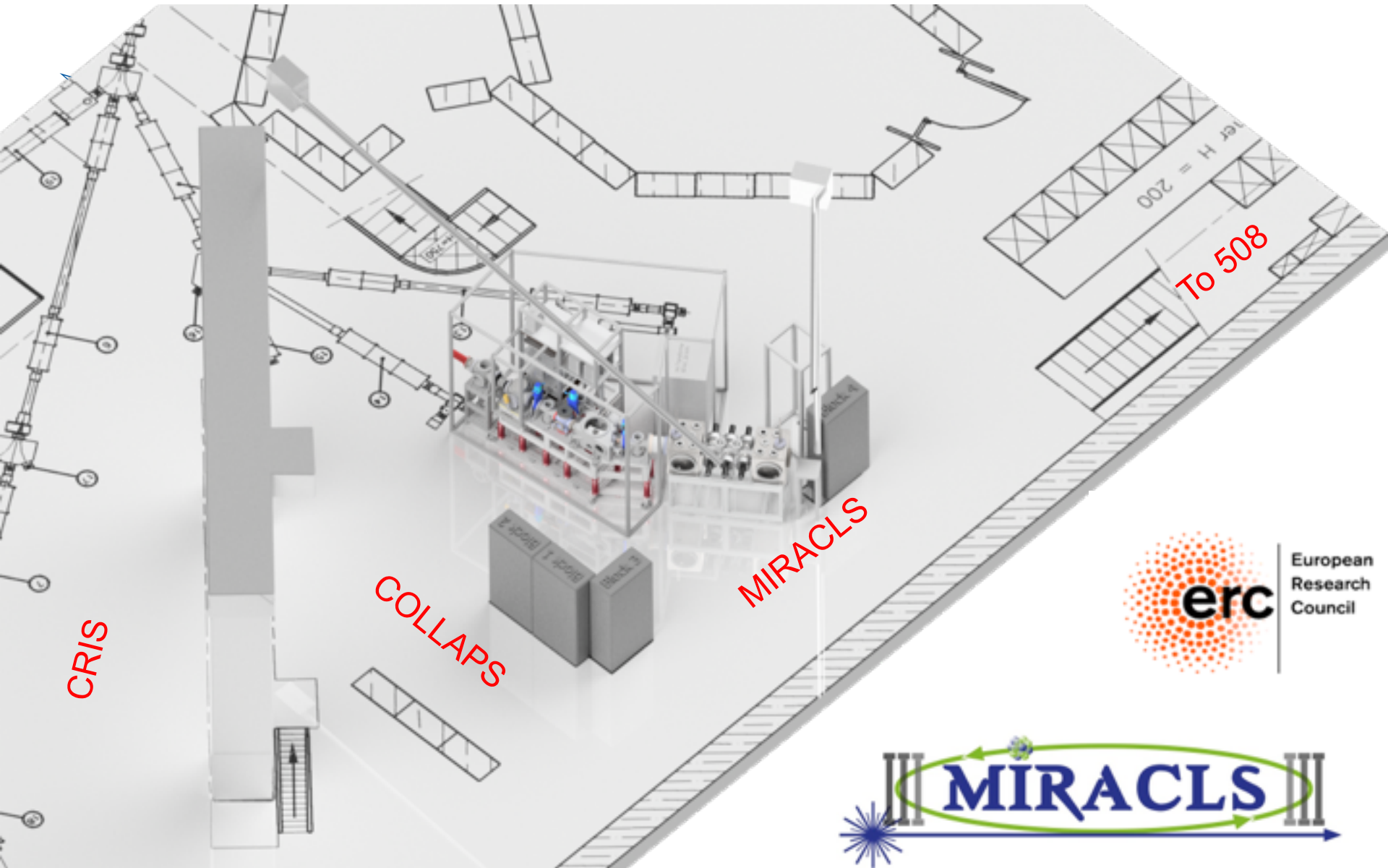


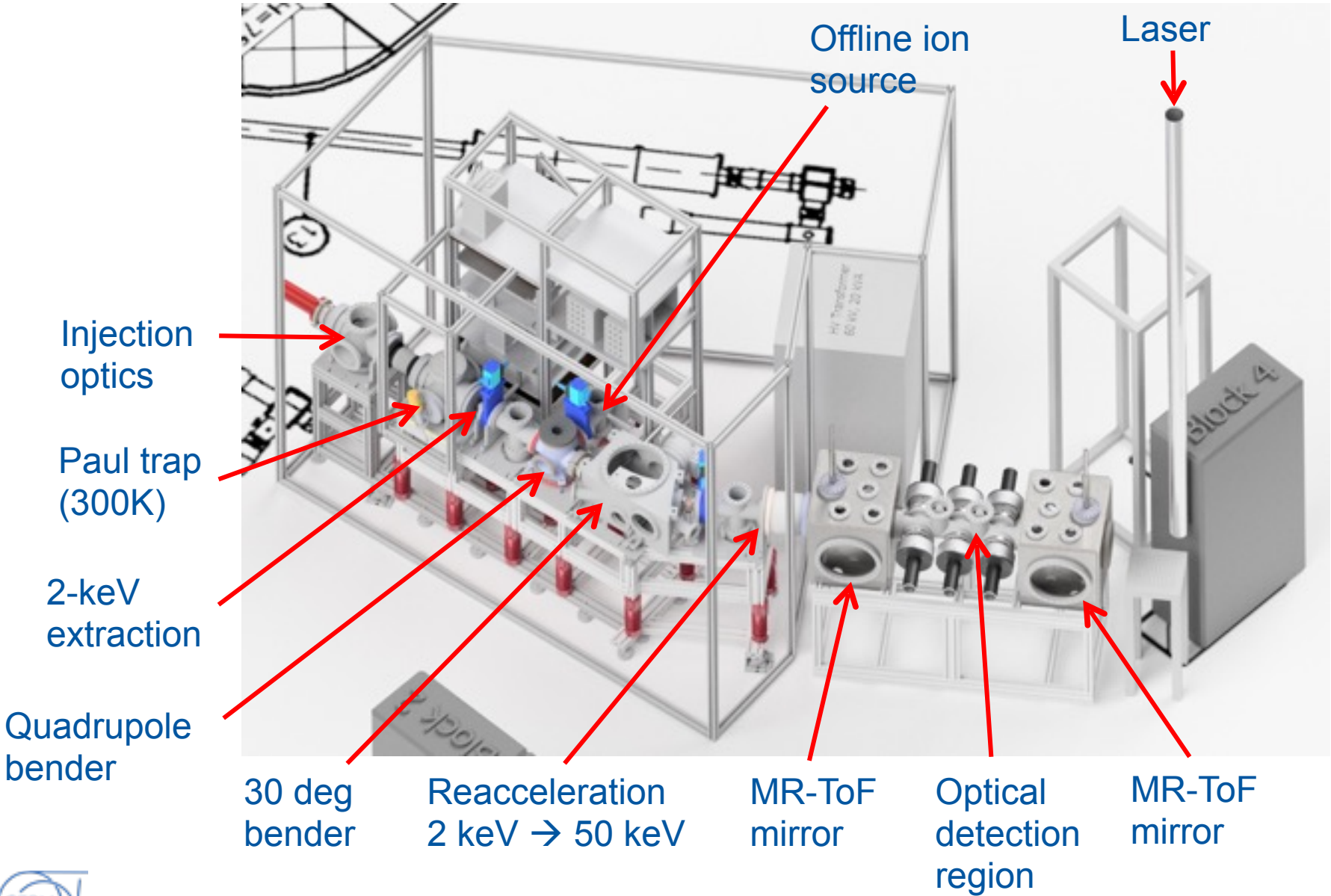
Outline:

- **MIRACLS at LA2**
 - Overview
 - Current status & goals
- **System design at RC6/RCX10**
 - 2 different approaches
 - What can we reuse, what is still missing?
 - Pros and cons
- **MIRACLS workforce and plans**

MIRACLS at LA2



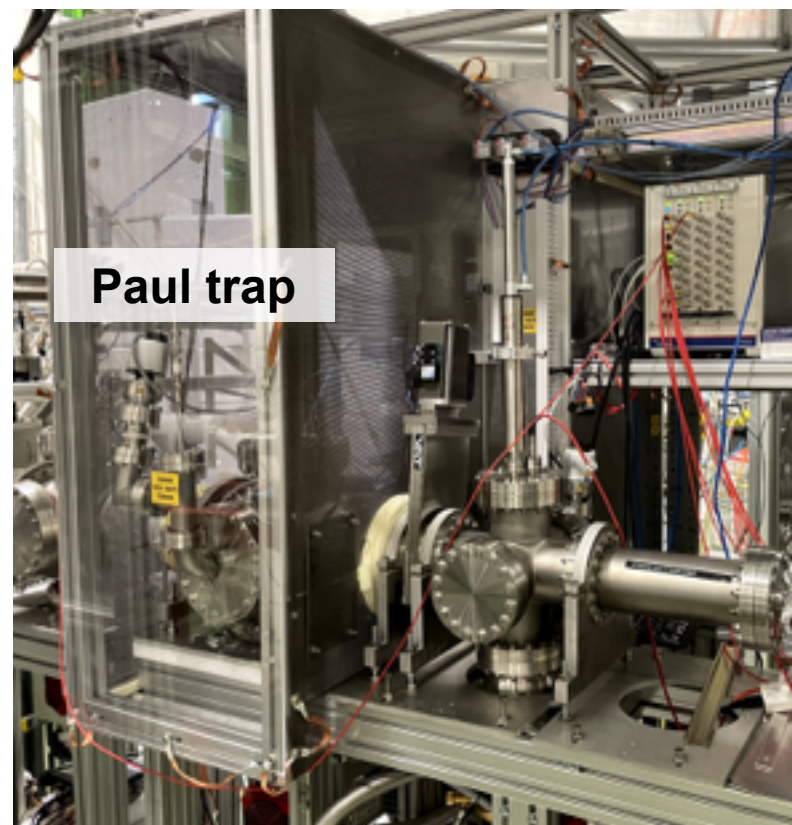
MIRACLS at LA2



MIRACLS construction status at LA2

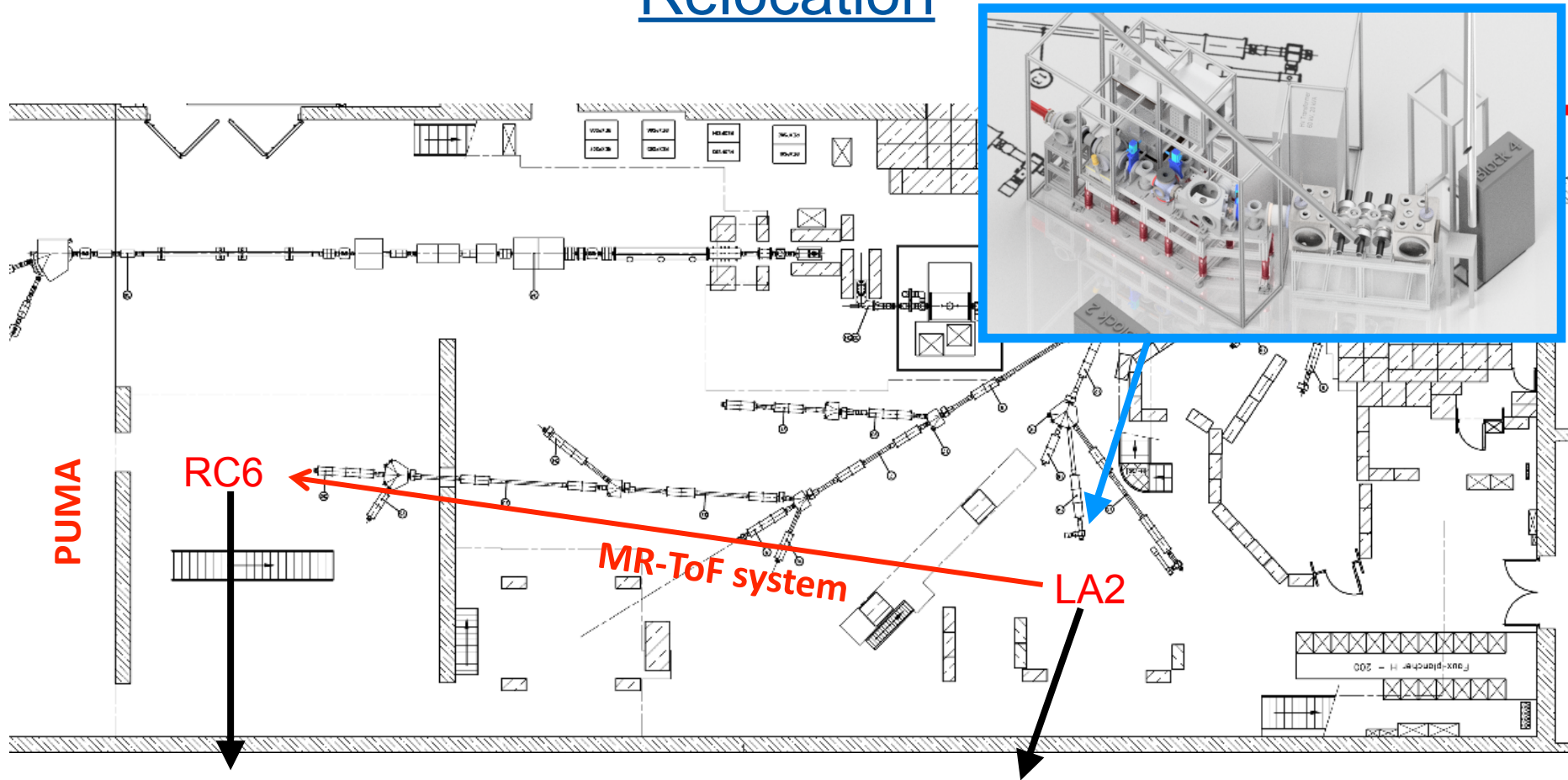
MIRACLS HV cage

LA2 beamline



Paul trap

Relocation



Goals (2023?)

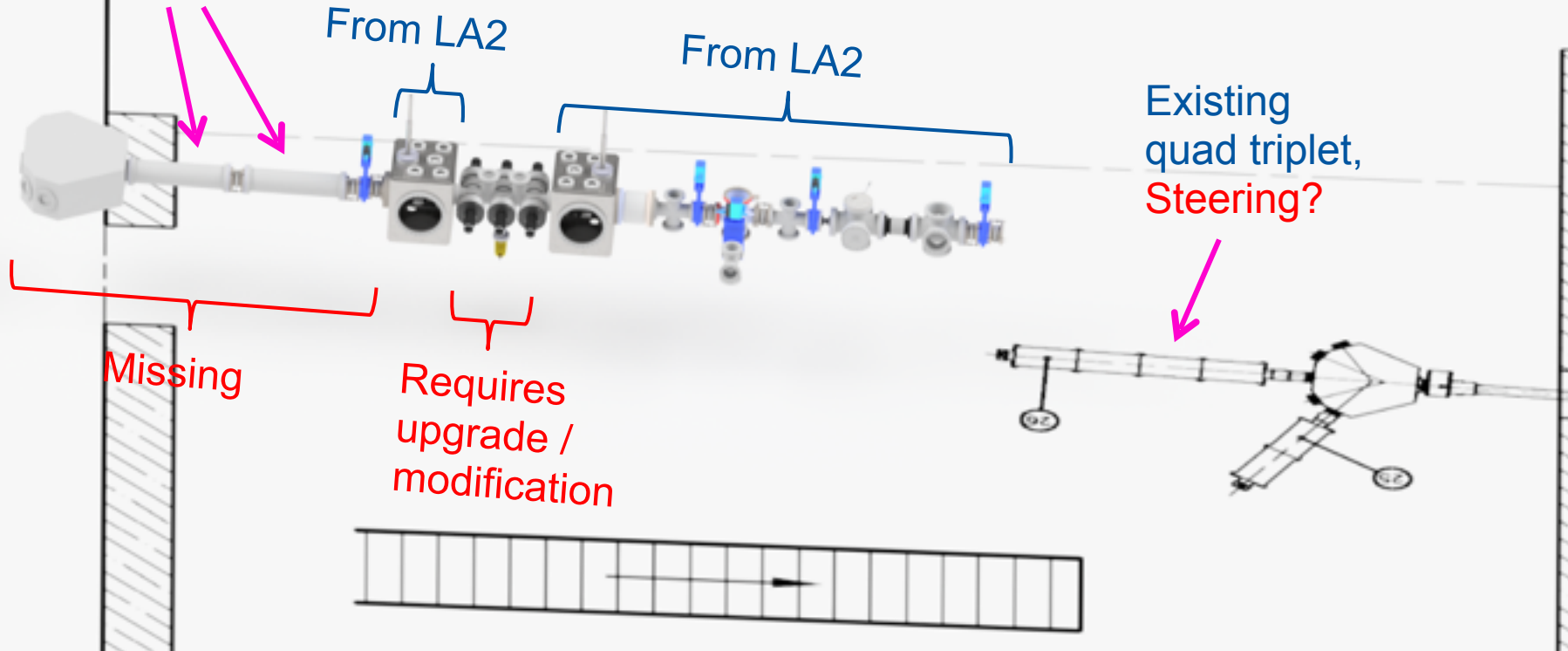
- provide purified beam to PUMA (and others?)
- prototype for ISOLDE MR-ToF

Goals (until end of 2022 / mid-2023?)

- MIRACLS online measurements Mg, Cd, laser cooling (?)
- online mass-separation in 30-keV MR-ToF

RC6, option 1, Minimal redesign

New quad triplet
design with steering



➤ Good

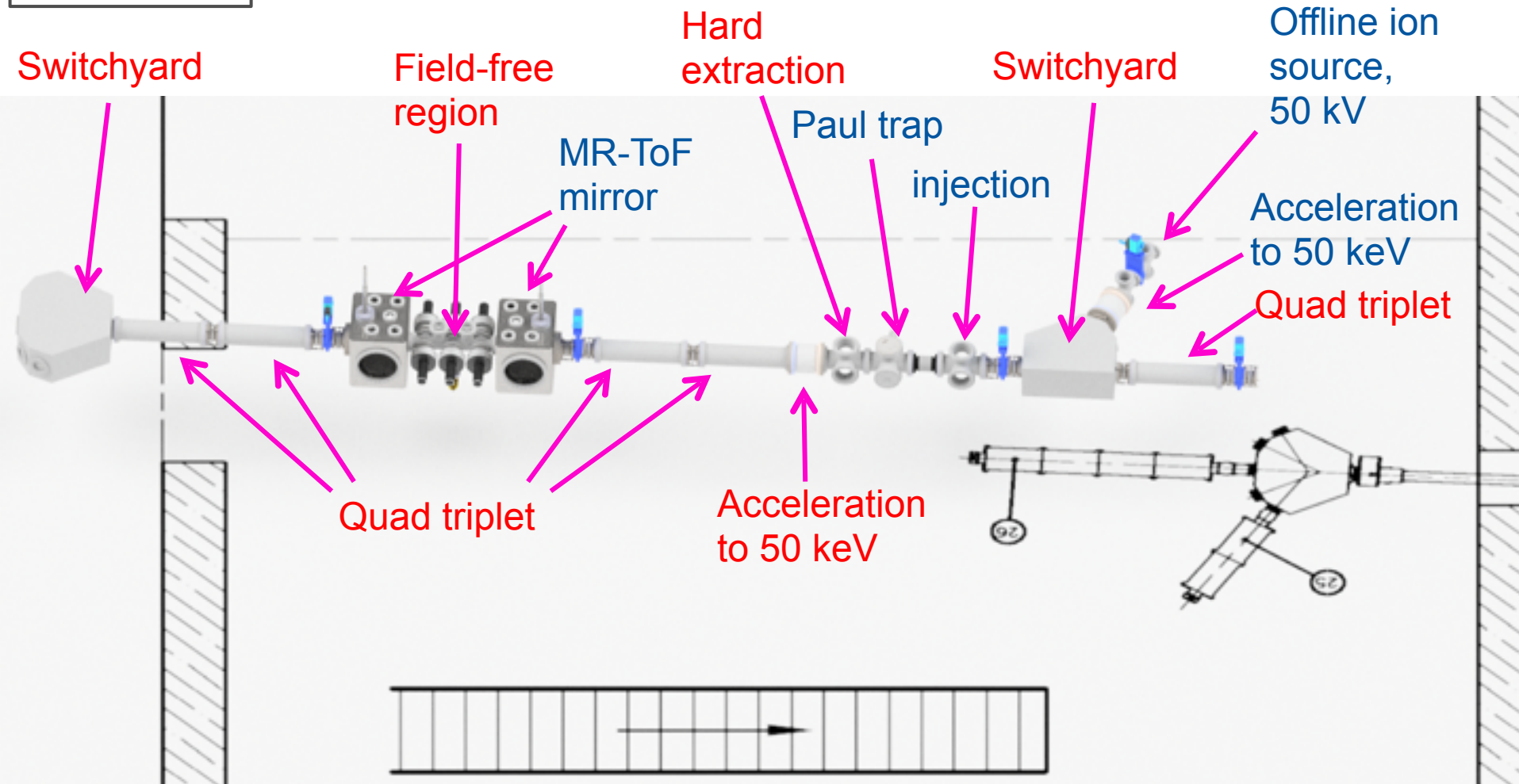
- Maximal reuse of existing parts
- cost effective
- fast relocation

➤ Bad

- locked in design
- 2-keV beam transport
- Optimised for size
- Injection efficiency? Steering?

RC6, option 2, Upgraded system

From LA2
Missing



RC6, option 2, Upgraded system

➤ Good

➤ Performance

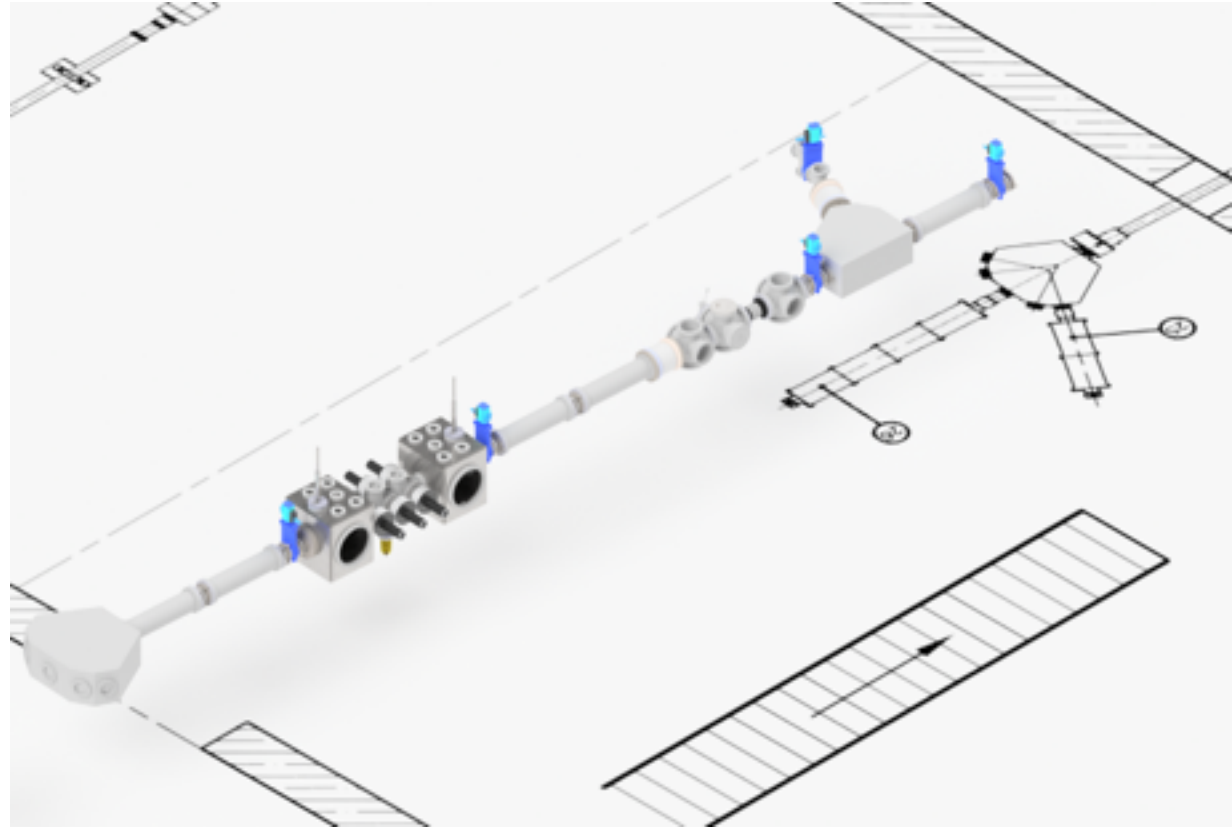
- PT injection, certainty
- PT extraction, upgradeable
- 50-keV beam transport
- (MR-ToF injection)

➤ Flexible setting for future R&D

➤ Bad

- More personnel needed
- Higher costs
- Longer timeline

➤ Refine both plans based on experience at LA2



MIRACLS workforce and plans

- MIRACLS team (for LA2)
 - Markus Vilen: CERN applied fellow until Oct. or Dec. 2022
 - Simon Lechner: currently McGill post-doc, soon CERN research fellow
 - 3 PhD students: McGill university at CERN until Dec. 2022 or summer 2023
 - SME: previously CERN staff, now TRIUMF -> move to Vancouver in July 2022 (remains part of PUMA collaboration)
- Goals (until end of 2022 / mid-2023?)
 - MIRACLS online measurements (Mg, Cd, laser cooling ?)
 - online mass-separation in 30-keV MR-ToF
 - fully functional and commissioned system at LA2
 - do not have the resources to plan
- **Ion trap systems are NOT plug-and-play devices!**

