Provider Application
Battery Health Check CARA Approved®

Created by
CARA Europe Battery Health Workgroup

Version 1.3

Approved by: CARA Board

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Car Remarketing Association – Europe INPA
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1 Introduction

With this Provider Application, the provider aims to obtain certification for the Battery Health Check CARA Approved.

Please note, that only one test certificate can be accredited with one application. To apply for different certification levels, or different test types, the provider needs to submit separate applications. The application must be in writing (email is acceptable), written in English language.

This Provider Application describes how the battery testing services will function and it indicates where the services deviate from the Requirements of the Battery Health Check CARA Approved.

This Provider Application forms the basis for the test performed by the Testing Company to validate whether the Provider's battery tests comply with the Requirements. It is to be completed by the Provider.

The Testing Company will validate the feasibility of the testing method, the technical foundation, and the fulfilment of the requirements before entering physical testing.

CARA Board

Contact: admin@cara-europe.org

2 Provider information

2.1 Company details

(i) Registered Name	
(ii) Registered Address	
(iii) Postal address (if differs from registered address)	
(iv) VAT number	

2.2 Details of the official representative

(i) Full Name	
(ii) Position	
(iii) Phone number	
(iv) E-mail Address	

2.3 Details of the technical contact

(i) Full Name	
(ii) Position	
(iii) Phone number	
(iv) E-mail Address	

2.4 Other details

(i) Name of the Test (intended trade name used by the applicant)	
(ii) Desired timeframe for certification testing	
(iii) Optional: references	

3 Universal Requirements

The provider must propose a solution in line with the current remarketing return process. Please state compliance or deviations in the right column.

(i) The maximum duration of a test end-to-end is 30 minutes a. Without major disassembly (except removeable covers such as over OBD, charging outlet covers) b. With minimal intervention of the inspector during this period – Plug-in and plug-out activity (OBD and / or charging connector) – Time to start and stop test < 2 min* c. Must not involve test driving except minimal* distances within compound d. Require minimal* hardware and no significant fixed installations e. Result must be available within short timeframe; the goal is 30 min after test end *(*) high requirements for time, driving and hardware won't exclude applicants, but are likely to make solution not viable.*	
(ii) Possible to test batteries at charging levels from 10 to 80 % SOC	

(iii) Use data sources available today plus own technology to determine the SOH a. Vehicle, car data provider, inspection provider, car owner	
(iv) Generate a valid result of the battery health in % SOH of original certified capacity	
(v) Generate a certificate from an independent source (can use manufacturer information)	

(vi) Description of the test procedure (required hardware, required software, time to test, how to apply the test to the vehicle; General description and per Model instructions, limitations, and exclusions) Note: The testing algorithms and calculation needn't to be disclosed.	
(vii) Description of the test output e.g., example of a test report or certificate (please attach an example)	
(viii) Geographical and language availability of test	

4 Technical Requirements

The provider must demonstrate that it can cover the following points with its system solution. Please state compliance or deviations in the right column.

(i) Readout of the manufacturer SOH The provider shall ensure that it can read out and display the manufacturer-specific battery health status (SOH) from the corresponding control units, such as: The Battery Management System (BMS), without manipulation. If the provider provides further information on the battery health status or carries out its own calculations and assessment of data, it must be ensured that this can be presented in a reproducible manner. Furthermore, the provider must plausibly present its assessment to the CARA working group. (e.g., calculate SOH from a Deterioration factor [%] or a remaining energy absolute value [kWh]). The value is intended to represent a percentage value. It further ensures that this process is reproducibly repeatable.	

(ii) Long-term access (Secure Gateway Access) The provider must demonstrate and explain in the documents provided the methodology it uses to ensure long-term access to the data required to read out the battery health status. What countermeasures are taken on his side when vehicle manufacturers might block their OBD II interface against unauthorized access?	
(iii) Duration of the process The provider ensures a maximum readout time of 30 minutes. This includes all models listed under Chapter 7. The provider shows the readout duration of the different models.	

5 Requirements to cover the market

The providers must demonstrate that the test covers at least a predetermined percentage of BEV Passenger Vehicle Fleet registered in the previous year, including the confirmation, which brands and models can be tested with the test and any applicable exclusions. It is possible to provide a timeline of when tests for certain makes/models in future will be possible.

The provider needs to provide any evidence that tests have been performed for the minimum set of vehicles required and results

Vehicle registrations are based on official sources[1] or third parties that state their sources as an official authority. For simplicity, the minimum of 90% will be based on yearly registration at model level. As soon as new manufacturers of BEV vehicles enter the market relevant for CARA, they are included in the list of OEMs according to their respective percentage market coverage.

For 2025 certification and later, the level of model coverage is required to be at least 90%.

5.1 Minimum coverage[2]

Applicants will need to self-assess their coverage based on the following model basket. The applicant should indicate whether the brand/model can be tested at the time the application is submitted. If the brand/model cannot yet be tested, indicate the time when the applicant believes the brand/model can be tested.

#	Brands	Model	%	Aggregate	Can be tested	Can be tested as of	Remark
1	TESLA	MODEL Y	9,21%	9,21%			
2	TESLA	MODEL 3	4,78%	13,99%			
3	MG	MG4	3,78%	17,77%			
4	PEUGEOT	E-208	3,47%	21,24%			
5	VOLKSWAGEN	ID.3	3,19%	24,43%			
6	VOLVO	EX30	3,17%	27,60%			

[1] Official sources refer to eithers a local vehicle registration authority, ex. KBA in German, or a relevant association, ex. ACEA
[2] Market share per OEM based on Q1 and Q2 of the year 2024 in the top 5 EU markets and the Benelux, excluding Belgium.

#	Brands	Model	%	Aggregate	Can be tested	Can be tested as of	Remark
7	AUDI	Q4 E-TRON	3,14%	30,74%			
8	SKODA	ENYAQ	2,96%	33,70%			
9	VOLKSWAGEN	ID.4, ID.5	2,78%	36,47%			
10	BMW	IX1	2,60%	39,08%			
11	FIAT	500E	2,50%	41,58%			
12	BMW	I4	2,39%	43,97%			
13	MERCEDES-BENZ	EQA	2,07%	46,04%			
14	RENAULT	MEGANE	2,03%	48,07%			
15	VOLVO	XC40	1,74%	49,81%			
16	CUPRA	BORN	1,70%	51,51%			
17	KIA	NIRO	1,69%	53,20%			
18	HYUNDAI	KONA	1,66%	54,86%			
19	OPEL	CORSA	1,65%	56,51%			
20	PEUGEOT	E-2008	1,57%	58,08%			
21	RENAULT	TWINGO	1,57%	59,65%			
22	KIA	EV6	1,46%	61,11%			
23	MERCEDES-BENZ	EQB	1,44%	62,55%			
24	DACIA	SPRING	1,24%	63,78%			
25	HYUNDAI	IONIQ 5	1,17%	64,96%			
26	MERCEDES-BENZ	EQE	1,11%	66,07%			

#	Brands	Model	%	Aggregate	Can be tested	Can be tested as of	Remark
27	AUDI	Q8 E-TRON	1,05%	67,12%			
28	SMART	1	1,01%	68,13%			
29	TOYOTA	BZ4X	0,97%	69,10%			
30	BMW	I5	0,95%	70,04%			
31	POLESTAR	2	0,91%	70,95%			
32	FORD	MUSTANG MACH-E	0,90%	71,86%			
33	BMW	IX	0,84%	72,70%			
34	SMART	2	0,83%	73,53%			
35	JEEP	AVENGER	0,81%	74,34%			
36	BMW	IX3	0,80%	75,14%			
37	OPEL	MOKKA	0,80%	75,94%			
38	VOLKSWAGEN	ID.BUZZ	0,73%	76,67%			
39	CITROEN	E-C4	0,72%	77,39%			
40	NISSAN	ARIYA	0,70%	78,09%			
41	MINI	COOPER	0,68%	78,76%			
42	NISSAN	LEAF	0,67%	79,44%			
43	RENAULT	ZOE	0,59%	80,03%			
44	MG	ZS	0,57%	80,60%			
45	BYD	ATTO 3	0,54%	81,14%			
46	HYUNDAI	IONIQ 6	0,49%	81,63%			

#	Brands	Model	%	Aggregate	Can be tested	Can be tested as of	Remark
47	PORSCHE	TAYCAN	0,48%	82,10%			
48	VOLVO	C40	0,46%	82,56%			
49	HONDA	E:NY1	0,46%	83,02%			
50	VOLKSWAGEN	ID.7	0,45%	83,47%			
51	KIA	EV9	0,43%	83,89%			
52	BMW	IX2	0,36%	84,26%			
53	JAGUAR	I-PACE	0,35%	84,61%			
54	MERCEDES-BENZ	EQS	0,31%	84,92%			
55	MERCEDES-BENZ	EQV	0,29%	85,21%			
56	OPEL	ASTRA	0,29%	85,50%			
57	ORA	3	0,28%	85,78%			
58	SMART	3	0,27%	86,05%			
59	BYD	DOLPHIN	0,26%	86,31%			
60	AUDI	E-TRON GT (RS)	0,25%	86,56%			
61	RENAULT	SCENIC	0,25%	86,81%			
62	MG	MG5	0,24%	87,05%			
63	BYD	SEAL	0,24%	87,30%			
64	RENAULT	KANGOO	0,24%	87,54%			
65	FIAT	600	0,22%	87,76%			
66	CITROEN	BERLINGO	0,22%	87,98%			

#	Brands	Model	%	Aggregate	Can be tested	Can be tested as of	Remark
67	PEUGEOT	E-EXPERT	0,20%	88,18%			
68	VOLKSWAGEN	UP!	0,20%	88,38%			
69	OPEL	VIVARO	0,19%	88,57%			
70	TOYOTA	PROACE	0,19%	88,76%			
71	OPEL	COMBO	0,18%	88,94%			
72	MINI	COUNTRYMAN	0,17%	89,11%			
73	MAZDA	MX-30	0,17%	89,29%			
74	PEUGEOT	E-3008	0,17%	89,46%			
75	LEXUS	RZ	0,17%	89,63%			
76	BMW	I7	0,14%	89,77%			
77	FORD	E-TRANSIT	0,14%	89,90%			
78	MERCEDES-BENZ	EQC	0,13%	90,04%			
79	PEUGEOT	E-308	0,13%	90,17%			
80	NISSAN	TOWNSTAR	0,10%	90,27%			
81	KIA	SOUL	0,10%	90,37%			
82	VOLVO	EX40	0,09%	90,46%			
83	LOTUS	ELETRE	0,09%	90,55%			
84	LEXUS	UX 300E	0,09%	90,64%			
85	MERCEDES-BENZ	CITAN	0,09%	90,73%			
86	SUBARU	SOLTERRA	0,08%	90,82%			

#	Brands	Model	%	Aggregate	Can be tested	Can be tested as of	Remark
87	TESLA	MODEL S	0,08%	90,90%			
88	TESLA	MODEL X	0,08%	90,98%			
89	PEUGEOT	E-PARTNER	0,08%	91,06%			
90	XPENG	G9	0,07%	91,13%			
91	FISKER	OCEAN	0,07%	91,20%			
92	PEUGEOT	E-RIFTER	0,07%	91,27%			
93	HONDA	E	0,07%	91,34%			
94	AUDI	Q6 E-TRON	0,06%	91,40%			
95	CITROEN	E-DISPATCH	0,06%	91,46%			
96	CITROEN	E-JUMPY	0,05%	91,51%			
97	DFSK	EC35 AUTO	0,05%	91,56%			
98	AIWAYS	U5	0,05%	91,61%			
99	ZEEKR	1	0,04%	91,65%			
100	MG	MARVEL R	0,04%	91,69%			
101	HYUNDAI	GV70	0,04%	91,73%			
102	GENESIS	GV60	0,04%	91,76%			
103	DR	EQ1	0,03%	91,80%			
104	OPEL	ZAFIRA	0,03%	91,83%			
105	FIAT	E-DOBLO	0,03%	91,85%			
106	LANCIA	YPSILON	0,03%	91,88%			

#	Brands	Model	%	Aggregate	Can be tested	Can be tested as of	Remark
107	CUPRA	TAVASCAN	0,03%	91,91%			
108	PEUGEOT	E-TRAVELLER	0,02%	91,93%			
109	ROLLS ROYCE	SPECTRE	0,02%	91,96%			
110	SSANGYONG	KORANDO	0,02%	91,98%			
111	ZEEKR	X	0,02%	92,00%			
112	NIO	ET5	0,02%	92,02%			
113	MAXUS	T90	0,02%	92,04%			
114	DS	3	0,02%	92,05%			
115	LUCID	AIR	0,01%	92,07%			
116	MAXUS	E-DELIVER 3	0,01%	92,08%			
117	SSANGYONG	TORRES	0,01%	92,09%			
118	NIO	EL6	0,01%	92,10%			
119	CITROEN	E-SPACETOURER	0,01%	92,11%			
120	RENAULT	MASTER	0,01%	92,12%			
121	POLESTAR	POLESTAR 3	0,01%	92,13%			
122	FIAT	E-SCUDO	0,01%	92,14%			
123	MERCEDES-BENZ	EQT	0,01%	92,15%			
124	VOLVO	EC40	0,01%	92,16%			
125	BYD	TANG	0,01%	92,17%			
126	MASERATI	GRECALE	0,01%	92,18%			

#	Brands	Model	%	Aggregate	Can be tested	Can be tested as of	Remark
127	VINFAST	VF 8	0,01%	92,18%			
128	FIAT	E-ULYSSE	0,01%	92,19%			
129	GWM	ORA 07	0,01%	92,20%			
130	NIO	EL7	0,01%	92,20%			
131	YUDO	YUDO 3	0,01%	92,21%			
132	XPENG	P7	0,01%	92,22%			
133	MERCEDES-BENZ	SPRINTER	0,01%	92,22%			
134	MELEX	378	0,01%	92,23%			
135	FAW	E-HS9	0,01%	92,24%			
136	RENAULT	TRAFIC	0,00%	92,24%			
137	MAXUS	E-DELIVER 9	0,00%	92,25%			
138	BYD	ETP3	0,00%	92,25%			
139	OMODA	E5	0,00%	92,25%			
140	OPEL	GRANDLAND X	0,00%	92,26%			
141	SHINERAY	N.A.	0,00%	92,26%			
142	KGM	KORANDO ULTIMATE	0,00%	92,27%			
143	BYD	HAN	0,00%	92,27%			
144	FIAT	E-DUCATO	0,00%	92,27%			
145	Other		7,73%	100,00%			

Any changes in the Applicants' details and/or information provided in this Application must be communicated to the CARA Board.

Yours faithfully, Signed	
Date	
Full Name	
Position	
Company	