

A detailed 3D wireframe model of a particle accelerator complex. The model shows a large, roughly oval-shaped ring structure in the foreground, with various smaller structures, including straight sections and smaller rings, extending from it. The entire model is rendered in a grey wireframe style, showing the underlying geometry of the components.

Sub-project InterLAC

Project meeting #1

19th June 2026

Gregor Loisch, Hartmut Vormann

- Thanks a lot for your support!

- Work can start now (from the project side...)
 - lots of uncertainties remain
 - trying to narrow these down asap

- Will have bi-weekly meetings
 - general agenda
 - status update
 - open questions
 - issues
 - feedback from groups

 - Thursday 10:00-11:00 (10:30-11:30???)
 - Zoom will be available
 - Starting 02.07.2026 (non-PSU-meeting weeks)

- Weekly update mails planned
 - work package status list
 - upcoming dates/milestones
 - updates of component list
 - time schedule

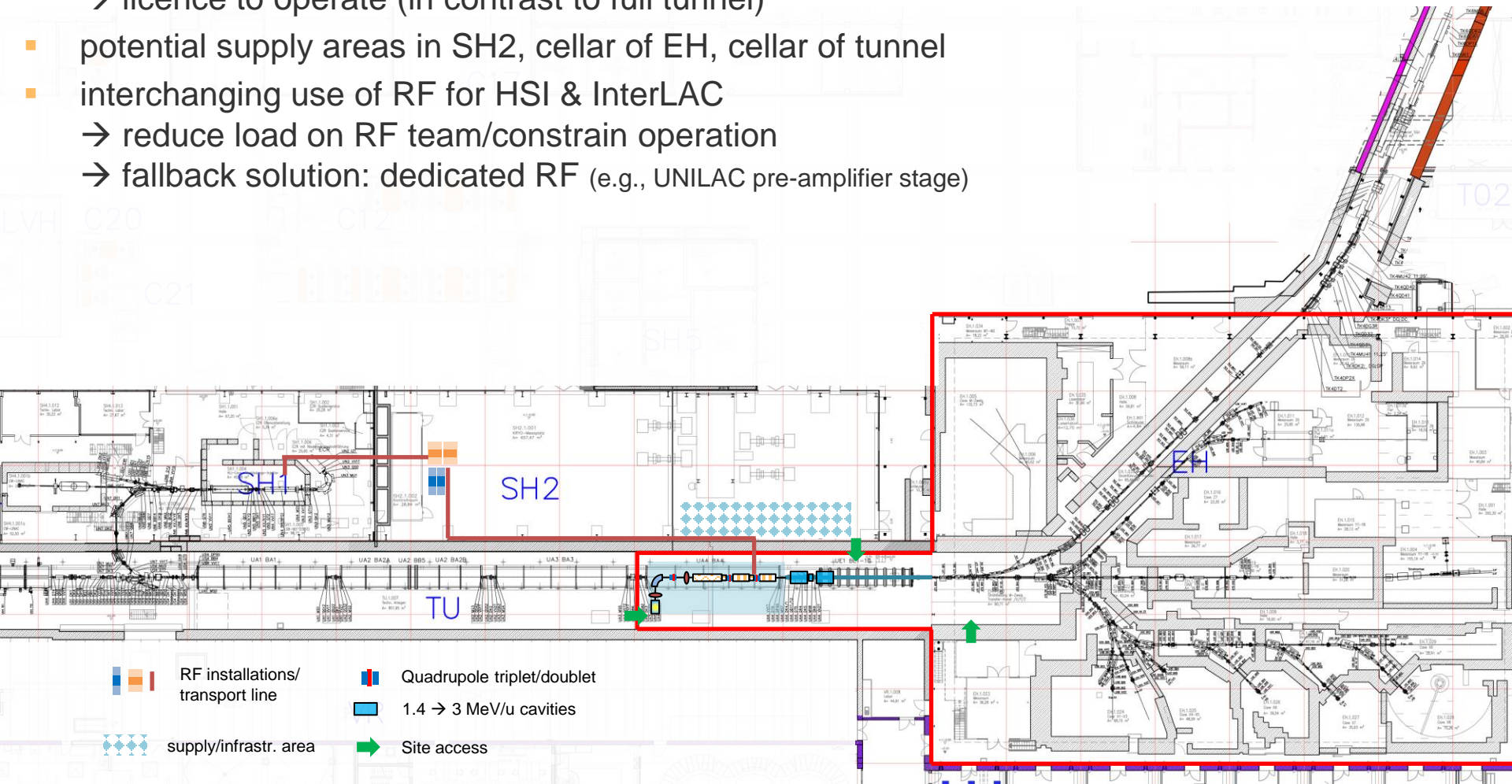
Currently open (rough) questions



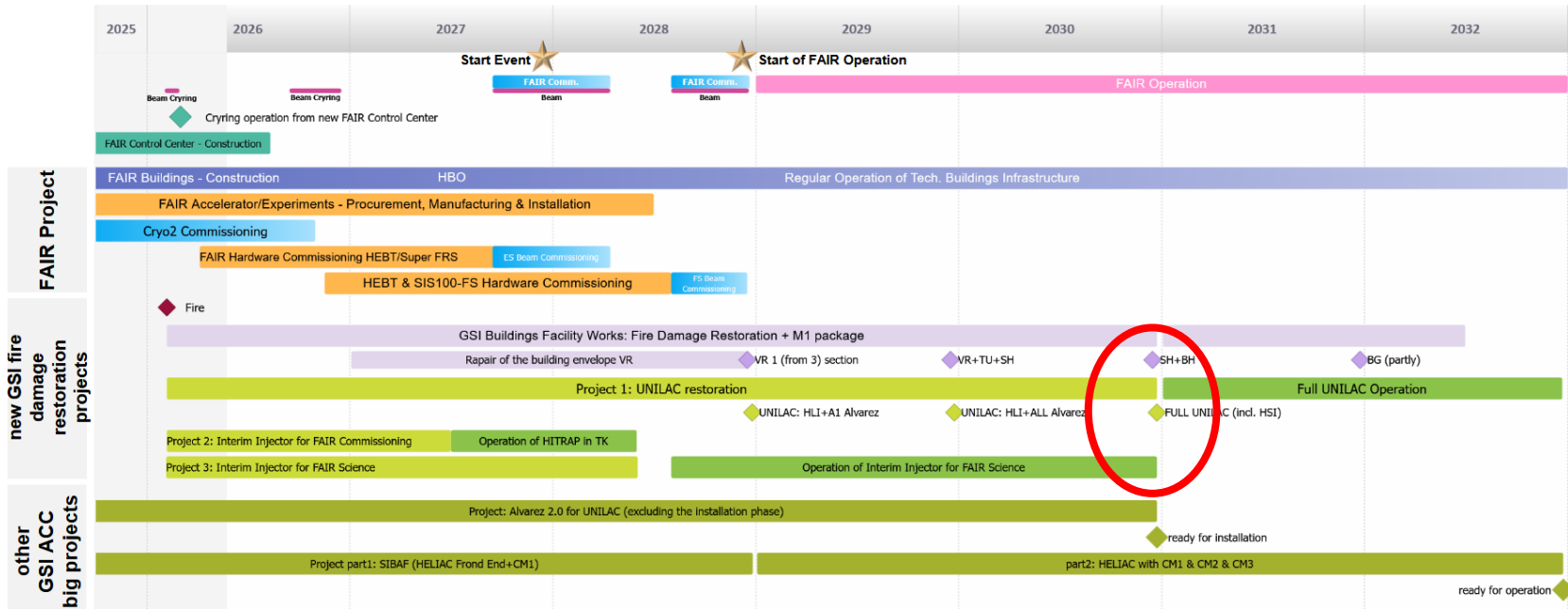
- space requirements outside tunnel
→ component list (!?)
- exact position in tunnel
→ next slides
- storage of UNILAC components, etc.
→ will look into this
- storage of InterLAC components
 - one storage area?
 - groups resp. for their components?

Plan A: InterLAC in EH-section of tunnel

- EH building will be extended into end of tunnel by radiation protection wall: “EH”
→ licence to operate (in contrast to full tunnel)
- potential supply areas in SH2, cellar of EH, cellar of tunnel
- interchanging use of RF for HSI & InterLAC
→ reduce load on RF team/constrain operation
→ fallback solution: dedicated RF (e.g., UNILAC pre-amplifier stage)

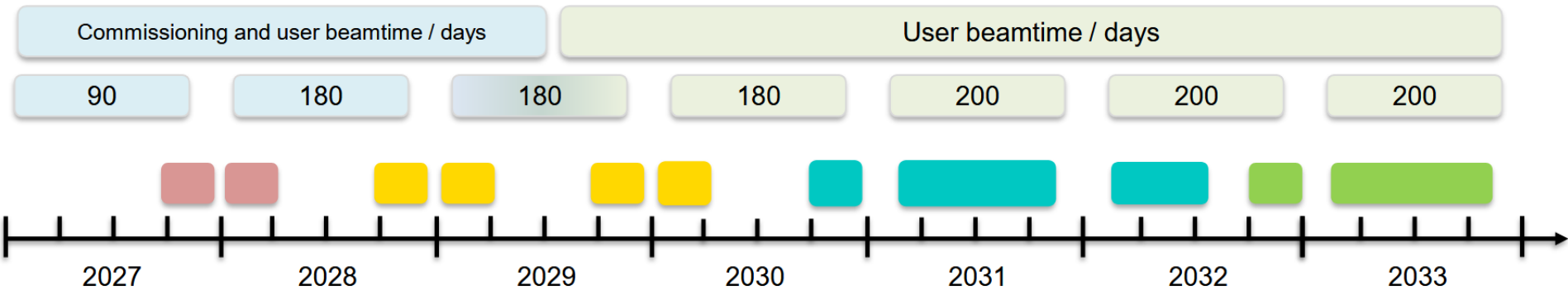


Project timelines



- gap undefined thus far
- → need to consider for InterLAC planning!?

Project timelines



HITRAP I PARTIH

p – min. C beams, low intensity



InterLAC

p - min. Xe beams, medium intensity



UNILAC

p – U beams, high intensity (only short pulse operation)



UNILAC + HELIAC

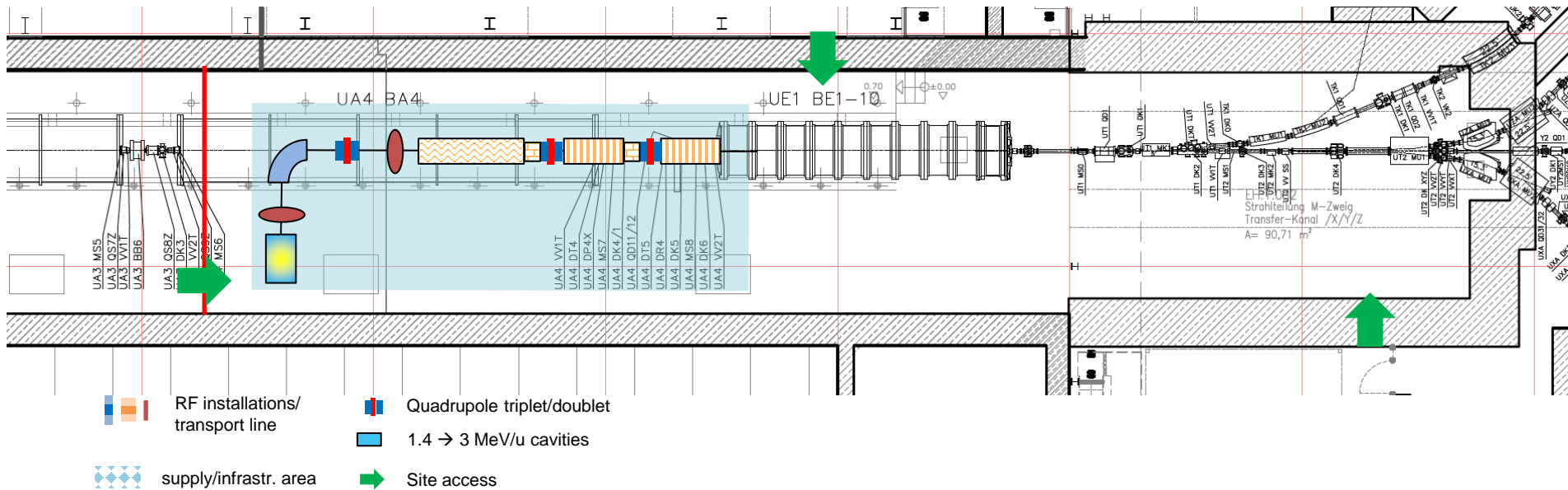
full operation

D. Severin

- users are aware of this in their plan
→ but requires commissioning parallel to InterLAC operation!?

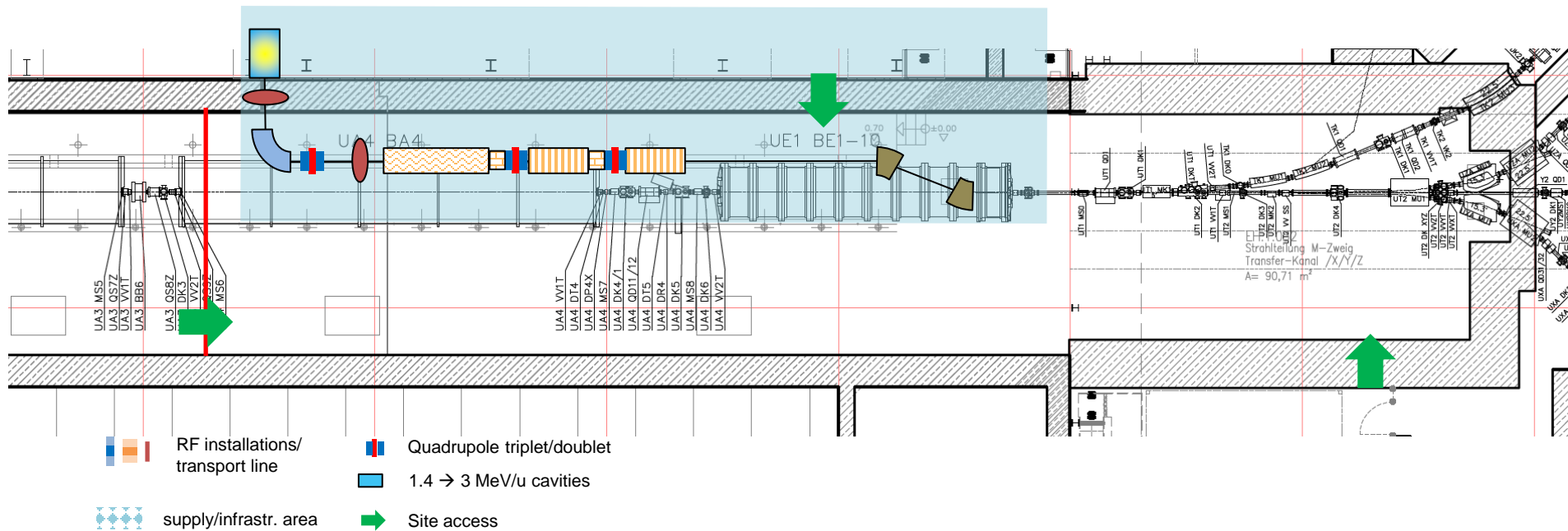
Options again...

- naively put beamline on current beam axis
 - leave space for UNILAC beam dump?!!
 - need ~4-6 (?) months to switch between InterLAC & UNILAC!



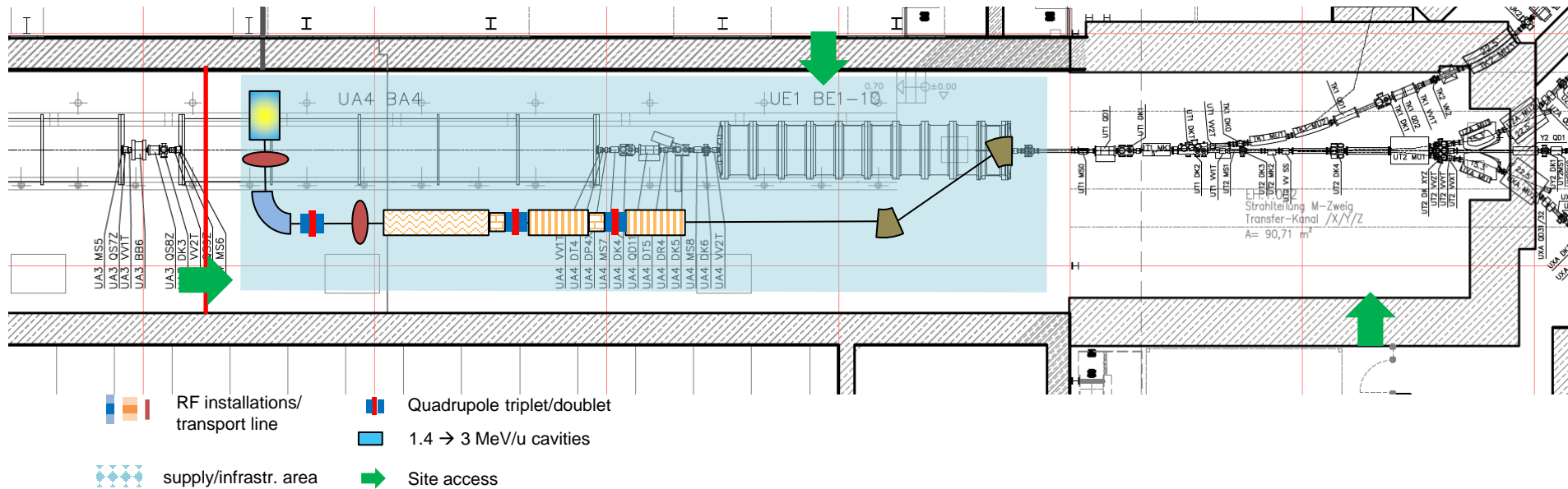
Options again...

- put ion source in SH → better maintenance/testing
- beamline closer to wall
→ enough space for UNILAC beam!?
(would also require space for ERs...!?)



Options again...

- put ion source in SH → better maintenance/testing
- beamline closer to wall
→ enough space for UNILAC beam!?
(would also require space for ERs...!?)
- more beamline elements (dipoles, quads)
- more complicated beam dynamics



Removal of 4th Alvarez

- storage in tunnel currently under investigation
 - can be moved as one piece
 - blocks almost entire space next to beamline
 - safety exit routes, working space, etc.
- welded tank
 - otherwise: cut apart & remove from tunnel
 - reduced energy until Alvarez 2.0! (11.4 MeV/u → 8.6 MeV/u)
 - communicated to science groups
 - ~acceptable compromise
(beamtime in 2028, HELIAC progress, full FAIR science)
- can start immediately after tunnel cleaning
 - no significant delay for InterLAC setup work!



Storage & „re-moval“ of A4

- storage in tunnel means complications
- could massively complicate an early PSU (not sure if applicable..)
- preparation of storage (bearing load, preparations, etc.) take time from other work

→ comments?



Prerequisites to start work



- Component list!
 - version 0 ready (will be sent around after meeting)
 - will try to update component status asap

- what else is required for you to start work?

Sektion	Bezeichnung Info	Nomenklatur Gruppe	Nomenklatur (mk / vrws)	Nomenklatur momentan (bei exist. Komponenten)	Filter-Gruppe	Status Komponente	Status/Versorgungseinheit	Verantwortlicher	Magnettyp
18. Juni 2026									
<i>Datum PDF-Export</i>									
Quelle 14GHz	Quellenmagnet Injektion		GUI1M1	GUB1M1	Magnet	offen	offen	Jan Mäder/Michael Galonska	
	Quellenmagnet Extraktion		GUI1M3	GUB1M3	Magnet	offen	offen		
	Extraktionskammer (wird noch spezifiziert)	GUB1DK1	GUI1DK1	GUB1DK1		offen	offen		
	Solenoid		GUI1MO1	GUB1MO1	Magnet	offen	offen		
	Abschnittsventil		GUI2V1T	GUB2V1T	Vacuum	offen	offen		
	horizontaler Steerer		GUC2KH1		Magnet	offen	offen		
	vertikaler Steerer		GUC2KV1		Magnet	offen	offen		
	Diagnosekammer	GUI2DK1	GUI2DK1		Strahl diagnose	offen	offen		
	Diagnosekammer PG	GUI2DK1			Strahl diagnose	offen	offen		
	Diagnosekammer FC	GUI2DK1			Strahl diagnose	offen	offen		
2,5 KeV/u LEBT für RFQ (4keV/u A/Q=8.5 fähig für CW-RFQ)	Diagnosekammer Trafo	GUI2DK1			Strahl diagnose	offen	offen	Gregor Lolsch/Hartmut Vormann	
	horizontaler Steerer		GUI2KH2		Magnet	offen	offen		
	vertikaler Steerer		GUI2KV2		Magnet	offen	offen		
	Quadrupol-Singulett		GUI2QS1		Magnet	offen	offen		
	90° Grad Dipol (Sauerstoffinjektor, tbc!)		GUI2MH1		Magnet	Renovierungsbedarf	offen		
	Diagnosekammer	GUI2DK2	GUI2DK2		Strahl diagnose	offen	offen		
	Diagnosekammer PG	GUI2DK2			Strahl diagnose	offen	offen		
	Diagnosekammer Schlitz	GUI2DK2	GUI2DS2		Strahl diagnose	offen	offen		
	Diagnosekammer FC	GUI2DK2			Strahl diagnose	offen	offen		
	Diagnosekammer Trafo	GUI2DK2			Strahl diagnose	offen	offen		
300keV MeBT	Strahl-Chopper (langsam <5MHz)		GUI2BC1L			benötigt?	offen	Gregor Lolsch/Hartmut Vormann	
	Strahltrafo		GUI2DT1			benötigt?	offen		
	Quadrupol-Triplett (l = mm, 0.27 kg/cm)		GUI2QT1		Magnet	offen	offen		
	2. Linse (l = mm, 0.29 kg/cm)		GUI2QT2		Magnet	offen	offen		
	3. Linse (l = mm, 0.25 kg/cm)		GUI2QT3		Magnet	offen	offen		
	Abschnittsventil		GUI3V1T		Vacuum	offen	offen		
	Solenoid (l = 242 mm, 8.8 kg/cm)		GUI3MO1		Magnet	offen	offen		
	RFQ (Baseline: old HLI cavity)		GUI3BR1		HF-Resonator	Renovierungsbedarf	in Fertigung ✓		
	Abschnittsventil		GUI4V1T		Vacuum	offen	offen		
	Strahltrafo		GUI4DT1		Strahl diagnose	offen	offen		
300keV MeBT	Duplett 1	GUI4QD1	GUI4QD11		Magnet	offen	offen	Gregor Lolsch/Hartmut Vormann	SH-HT020
	horizontaler Steerer	GUI4QD1	GUI4QD12		Magnet	offen	offen		
	vertikaler Steerer		GUI4KV1		Magnet	offen	offen		
	Buncher 1				HF-Resonator	offen	offen		
	vierteilte Phasensonde		GUI4DP1X		Strahl diagnose	offen	offen		
	horizontaler Steerer		GUI4KH2		Magnet	offen	offen		
	vertikaler Steerer		GUI4KV2		Magnet	offen	offen		
	Triplett 1	GUC4QT2	GUI4QT21		Magnet	offen	offen		
		GUI4QT2	GUI4QT22		Magnet	offen	offen		
		GUI4QT2	GUI4QT23		Magnet	offen	offen		
Beschleuniger	vierteilte Phasensonde		GUI4DP2X		Strahl diagnose	offen	offen		
	IH-Struktur (Baseline: HELIAC APF)		GUI4BI1		HF-Resonator	in Fertigung ✓	in Fertigung ✓		