



# Progress report about RESS activities

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## headlines

- REESS is the new abbreviation for **Re**chargeable **E**nergy **S**torage **s**ystem – rationale s. Reg. 92 -.
- Requirements to ensure safety of REESS are established;  
there were no justification for a restriction to Lithium-Ion-Batteries
- Scope is for vehicles of categories M and N with electric power train



# motivation

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- minimize risk of explosions, fires or harming by electrical shock
- do not hinder the fast development in high voltage vehicles but contribute to the new technology by avoiding discredit by accident
- amend an existing regulation to avoid a long administrative procedure in the European legislation (s. LED Reg.).



## envisaged structure

- Introduce a 02 series of amendments of reg 100 – OICA ask for 36 month transitional provisions –
- Come up with a new Part II with REESS requirements
  5. **Part I: Requirements of a vehicle with regard to its electrical safety**
  6. **Part II: Requirements of a Rechargeable Energy Storage System (REESS) with regard to its safety**
- Amend an annex with test procedures



Federal Ministry  
of Transport, Building  
and Urban Development

**first approach:**



**1. Vehicle Level**

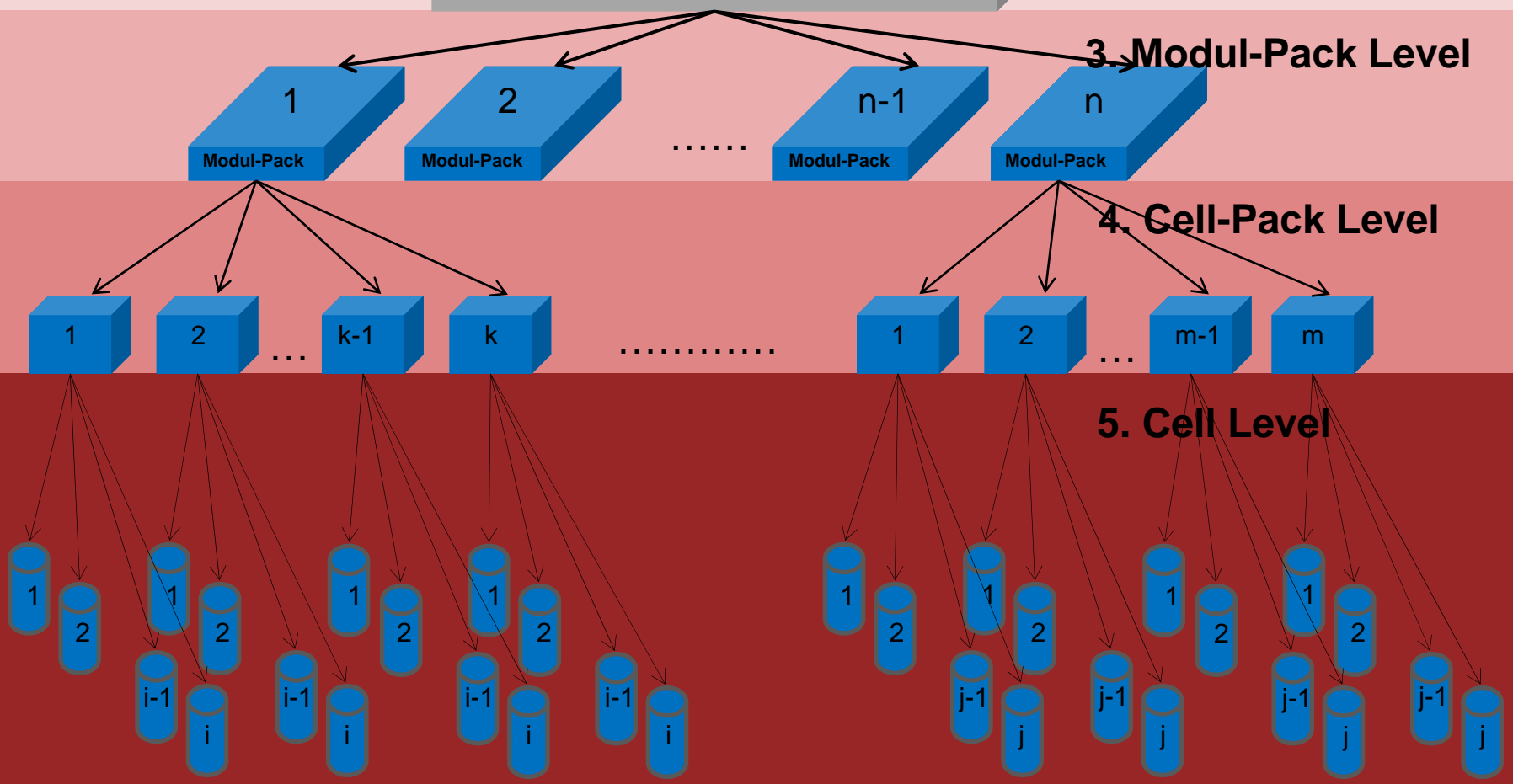
Main Batterie

**2. Main Level**

**3. Modul-Pack Level**

**4. Cell-Pack Level**

**5. Cell Level**





## agreed approach

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No requirements on cell or cell-pack level

Be performance orientated as far as possible on  
battery/module level.

In addition

- align with UN 38.3 to reduce time and effort for testing (e.g. vibration)
- consider existing IEC and ISO standards



# technical requirements

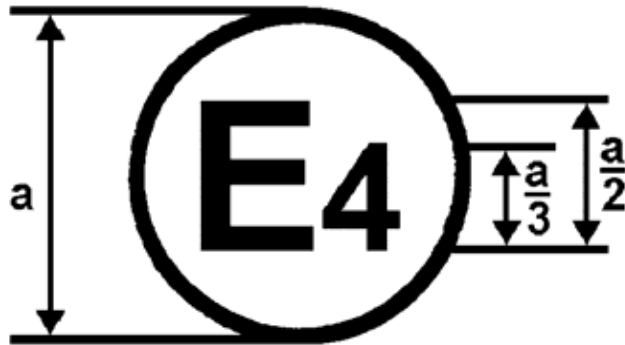
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- 1 Vibration
- 2 Thermal Shock and Cycling
- 3 Mechanical impact
- 4 Fire Resistance
- 5 External Short Circuit
- 6 Overcharge Protection
- 7 Over-discharge Protection
- 8 Over-temperature Protection
- 9 Protection against direct contact
- 10 Emissions



# approval

- component or vehicle based tests
- component approval important for national legislation (retrofitting, modifying the vehicle)



100 RES - 022492





## idea for the future

- Multi-stage approval of a component. Most of the REESS tests can be done by the battery manufacturer, only fire and mechanical impact are more vehicle related. Shield and fixed location provided by the vehicle manufacturer reduce weight.
- So, if the battery manufacturer gets already approval for the tests he had done, costs could be reduced.
- Administrative solution if only a part is tested approval sign with a special letter or clearly indicated in the communication form



## timeline

Jan 2012: 6th meeting of RESS group

Feb 2012: Formal document to GRSP

March 2012: 1st meeting EV-SGS for the GTR

May 2012: Adoption REESS amendments by GRSP

Nov 2012: Adoption REESS amendments by WP.29

Sep 2013: research initiated by NHTSA provide  
results with test procedures for Li-Ion batteries

2014 ? : draft GTR EV



# 1958 agreement

- I want to emphasize how important is the work done by RESS group. Countries with type approval systems need the requirements established so far.
- Established groups for EV GTR should consider the outcome of RESS group is required by the proposers EU, US and JP  
„work already accomplished under the 1958 Agreement could be an important input, notably...the results of the RESS informal working group...Importantly, the start of the work under the 1998 Agreement will not pre-empt any further work on RESS under the 1958 Agreement.“



## open issue

- Is the NL proposal for enlarging the R100 scope – vehicle category L – sufficient or will GRSP mandate REESS group to consider this item?
- Usage of EV will give more evidence and (lifetime) experience.

This will lead to further amendments



**Thank you for your attention**