



# LHC BWS Hybrid/Hybrid+ for EYETS 23/24

24.05.2023

# LHC BWS CONS project team meeting #8

## Some 'definitions'

### Hybrid design

- 2 instruments currently installed in the LHC
- Compatible with the LIU control system
- Using the existing support and infrastructure
- 0/90 measurement configuration
- Ball screw drive and encoder
- All vacuum components (bellows, fork assemblies, feedthroughs) unchanged

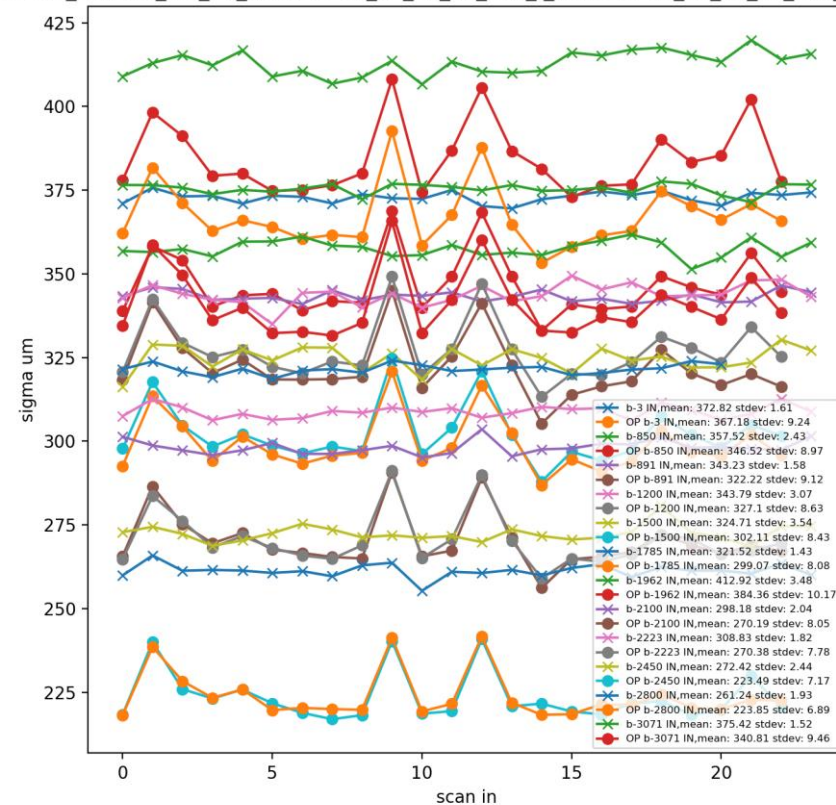
### Hybrid+ design

- Nothing currently installed in the LHC
- Compatible with the LIU control system
- Using the existing support and infrastructure
- 0/90 measurement configuration
- Ball screw drive and encoder
- Re-design fork assemblies and feedthrough
- Magnetically coupled drive depends on ongoing development

### Do we agree on the hybrid strategy that:

- We aim to consider the 2 'Hybrid' instruments as available for operations by end 2023
- We aim to build and install 2 additional 'Hybrid+' designs, replacing 2 'legacy' designs for YETS 23-4

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R. Veness: <https://indico.cern.ch/event/1270379/contributions/5387304/attachments/2639148/4566758/LHC%20BWS%20Mechanics%20update%200523.pdf>

# LHC BWS Hybrid/Hybrid+ for EYETS 23/24

What version could we install ?

## Hybrid+

**What new part in the vacuum?**

- Forks
- Wire fixation for bakeout
- etc...

**What validation should be done to assess these new parts before installation**

- vacuum
- bakeout
- in motion, etc.)?

## Hybrid

**Repairs of the legacy bellows, what procedure?**

**Procurement of the custom and standard parts**

**Production of min. 3 scanners (2 in LHC, 1 in the lab)**

**Vacuum acceptance test?**

# EYETS intervention

- Which 'legacy' scanners to replace
- 
- Work breakdown and rough planning

# Notes (R. Veness, 24.05.2023)

Present: Jonathan, Federico, Morad, William, Dmitry, Nabil, Ray

Spares (Morad)

8 assemblies in stock

-3 with leaks in the bellows-feedthrough

-5 with disconnected

NONE that are good, except for

+2 assembled wire scanner operational hot spares.

16 bellows in stock, but not the good design. This is not conforming as it was too rigid and were replaced.

No other bellows in stock. **ACTION Morad, order new bellows from COMVAT**

No other components such as the housing for the forks etc.

No other parts - all others needed. **ACTION Morad - organise the order of the other components, with help from Dmitry and Jonathan if needed.**

**ACTION Morad: Talk with MME to see if we can repair some of the 8 that are not working. Consider using the 5 with leaking feedthroughs for the 'new' design.**

Could we put the feedthrough on a mini-conflat [new design]? **ACTION Dmitry. Do a quick study if we can fit a conflat on the end.**

Would prefer to change the vertical scanners which means modifying the yellow supports on the surface. ACTION Morad announce to Gerhard that we want to make this intervention.

Need to change the bearings for a new design. ACTION: Dmitry, Morad, look at what to buy.

Agree to buy enough to make enough components to install all 8 in LS3 if needed, plus spares.

**ACTION Morad: Work-out how many of each component we need and tell the respective people (in particular Jonathan for the motors).**



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