

MAGiC progress report

Denis M. Vasiukov^{1,*}

¹*European Spallation Source ERIC, Box 176, Lund 221 00, Sweden*

(Dated: April 21, 2026)

Abstract

This report highlights the progress and developments on the MAGiC instrument since the last STAP meeting in October 2025.

* denis.vasiukov@ess.eu

I. PROJECT MANAGEMENT

A. Personnel

- Moritz Braun accepted the Instrument Operation Engineer position.
- A new designer will start on May 4th.

II. PROGRESS ON INSTRUMENT COMPONENTS

A. Solid-state bender (SSB)

A cable support arm was added to the SSB and a delivery acceptance test (DAT) is being performed by MCA. The DAT is the last document needed for the completion of Qgate so after that the SSB is ready for installation.

B. FE chopper

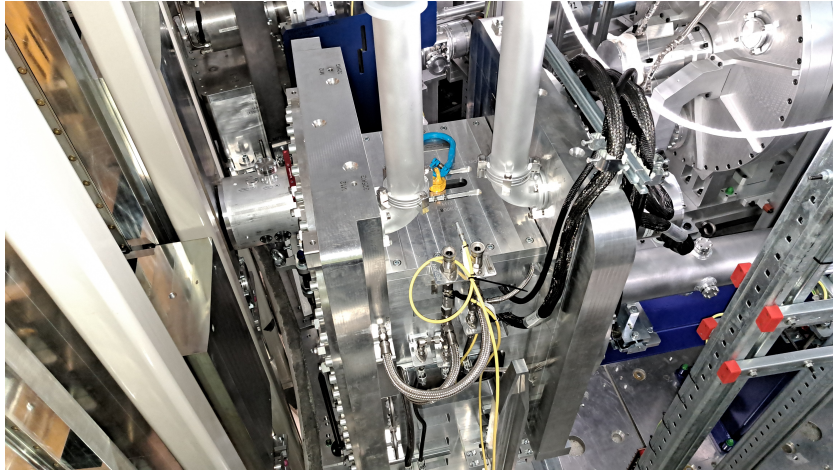


FIG. 1. The installed FE chopper.

The FE chopper was installed in February. It was found that the chopper is 2 mm lower than its nominal position although normal installation tolerance is about 0.5 mm. A shimming will be done to bring the chopper to the correct position.

C. In-Bunker Vacuum Housing (iB VH) and neutron guides

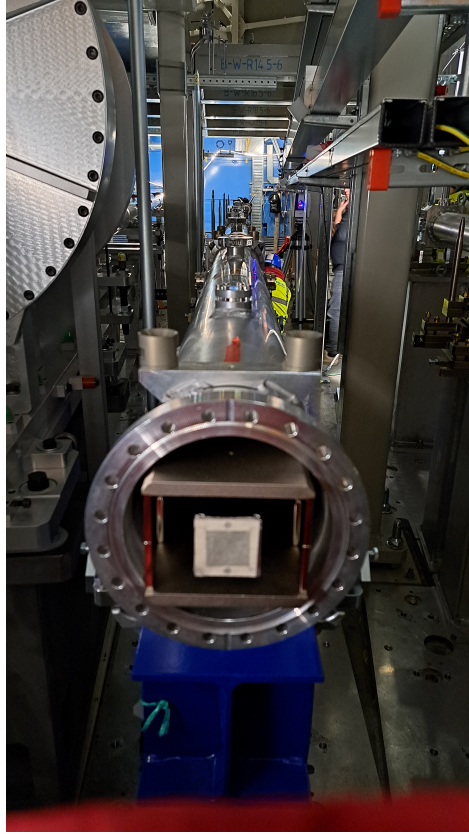


FIG. 2. The installed in-Bunker Vacuum Housing in the bunker.

Mirrotron successfully installed the in-bunker vacuum housing with neutron guides in January. Many useful lessons have been learned for the out-of-bunker part.

D. Bunker Wall Insert (BWI)

The Bunker Wall Insert is being manufactured. The FAT is planned on May 5th, the installation should happen in the first half of June.

E. Out-of-Bunker Vacuum Housing (OoB VH)

The tender was awarded to Mirrotron, the same supplier as in case of the in-bunker vacuum housing. This guarantees implementation of the in-bunker experience for the OoB VH design as well as installation. The installation of the last section should be finished

before the end of 2026 therefore the major issue of last year was mitigated only to an one-month delay of the TG5. The manufacturing design of the first section has been completed, Mirrotron is starting manufacturing now.

F. Integration progress

The design of all common projects, PSS etc., is finished. Critical design reviews for CUP and CEP are also passed. The installation stage begin in June.

G. Oscillation system of the radial collimator

We signed a contract with JJ X-ray for the design and manufacturing of the oscillation system. The design is practically finished.

H. Detector A

The manufacturing of the Detector A by CDT is ongoing. Some delays have occurred and the delivery now is expected in the end of 2026.

I. Beamstop

Most parts of the beamstop have been delivered to ESS. Installation is progressing now. The only remaining part to procure is the B_4C core. We are trying to implement a layer of enriched ^{10}B at the surface of B_4C to reduce backscattering of the direct beam.

J. Elevated platform

MShield were contracted for the elevated platform. The installation should happen in mid-June.

K. Goods elevator

After a long series of delays we are finally ready to proceed with installation of the goods elevator. The component manufacturing is over, the installation preparations are ongoing. Elevator is expected to be erected in May.

L. Sample stage

The tender for the design and manufacturing of the sample stage was closed on April 21st. We hope for the installation in October.