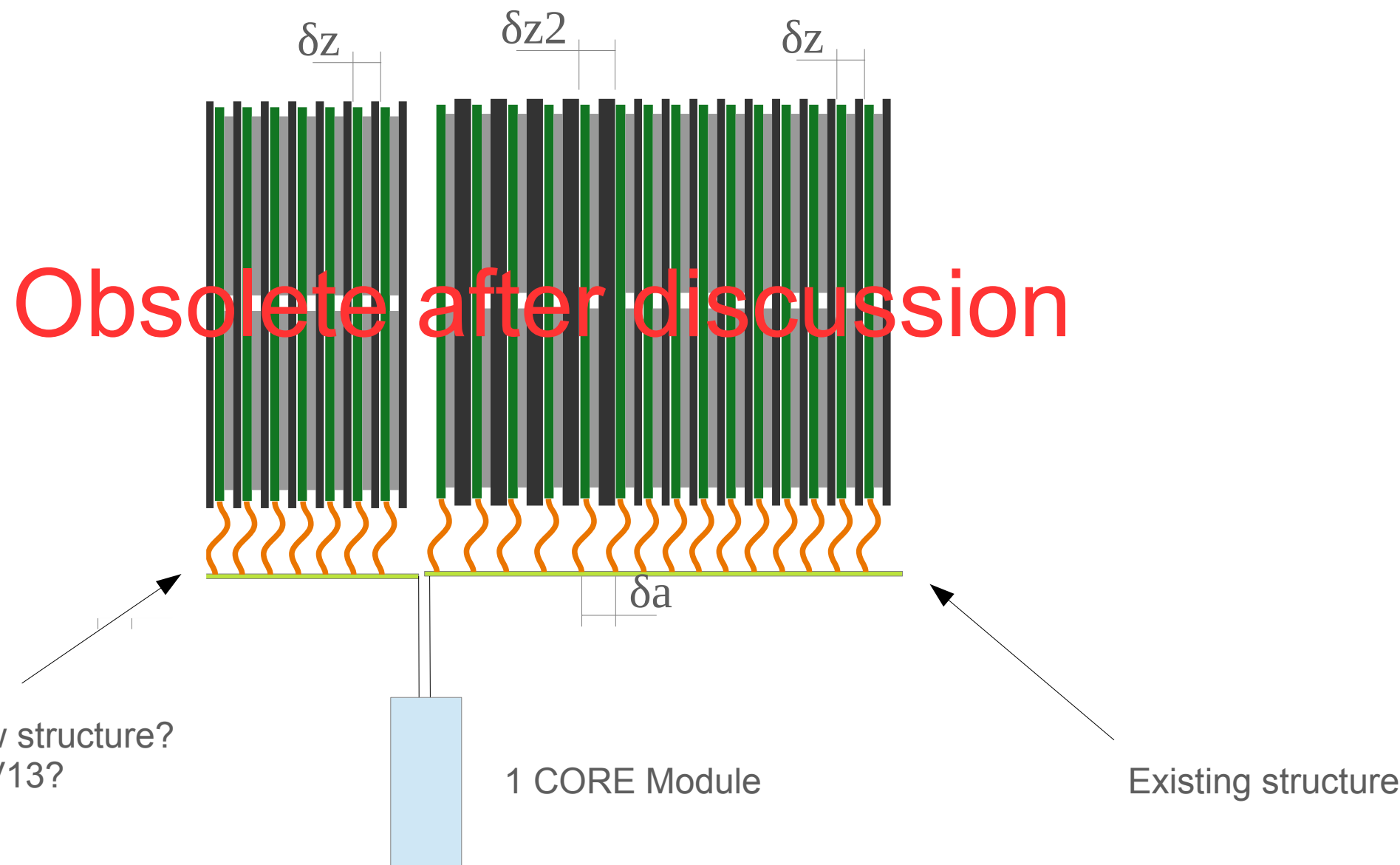
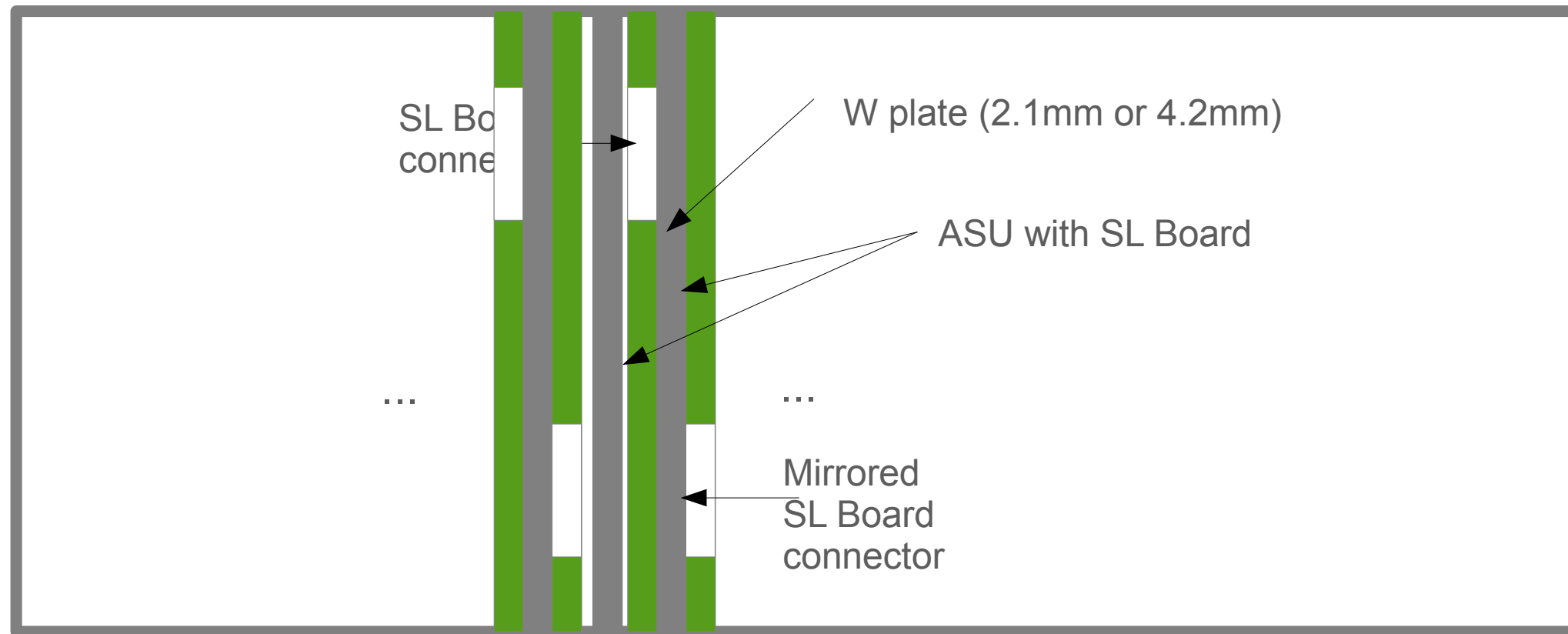


- Three beam tests planned for 2022
 - DESY 7/3/22 – 21/3/22
 - CERN 1 ~June/July 2022 (Schedule not yet known, personal guess)
 - CERN 2 ~September 2022 (Schedule not yet known, personal guess)
 - All three beam tests combined with AHCAL though Ecal specific running will be part of the programme
 - NB: Note that the SDHCAL has also raised its hand for a combined beam test
- Necessary modifications
 - DESY: 15 layers *and* old structure
 - Tests of COBs (1-3 layers) and FEV13(?)
 - => No modifications to r/o system and mechanical structure
 - ... apart from updates following discussions/observations during/after november beam test
 - Test of common running with AHCAL
 - **Have to equip structure everywhere with 4.2mm W plates to have depths for shower absorption**
 - **Do we have the material?**
 - Integration with TLU to integrate with Telescope, and EUDAQ
 - NB: Check whether interfaces at DESY and at CERN are the same
 - CERN
 - Running with >> 15 layers (Mix of FEV10-13, COBs and FEV2.0)
 - => Updated mechanical structure and update of readout system
 - Don't forget mechancil integration with AHCAL

- CERN in Summer 2022 (Assumption: first test around mid/end of June 2022)
 - Too soon for a fully new mechanical structure and necessary developments of r/o system
 - Development of “mirrored” SL Cards takes time and the worldwide shortage of components is a risk
- Setup has be ready around mid-may 2022 in order to have sufficient lead time for testing
- Practical solution
 - Setup with **two** structures
 - One structure that hosts 15 slabs at the example of 2021
 - A second one that hosts for example 7 FEV13 (Risk: Kyushu may need FEV13 for setup at KEK)
 - Using the 7 FEV13 is the most realistic scenario to have a stack with >20 layers
 - Readout with a **single** CORE module (facilitates the synchronisation with other detectors)
- Important question for CERN 2022, will we test long layers in structure and if yes what means “long”?
 - Line of two (or three?) ASUs can easily be integrated in existing stack (might be interesting to test long layers in “realistic” dense environment)



- Short term to do list:
 - Check W inventory (this is already important for DESY) -> **URGENT: Need answer until the end of this week**
 - If available, prepare (i.e. cut) W plates until ~end of January
 - “Pieces” to receive 4.2mm W -> **Urgent for DESY, need to launch production now**
 - **Material will leave for DESY on March 3rd**
 - Technical drawing of second housing and “CAD integration” with existing housing
 - Need to clarify with Kyushu whether “their” FEV13 will be at our disposal for the two CERN beam tests
 - Technical planning depends on Kyushu answer (-> **contact Taikan and ask for answer until beginning of next week**)
 - Using FEV13 require either a sufficient amount of SL-Adapt cards or FEV10-12 extender
 - Design of Kapton for second housing?
 - **Conclusion of 5/1/22: Can use the same kapton and approach the rigid parts**
 - => No new design necessary
 - **Design of second structure (including integration with existing structure) until 19th of January**



- **Many open points**
 - What are realistic dimensions that fulfill all the guidelines see below?
 - Individual insertion of ASUs or complete cassettes with ASU-W-ASU sandwich?
 - How do we insert the layers
 - So far we've inserted “from the back”, this looks more involved now and is not the way one would do it in the final experiment
 - Planning above requires
 - Development of “mirrored” SL-Boards
 - Customised CORE Kaptons
 - Extension of CORE Module to 2x15 layer r/o + many software changes

- Getting close(r) to final compactness
 - Not a simple pile up of layers
 - 24X0 within around 20cm
- Flexibility
 - **A priori ...**
 - Exchange of layers and running w/ and w/o tungsten should remain possible
 - Possibility to insert at least semi-long layers (2-3 chained ASUs)
 - Note Demonstrating power pulsing under “real” conditions is a key R&D goal
 - **But ...**
 - How much flexibility can be maintained, the more compact we get the more difficult it will get to run w/o tungsten
 - Would compromise (exclude) “MIP running” at DESY but is this a problem?
 - Orientation towards a “steady setup” (during a beam test) would have of course a major impact on design