



IFAST 3rd Annual meeting, April 2024

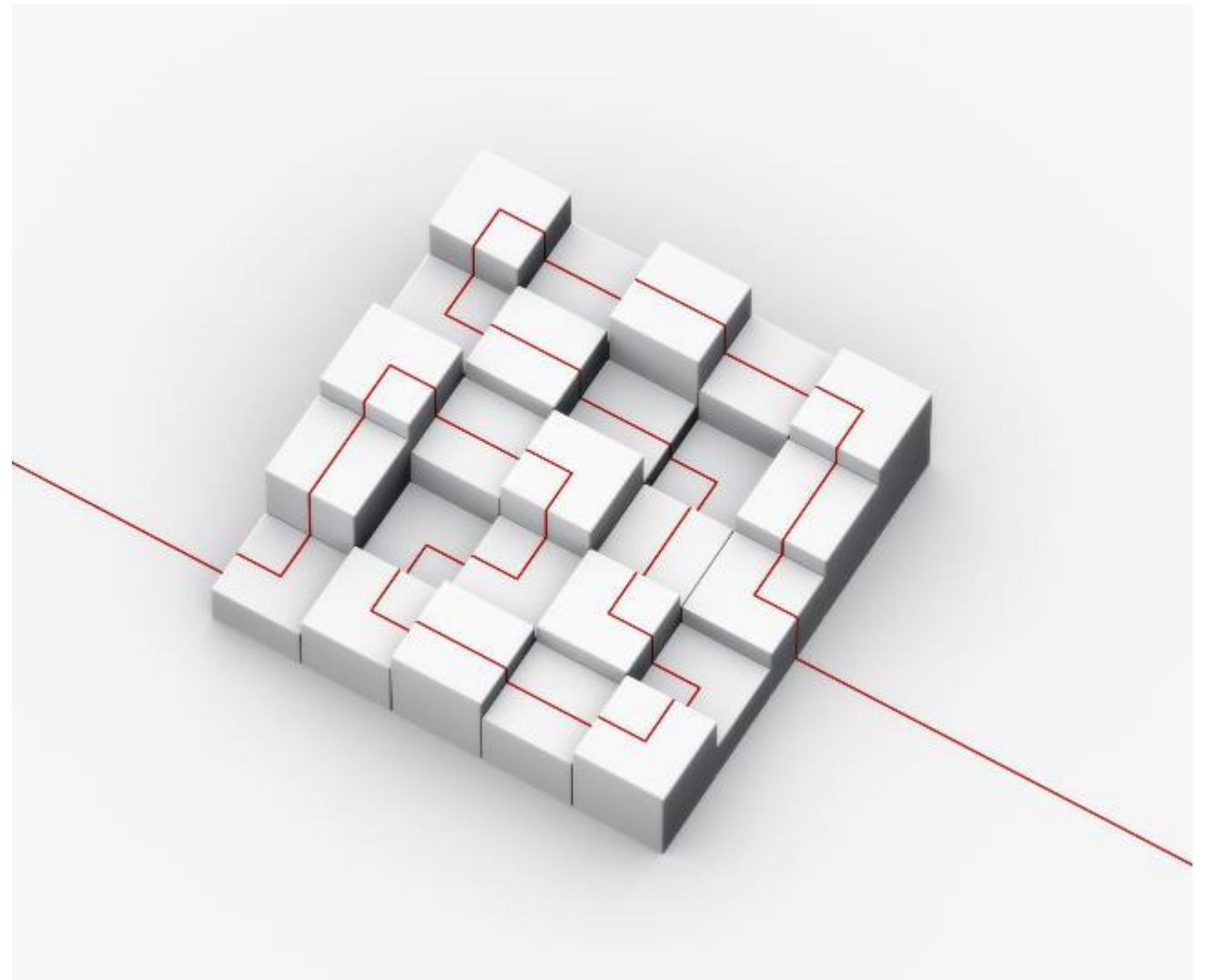
Nuria Catalan Lasheras. CERN

OUTLINE

WERFS II in Toledo

News on WP11.2

Innovation fund



2nd Workshop on efficient RF sources



In the parador of Toledo, Spain 23-25 September 2024

Two and a half days. Aiming at 35-40 talks and about 50 participants
Facilities reports, simulation codes, Klystrons, IOTS, Magnetrons, solid state amplifiers, voltage and field generators, operation, etc.

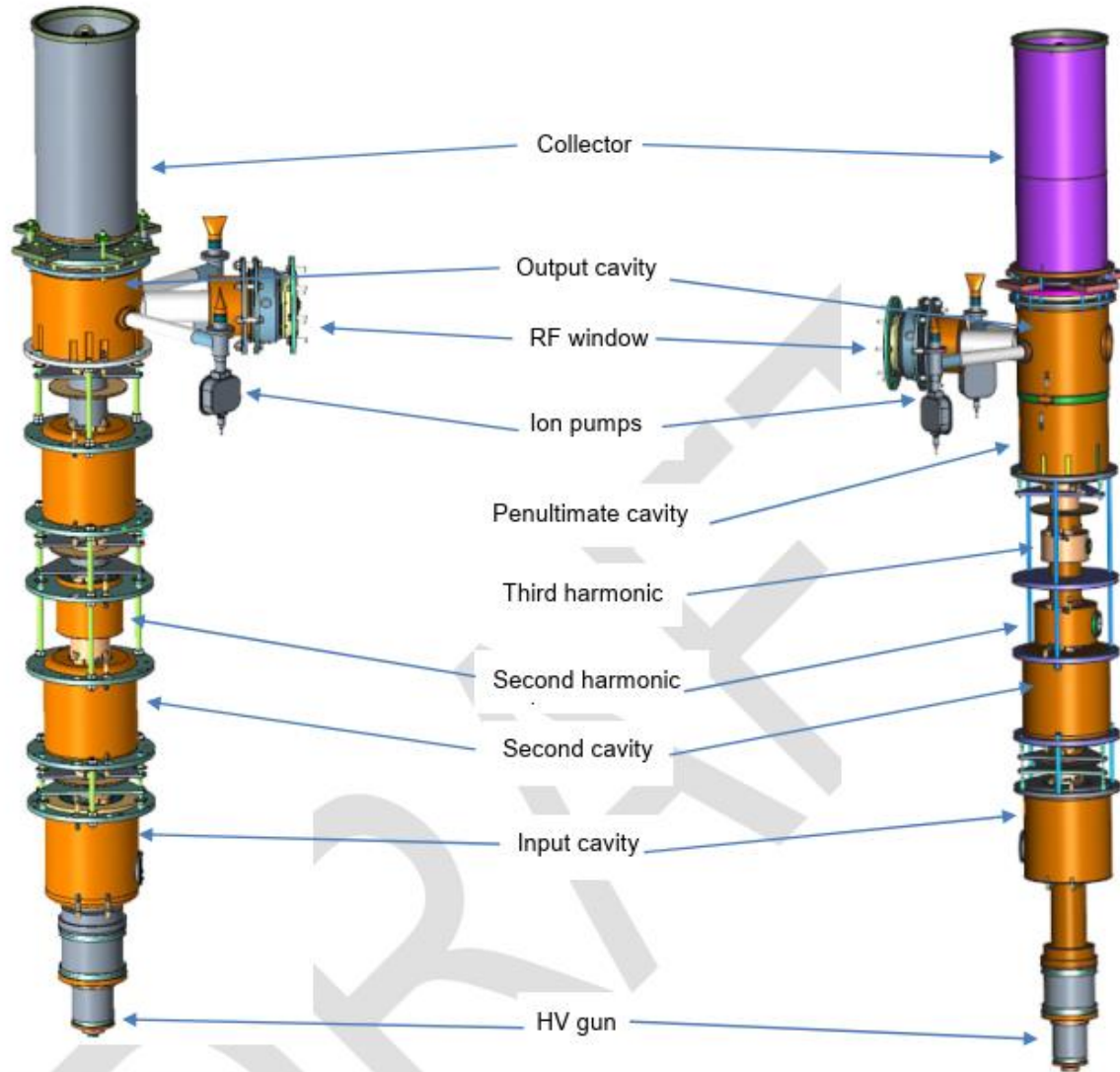


Figure 48 : Pumped TH2167 klystron view

Figure 49 : Pumped TH2167 HE klystron view

New TH2167 HE klystron

LHC klystron with a higher efficiency and higher output power (350kW)

Same electron gun and window

Slightly modified solenoid

New collector

Same frame and dressing as possible

HE TH2167 Schedule

Assembly well advanced.
Some procurement still on-going

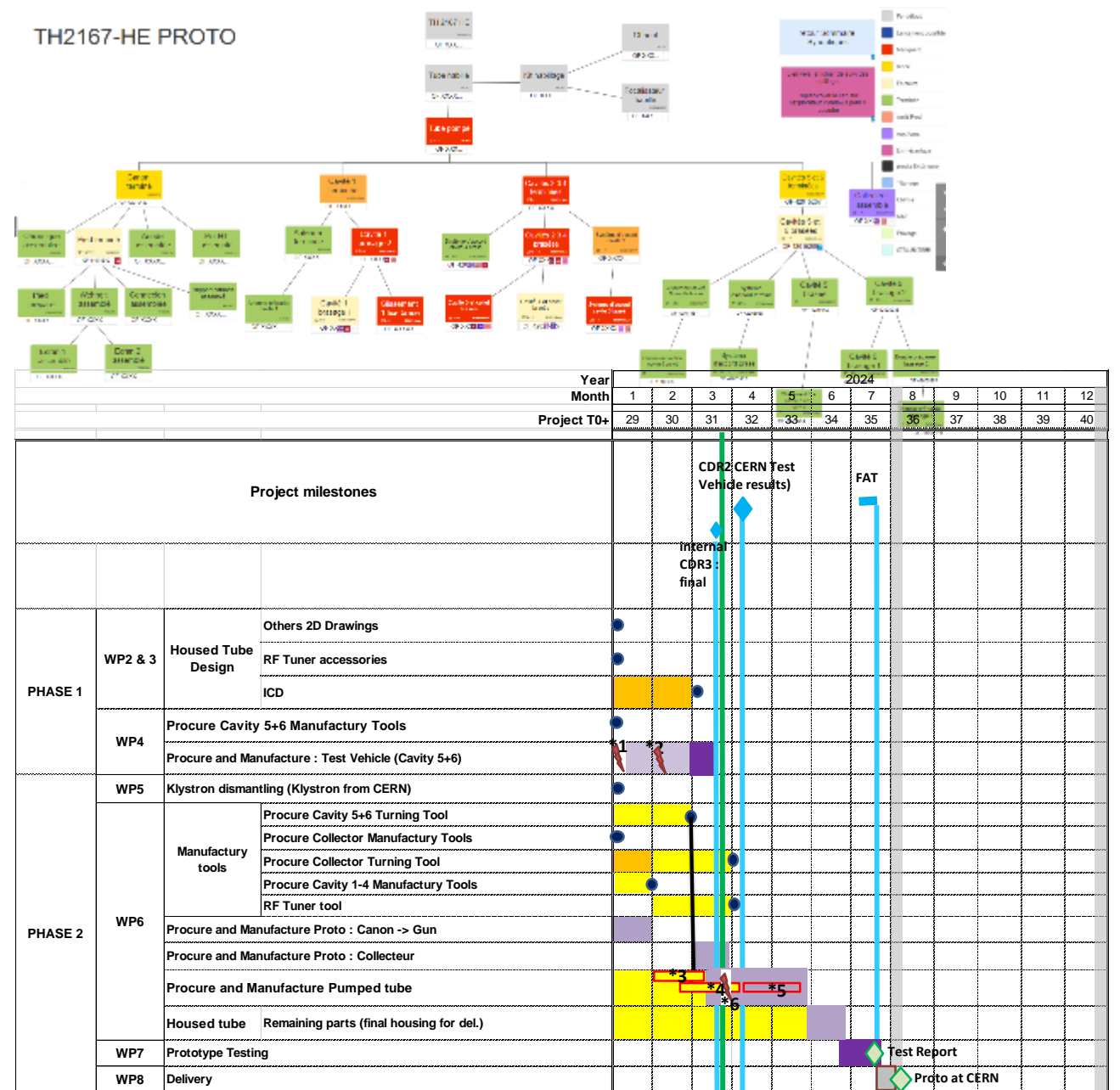
Priority at Thales for assembly and procurement

Monthly remote meetings

CDR review initially split in two.
Both done now

Klystron expected at CERN in July

Maintenance in Thales test facility may require the prototype to be tested directly at CERN

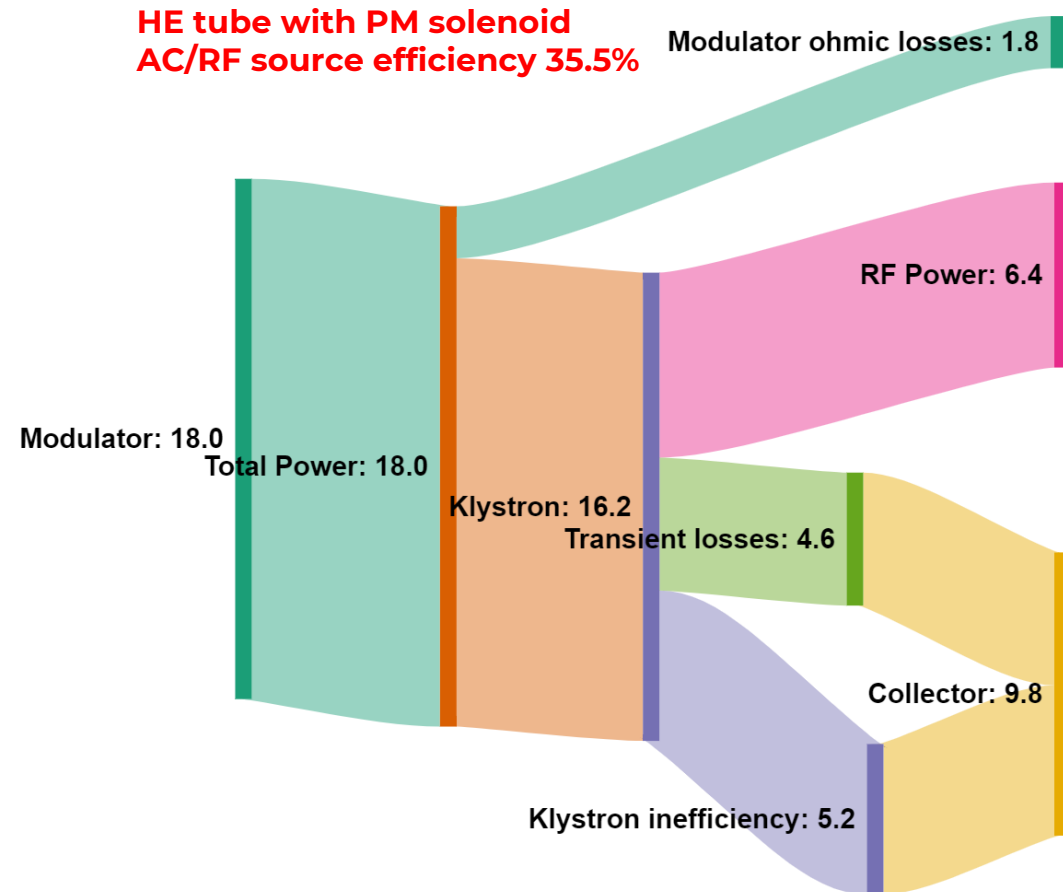
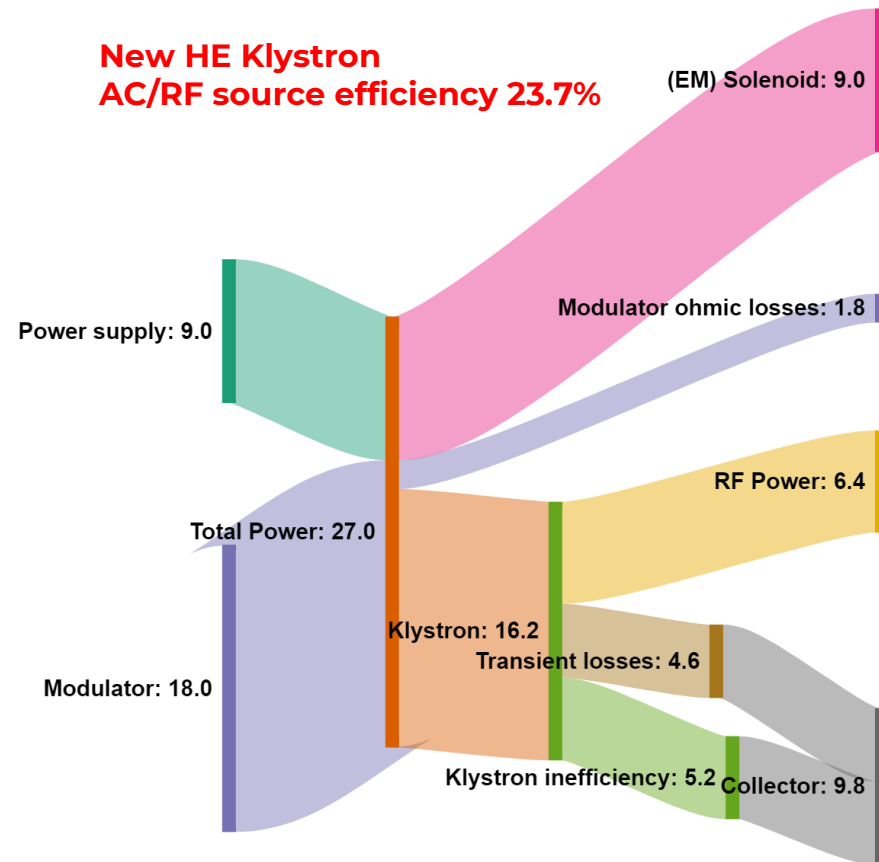


Growing interest on collaboration

- Visit to Thales in Velizy in January 2024
- Visit from Thales at CERN on March
- Very interested on collaborating with CERN on efficient sources
 - Klystrons
 - IOTs
- Interest also from ESS

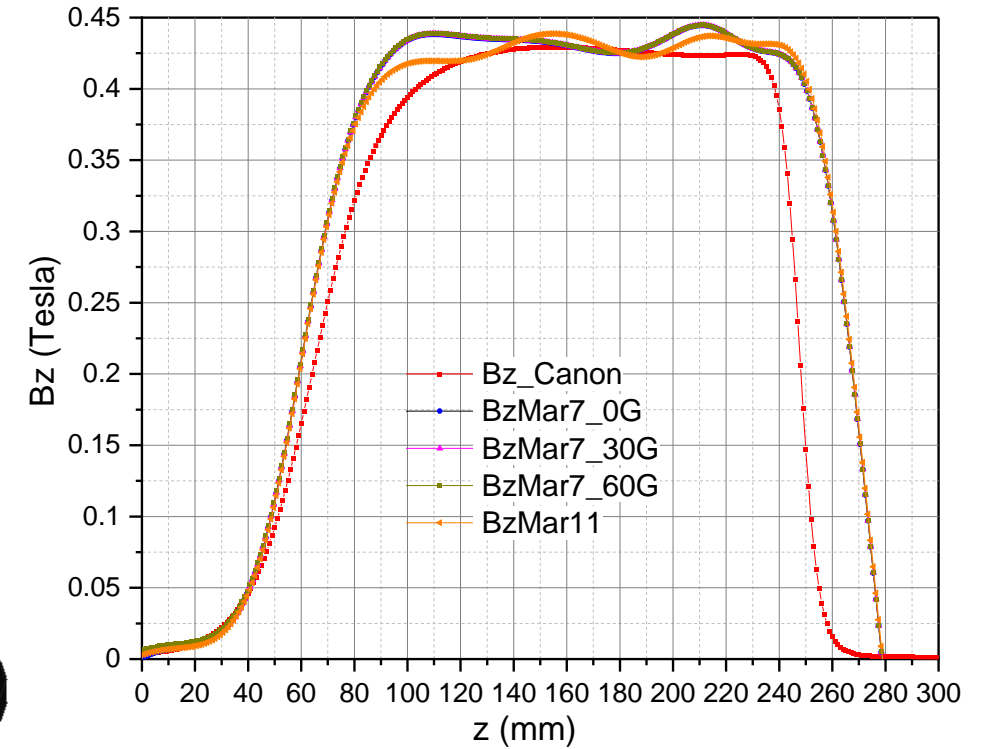
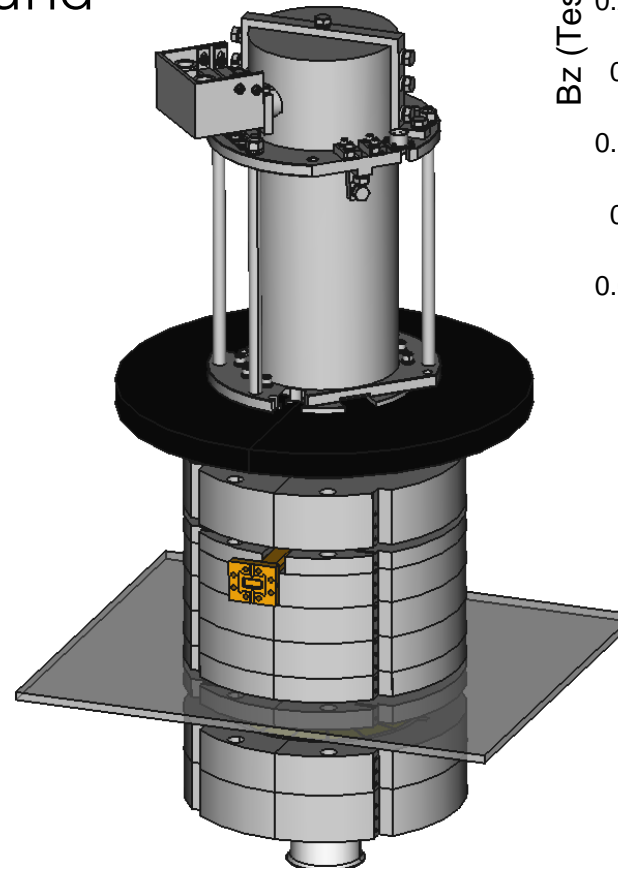
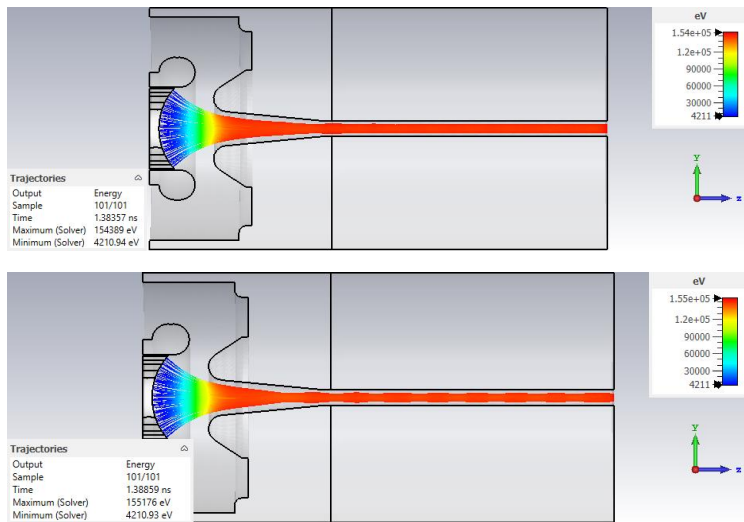


Reminder of the energy balance for pulsed RF sources



PM4HEK

Part of the IFAST innovation fund
In collaboration with Ellyt (ES)
Design well advanced.
Drawings ready for quotation



PM4HEK

To preserve the beam quality some concessions have been made

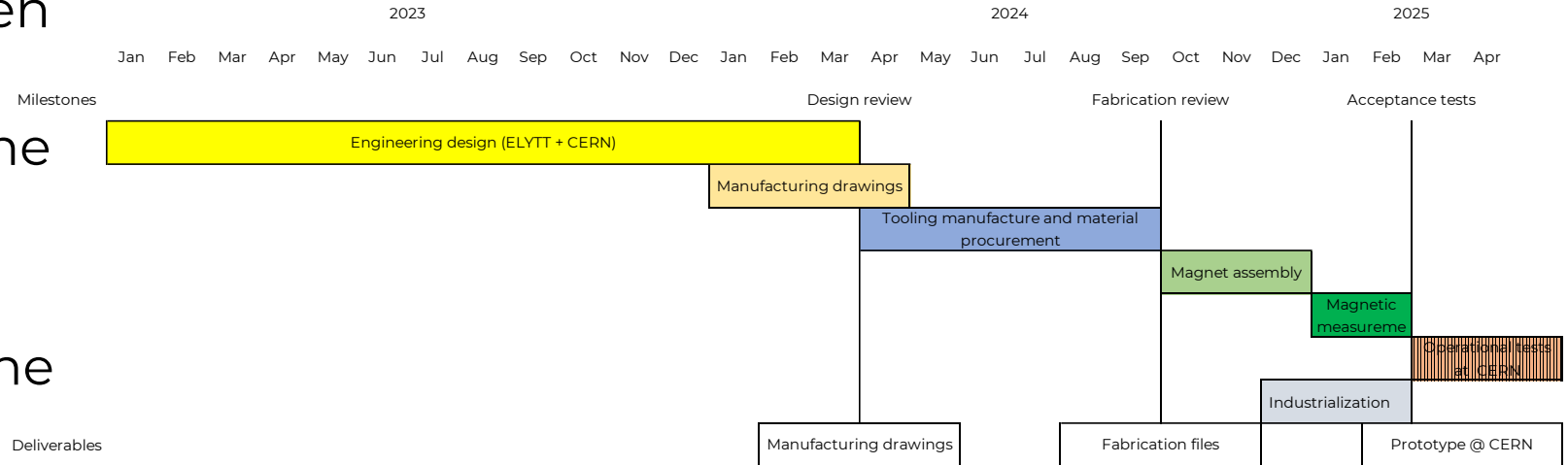
A small electromagnet at the cathode region

A smaller coaxial input

A longer drift tube before the collector

Details discussed with CANON. [Very interested on the development](#)

Also fitted for larger klystrons



Conclusion and Next steps

Growing interest on high efficiency for RF driven by large projects (CLIC, ILC, FCC-ee)

Industrial interest on medical facilities on S, C, X-band

Many initiatives inside and outside CERN. We try to keep connected!

Next invited talk on IPAC 2024 in Nashville.

“High-efficiency klystrons from a dream to a reality” N. Catalan Lasheras

See you in Toledo in September!