



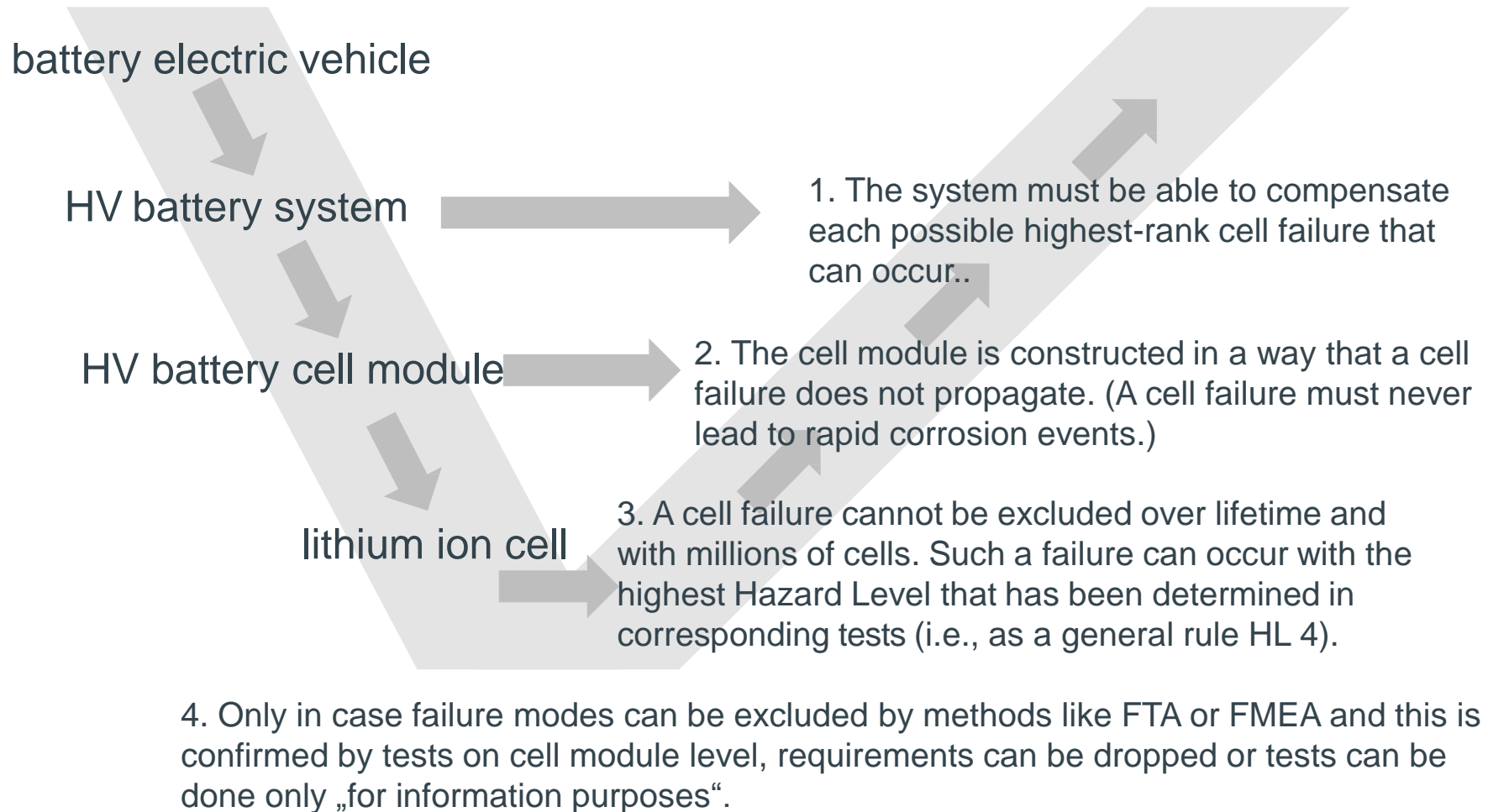
Safety philosophy for lithium ion HV batteries at Volkswagen

(Response to US's and other CP's request to provide more industry examples for dealing problems like thermal propagation)

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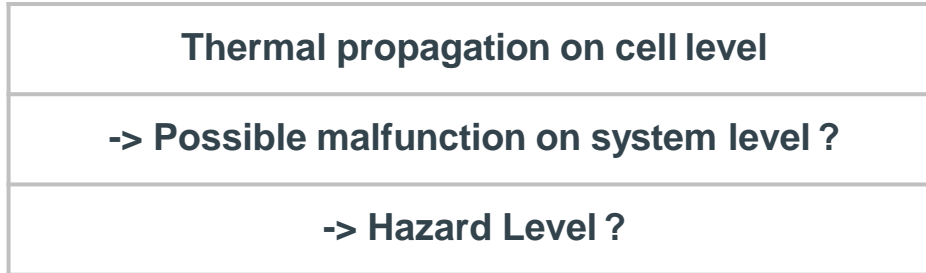
Safety Requirements in the Development Process

The 4 main items of the safety philosophy for lithium ion HV batteries at Volkswagen:



Functional Safety

Hazard and Risk Analysis (HARA)



S Severity of thermal propagation
How serious are the injuries ?

C Controllability of thermal propagation
Is the damage controllable ?

E Exposure of thermal propagation
When does the situation occur ?



		C1	C2	C3
S1	E1			
	E2			
	E3			ASIL A
	E4		ASIL A	ASIL B
S2	E1			
	E2			ASIL A
	E3		ASIL A	ASIL B
	E4	ASIL A	ASIL B	ASIL C
S3	E1			ASIL A
	E2		ASIL A	ASIL B
	E3	ASIL A	ASIL B	ASIL C
	E4	ASIL B	ASIL C	ASIL D