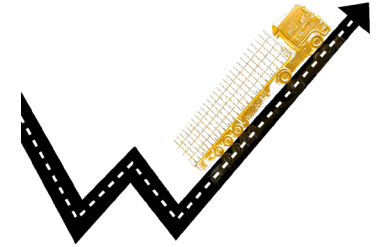
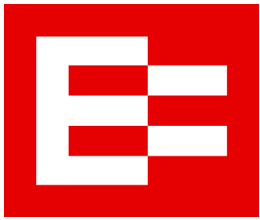




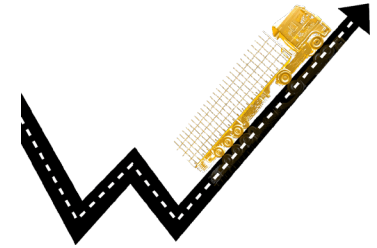
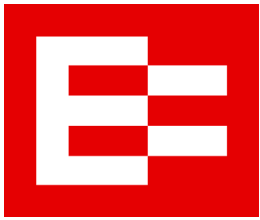
IMPACT OF EROAD TECHNOLOGY ON HV INDUSTRY





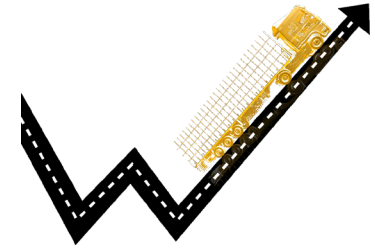
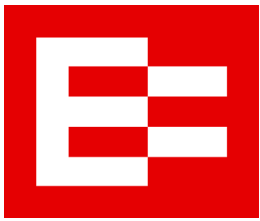
Overview

- Eruc was created to modernise RUC system.
- Designed and manufactured in New Zealand.
- Eruc will increase industry productivity and economic growth.
- Technology can facilitate wider adoption of HPVs.
- Tool to implement affordable and innovative RUC reform.

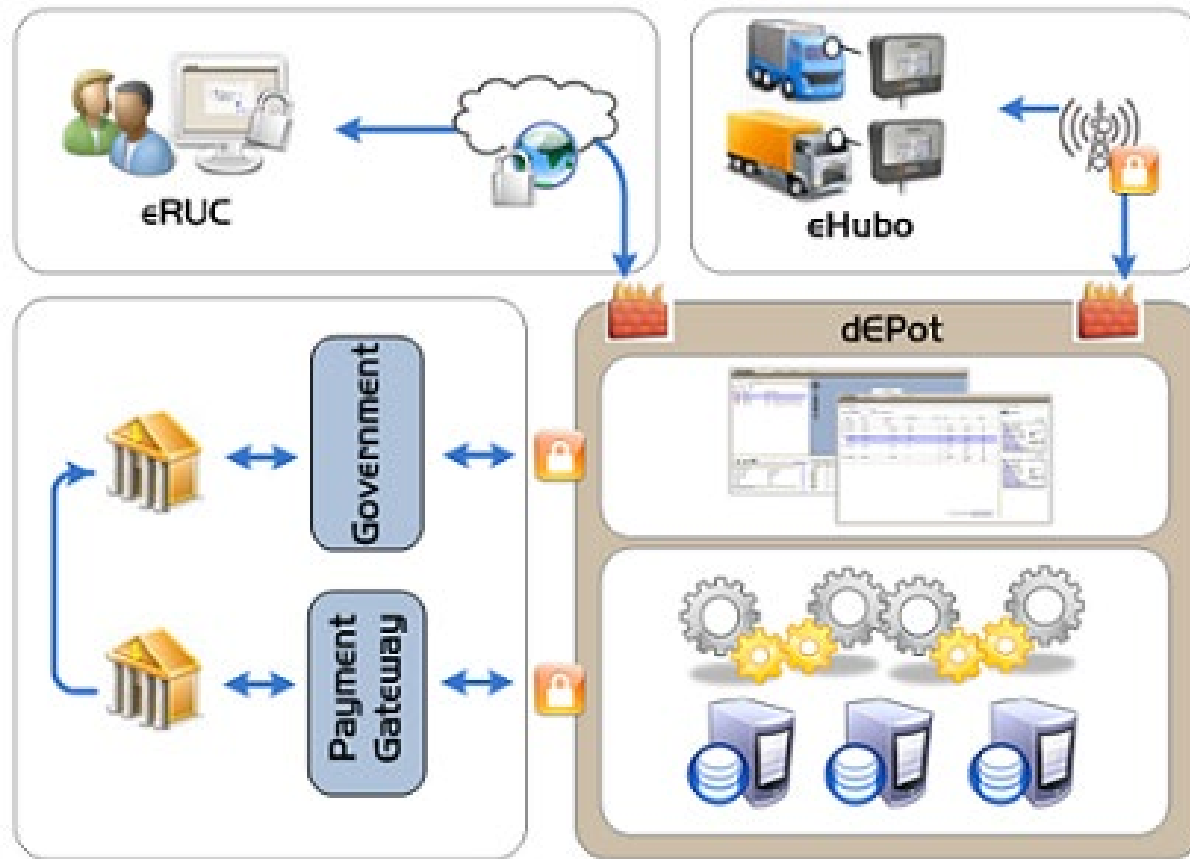


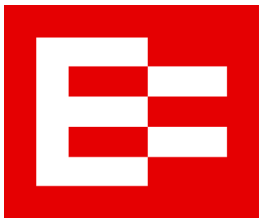
Company Profile

- World's first fully wireless E-road provider.
- *Most Innovative Product and Service* winner at 2010 Hi-Tech Awards.
- International recognition as the currently leading electronic tolling platform in the world.

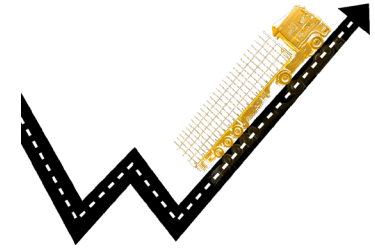


EROAD Eruc Solution





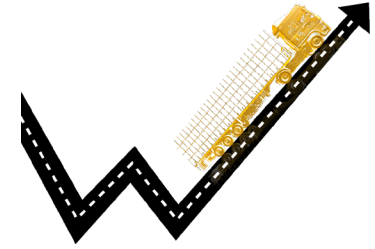
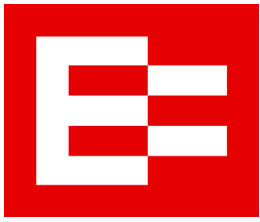
Ehubo



EROAD



WINNER OF THE 2010
NZ HI-TECH AWARDS

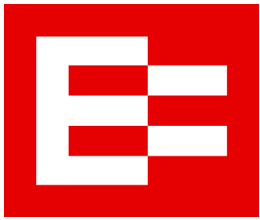


Tubo



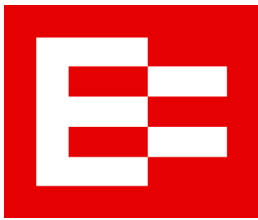
EROAD





International Move to Road Pricing

- Global movement to Eruc for HVs and road pricing, as fuel excise taxes being undermined by:
 - increasing vehicle fuel economy
 - poor ability to link use with road damage, congestion and environmental costs
 - blended and alternative fuels
 - policy targets to reduce dependence on imported fossil fuels
 - policy targets to promote sustainable transport agenda
 - increased availability and rapid adoption of electric and hybrid cars and HVs
 - revenue volatility from rapidly fluctuating oil prices
 - policy targets to shift more freight by rail and sea
 - increased revenue demands.



The Swedish situation

- New government decision (suggestion from opposition)
- Kilometre tax in operation May 2012 (worst case)



Rödgröna vill återinföra kilometerskatt

Publicerat 22 2009 20:00 - 30:00
Uppdaterat 22 apr 2009 - 20:48

Rapport

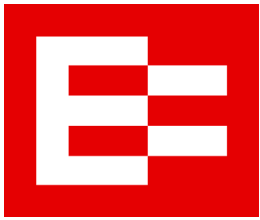
Oppositionen vill återinföra kilometerskatten för tunga fordon. Skatteenheten vill dock inte införa skatten i alla delar av landet. Rikspolisstyrelsen vill också införa skatten i alla delar av landet.

Om du är intresserad av denna artikel kan du också vara intresserad av:

Variabel kilometerskatt hos rödgröna

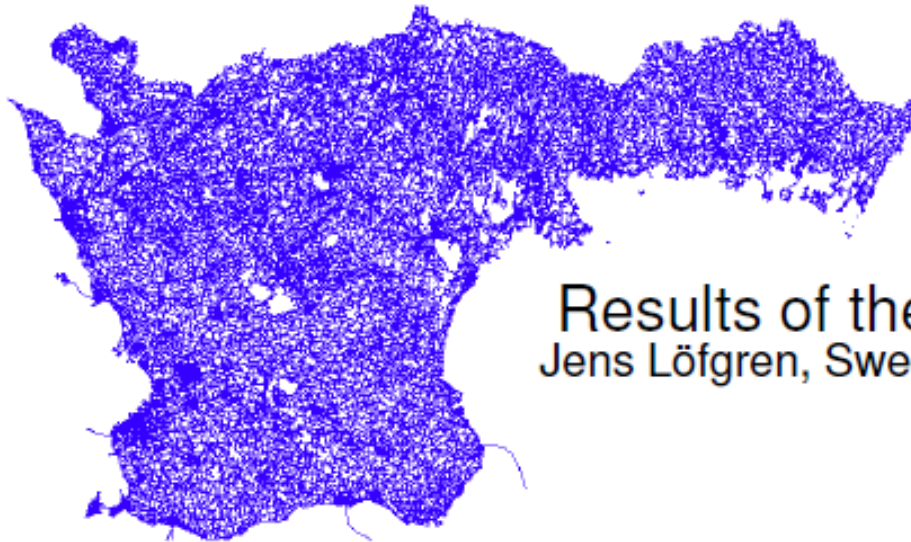
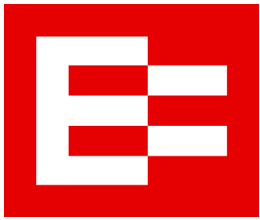
En kilometerskatt som varierar efter väglängd skulle kunna vara en lösning. Det är en idé som diskuteras i riksdagen. Skatteenheten vill dock inte införa skatten i alla delar av landet.





Sweden ARENA Trials

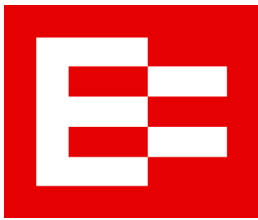
- ARENA project aiming to develop an electronic km based RUC system for HGVs to replace fuel and registration taxes.
- ARENA participants included most major European tolling providers: FELA, Logica DKV, AGES, Thales, Toll Collect, Skymeter, Eurotoll (SANEF), Autostrade Tech, GMV, Octo Telematics, and Union Tank.
- ARENA field trials and test track assessed potential suppliers for reliability and accuracy under range of challenging real world scenarios.



Results of the Trials

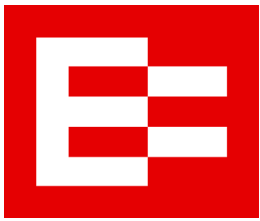
Jens Löfgren, Sweco ITS



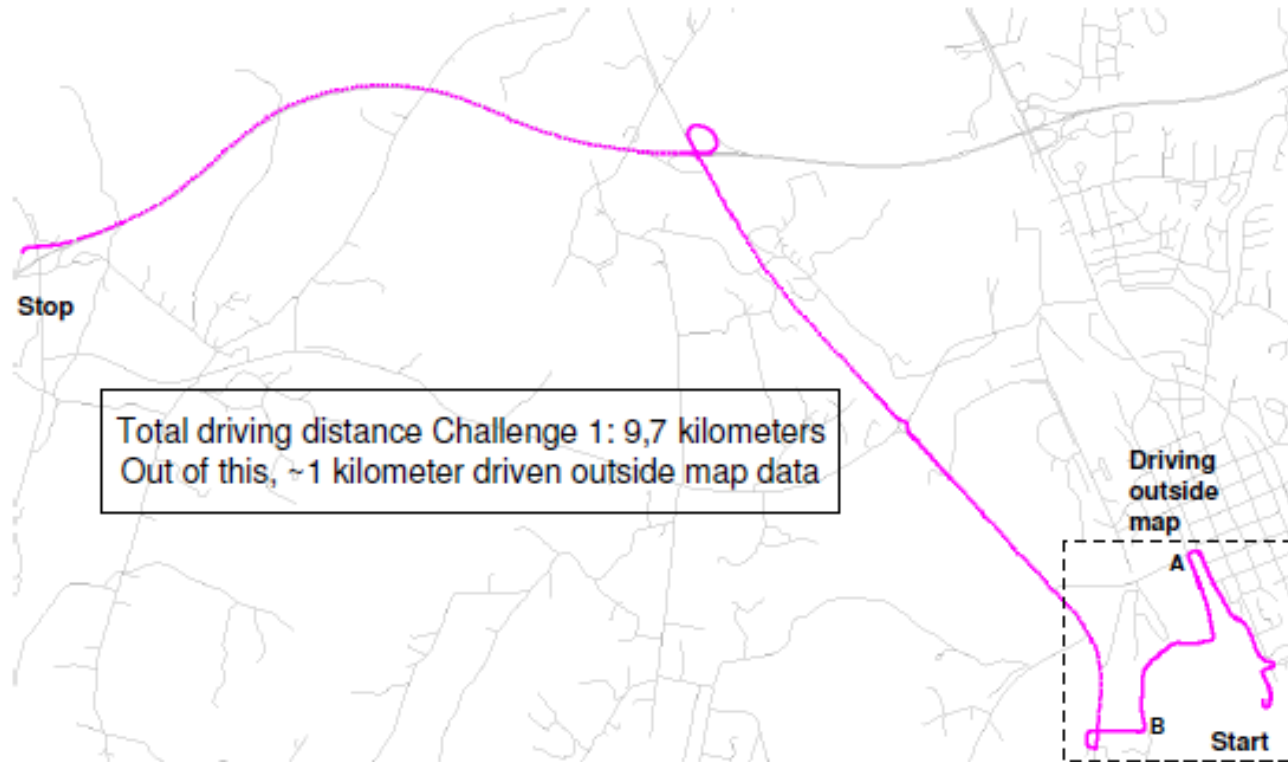


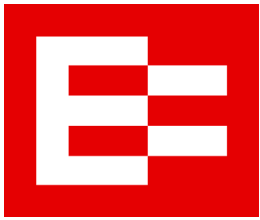
Test Track Area



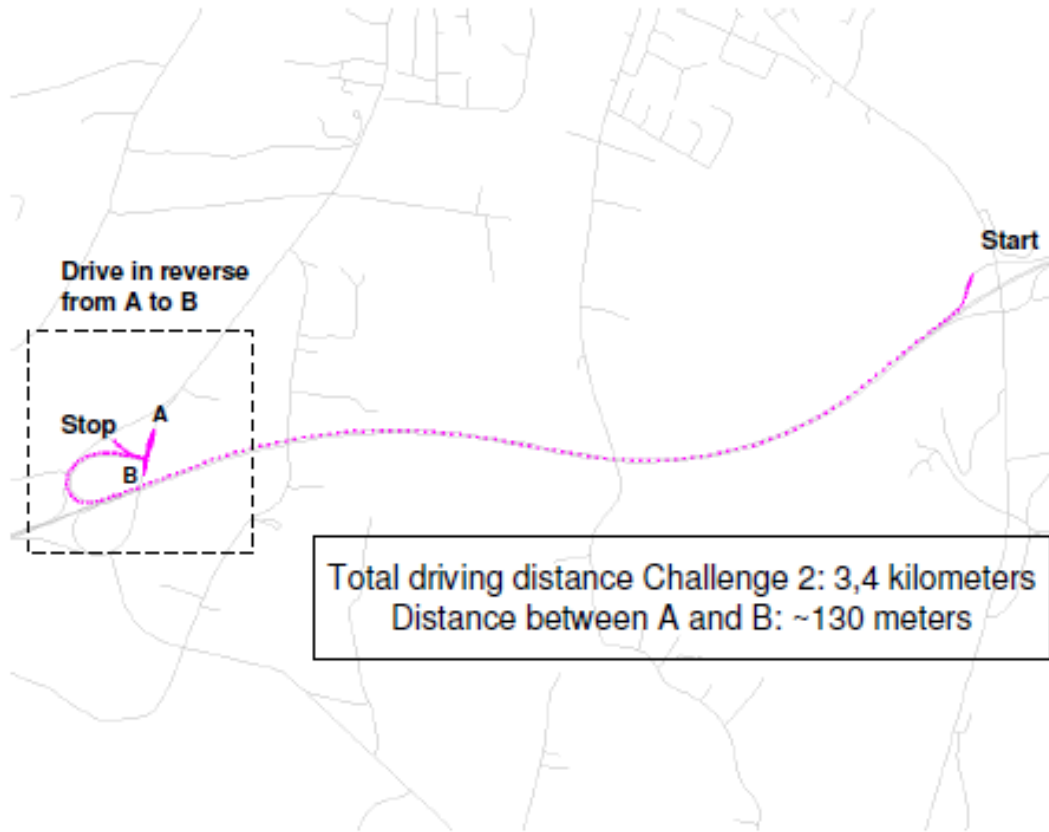


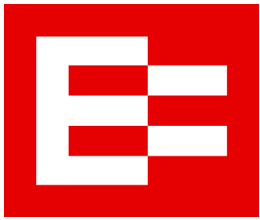
Challenge 1 – Driving outside map



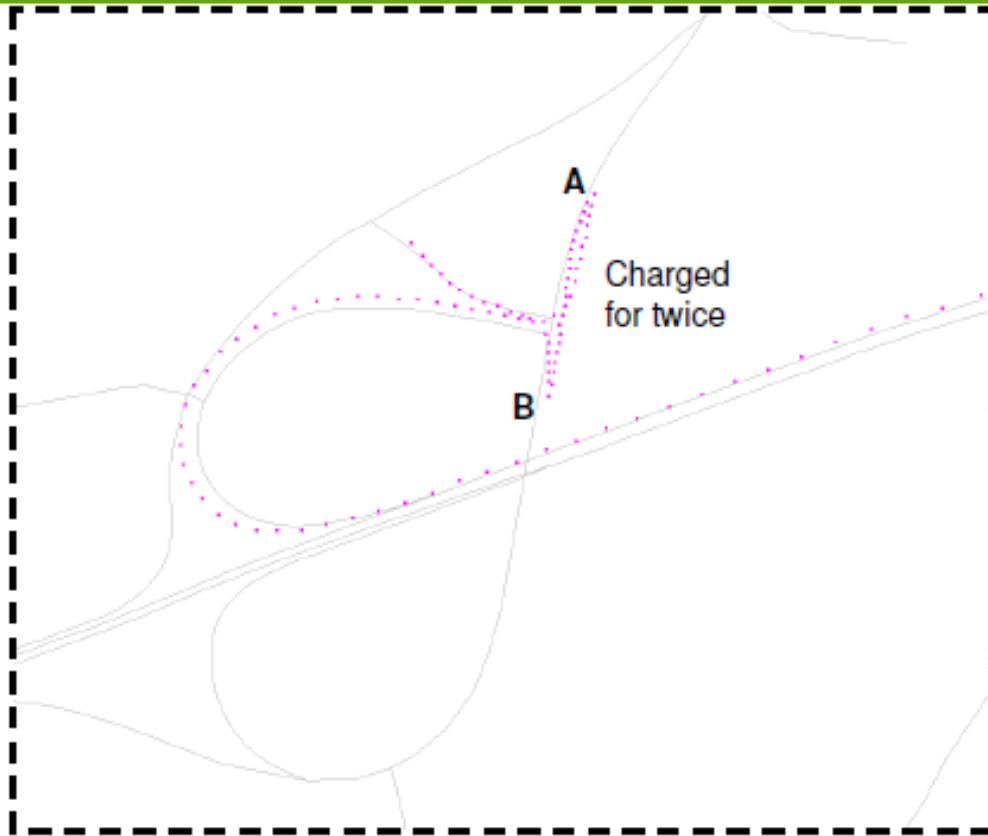


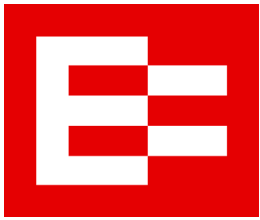
Challenge 2, Uncompleted Road Links



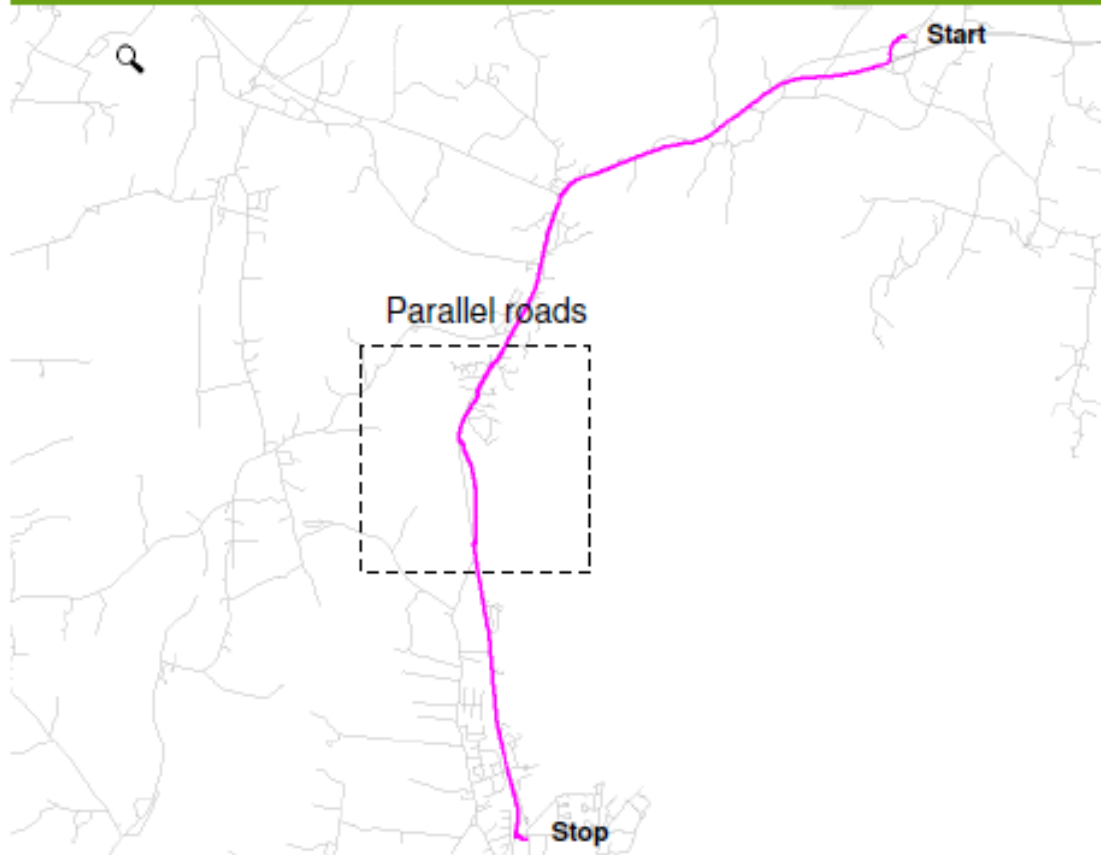


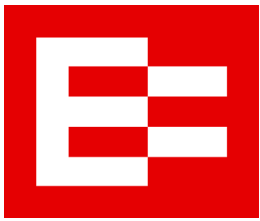
Challenge 2, Uncompleted Road Links



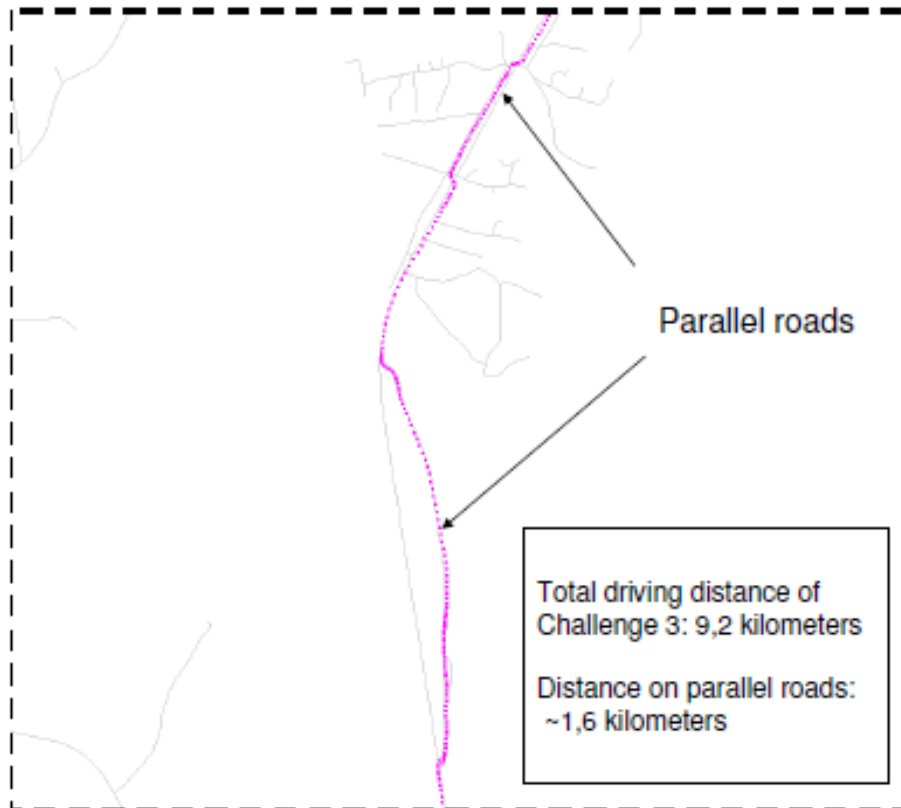


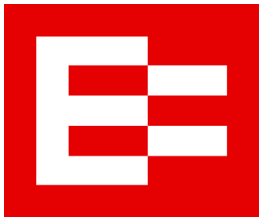
Challenge 3 – Parallel roads



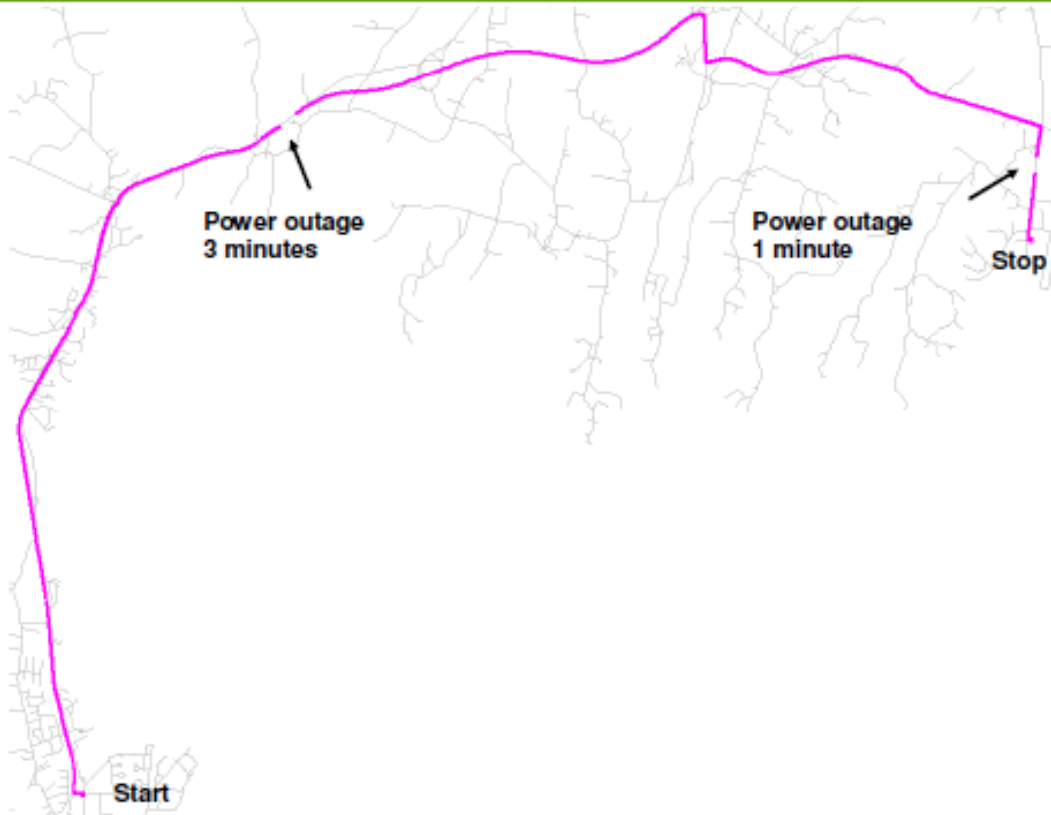


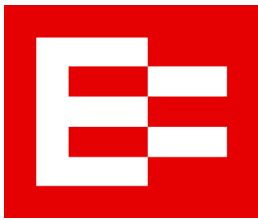
Challenge 3 – Parallel roads



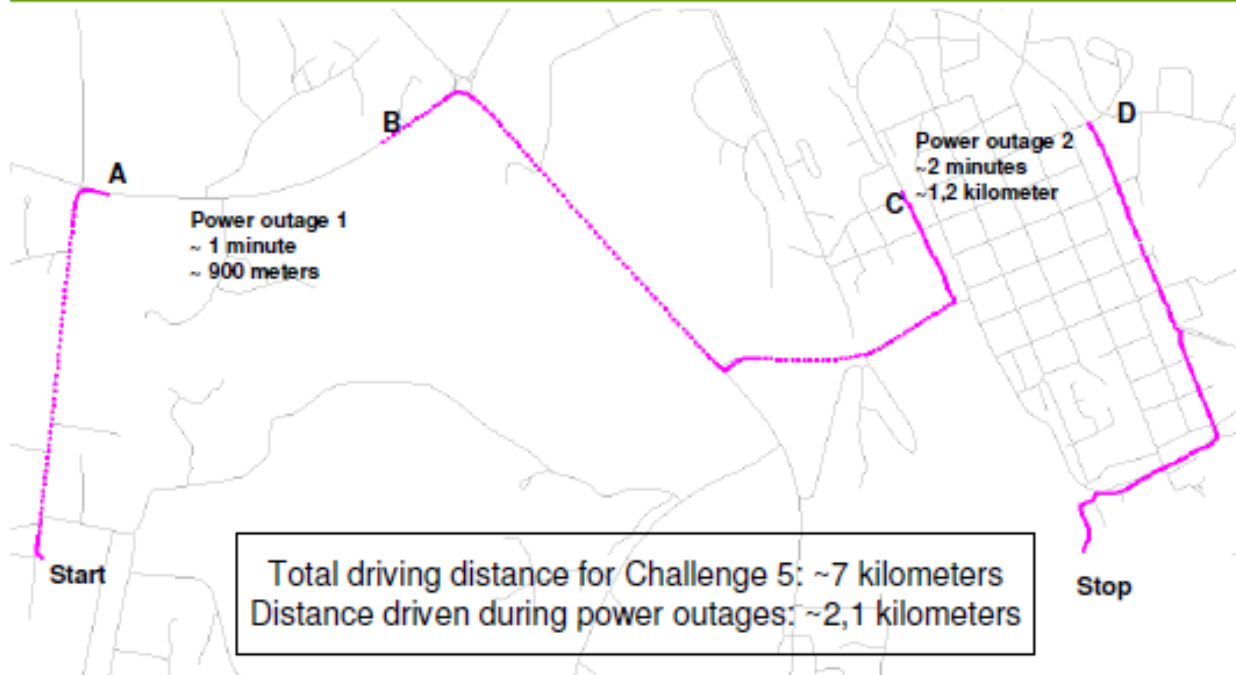


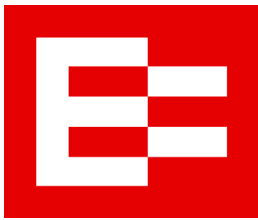
Challenge 4 – Power Outage while stopped





Challenge 5 – Power outages while driving

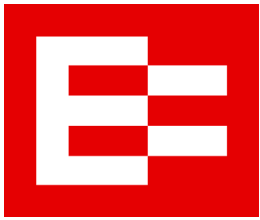




Conclusions

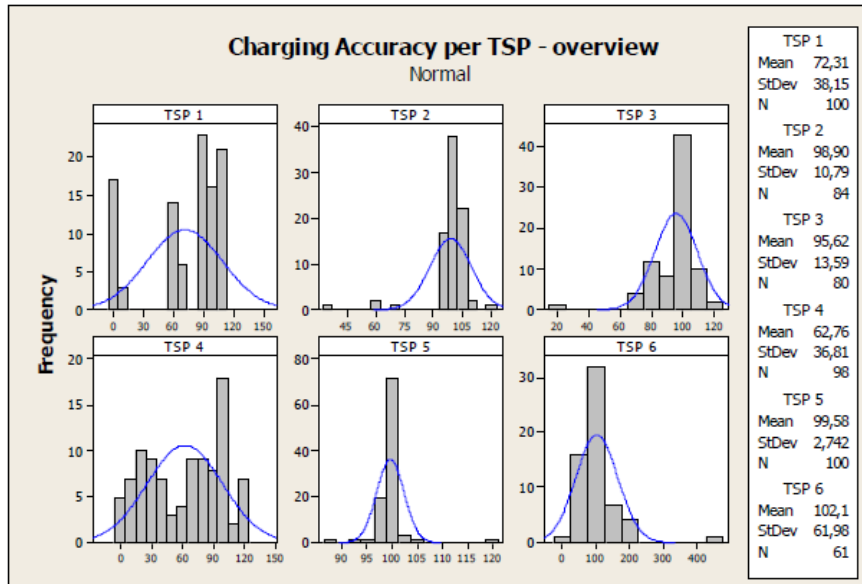
- ARENA Field Trials has shown that:
 - ARENA concept was viable:
 - Role model and task allocation worked
 - Interfaces were suitable
 - Accurate Charge Reports





Sweden ARENA Test Track Results

Charging Accuracy per TSP for all challenges

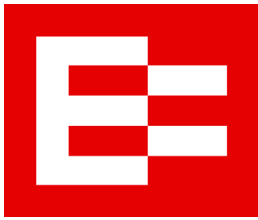


EROAD = TSP 5

Only technology platform that met the challenging requirements to collect tolls.

Other providers struggled to perform consistently suggesting inherent technology weaknesses.





Arena trial summary – actual tolls collected

The following table show the actual tolls that would have been collected by the different TSPs assuming each of the 100 challenges were valued at €1,00.

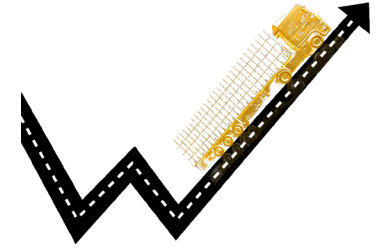
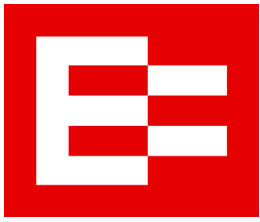
	Number of challenges tolls were calculated	Assigned value per challenge	Mean charging accuracy across all challenges	Actual Calculated Tolls	Theoretical Tolls collected	Charging accuracy
Ideal case	100	€1.00	100.00%	€100.00	€100.00	100.0%
TSP 5 (EROAD)	100	€1.00	99.58%	€99.58	€100.00	99.6%
TSP 2	84	€1.00	98.90%	€83.08	€100.00	83.1%
TSP 3	80	€1.00	95.62%	€76.50	€100.00	76.5%
TSP 4	98	€1.00	62.76%	€61.50	€100.00	61.5%
TSP 1	100	€1.00	38.15%	€38.15	€100.00	38.2%
TSP 6	61	€1.00	61.98%	€37.81	€100.00	37.8%

- “EROAD technology ‘best in class’ achieving 99.6% charging accuracy in ARENA test track and 100% compliance in field trials.
- Successful implementation by EROAD demonstrated full interoperability and 100% compliance with proposed charging interface. “



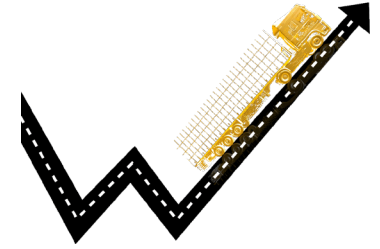
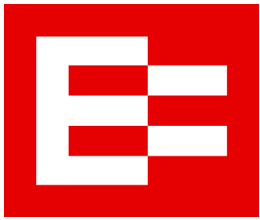
What does this mean in New Zealand?





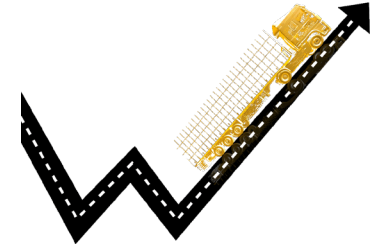
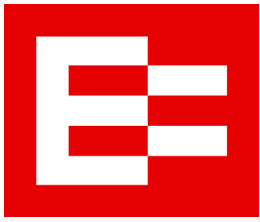
Client Perspective

- Eliminate RUC administration.
- No more paper RUC labels.
- Working capital savings.
- Ditch the hubo!
- Automated off-road refunds.
- Improves compliance.
- Superior web-based fleet tracking.
- Greater transparency and management control.
- Built-in future proofing.



Government Perspective

- Reduced evasion and lower enforcement costs.
- Lower agency costs.
- Supports HPV scheme.
- Increased productivity and economic growth.
- Tool to implement RUC reform.



Daily Activity

Depot RUC Reports Admin

Daily Activity Report Thursday, 1 April 2010 Event Log

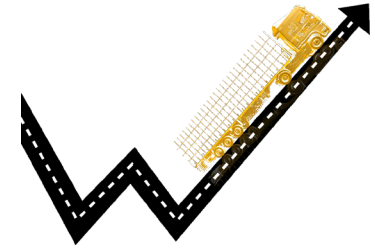
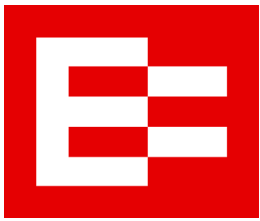
310 Rego: LDB7099

Total Distance: 340.6 km Running Time: 06h:42m
Site Visits: 9 Stop Time: 17h:18m

Type	Time	Speed	Distance / Time	eHubo	Location
On	01:12	0	Stopped: 01h:52m	7847.2	Near Braeburn Dr, Ho
Off	01:52	0	0.7 km / 40 min	7847.9	Hornby, Canterbury
On	02:50	0	Stopped: 58 min	7847.9	
Exit	02:53	0	0.2 km	7848.1	CHRISTCHURCH
Entry	02:55	0	0.0 km	7848.2	CHRISTCHURCH
Off	02:55	0	0.2 km / 05 min	7848.2	Near Braeburn Dr, Ho
On	05:25	0	Stopped: 02h:30m	7848.2	
Exit	05:35	26	0.3 km	7848.5	CHRISTCHURCH
Entry	05:38	8	1.5 km	7850.0	Caltex Hornby
Exit	05:43	27	0.3 km	7850.2	Caltex Hornby
Entry	06:41	13	76.9 km	7927.1	Rural Transport
Off	06:42	0	79.0 km / 01h:17m	7927.2	Near South St, Ashbu
On	07:18	0	Stopped: 36 min	7927.2	Near South St, Ashbu
Exit	07:20	20	0.3 km	7927.4	Rural Transport
Off	07:34	0	17.8 km / 16 min	7945.0	Isleworth Rd, Hinds, C
On	07:41	0	Stopped: 07 min	7945.0	Isleworth Rd, Hinds, C
Entry	08:22	57	54.1 km	7999.0	NST Depot Timaru
Off	08:24	0	54.6 km / 43 min	7999.6	Washdvrka Canterbury

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Geofence Management

Edit Geofence

Use the drag handles to alter the shape of the geofence, click save or cancel when finished

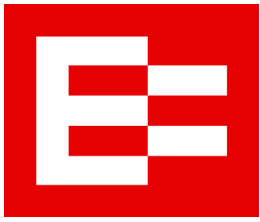
Name:

Types:

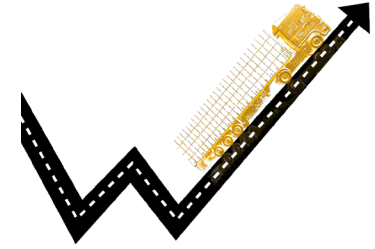
<input type="checkbox"/> Depot	<input checked="" type="checkbox"/> Customer Site
<input type="checkbox"/> No Go Zone	<input type="checkbox"/> Off Road Area
<input type="checkbox"/> Supplier Site	<input type="checkbox"/> Stay Within Zone

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Online RUC



Depot RUC Reports Admin

Purchase RUC: [Specify licences](#) [Confirm details](#) [Finish](#)

Specify Licences:

Merchant: **EROAD NZ Ltd.**
P O Box 305 394, Triton Plaza
North Shore 0757, Auckland, NZ.
Merchant ID: 851796

Name	Rego.	Hubo Serial	Hubo Reading	Continuation	Licence Type	Start Dist.	Units Required D (1=1000km) S (1=50km)	Vehicle Wt. (tonnes)	
413	1170	50/NZ0010090	10156	Yes	DISTANCE	10841	1	20	

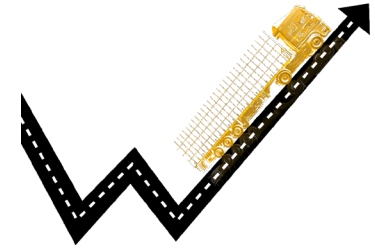
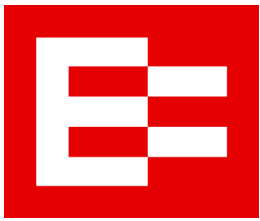
Please select your payment method then click Next:

Direct Debit
 Credit Card [Select card...](#)

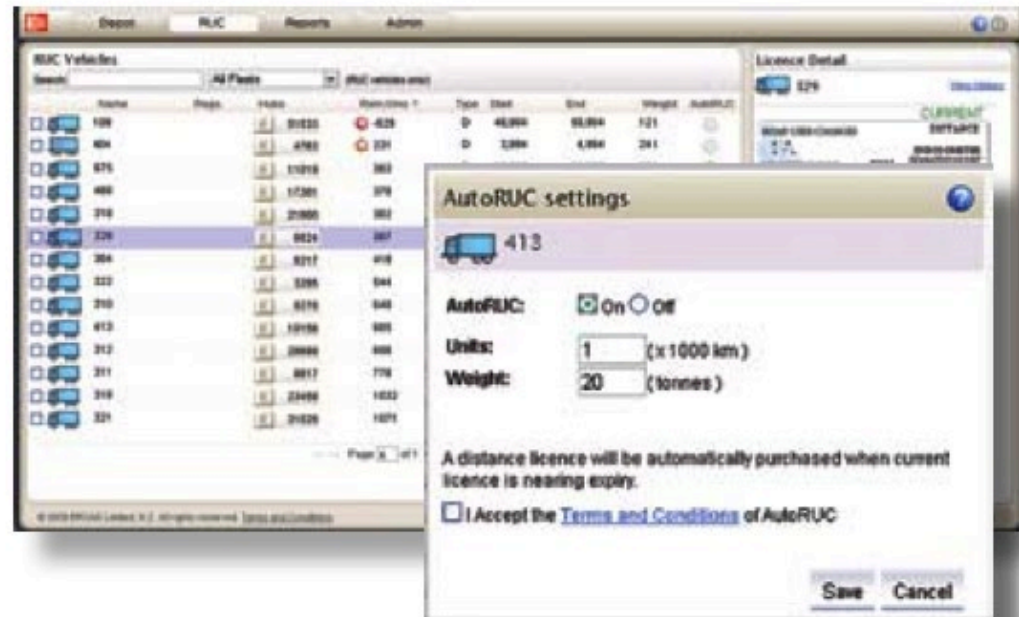
[Next](#) [Cancel](#)

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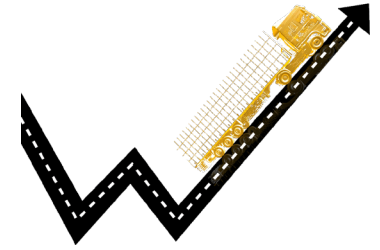
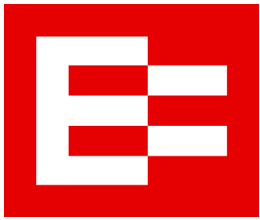


AutoRUC “set and forget”



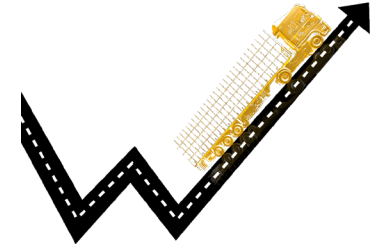
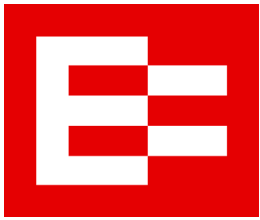
- Ease of compliance
- Totally eliminate RUC administration
- Working capital savings





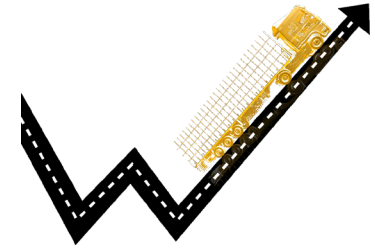
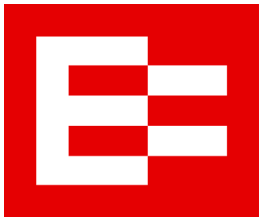
EROAD HPV Permit Framework

- HPV vehicles will help contribute to lower freight costs, improved productivity and economic growth, and lower emissions
- BUT many roads and bridges will not support heavier loads, and some communities may wish to impose operating conditions on HPVs.
- EROAD Eruc technology platform available to facilitate the payment of fees for infrastructure upgrades not covered by NLTP.



EROAD HPV Permit Framework

- Principle is that participating HPV operators use EROAD equipment and payment gateway to fund local projects directly to RCA in return for access and higher weights.
- Commercially negotiated access fees will create innovative infrastructure solutions that will benefit HPV operators and local communities.



THANK YOU

Peter Batcheler

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