



Lunch & Learn

Regulatory Compliance & Battery Certification

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Hello!



Speaker:

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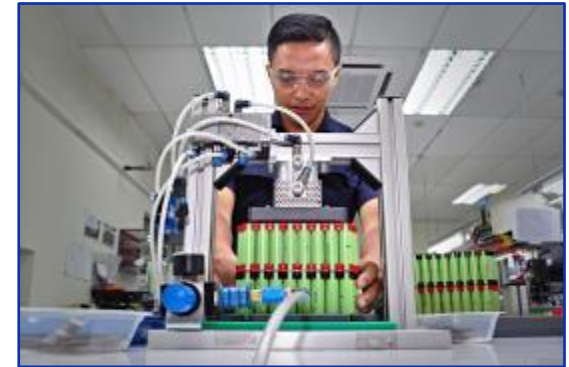
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Regulatory Compliance and Battery Certification



Agenda:

- ▶ Why Certify?
- ▶ Battery Certifications Overview
- ▶ Specific Examples
- ▶ Relevance for me?
- ▶ Preparing for certification: step-by-step



Why Certify?

- ▶ Safety, Safety, Safety
- ▶ Application specific
- ▶ Market entry (country specific)
- ▶ Due diligence / voluntary

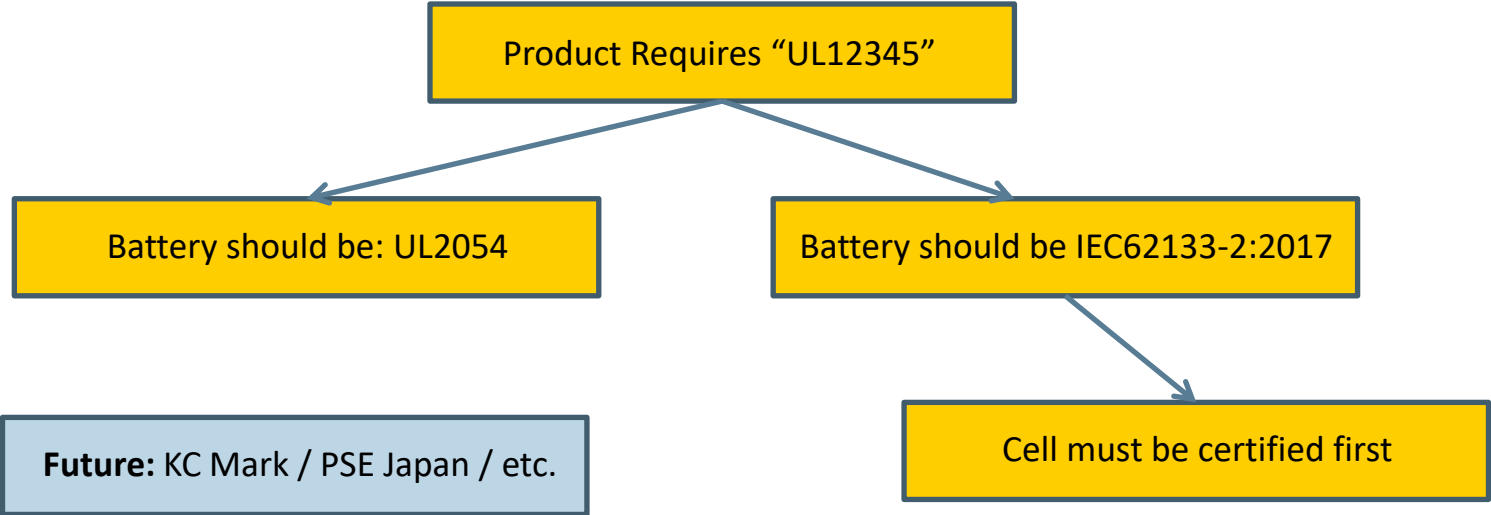


Overview













Battery Packs										
Certifications										
	US	Canada	Europe	International	Germany	Europe	Japan	Russia	China	Korea
Voluntary/Mandatory	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Mandatory	Mandatory	Voluntary	Mandatory
Market Access	US	Canada	Europe	International	Germany	Europe	Japan	Russia	China	Korea
Factory Inspection	Yes	Yes	Yes	Not required	Yes	Yes	Not required	Yes	Yes	Not required
Certification Validity	No expiration – assuming no changes to the product	No expiration – assuming no changes to the product	10 years – as long as the standards used for testing do not change or expire	Contingent upon standard upgrade	Max. 5 years validity depending on the edition used of the standard	Max. 10 years validity depending on the edition used of the standard	5 years	3 years	As long as routine factory inspection is passed	No expiration – assuming no changes to the product
Annual Maintenance Fee (AMF)	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	No
Standards Applied	UL/IEC 60950 or UL/IEC 60065 with UL 2054	IEC 60950 or IEC 60065 with UL 2054	EN 60065, EN 60950, EN 62133	(1)IEC 62133/ (2) IEC 60950-1 and IEC 62133	EN 60950-1 and EN 62133	(1)EN 62133 / (2)EN 60950-1 and EN 62133	DENAN Ordinance Article 1, Appendix 9	IEC 62133	SJ/T11169-1998 GB/18287-2000	Part 2, Annex 05 of self-regulatory confirmation

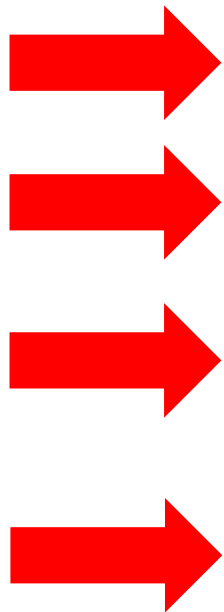
Multi-Layered Certification



Further Considerations







Battery Packs										
Certifications	 US	 Canada	 Europe	 International	 Germany	 Europe	 Japan	 Russia	 China	 Korea
Voluntary/ Mandatory	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Mandatory	Mandatory	Voluntary	Mandatory
Market Access	US	Canada	Europe	International	Germany	Europe	Japan	Russia	China	Korea
Factory Inspection	Yes	Yes	Yes	Not required	Yes	Yes	Not required	Yes	Yes	Not required
Certification Validity	No expiration – assuming no changes to the product	No expiration – assuming no changes to the product	10 years – as long as the standards used for testing do not change or expire	Contingent upon standard upgrade	Max. 5 years validity depending on the edition used of the standard	Max. 10 years validity depending on the edition used of the standard	5 years	3 years	As long as routine factory inspection is passed	No expiration – assuming no changes to the product
Annual Maintenance Fee (AMF)	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	No
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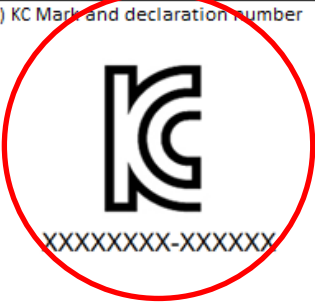



Marking & Labelling



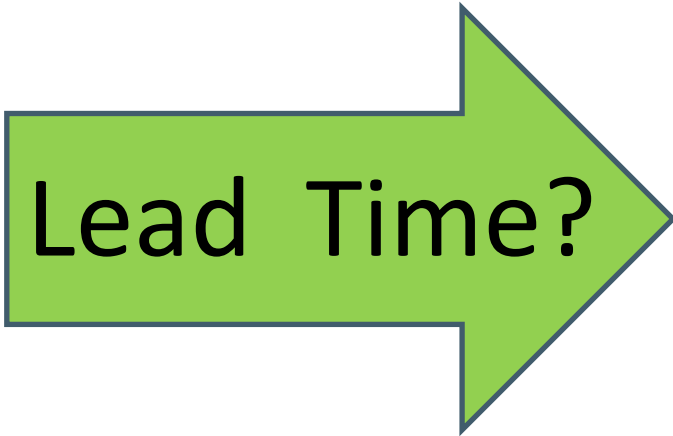
UL Listed or Recognition (USA and Canada)	Examples
<p>1) Nameplate Marking</p> <p>a. The Listee Name, trade name, trademark or other descriptive marking</p> <p>b. catalog or model number</p> <p>c. electrical rating in Vdc and Ah/Wh</p> <p>d. date of manufacturer</p> <p>e. UL Mark</p> <div style="display: flex; justify-content: space-between;"> <div data-bbox="29 606 704 728"> <p>UL Listed Mark (with C and UL)</p> <p>1) UL Listing Logo </p> <p>2) Word 'LISTED'</p> <p>3) Product Identity, e.g. Li Ion Battery</p> <p>4) Control Number: 47Y9 or MH16707</p> </div> <div data-bbox="704 606 1419 728"> <p>UL Recognition Mark (with C and UL)</p> <p>1) UL Recognition Logo </p> </div> </div>	<p>Location</p> <p>- On battery pack. - Can be on smallest packaging if marking on body is not possible</p> <p>e.g. VARTA Singapore UL file no.: MH16707</p> <p>e.g. Model Name: BP-SCL2</p> <p>e.g. 7.4V/1800mAh/13.32Wh</p> <p>e.g. WWYYX (WW = week (calender week), YY = year, X = Manufacturer (V = VARTA))</p> <div data-bbox="1440 592 1585 721">  <p>Differences between UL and UR.pdf</p> </div>
<p>2) Cautionary Markings/Instructions must include the following statements or equivalent</p> <p>a. - An attention word such as "CAUTION", "WARNING", or "DANGER", and - a brief description of possible hazards associated with mishandling of the battery pack such as burn hazard, fire hazard, explosion hazard,</p> <p>b. A list of actions to take to avoid possible hazards, such as do not crush, disassemble, dispose of in fire, or similar actions</p> <p>c. Instructions regarding replacement batteries.</p> <p>d. French translation of cautionary markings</p>	<p>Location</p> <p>- On each battery pack, or the smallest unit package, or instructions provided with each battery</p> <p>e.g. Caution</p> <p>e.g. May explode if disposed of in fire</p> <p>e.g. Do not open; must be recycled or disposed of properly; Do not disassemble</p> <p>e.g. Do not replace by a battery other than that specified by manufacturer</p> <div data-bbox="1440 992 1564 1099">  <p>Canadian Certification Requirements</p> </div> <p>e.g. ATTENTION: Ne pas brûler, risque d'explosion. Ne pas court-circuiter ni écraser ni démonter. Doit être recyclé ou stocké de manière appropriée. Remplacer exclusivement par des pièces approuvées par GE. Charge: 0 à +45°C. Décharge: -10°C à 50°C. Pour la charge, utiliser exclusivement un instrument approuvé par GE.</p>
<p>3) Charging Marking/Instructions</p> <p>Max. charging current and max. charging voltage</p>	<p>Location</p> <p>on the product, its smallest packaging unit, or the instructions provided with each battery pack</p> <p>E.g. For the Ikusi battery, the instruction and charge limit are placed on the smallest packaging</p> <p>Caution: May explode if disposed of in fire! Do not replace by a battery other than that specified by manufacturer!</p> <p>Charge limits: Max. charge current: 1130 mA Max. charge voltage: 4.25 V</p>

Marking & Labelling

KC (Korea)	Location	Guidelines / Examples
1) KC Mark and declaration number 		1) Black 2) KC declaration no. shall be retrieved from UL and placed with the logo. Can be represented with XXXXXXXX-XXXXXX as an interim solution. Example of a certification number: XU120175-14002A <u>KTC marking requirements</u> 
2) Type of Battery	On battery body or smallest packaging	전지
3) Model Number/Name		e.g. 200-30350
4) Rated Voltage		e.g. 7.2V
5) Rated Capacity		e.g. 4400mAh
6) Manufacturer in full		VARTA Microbattery (Shanghai) Co., Ltd. AND/OR PT. VARTA MICROBATTERY INDONESIA
7) Local importer tel number (name is not required)		E.g. TEL NUMBER
8) Date of Manufacturer		e.g. YYYYMM
9) Country of Manufacturer		e.g. Made by in Indonesia
10) Other information	On battery body or provided with product	e.g. Do not crush, do not heat or incinerate
11) Handle with Care	On battery body or smallest packaging or Manual	1) Short information on battery if no user manual: 경고: 발열, 화재, 폭발등의 위험을 수반할 수 있으니 다음 사항을 지켜주시기 바랍니다. • 화기에 가까이 하지 말 것 • 분해, 압착, 관통 등의 행위를 하지 말 것 • 높은 곳에서 떨어뜨리는 등 비정상적 충격을 주지 말 것 • 전지 단자에 목걸이, 동전, 열쇠, 시계 등 금속 제품이 닿지 않도록 주의할 것 (휴대컴퓨터용 전지가 아닌 경우 생략 가능) • 60°C 이상의 고온에 노출하지 말 것 • 휴대 기기, 제조업체가 보증한 리튬 2 차전지 사용할 것 or 2) All 13 handle with care precautions

<u>Standard</u>	<u>Basic Requirements</u>	<u>Additional Considerations</u>
IEC62133-2:2017	<ul style="list-style-type: none"> • 33 samples required (27 sealed and 6 unsealed). • Component cell must have IEC62133 certification. 	<ul style="list-style-type: none"> • Safety requirements/product limits? • Label markings? • Documentation and language? • Lead time and risk?
Japan PSE	<ul style="list-style-type: none"> • 32 samples required (31 sealed and 1 unsealed) • 3 end-product samples if the weight <7kg for portable equipment • Battery must be IEC62133-2:2017 certified already 	
Thailand TISI	<ul style="list-style-type: none"> • 38 samples • Factory inspection at additional time and cost 	

Summary



Your Checklist – What to Prepare



- ▶ Battery Specification (**Internal Decision**)
- ▶ Certifications required for your device for the markets you will enter? (**Test House**)
- ▶ Full list of countries where you will sell and support the product. Will you also sell batteries only (spares/replacements) in these countries? (**Internal Decision**)
- ▶ What do you need to provide and by when? (**Test-House or Battery Manufacturer**)
- ▶ How long will it take and how much will it cost? (**Test-House and/or Battery Manufacturer**)
- ▶ Project Manager for whole project (**Internal Decision**)

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MICROBATTERIES & SOLUTIONS

HOUSEHOLD BATTERIES

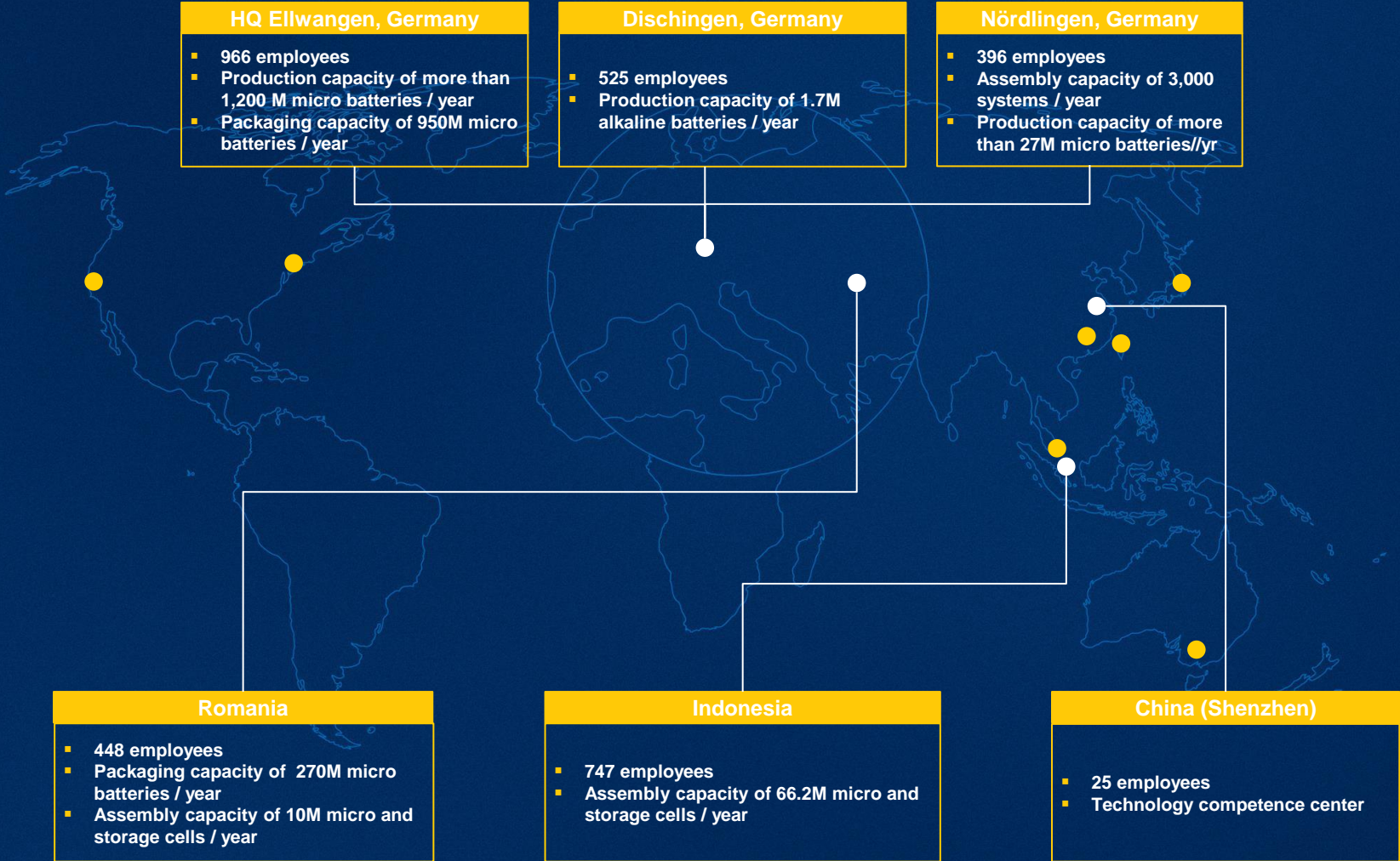


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