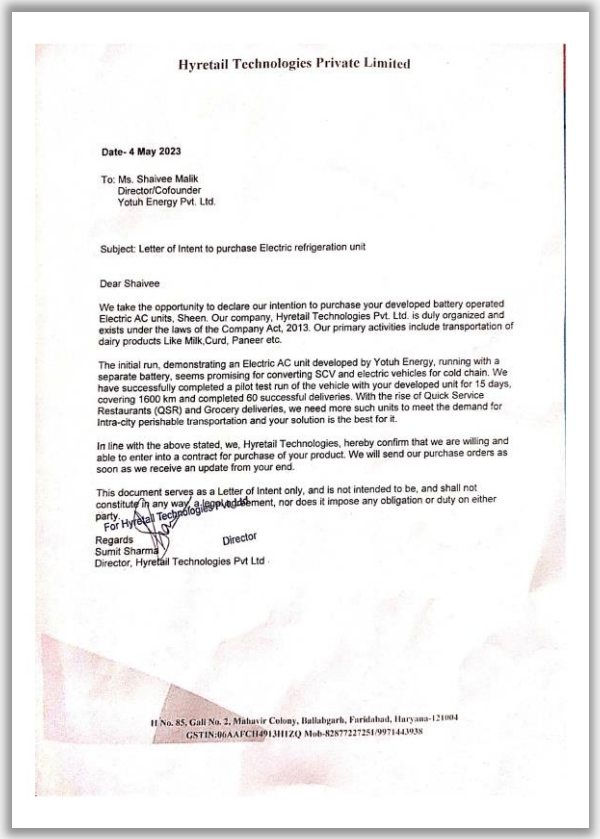
H.Off. : O-40, Basment, Lajpat Nagar II, New Delhi-110024
B. Off. : 206 Second Floor, Vardhman Mall, Sector 19, Faridabad 121002

AVN Logistics

Delhi

Hyretail Logistics

Delhi



Hyretail Technologies Private Limited

Date- 4 May 2023

To: Ms. Shaivee Malik
Director/Cofounder
Yotuh Energy Pvt. Ltd.

Subject: Letter of Intent to purchase Electric refrigeration unit

Dear Shaivee

We take the opportunity to declare our intention to purchase your developed battery operated Electric AC units, Sheen. Our company, Hyretail Technologies Pvt. Ltd. is duly organized and exists under the laws of the Company Act, 2013. Our primary activities include transportation of dairy products Like Milk,Curd, Paneer etc.

The initial run, demonstrating an Electric AC unit developed by Yotuh Energy, running with a separate battery, seems promising for converting SCV and electric vehicles for cold chain. We have successfully completed a pilot test run of the vehicle with your developed unit for 15 days, covering 1600 km and completed 60 successful deliveries. With the rise of Quick Service Restaurants (QSR) and Grocery deliveries, we need more such units to meet the demand for Intra-city perishable transportation and your solution is the best for it.

In line with the above stated, we, Hyretail Technologies, hereby confirm that we are willing and able to enter into a contract for purchase of your product. We will send our purchase orders as soon as we receive an update from your end.

This document serves as a Letter of Intent only, and is not intended to be, and shall not constitute in any way, a legal agreement, nor does it impose any obligation or duty on either party.

For Hyretail Technologies Pvt. Ltd.

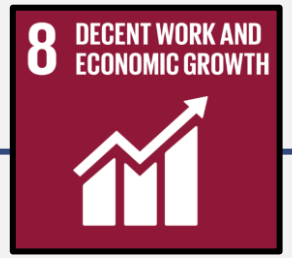
Regards
Sumit Sharma
Director, Hyretail Technologies Pvt Ltd

Director

H.No. 85, Gali No. 2, Mahavir Colony, Ballabgarh, Faridabad, Haryana-121004
GSTIN:06AAFCH4913H1ZQ Mob-8287227251/9971443938

Our Impacts

Sustainable Development Goals



2x Increased profit margin for fleet operators

8.1.1
Annual Growth rate of real GDP per capita



Electric Refer Made in India for first time. 300,000 rupees per unit added

9.2.1
Manufacturing value added as a proportion of GDP and per capita

Annually 3500 kg of CO2 avoided per system

9.4.1
CO2 emission per unit of value added



Prevent food loss due to limited mini refrigerated trucks and ineffective transportation refrigeration methods

12.3.1
Food loss index

Our Impact on Customer's Business

Our Impact on Fleet operator's business				
	Existing option	Vehicles enabled by Yotuh Systems		
Reefer vehicle type	**Bolero+Carrier Ac**	**Bolero+Yotuh Sheen**	**Tata Ace (Diesel) + Yotuh**	**Euler EV 3W + Yotuh**
Load carrying capacity (kg)	615.00	590	290.00	320.00
Volumetric capacity (m^3)	4.49	4.49	3.87	2.30
Total Cap-ex (Vehicle+container+refrigerati	11,70,000.00	1270000	10,70,000.00	8,50,000.00
Op-ex: (ANNUAL)				
Vehicle + Reefer running expenses (Rs./an	4,45,072.00	360847.4074	2,95,744.00	98,728.00
Service & Maintenance	1,10,032.00	71760	71,760.00	62,192.00
Total Op-ex annual:	**5,55,104.00**	**4,43,920.00**	**3,67,504.00**	**1,60,920.00**
Monthly Op-ex:	46,258.67	36,993.33	30,625.33	13,410.00
from Fleet operator to end user				
Monthly Charges (Rs/km)	24.00	24	21.00	17.00
Revenues (Per annum)	11,48,160.00	1148160	10,04,640.00	8,13,280.00
Breakeven of a vehicle (in months)	**24.00**	**22.00**	**21.00**	**16.00**
Total cost of ownership of Refrigeration	10,06,968.00	533200	5,33,200.00	4,38,080.00
TCO (Refrigeration) reduced in %	**Ref**	**47.05**	**47.05**	**56.50**
Total cost of ownership of the vehicle (f	39,45,520.00	34,89,600.00	29,07,520.00	16,54,600.00
TCO (Reefer vehicle) reduced in %	**Ref**	**11.56**	**26.31**	**58.06**
Returns at the end of 5 years (%)	**45.00**	**64.00**	**73.00**	**146.00**

Business Model Canvas: Market Side

<table>
<tr><th>Value Propositions</th><th>Customer Relationships</th><th>Customer Segments</th></tr>
<tr><td rowspan="4">• Cost savings
• Asset utilization
• Time saving
• Reduced risk
• Increased transparency</td><td>(GTM + Sales Strategy)
- Direct selling (Outbound) + Channel led (Via distributors)</td><td rowspan="3">- Big cold logistics players (more than 50 vehicles)
- Small cold logistics players
- FMCGs/Small retailers having own fleet of vehicles
- (Perishable) Supply chain management companies</td></tr>
<tr><th>Channels</th></tr>
<tr><td>- Insulated box manufacturers as our distributors
- Vehicle OEMs as our partners</td></tr>
<tr><th colspan="2">Revenue Streams / Model</th></tr>
<tr><td colspan="2">- Product selling + After sales services + Web-app subscription cost</td></tr>
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