OLA: CARDIFF E-RICKSHAW PROJECT


OLA

Electric Rickshaws: We are exploring the option of owning and running a fleet of Rickshaws as a separate category for customers to choose in our app

Why Electric Rickshaws?

- **Safety -** The Zbees are designed in the Netherlands with **safety as their core value**. They have seatbelts and have undergone extensive road safety testing.
- **Sustainable -** Zbee is extremely energy efficient! It creates no noise or carbon emissions.
- **Economical -** Zbees run entirely on battery power with low maintenance overheads. So not it's not only clean, but easy to manage too!
- **Practical -** Small, compact and stylish, and can fit three people and a suitcase!
- **Efficient -** Zbee is an agile platform for city centres suffering from congestion.

Cardiff Benefits

- Cardiff benefits from being the **first city in the UK** to host a completely zero emission shuttle run service!
- The Zbees are a fantastic innovation that fully supports Cardiff's 'Keeping Cardiff Moving' Initiative!
- Cardiff will be one step closer to achieving their 100% zero emission transport vehicles by 2022.
- Innovative and fun, the Zbees will undoubtedly create a buzz around Cardiff and the bay area!
- The Zbee scheme will create jobs for the community.
- Supporting the Zbee scheme shows the council's dedication to innovation

User Benefits

- Easy to use whether you're 16 or over 60!
- A unique chance to ride in a zero emission pod - **novel and fun.**
- Quick and fun travel from the city centre to Cardiff Bay.
- A chance to see the beautiful city of Cardiff unimpeded by noise and pollution.
- The most efficient way to travel from A to B emission free.

Customer Behaviour Hypotheses

Headline	Hypothesis	How will we use the pilot to test this
Customer behaviour	• Early adopters: Students and tourists,= surge in trips due to virality (word of mouth). • Second Stage: Will attract a more regular user base in market segments such as young professionals, local residents and the over 60s. • Early adopter bookings decline, a more regular user base will be established.	• Split users into different demographic groups (students, tourists, young professionals, local residents, and the over 60s), and the market segmentation will be analysed over time.
Target customers	• Students: Early adopters. Price sensitive. • Tourists: Early adopters. Recommendation drive. • Young professionals mid/late adopters. Ease of use/coverage. • Local residents: late adopters. Ease of use/community acceptance. • Over 60s: Late adopters. Ease of use/community acceptance/subsidised.	• Simultaneously advertise to multiple market sectors and analyse the feedback. For example, volume of revenue in each sector, rides per day, reason for trip. • Price point analysis: adjust pricing structure to monitor revenue.
Drive customer acquisition to cross-sell	• On the ground customer awareness will increase substantially due to hyper-visible e-rickshaw branding • Brand awareness increased, and therefore driving revenue into other Ola categories	• Analyse the Ola cab rides per day in Cardiff during pilot and compare to volume of rides in the e-rickshaw category. • E-rickshaw users receive a code 50% off first cab ride, which will be specifically targeted at e-rickshaw customers so that we can clearly track customer cross-sell.
Crowding other rides?	• The e-rickshaws fit into the micromobility sector (0-5 miles). • This will not crowd the core Ola offering which focuses on the 5-10 mile sector.	• Monitor Ola cab stats in Cardiff and cross reference with e-rickshaw stats in Cardiff, including: • Frequency of usage • Travel purpose • Travel length • Travel time
Will we divert customers away from Ola Cabs?	• The e-rickshaws will focus on rides between 0-5 miles • The taxi market focuses on rides between 5-10 miles.	• Monitor stats closely in Cardiff during e-rickshaw pilot: • Transport preference before and after the using e-rickshaws • Monitor the number of e-rickshaw rides per day vs Ola cabs
Capturing new use cases	• The e-rickshaws will capture an audience who want last mile/first mile transport, but aren't able/willing to cycle or use a scooter due to inability, laziness or inclement weather.	• Monitor stats in Cardiff during e-rickshaw pilot: • Transport preference before the using e-rickshaws • Travel purpose • Customer satisfaction - rating pop up


Pod-
taxi
BUSS

Why Zbees?

Sustainable.

Zbee is extremely energy efficient. It creates no noise or local pollution, and it works towards reducing global carbon emissions.

Fun to drive.

Driving the Zbee is fun, effortless and safe!

Economical.

The battery powering the hi-tech motor charges quickly and needs little service.

Practical.

Small and compact, yet it fits three people and a trunk. Zbee is an agile companion in urban areas with heavy traffic.

ZBEES: SAFETY

Zbee Tuk Tuks are developed with safety as a core value

Zbee: Safety Measures

- **Are there seat belts? If not can they be fitted with seat belts?**

Seat belts on all seats.
https://youtu.be/KJghXFe7vYs<—Crash test video done at https://www.autoliv.com

- **What weatherproofing do the vehicles have?**

The vehicles are fully weatherproof. Please find attached video and pictures.
https://youtu.be/L1d_lLfZlY4 <---- Video where you can see it.

- **Age of the vehicles**

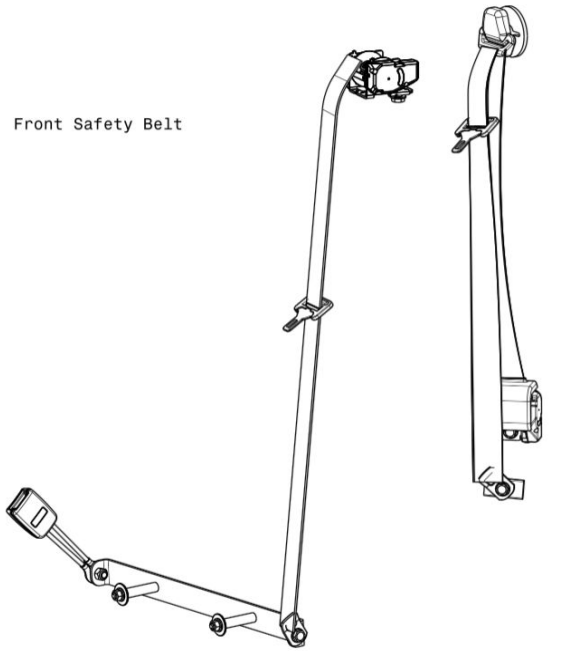
The vehicles will be brand new from the manufacturer

- **Additional health and safety declarations**

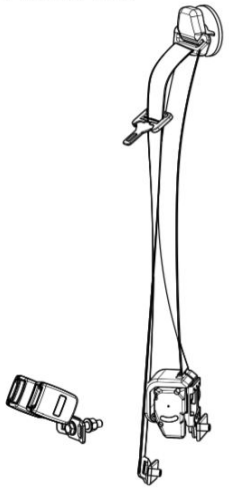
Health and safety declaration here

Supplementary health and safety declaration

Front Safety Belt



Rear Safety Belt



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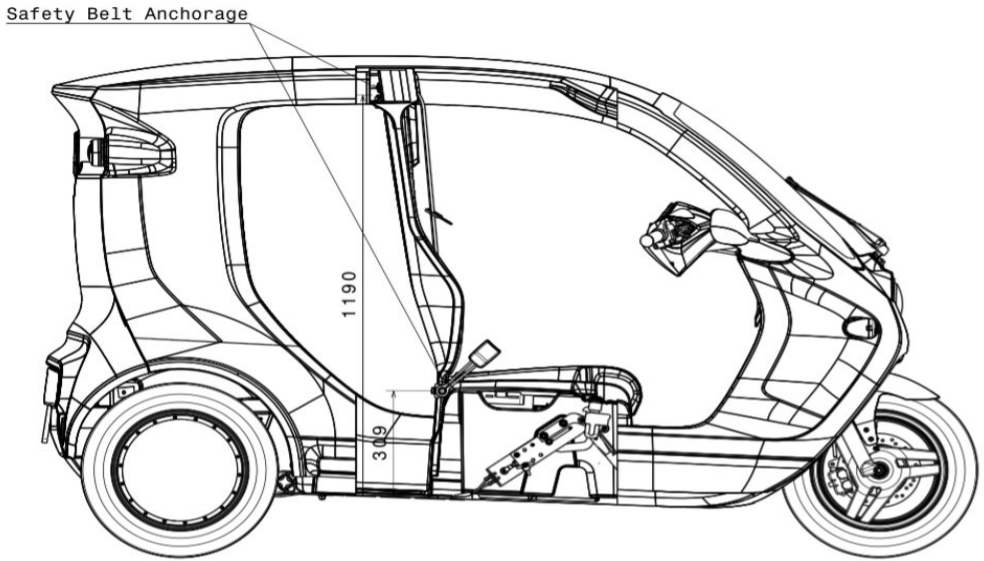
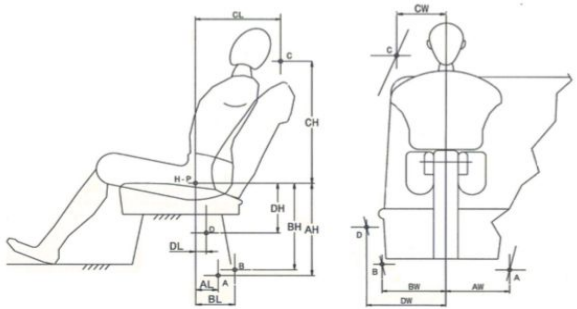
CLEAN MOTION AB

DRAWN BY: MagnusN	DATE: 08/02/2013	DRAWING TITLE: SAFETY BELTS		
APPROVED BY: PeterH	DATE: 05/03/2013	SIZE: A3	DRAWING NUMBER: CM_ZBee_3_021	REV: A01
	DATE: XXX	SCALE: 1:5	WEIGHT(kg):	SHEET 21/21





Point [mm]		W = y	L = x	H = z
Inner Anchorage Right	A	264	160	-119
Outer Anchorage Left	B	-264	160	-119
Shoulder Anchorage	C	-313	328	745
Retractor Anchorage	D	-313	328	745

H-point Front	[mm]
x	988
y	0
z	619

CLEAN MOTION AB

DRAWING TITLE: FRONT SAFETY BELT ANCHORAGE

DRAWN BY	DATE
MagnusN	22/04/2013
APPROVED BY	DATE
PeterH	23/04/2013
	DATE
	XXX

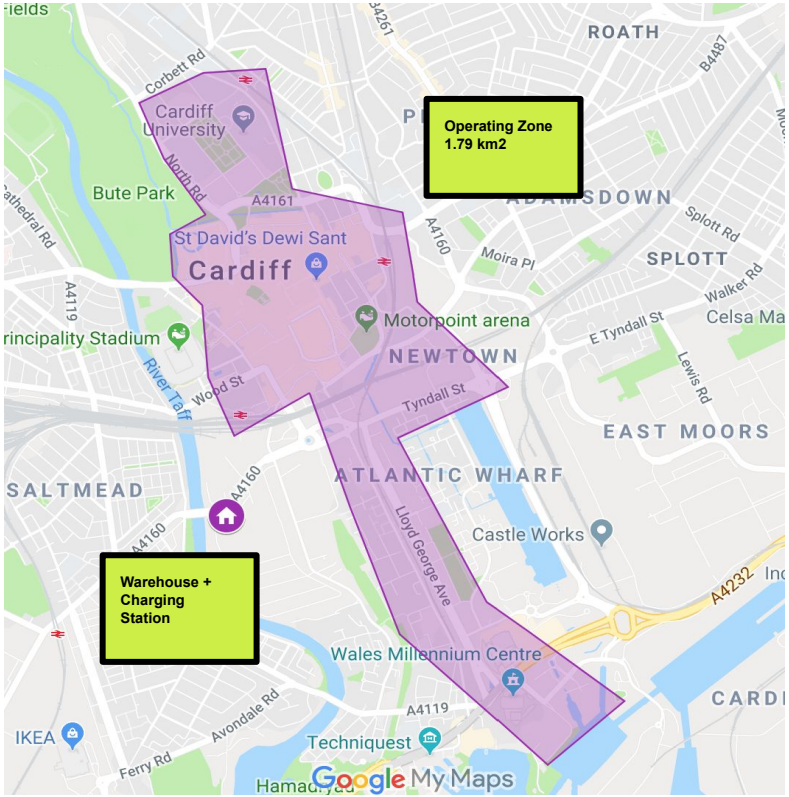
SIZE	DRAWING NUMBER	REV
A3	CM_ZBee_3_004	A01

SCALE 1:10	WEIGHT(kg)		SHEET 4/21

OPERATIONS

Pilot City: Cardiff

City	Cardiff	**Why Cardiff?** - Excellent relationship with council - Small but densely populated city - Drive for zero emissions city by 2026 - Population of 360,000 - 20% population students - 18 million tourists per year
Fleet Size	20	Optimum size of fleet for operational testing; Clean Motion able to deliver 20 by June/July
Operating hours	80	Hours per vehicle per week
Drivers	30	Hired on contract
Warehouse	£1000 pcm	Warehouse space just a 5 minute drive from operating zone. £2k pcm rent.
Charging station	£500 pcm	For the pilot, we can use the warehouse space to charge the vehicles
Operating zone	City centre	- Tight geofence in city centre: Top to bottom 13 minutes (3.2 miles)



RIDE METRICS

Description		
Cost per trip	5	Cheaper than current market for trips less than 5 miles
Avg. time per trip (mins)	12	Based on a tight central geofence around 3.2 miles max distance
Dry run	10%	
Charge time	20%	The zbees take 1 hour to charge with fast chargers
Effective utilisation	70%	We predict that 30% of the fleet will be in repair/maintenance at any one time.
Trips per hour per rickshaw	3.5	Calculated with an average trip of 2 miles.
Hours per week per driver	50	
Avg. distance per trip (miles)	2	
Avg. range on one charge (miles)	**30**	The zbees run maximum of 55k on a full charge
Calculated charge down time (%)	23.30 %	

OPERATING SCHEDULE (No. of E-Tuks in Operation)

TOD	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
0:00	0	0	0	20	20	20	0
1:00	0	0	0	15	15	15	0
2:00	0	0	0	10	10	10	0
3:00	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0
6:00	0	0	0	5	5	5	0
7:00	6	6	6	10	10	10	0
8:00	10	10	10	15	15	15	0
9:00	15	15	15	20	20	20	0
10:00	15	15	15	15	15	15	5
11:00	15	15	15	15	15	15	10
12:00	15	15	15	15	15	15	10
13:00	15	15	15	15	15	15	15
14:00	20	20	20	20	20	20	15
15:00	15	15	15	15	15	15	10
16:00	15	15	15	15	15	15	10
17:00	15	15	15	15	15	15	5
18:00	15	15	15	15	15	15	0
19:00	15	15	15	20	20	20	0
20:00	10	10	10	15	15	15	0
21:00	5	5	5	15	15	15	0
22:00	0	0	0	15	15	15	0
23:00	0	0	0	15	15	15	0

Any questions?

Project Lead
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