Solid-State Landscape

	Separator	Anode: Carbon or Lithium	Number of Layers	Test Conditions: Cycles to 80%	Test Conditions: Current density / mA cm^2	Test Conditions: Temp / °C	Test Conditions: Pressure / atm	Source
EV Performance Impact				**Vehicle Life**	**Driving Range / Fast Charge**	**Automotive Environmental Requirements**	**Automotive Environmental Requirements**	
Automotive Requirement			Dozens	>800	> 3	≤30 °C	<1	
Toyota	Sulfide	Carbon/ Silicon	Not Published	Not Published	Not Published	Not Published	Not Published	NEDO 2018 presentation
ProLogium	90% ceramic / liquid	Carbon/ Silicon	Not Published	1300	Not Published	Not Published	Not Published	Disclosed at De-Leon Conference ProLogium Brochure
Solid Power	Sulfide	Carbon/ Silicon	2	400	0.6	45	Not Published	Solid Power Update
Ionic Materials	Polymer	Lithium Metal	1	20	0.5	30	Not Published	Disclosed at 2020 AABC
Samsung	Sulfide	Lithium Metal	2	1000	3.4	60	20	2020 paper
SES	Polymer + Liquid	Lithium Metal	31	550	C/5 rate	25	Not Published	Disclosed at 2020 AABC SES Twitter
QuantumScape	100% Ceramic	Lithium Metal	4 1	>800 >1000	3.1 3.2	30 30	3.4 3.4	QS Shareholder Letter

KEY	≥10	2-10	1	≥800	600-800	<600	≥3	<3	≤30	30-45	>45	<2	2-10	≥10

For a detailed description of the performance metrics and separator materials characteristics please refer to Solid-State Battery Landscape.

PLEASE NOTE: The data presented above is made as of October 13, 2021 and is based on information that we have been able to obtain, infer or derive from publicly disclosed materials and presentations. This information likely will change over time and QuantumScape does not make any representations as to the accuracy and completeness of the competitive data presented, nor does it make any claims about the actual performance of the cells being developed by other companies. By presenting this information, we are do not undertake any obligation to update this chart to reflect events or circumstances after the date they were made, whether as a result of new information, future events or otherwise, except as may be required under applicable laws.