EnerMOB

Interregional Electromobility Networks for intERurban low carbon MOBility

DELIVERABLE T2.4.1

EVALUATING REPORT OF PILOT ACTIONS - REDASP

Work package:	WP T2 – *Electromobility pilot actions*
Deliverables:	**T2.4.1 – Evaluating report of Pilot Actions**
Responsible Partner:	PP5 – Regional Economic Development Agency of Sumadija and Pomoravlje Kragujevac (Serbia)
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EnerMOB Partnership

Lead Partner	Free Municipal Consortium of Ragusa (Italy)
Project Partner 2	Region of Peloponnese (Greece)
Project Partner 3	Regional Development Agency of Northern Primorska Ltd (Slovenia)
Project Partner 4	County of Primorje and Gorski Kotar (Croatia)
Project Partner 5	Regional Economic Development Agency of Sumadija and Pomoravlje (Serbia)

Responsible Partner for the Deliverable

County of Primorje and Gorski Kotar (Croatia)

County of Primorje and Gorski Kotar (Croatia)

:::::::::::::::::: – Local project manager

:::::::::::::::::: – Expert associate

1. Introduction

Local evaluating report on pilot action results drafted were developed on the basis of "Guideline for data collection of pilot actions". The main purpose of EnerMOB project is to plan, test and promote common standards for transnational and interregional electric transport networks tackling 2 main challenges:

1. to plan and test parallel “Interregional Electromobility Networks”, in order to connect cities and regions with electric transport systems using same standards at transnational level.

2. to improve low carbon transport policies and electromobility strategies in interurban displacements between cities, rural areas and intermodal terminals.

In particular, as main overall objective of EnerMOB project is to implement Adriatic-Ionian “Interregional Electromobility Networks” connecting regions at transnational level with same standards.

Such overall EnerMOB objective is structured through three specific objectives:

- To define common design guidelines for electromobility systems according to same technical standards and communication protocols.
- To implement joint strategies for mobility and urban planning of electromobility systems in the framework of existing regional transport networks;
- To implement regional “Small-Scale Infrastructure Network” allowing interurban electric transport displacement between cities, rural areas and intermodal terminals.

2. Electric Vehicle

In order to test “Small-Scale Infrastructure Network in the region of Sumadija and Pomoravlje and Republic of Serbia“, electric vehicles VW e-Golf and Nissan Leaf was rented. Testing was performed in period from 28th of December 2019 to 8th of September 2020.

REDASP rented a Full Electric Vehicle, M1 category - Volkswagen e-Golf 100 kW, for a period of 18 months. Based on the project visibility guidelines and design defined by the responsible partner (Regional Development Agency of Northern Primorska), the vehicle was branded.

Figure 1 Full Electric Vehicle, Volkswagen e-Golf 100 kW

Due to the impossibility of extending the Golf rental, the REDASP rented another Full Electric Vehicle, M1 category – Nissan Leaf, for a period of 2 months.

The other vehicle was rented for the purpose of comparative tests of maximum ranges to tourist destinations. On the basis of testing results of pilot actions, we will upgrade the "Small-Scale Infrastructure Network" Action Plan in "Small-Scale Infrastructure Network" Long-Term Strategy for teritory of Republic of Serbia. "Small-Scale Infrastructure Network" Long-Term Strategy will contribute to the development of tourism in Serbia. The Nissan Leaf owner did not approve branding of the vehicle.

Figure 2 Full Electric Vehicle, Nissan Leaf

Employees of the REDASP drove predefined routes in the territory region of Sumadija and Pomoravlje and central part of Republic of Serbia. It has been tested already existing and newly installed electro mobility infrastructure. Routes for testing as well as driving conditions for testing purposes have been defined in advance in accordance with the “Guidelines to implement pilot actions and collecting testing data”.

During the testing phase of the pilot action REDASP used a set of ICT tools to collect, validate and commit the locally collected data for integration.

3. Charging point

As part of the project, AC charging station (6.6 kW AC) for electric vehicles have been developed in the framework of the EnerMOB project.

REDASP procured and installed a private, facade electrical vehicle charger, Model: ABB Wallbox AC charger, Type: EVLunic_B+_W22-T-K-0. This is Slow-Charging Point from a private socket-outlet with an in-cable protection device (Mode 2).

Before installing the charging infrastructure, the vehicle, eGOLF, was charged at a private home socket according to Mode 1 of IEC 61851-1 standard (i.e. slow-charging mode).

Figure 3 The private, facade electrical vehicle charger - Slow-Charging installed on the external wall of the business premises

Three charging stations are available 10 hours free charging, 5 days a week. The use of private, facade electrical vehicle charger during the pilot operation of the Regional Electricity Network is free for all owners and drivers of electric cars on the territory of the City of Kragujevac. Access to the charging station is enabled by activating the key switch by REDASP.

Before installing the charging infrastructure, the vehicle, eGOLF, was charged at a private home socket according to Mode 1 of IEC 61851-1 standard (i.e. slow-charging mode).

4. Experience

Republic of Serbia is at the very beginning in the process of “electrification” of road transport. At this moment, very few EVs (about 200 pieces) and HEVs have been registered. Apart from the relatively high price of electric cars and the low standard in Serbia, the one of the reasons of slow “electrification” of vehicles in Serbia is undeveloped infrastructure of chargers in cities and on the road network.
The EVs “on road” charger network in the Republic of Serbia for the year (2019) consists of 10 fast chargers.
Charging points are distributed along “A” road network. There are still no charging points installed along the „B“ road network. There were currently 200 public chargers in Serbia. They were installed in public parking garages and parking lots of major cities, shopping malls, hotels, private companies.
Charging services for EVs and electricity are currently free of charge, which is a significant limitation to expanding the network and involving other stakeholders in investing in this area.

At the end of December 2020, a public parking garage with three places was opened in Kragujevac, intended for charging electric cars. Two 22 kW AC chargers, type EVlink, are installed. Chargers are available 24 hours a day, 7 days a week. Charging is not paid, but only a parking space in the symbolic amount of 0.6 euros per hour.

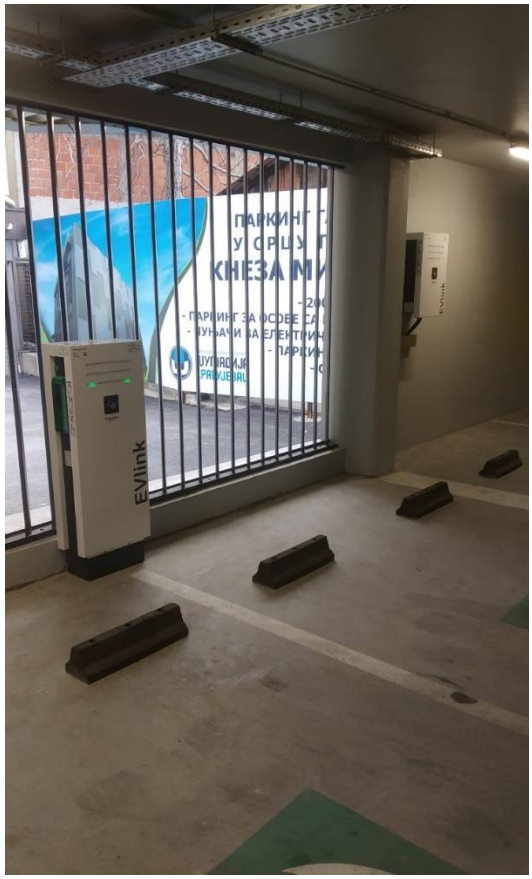

Figure 4 The public electrical vehicle chargers installed on public parking garage in Kragujevac

The Government of Serbia has passed a Regulation on subsidizing the purchase of new vehicles that have exclusively electric drive or hybrid drive, according to pre-established criteria and the possibility of obtaining subsidies in the maximum amount of 5,000.00 euros for EVs. Another measure is being prepared, an incentive vehicle registration system.

4.1. Comments about EVs

Driving electric cars is very specific. Less experienced drivers should undergo short training. The range declared by the manufacturer is difficult to achieve. The actual range will depend on speed, style of driving, weather and route conditions.
„Best-case“: city drive, mild weather (23°C) and no use of A/C.
„Worst-case“: highway drive, cold weather (-10°C) and use of heating.
Selected routes for testing are a combination of highway (“A” road network), regional roads (“B” road network) and city streets to a lesser extent.
In cold weather, when temperatures are in the minus, the interior heating system and the rear window heater significantly increase energy consumption. Driving in summer conditions, with the cooling system on, also increases consumption, but less than with the heating system on. Driving on the highway, at a constant speed is unfavorable from the aspect of energy consumption.

e GOLF

Total mileage: 4,266 km.
Mileage covered on test routes: 2,029 km.
Mileage in city driving: 2,237 km.

The car is easy to steer, holds the track precisely even when driving on roads with „sharper“ curves and higher speeds.
Charging e GOLF is performed when the battery capacity drops to 5% - 8% of the nominal. Charging on the installed private, facade electrical vehicle charger (6.6 kW AC) lasts from 5 to 6 hours, which is in accordance with the declared charging time of the manufacturer.

Real range:

- City
  - Mild weather (20^0C ÷ 24^0C): 290 km
  - Cold weather (-5^0C ÷ -10^0C): 205 km
  - Warm weather (25^0C ÷ 32^0C): 235 km
- Combined (highway, regional roads and city streets)
  - Mild weather (20^0C ÷ 24^0C): 230 km
  - Cold weather (-5^0C ÷ -10^0C): 155 km
  - Warm weather (25^0C ÷ 32^0C): 185 km

Nissan Leaf

Total mileage: 2,383 km.

Mileage covered on test routes: 1,986 km.

Mileage in city driving: 396 km.

When driving on roads with „sharp“ curves and higher speeds, the car becomes unstable and does not keep the direction of movement. Correction of direction on the steering wheel is required.

Charging Nissan Leaf is performed when the battery capacity drops to 5% - 8% of the nominal. Charging on the installed private, facade electrical vehicle charger (6.6 kW AC) lasts longer than 12 hours, which is in accordance with the declared charging time of the manufacturer. The installed device for converting AC to DC on Nissan Leaf has a very low charging speed.

Real range:

- City
    - Mild weather (20^0C ÷ 24^0C): 275 km
    - Cold weather (-5^0C ÷ -10^0C): 180 km
    - Warm weather (25^0C ÷ 32^0C): 220 km
- Combined (highway, regional roads and city streets)
    - Mild weather (20^0C ÷ 24^0C): 230 km
    - Cold weather (-5^0C ÷ -10^0C): 140 km
    - Warm weather (25^0C ÷ 32^0C): 170 km

APPENDIX – testing results

Dynamic data of Electric Vehicles - Template

Code	Data name	Data type	List of values / Format
DEV_TC	Territorial Code	String	ITG18 EL25 SI05 HR031 RS21
DEV_DATE_0	Initial Date of trip or charge	Date	YYYY-MM-DD
DEV_TIME_0	Initial Time of trip or charge	Time	HH:MM:SS
DEV_DATE_F	Final Date of trip or charge	Date	YYYY-MM-DD
DEV_TIME_F	Final Time of trip or charge	Time	HH:MM:SS
DEV_EV_ID	EV ID	String	
DEV_USR_ID	User ID	String	
DEV_SOC_0	State of charge before	Floating point	Number between 0 and 100 (%)
DEV_SOC_F	State of charge after	Floating point	Number between 0 and 100 (%)
DEV_Dist	Total Distance Travelled	Integer	meters
DEV_Origin_lat	Travel Origin latitude	Floating point	degrees
DEV_Origin_lon	Travel Origin longitude	Floating point	degrees
DEV_Destination_lat	Travel Destination latitude	Floating point	degrees
DEV_Destination_lon	Travel Destination longitude	Floating point	degrees
DEV_Temp	Outside Temperature	Floating point	^{o}C
DEV_Light	Vehicle Lights Use	Floating point	Number between 0 and 100 (%)
DEV_Air	Vehicle A/C Use	Floating point	Number between 0 and 100 (%)
DEV_TrCons	Trip energy consumption	Floating point	kWh

Dynamic data of Electric Vehicles - e GOLF Testing Resultats, part 1

DEV_DATE_0	DEV_TIME_0	DEV_DATE_F	DEV_TIME_F	DEV_EV_ID	DEV_USR_ID	DEV_SOC_0	DEV_SOC_F	DEV_Dist	DEV_Speed
2019-12-28	10:10:00	2019-12-28	10:48:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	100	52	67000	105.8
2019-12-28	12:45:00	2019-12-28	13:26:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	52	9	67000	98.0
2020-01-15	11:15:00	2020-01-15	11:49:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	81	63	26000	46.0
2020-01-15	13:40:00	2020-01-15	14:10:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	63	40	26000	52.0
2020-01-16	12:00:00	2020-01-16	12:17:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	40	24	24000	84.7
2020-01-16	13:37:00	2020-01-16	13:52:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	24	7	24000	96.0
2020-01-21	09:00:00	2020-01-21	10:07:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	100	67	54000	48.4
2020-01-21	11:50:00	2020-01-21	12:52:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	67	31	54000	52.3
2020-01-21	13:15:00	2020-01-21	13:41:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	31	25	20000	46.2
2020-01-21	15:00:00	2020-01-21	15:22:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	25	17	20000	54.6
2020-01-24	08:30:00	2020-01-24	08:58:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	98	70	45000	96.4
2020-01-24	10:50:00	2020-01-24	11:21:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	70	52	28000	54.2
2020-01-24	13:10:00	2020-01-24	14:17:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	52	8	74000	66.3
2020-01-29	09:00:00	2020-01-29	09:40:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	99	76	41000	61.5
2020-01-29	11:20:00	2020-01-29	11:56:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	76	59	30000	50.0
2020-01-29	13:10:00	2020-01-29	13:49:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	59	41	33000	51.0
2020-01-30	12:15:00	2020-01-30	12:37:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	41	25	32000	87.3
2020-01-30	14:10:00	2020-01-30	14:30:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	25	8	33000	99.0
2020-02-06	10:00:00	2020-02-06	10:48:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	98.5	53	75000	94.0
2020-02-06	12:30:00	2020-02-06	13:16:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR2	53	7	74000	96.5
2020-02-12	09:40:00	2020-02-12	10:50:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	99	58	75000	64.3
2020-02-12	14:10:00	2020-02-12	15:23:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	58	19	76000	62.5
2020-02-13	10:30:00	2020-02-13	10:58:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR3	19	14	20000	43.0
2020-02-13	14:10:00	2020-02-13	14:33:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR3	14	7	20000	52.2
2020-02-20	10:20:00	2020-02-20	10:59:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	100	54	68500	105.4
2020-02-20	14:05:00	2020-02-20	14:42:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	54	5	67000	108.7

2020-02-24	12:05:00	2020-02-24	12:51:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	100	54	75000	97.8
2020-02-24	15:10:00	2020-02-24	15:57:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	54	10	75500	96.4
2020-03-03	10:20:00	2020-03-03	11:21:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	100	76	54000	53.0
2020-03-03	14:15:00	2020-03-03	15:13:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	76	55	55000	56.9
2020-03-06	11:20:00	2020-03-06	11:53:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	55	39	26500	48.2
2020-03-06	15:10:00	2020-03-06	15:40:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	39	25	26500	52.0
2020-05-28	12:13:00	2020-05-28	12:52:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	57	37	41000	63.0
2020-05-28	14:30:00	2020-05-28	15:06:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR1	37	18	39000	65.0
2020-06-08	10:00:00	2020-06-08	11:31:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR3	100	29	151000	99.6
2020-06-08	14:15:00	2020-06-08	15:53:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR3	92	24	150000	91.8
2020-06-15	09:45:00	2020-06-15	10:53:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR3	100	68	72000	63.5
2020-06-15	12:10:00	2020-06-15	12:36:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR3	68	57	23000	53.7
2020-06-15	14:05:00	2020-06-15	14:43:00	ENERMOB_RS21_EV1	ENERMOB_RS21_USR3	57	17	67000	105.8

Driver 1
Driver 2
Driver 3

Dynamic data of Electric Vehicles - e GOLF Testing Resultats, part 2

DEV_Origin_lat	DEV_Origin_lon	DEV_Destination_lat	DEV_Destination_lon	DEV_Temp	DEV_Light	DEV_Air	DEV_TrCons
44.00998	20.91765	43.92776	21.37442	1	100	100	15.36
43.92776	21.37442	44.00998	20.91765	2	100	100	13.76
44.00998	20.91765	43.86331	21.09298	-3	100	100	5.76
43.86331	21.09298	44.00998	20.91765	2	100	100	7.36
44.00998	20.91765	44.15259	21.0795	8	100	100	5.12
44.15259	21.0795	44.00998	20.91765	10	100	100	5.44
44.00998	20.91765	44.30694	20.56	-3	100	100	10.56
44.30694	20.56	44.00998	20.91765	0	100	100	11.52
44.00998	20.91765	43.92694	20.71889	1	100	100	1.92
43.92694	20.71889	44.00998	20.91765	1	100	100	2.56
44.00998	20.91765	44.23379	21.19567	-8	100	100	8.96
44.23379	21.19567	44.0925	21.44694	-3	100	100	5.76
44.0925	21.44694	44.00998	20.91765	2	100	100	14.08
44.00998	20.91765	44.25313	20.68331	5	100	100	7.36
44.25313	20.68331	44.22687	20.97891	8	100	100	5.44
44.22687	20.97891	44.00998	20.91765	11	100	100	5.76
44.00998	20.91765	44.18577	21.10147	8	100	100	5.12
44.18577	21.10147	44.00998	20.91765	9	100	100	5.44
44.00998	20.91765	43.85991	21.41398	1	100	100	14.56
43.85991	21.41398	44.00998	20.91765	2	100	100	14.72
44.00998	20.91765	44.0925	21.44694	4	100	100	13.20
44.0925	21.44694	44.00998	20.91765	8	100	100	12.48
44.00998	20.91765	43.92694	20.71889	7	100	90	1.6
43.92694	20.71889	44.00998	20.91765	13	100	60	2.24
44.00998	20.91765	43.92776	21.37442	5	100	100	14.72
43.92776	21.37442	44.00998	20.91765	7	100	80	15.68

44.00998	20.91765	43.85991	21.41398	15	100	50	14.72
43.85991	21.41398	44.00998	20.91765	20	100	10	14.08
44.00998	20.91765	44.30694	20.56	12	100	10	7.68
44.30694	20.56	44.00998	20.91765	23	100	0	6.72
44.00998	20.91765	43.86331	21.09298	8	100	50	5.12
43.86331	21.09298	44.00998	20.91765	14	100	20	4.48
44.00998	20.91765	44.25313	20.68331	18	100	0	6.40
44.25313	20.68331	44.00998	20.91765	20	100	0	5.90
44.00998	20.91765	44.8123	20.45895	17	100	0	22.72
44.8123	20.45895	44.00998	20.91765	25	100	30	22.18
44.00998	20.91765	44.0925	21.44694	18	100	0	10.24
44.0925	21.44694	43.92776	21.37442	24	100	0	3.52
43.92776	21.37442	44.00998	20.91765	30	100	60	12.8

Driver 1
Driver 2
Driver 3

Dynamic data of Electric Vehicles – Nissan Leaf Testing Resultats, part 1

DEV_DATE_0	DEV_TIME_0	DEV_DATE_F	DEV_TIME_F	DEV_EV_ID	DEV_USR_ID	DEV_SOC_0	DEV_SOC_F	DEV_Dist	DEV_Speed
2020-07-13	13:05:00	2020-07-13	13:36:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	61	46	30000	58.1
2020-07-13	14:45:00	2020-07-13	15:18:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	46	28	38000	69.1
2020-07-14	09:13:00	2020-07-14	10:11:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	100	65	77000	81
2020-07-14	11:00:00	2020-07-14	11:50:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	65	48	46000	55.2
2020-07-14	13:40:00	1900-01-00	14:03:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	48	30	30000	78.3
2020-07-14	15:15:00	2020-07-14	15:37:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	30	21	20000	60.0
2020-07-14	16:30:00	2020-07-14	17:21:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	21	9	41000	47.1
2020-07-16	10:00:00	2020-07-16	11:23:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	100	63	67000	48.4
2020-07-16	13:30:00	2020-07-16	14:57:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	63	39	68500	47.2
2020-07-23	09:15:00	2020-07-23	09:54:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	100	68	66500	102.3
2020-07-23	13:10:00	2020-07-23	14:23:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	68	40	69000	56.7
2020-07-24	10:00:00	2020-07-24	10:42:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	40	24	44000	63.0
2020-07-24	14:10:00	2020-07-24	14:54:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	24	5	45800	51.0
2020-07-29	09:10:00	2020-07-29	10:32:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	100	76	60000	44.0
2020-07-29	13:00:00	2020-07-29	14:18:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	76	47	61000	47.0
2020-07-30	09:00:00	2020-07-30	09:57:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	47	26	57000	60.0
2020-07-30	12:00:00	2020-07-30	12:55:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	26	6	58500	63.8
2020-08-04	08:00:00	2020-08-04	09:46:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	100	44	138000	78.1
2020-08-04	18:00:00	2020-08-04	19:50:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	85	18	140000	76.0
2020-08-10	10:00:00	2020-08-10	10:53:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	100	67	75000	85.0
2020-08-10	14:00:00	2020-08-10	14:49:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	67	32	75000	91.8
2020-08-12	09:00:00	2020-08-12	09:22:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	32	19	31000	84.5
2020-08-12	11:50:00	2020-08-12	12:09:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	19	3	30000	94.8
2020-08-19	10:00:00	2020-08-19	11:18:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	100	69	76000	58.5

2020-08-19	14:30:00	2020-08-19	15:35:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	69	35	76000	70.2
2020-08-25	10:00:00	2020-08-25	11:09:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	97	56	85000	74.0
2020-08-25	13:40:00	2020-08-25	14:41:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	56	13	86000	84.6
2020-09-02	09:10:00	2020-09-02	09:43:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR2	100	64	65000	118.2
2020-09-02	11:50:00	2020-09-02	12:22:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR2	64	23	65000	122.0
2020-09-08	10:30:00	2020-09-08	11:53:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	100	61	81000	58.6
2020-09-08	15:00:00	2020-09-08	16:19:00	ENERMOB_RS21_EV2	ENERMOB_RS21_USR3	61	19	84000	63.8

Driver 2
Driver 3

Dynamic data of Electric Vehicles – Nissan Leaf Testing Resultats, part 2

DEV_Origin_lat	DEV_Origin_lon	DEV_Destination_lat	DEV_Destination_lon	DEV_Temp	DEV_Light	DEV_Air	DEV_TrCons
44.00998	20.91765	44.10151	20.67556	30	100	0	5.4
44.10151	20.67556	44.00998	20.91765	29	100	100	6.48
44.00998	20.91765	43.85991	21.41398	22	100	0	12.6
43.85991	21.41398	44.18577	21.10147	24	100	0	6.12
44.18577	21.10147	44.00998	20.91765	29	100	100	6.48
44.00998	20.91765	43.92694	20.71889	26	100	60	3.24
43.92694	20.71889	44.00998	20.91765	26	100	80	4.32
44.00998	20.91765	44.29902	20.52946	28	100	100	13.32
44.29902	20.52946	44.00998	20.91765	31	100	75	8.64
44.00998	20.91765	43.92776	21.37442	30	100	100	11.52
43.92776	21.37442	44.00998	20.91765	31	100	100	10.8
44.00998	20.91765	44.24753	20.68082	26	100	0	5.76
44.24753	20.68082	44.00998	20.91765	30	100	50	6.84
44.00998	20.91765	43.62725	20.89634	24	100	0	8.64
43.62725	20.89634	44.00998	20.91765	29	100	30	10.44
44.00998	20.91765	43.69444	20.65417	23	100	0	7.56
43.69444	20.65417	44.00998	20.91765	28	100	10	7.2
44.00998	20.91765	43.64465	21.86717	23	100	0	20.16
43.64465	21.86717	44.00998	20.91765	25	100	10	24.12
44.00998	20.91765	45.12807	19.78445	26	100	0	11.88
45.12807	19.78445	44.00998	20.91765	31	100	90	14.10
44.00998	20.91765	44.18577	21.10147	24	100	0	4.68
44.18577	21.10147	44.00998	20.91765	29	100	100	5.76
44.00998	20.91765	44.11723	21.46717	25	100	0	11.16

44.11723	21.46717	44.00998	20.91765	28	100	80	12.24
44.00998	20.91765	43.95003	21.59651	24	100	15	14.76
43.95003	21.59651	44.00998	20.91765	28	100	90	15.48
44.00998	20.91765	43.92776	21.37442	26	100	80	12.96
43.92776	21.37442	44.00998	20.91765	30	100	100	14.76
44.00998	20.91765	44.29537	21.50376	27	100	80	14.04
44.29537	21.50376	44.00998	20.91765	31	100	100	13.42

Driver 2
Driver 3

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