



MEDICIS: Possible upgrades and extension of collaboration

radiochemistry infrastructures
beam lines and shielding
MELISSA laboratory
spectroscopy
2nd irradiation station

Administrative support

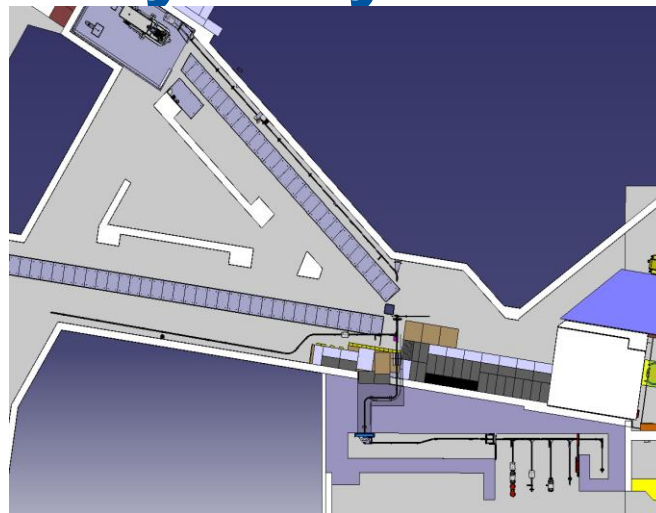


**Cristina Ferrari
(CERN)
Administration**

1200CHF/month

Approval from Board, complying with CERN subcontracting purchasing rules (Case B)

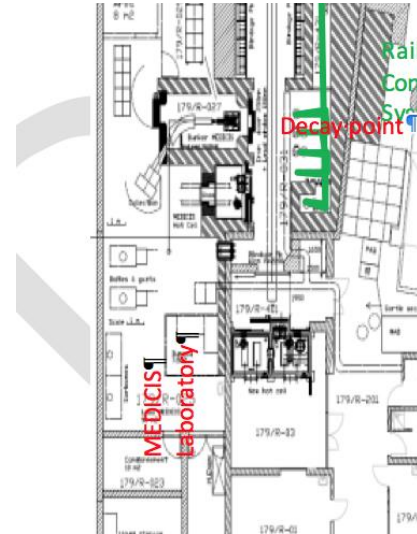
2nd irradiation station and Rail conveyor system



Would allow to double irradiation throughput during proton beams at ISOLDE
~100kCHF, material budget.

Linked to/ in perspective with EPIC project for ISOLDE/target area;
Budget, CERN- EN-STI/remote handling/control resources

Glove-box and MEDICIS Hot Cell



Transfer of external isotopes in Target units
~50kCHF for material budget.

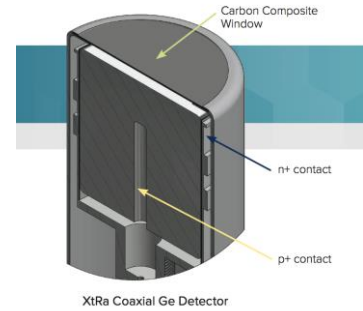
Budget, moderate CERN mechanical/ventilation resources

Radiochemistry
~500kCHF for material budget.

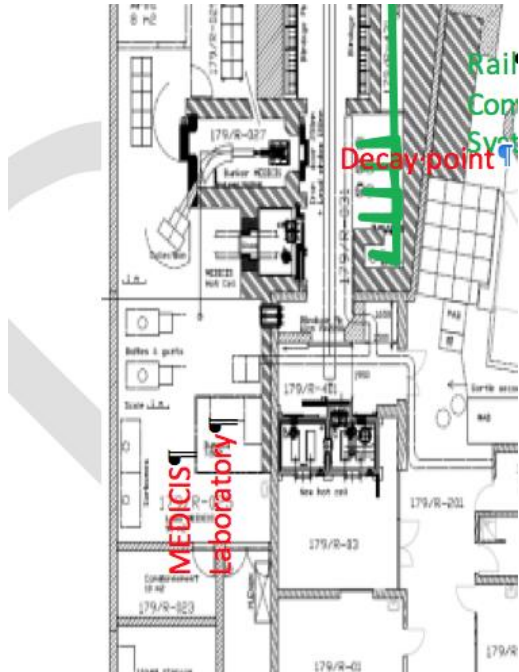
Budget, CERN mechanical/buidling/ventilation resources

Spectroscopy

- HiPurity Ge gamma detector : 80kCHF
- Online monitoring : Tbc (60kCHF?)
- LaBr/Nal detector : 15kCHF
- MCA/Software suite: 25kCHF



Shielding and beamline



Allows higher collected activities (->10GBq)

Shielding : → 20cm stainless steel, 3cm tungsten local shielding
50kCHF

EN mechanical resources

Beamline upgrade : switchyard, BI, target
500kCHF or part thereof.

Diverse CERN resources

MELISSA Laboratory (courtesy V. Fedosseev)

Total 376kCHF engaged.

53kCHF : Ti:Sa laser

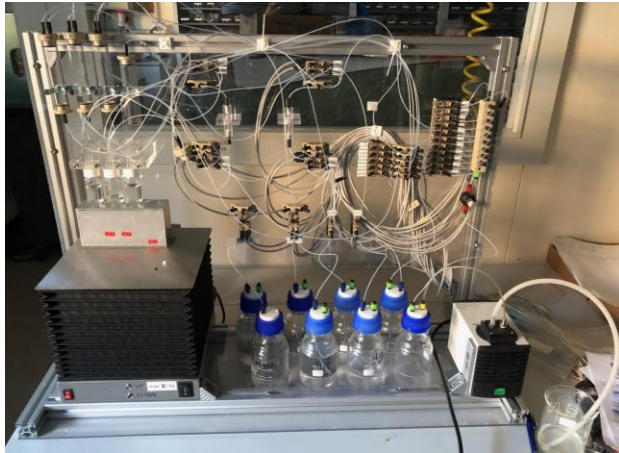
41kCHF : UV light optics, motorization + monitoring for remote operation

10+35kCHF : MELISSA operation for 2019-2020

CERN RILIS operating staff available due to LS2



Radiochemistry infrastructures



M. Kahn, B. Crepieux

Positive audit from RP external expert

50 kCHF material budget

Long term secondment radiochemist expert :
LoI July 08, 2019 drafted from Pakistan PAEC

Includes also access to neutron irradiation
and nuclear medicine groups



Ongoing discussions BNL/CERN

- Follow-up of high level discussions between BNL and CERN
- Discussion on mass separation of $^{225/227}\text{Ac}$