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## Only four weeks until the ICBR 2019 begins!

September 18 – 20, 2019, Lyon, France

**Birrwil, August 19, 2019:** The program has been finalised, the Congress Guide printed and the final preparations are in full swing: This year's International Congress for Battery Recycling ICBR 2019 is scheduled to start in a good four weeks. We hope we'll see you in Lyon, won't we? We certainly look forward to welcoming you to this year's event!

Once again, this year an extensive congress program awaits you: We have 30 presentations, two panel discussions and, last but not least, a top-class exhibition on the agenda. In addition, there will be two planned tours and a workshop on the UN and ADR regulations regarding the transportation of end-of-life, damaged and defective lithium batteries. At the end of the first day of the congress, ICM has arranged a magical networking dinner at the outstanding Michelin 3-star restaurant l'Abbaye of the famous Paul Bocuse!

We are especially looking forward to our keynote speakers this year. One of them will be the internationally renowned battery expert Christophe Pillot. Mr Pillot is Director of the French consulting firm Avicenne Energy and will provide us with an overview of current developments in the lithium battery market at the ICBR 2019. Prior to the event, he has already given us some key insights into the current market situation:

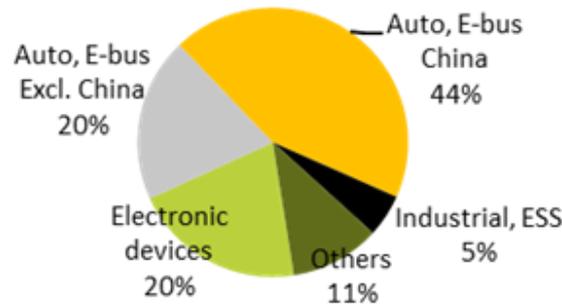
**Mr Pillot, you will be giving a presentation on the current lithium-ion battery market at the ICBR 2019. Is the demand for lithium-ion batteries still high?**

*Driven by the increasing popularity of electric vehicles, the demand for lithium-ion batteries is huge, and it is only just beginning. The average growth rate in volume is 25% and more than 15% in terms of value.*

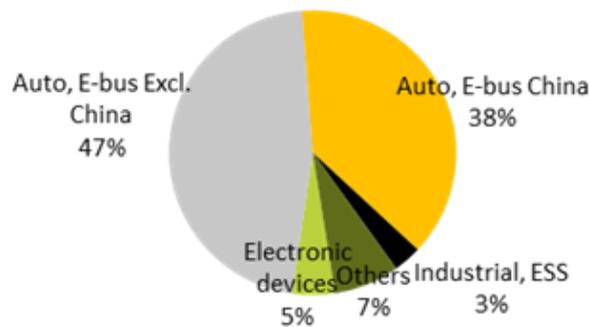
- **Which applications are seeing the strongest growth?**

*Vehicle electrification is by far the most important application, even though the full EV penetration is only around 2%.*

## 2018: >160 GWh



## 2030: 1200 GWh



- **Battery recyclers fear lithium-ion batteries because they repeatedly catch fire. What would have to change during production to rule out the risk of fire?**

*Right from the beginning, li-ion batteries presented a safety problem. By putting more and more energy into a smaller and smaller space, we are creating a kind of bomb. The number of incidents, or should I say accidents, is growing and the damage caused is more and more severe. The battery can burn, the cell factory can burn, and the EV can burn. And the worst is that the true cause of thermal runaway unfortunately remains unknown.*

*Li-ion batteries are not stable and have thermal runaway issues. Overcharging, overheating and cell crushing are managed by the battery management system or the cell design. However, internal short circuits caused by manufacturing defects are not managed and even when designed using the best quality process, 1 out of 10 million cells will have a defect.*

*Most market players are working on solid state batteries to improve safety and get rid off the flammable liquid electrolyte. Nevertheless, there are still some technical challenges to solve before a solid state battery can work at ambient temperatures in a car. The major challenges are the conductivity of the electrolyte and the management of the interface between the solid electrolyte and the electrodes.*

- **The range of an electric car powered by a lithium-ion battery is still relatively low. Scientists are therefore looking for alternatives to the lithium-ion battery in order to further increase the energy density of the battery. Will there soon be new battery types that replace the conventional lithium-ion battery?**

*For EV applications, almost all the players agree that lithium-ion batteries will be the technology of choice for the next 10 to 15 years. We think we will see the evolution and improvement of lithium ion batteries, but we do not expect a revolution. Lithium sulphur batteries may have a very good gravimetric density, but a short life cycle and poor volumetric energy (the most important for a car). Li-air or fuel cells are still far away from becoming commercially viable on the automotive market.*

- **Some market observers believe that by 2030 all batteries will consist of 10 per cent recycled metals. Do you think this is realistic?**

*If I consider our market, this percentage seems to me within a realistic range. For 2030, we forecast lithium-ion battery demand of roughly 1200 GWh. If we consider that the average battery lifetime is about 10 years, we have to look at 2020 lithium-ion battery sales: 250 GWh, which is 20% of the projected demand in 2030.*

**Thank you for the interview, Mr Pillot.**

If you want to find out more about the challenges of battery recycling, come and meet us at the ICBR 2019 in Lyon. Don't miss this opportunity to exchange news, views and ideas with experts from all areas of the battery recycling sector. We look forward to welcoming you at this year's industry meeting. For all the details on the program and how to register, just go to <https://www.icm.ch/icbr-2019>.

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**About ICM**

ICM AG is an international leader in the organisation of conferences that specialise in the recycling of vehicles, electronics and batteries. These waste streams have been among the world's fastest-growing raw materials markets for many years.

ICM is a Swiss company which has organised conferences in Europe, North America and Asia since the year 2000. The company was founded by Jeanette Duttlinger. Her team consists of 15 employees who speak German, English, Spanish, French, Italian, Polish, Chinese and Japanese.