



HI-ECN3.

HI-ECN3 project - WP5 Experimental Area, Experiment Interface & Integration

WP5 proposed structure

| Sub WPs | Objects |
|-----------------------------------|---|
| WP 5.1 - F. Butin – Grad 2 | Technical coordination of the Experimental Area, interface with experiment and accelerator |
| WP 5.2 - S. Girod / B. Martinez | Design, engineering and Overall 3d integration of the experimental area and related technical infrastructure |
| WP 5.3 - M. Lazzaroni / Grad 2 | Shielding procurement organization and existing shielding recovery |
| WP 5.4 - F. Butin / Grad 2 | Supervision and coordination for dismantling of the existing ATS equipment and installation of the new technical infrastructure |
| WP 5.5 – D. Mergelkuhl | Supervision and coordination for dismantling of the existing ATS equipment and installation of the new technical infrastructure |
| WP 5.6 – C. Bertone, R. Rinaldesi | Transport - handling |

WP 5.1: Technical coordination of the Experimental Area, interface with experiment and accelerator

Objective: ensure the overall coherence of adaptation of experimental area to the new experiment project -> close contact with the experiment technical coordination

- Sub WP 5.1.1: Definition of **infrastructure requirements for the experiment**, including functional specification of Access structures, Cooling and Ventilation, Specialized transport , Access safety systems, power distribution and signal networks, Vacuum, Cryogenics, Gas distribution systems, IT and controls networks, Power supplies
- Sub WP 5.1.2: Definition of **interfaces with the accelerator and experiment**
- Sub WP 5.1.3: Overall **master planning of the experimental area**, budget control and report to management

WP 5.2: Design and engineering of the experimental area and 3d integration of the related technical infrastructure

Objective: perform design and engineering of the experimental area ensuring its adequacy and consistency

collect all 3d models produced by CERN groups and detectors elements alike to produce an integrated 3d structure.

Ensure consistency, respect of the envelopes, and respect of the operability/safety constraints.

- **Integration of existing and new civil engineering infrastructure, (trenches, pits, galleries etc) with models provided by SCE-SAM**
- **Integration of access structures (lifts, stairs, gangways), including design and procurement in collaboration with EN-MME when needed**
- **Integration of access safety systems, as defined in collaboration with EN-AA**
- **Integration of Experiments 3d models, with models provided by EP**

WP 5.2 continued

- **Integration of the Proton Beam line up to the target, including optics, instrumentation, and vacuum systems in collaboration with TE-VSC**
- **Integration of the Target station models provided by EN-STI, including shielding**
- **Integration of Handling means and transport corridors**
- **Integration of Electrical services (DC + AC cable trays, optical fibres gulleys), outside of the experiments volume**
- **Integration of Cooling systems: cooling squid and piping, compressed air distribution up to experiment interface**
- **Integration of HVAC systems and ducts, including partition walls with models provided by EN-CV**
- **Integration of gas pipes and distribution systems in collaboration with BE-EA-EC**
- **Integration of RP monitoring systems, as defined in collaboration with HSE-RP**

WP5.3 Shielding procurement organization and existing shielding recovery

Objective: Organization of shielding procurement, assist WP4 for new shielding to be bought, organize recovery of existing unused shielding

- **Sub WP 5.3.1: TT7 shielding recovery Civil engineering works**
- **Sub WP 5.3.2: Shielding Specific transport activities**
- **Sub WP 5.3.3: Refurbishment and logistics of the recovered shielding elements**
- **Sub WP 5.3.4: Missing shielding procurement. This corresponds to BE-EA-DC activity for procuring the missing shielding elements, the **budget corresponding to the missing shielding blocks proper is included in WP4** (Target complex)**

WP 5.4: Supervision and coordination: Dismantling of the obsolete equipment and infrastructure, installation of the required new technical infrastructure

Objective: the preparation / supervision / coordination work for the execution of the on-site activities required to adapt the existing experimental area for the new project, except the civil engineering part.

- **Work site management and supervision for all works (including WSS) related to the experimental area, in close link with BE-DSO, EP-DSO, EX-SO and TSO, with service groups and the experiment technical coordination.**
- **Ensure the good preparation, sequencing and compatibility of on-site activities, the work site safety conditions, and monitor the conformity of the execution.**

WP 5.4 Continued

- **Sub WP 5.4.1 : Removal of the K12 beam line elements, downstream of QNL_X1010046 - coordination with NA62 experiment dismantling – supervision and direct costs of the activities are included**
- **Sub WP 5.4.2 : Removal of the obsolete infrastructure elements (mainly decabling, but also cooling, HVAC, gas pipes, alarms, access safety, RP) – supervision and direct costs of the activities are included.**
- **Sub WP 5.4.3: Installation of the new experimental area infrastructure – only work site coordination and supervision costs are included. The resources and budgets corresponding to the study, procurement and installation of the technical infrastructure items, are part of WP7 (F. Pedrosa).**

WP 5.5 : Definition and implementation of survey and alignment systems

- **Objective:** definition, preparation, purchase, installation and operation of the survey/alignment activities required to install the new experimental area, beam delivery system and the new experiment (**separate budget**).

Meetings - interfaces

