



Review of the June 2019 workshop and Objectives for this one

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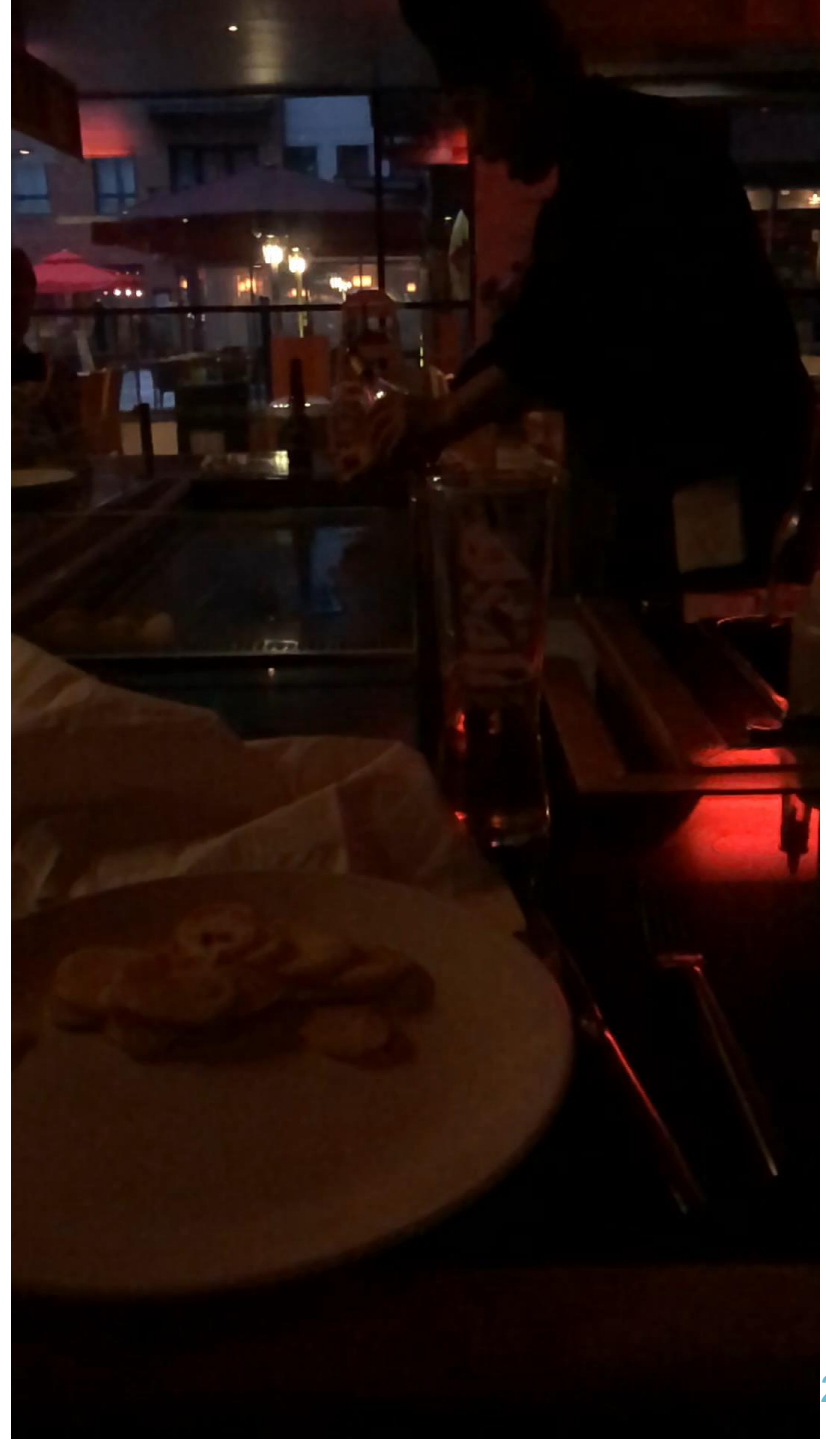
BGC Collaboration meeting – CERN – 16-17 March 2020

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- Milestones for CERN
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BGC Collaboration meeting in
Liverpool, June 2019

Preliminary plasma jet transmission
experiments



Actions from June 2019 (1)

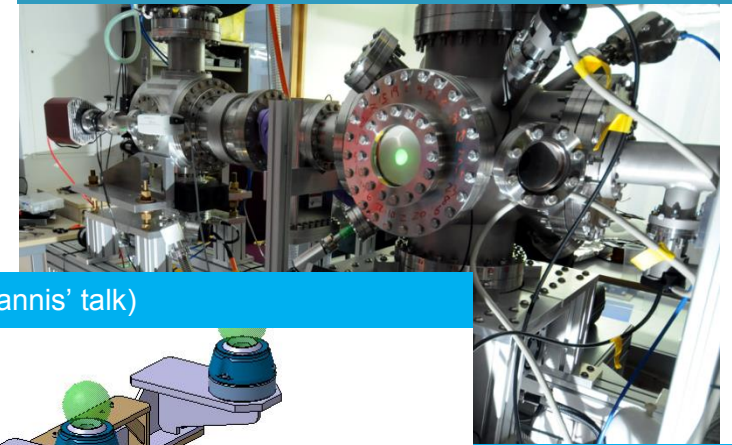
- Experimental
 - Preliminary results of LHC measurements
 - Further analysis from Stefano yield further data – the more we analyse, the better the results look...
 - ECR being circulated for the Run 3 measurements
 - Use of other gases in Run 3?
 - Additional (PhD) support for interpretation of future results
 - Munchen measurements with protons
 - Follow-up measurements with improved filters for Ne and tests with 370 nm line
 - CI Measurements
 - Install a chiller on the image intensifier? Still useful?
- General/Project management
 - Funding situation 'looking positive'
 - 100% in-kind collaborations for both HL-UK2 (BGC) and HEL
 - Now baselined for HL-LHC
 - LHC Beam size review October 2019
 - Well-received presentation on LHC results for the BGC and on a gas-jet variant for the BGV

Actions from June 2019 (2)

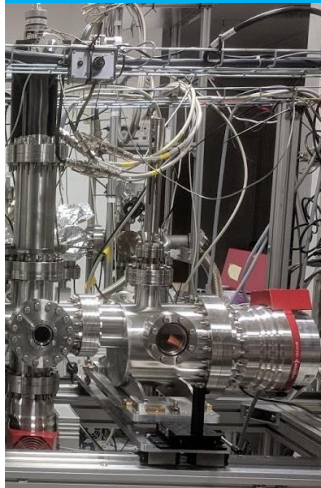
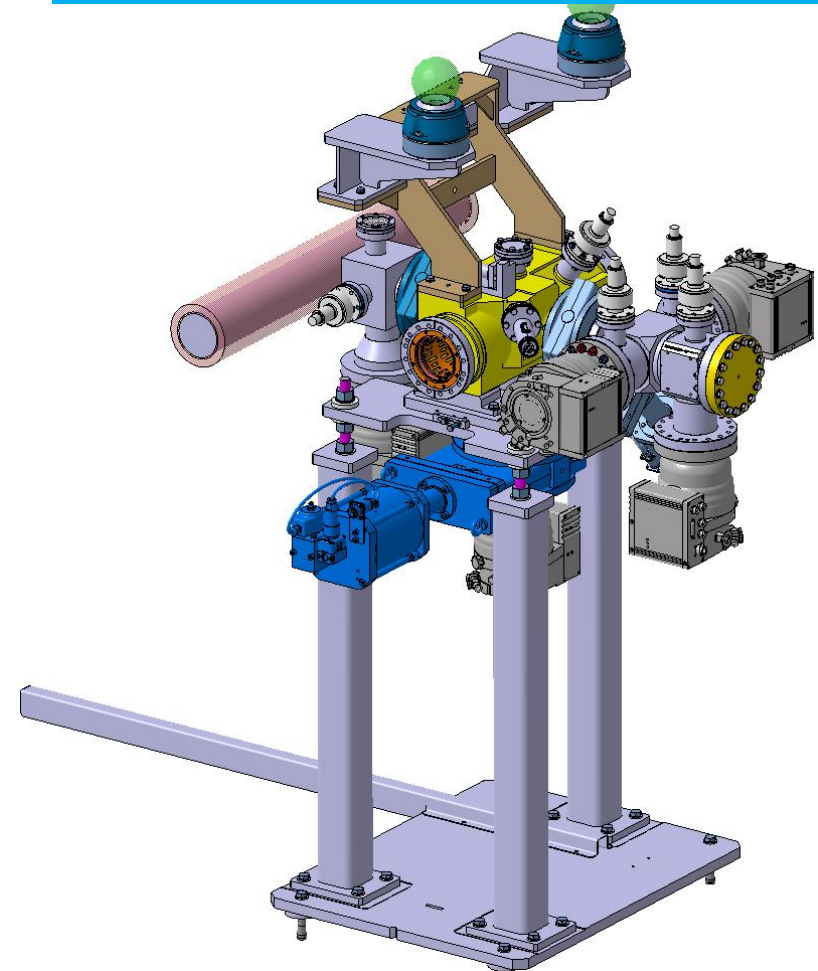
- Design and production
 - Vacuum control system design and test
 - This is still a priority for the HEL test stand, but much stronger contacts in place with TE-VSC
 - HEL test stand
 - Recent results from CI show limits for the jet size
 - Design and integration well advanced
 - Performance of components in magnetic fields (valves, actuators)
 - I think that this still needs to be investigate and/or tested
 - (in the last meeting there were) Many open questions for the LHC installation
 - Choice of pumps, gas bottle integration, coating tests and production **all done!**
- Simulations
 - High-pressure simulation expertise
 - Taken-up by CI – what do we still need to understand?
 - Design for future machines (gas jet scanner etc)
 - FCC fellow (Tom) was not replaced
 - Jet for a BGV instrument
 - Strong request from WP13 (instrumentation) management to support this BGV option
 - What density do we need? How do we obtain it? Do we need additional diagnostics?
 - Fruitful discussions on alternative gas-jet generation (see Roberto's talk)

Brief glossary of BGC 'versions'

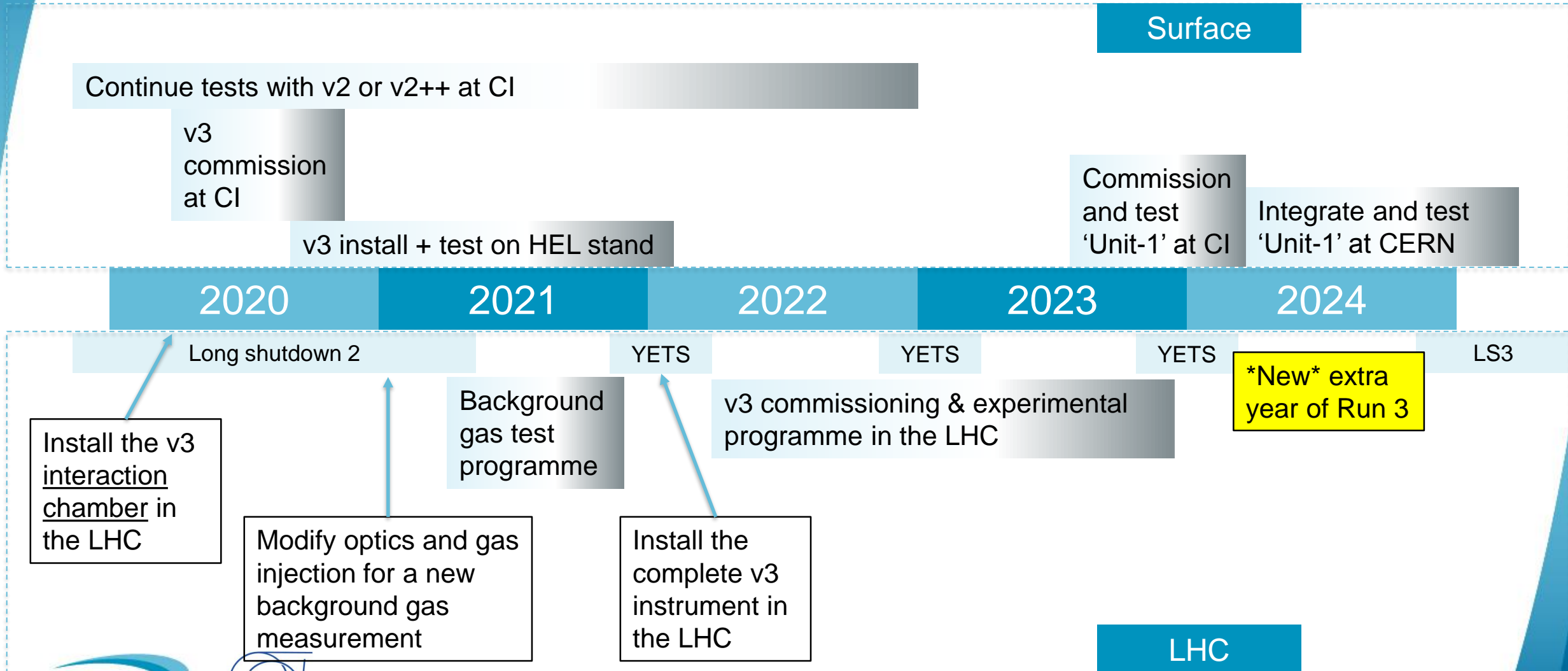
- v1: was the original test stand designed and built at CI, used for preliminary studies, still operational
- v2: was the first deliverable from the HL-UK1 collaboration. Designed for the laboratory with CERN, it is the main experimental tool in use at CI,
- v3: is the second (and final) deliverable for HL-UK1. It is designed for installation in the LHC
- Units 1 and 2: are the planned deliverables from HL-UK2. They will be designed to be integrated into the final HEL for installation in LS3



v3 instrument (see Ioannis' talk)



Experimental roadmap (March 2020)

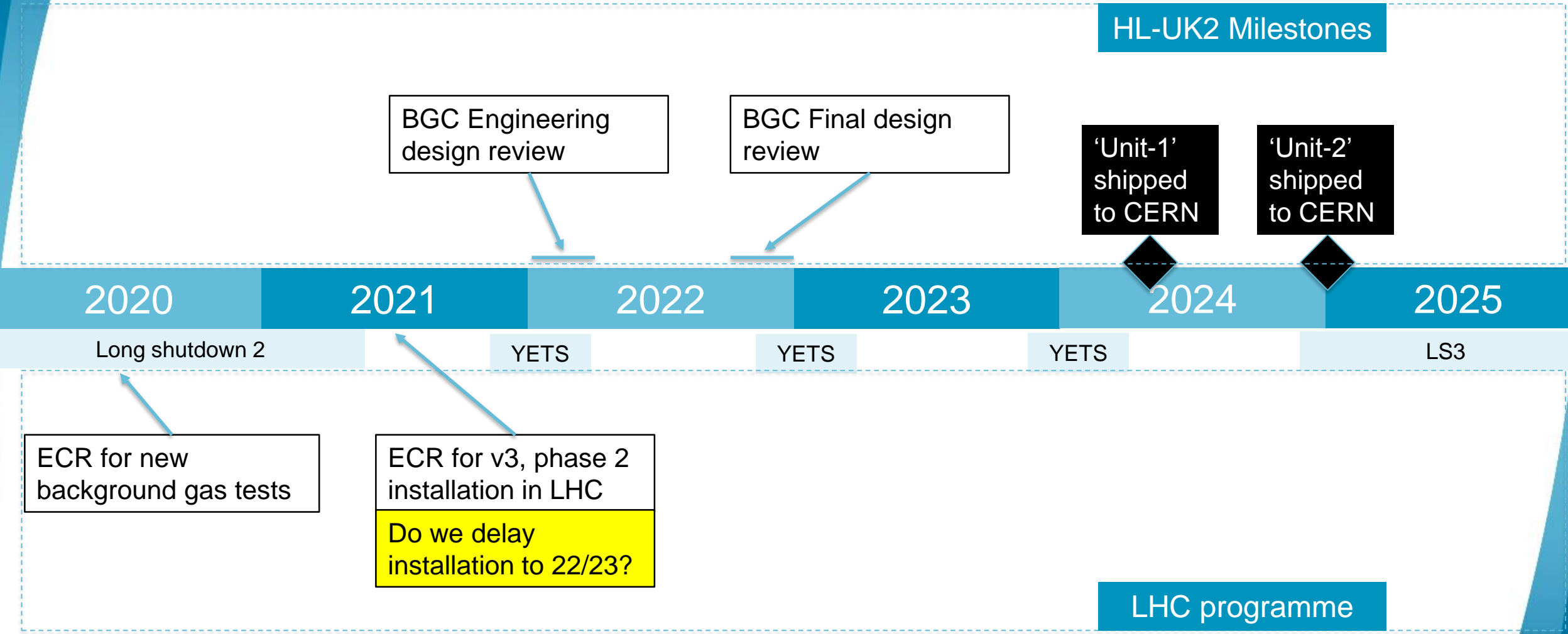


LHC

Open Questions on the programme

- We have gained an extra year of LHC Run 3, what do we do with it?
 - Keep to the existing schedule with the v3 instrument moved from the HEL test stand to the LHC at end 2021?
 - More time for full p+ instrument tests in LHC and earlier feedback into the final design
 - Less time for HEL test stand operation with e- and less time for background gas tests in LHC
- How and where do we qualify the final instruments
 - Will the HEL test stand still be operating?
 - Do we integrate directly onto the HEL, if so, where?
- What about the Ne vs. N2 choice?
 - Do we try and test this in the LHC?
 - Do we try and test this on the HEL stand?
 - Should we buy and/or install NEG cartridges somewhere?

Decisions and Milestones as of 3/2020



Objectives for this meeting

- For the v2 instrument in Cockcroft: Summarise the measurements of 2019 and **define the measurement priorities for 2020**
- For the v3 instrument LHC tunnel installation: Give the status on the tunnel installation and v3 instrument design
- For the HEL test stand with V3 design: Define the **objectives of the tests**, what can be the **expected performance**, define work share on the HEL test stand with BGC v3 and planning
- HL-LHC instrument: Identify design limits with integration constraints, optimise gas jet creation and choice of gas, expected performance, view of schedule and tasks
- Review status of the collaboration, publications, manpower and budget planning
- **Specification for the HL-UK2 Deliverables**
- Fluorescence tests in LHC with distributed gas: Review results and expectations with run 3.
- Discuss alternative gas jet generation

Yea...

**I still haven't decided
where to go for Easter**



**debating between the
bedroom or the living room**

...any more tricky questions?