NA58 (RICH) Test Beam

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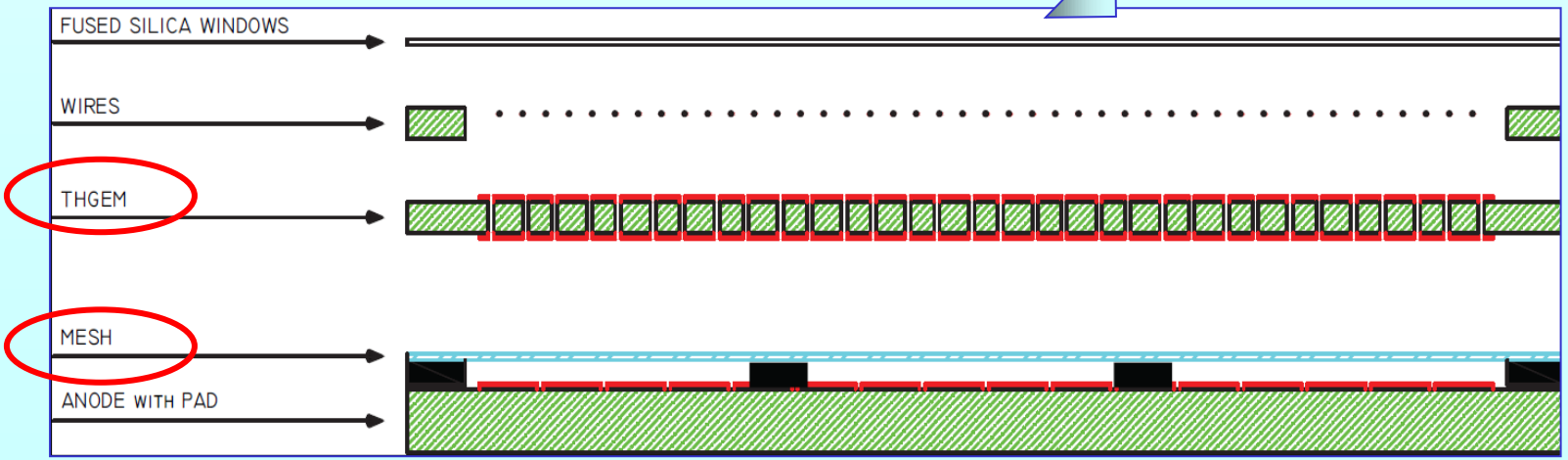
Participants:

Alessandria, Aveiro, Budapest, Calcutta, Freiburg, Liberec, Prague, Torino, Trieste

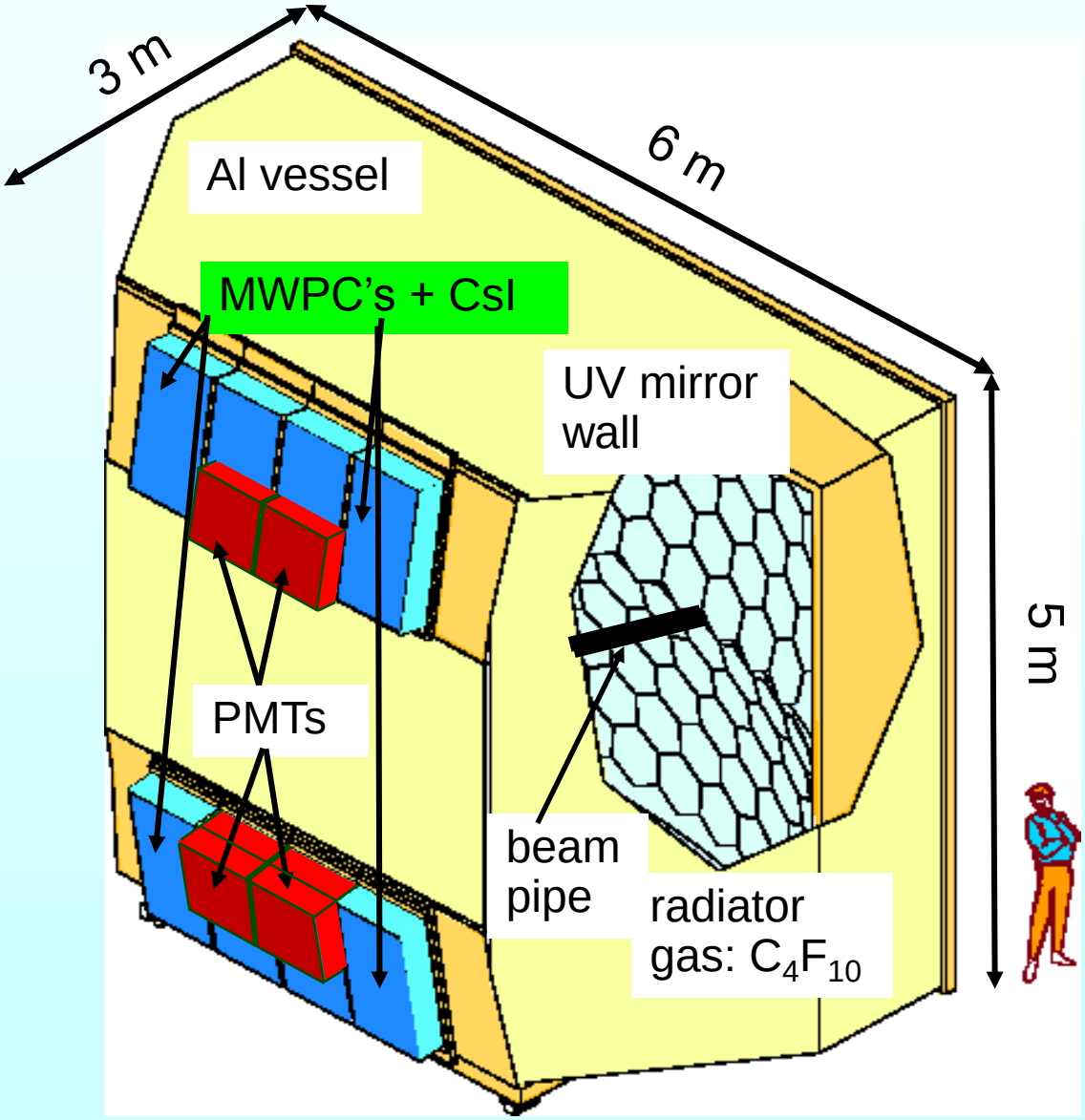
Goal:

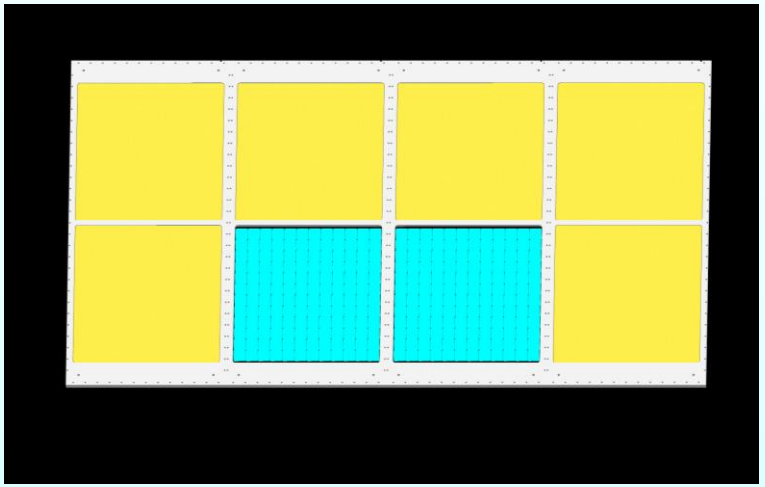
Test and validation of the novel photon detectors (*) for COMPASS RICH-1 upgrade

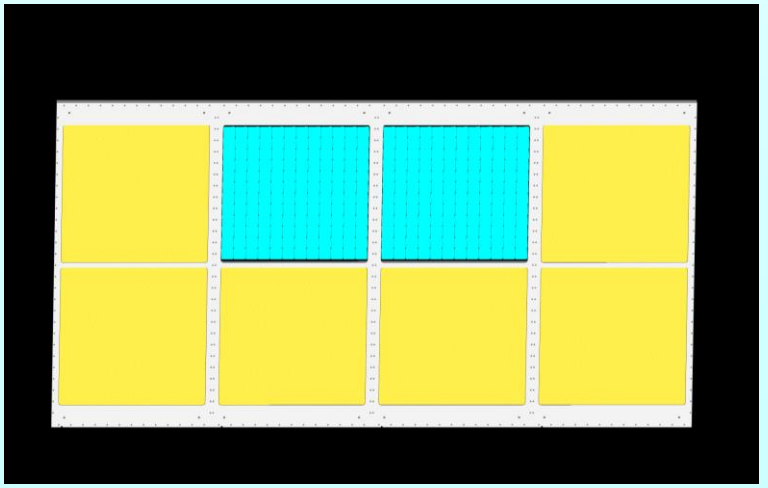
(*) hybrid MPGD: THGEM + MICROMEGAS



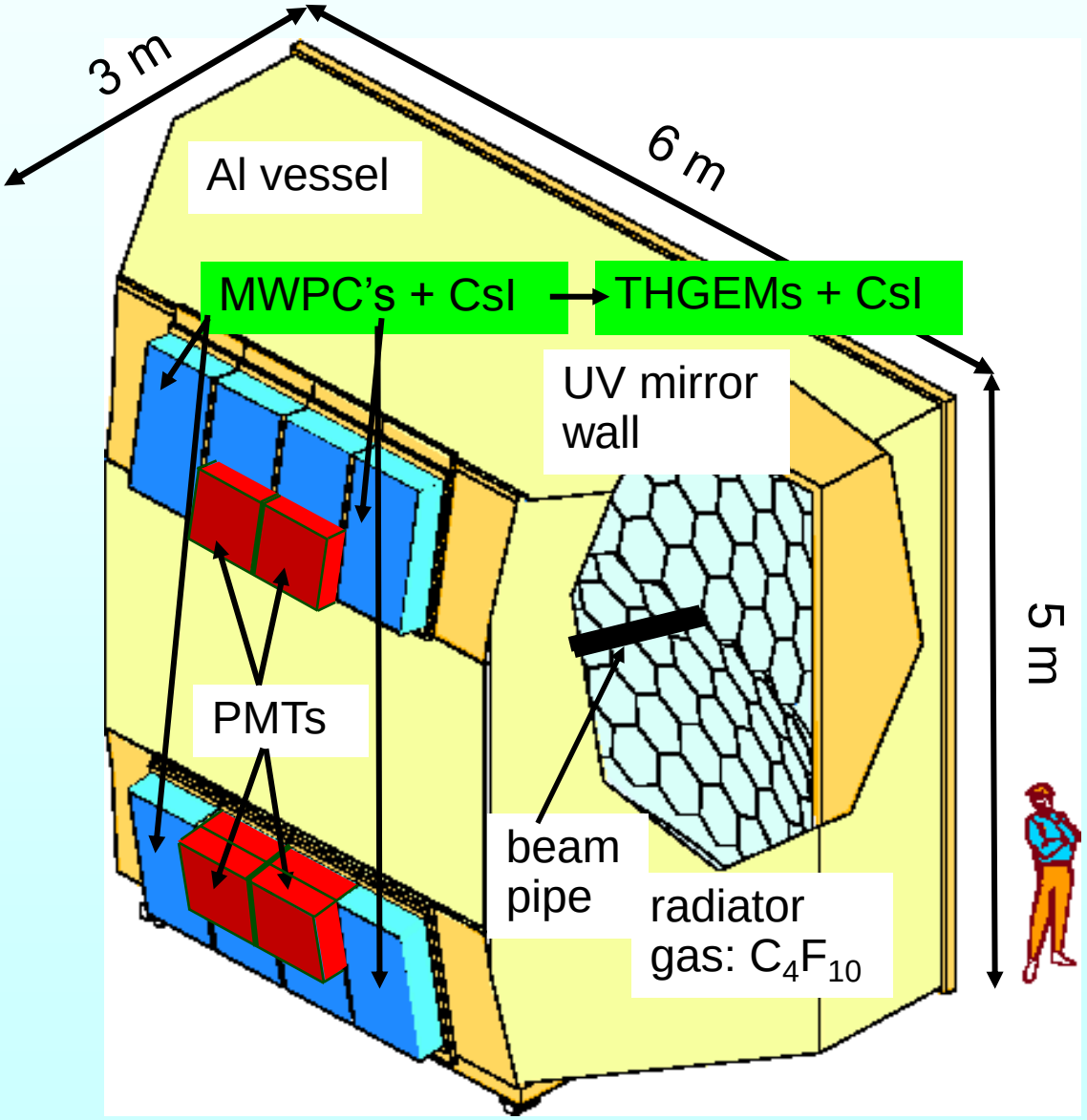
COMPASS RICH-1 PD upgrade



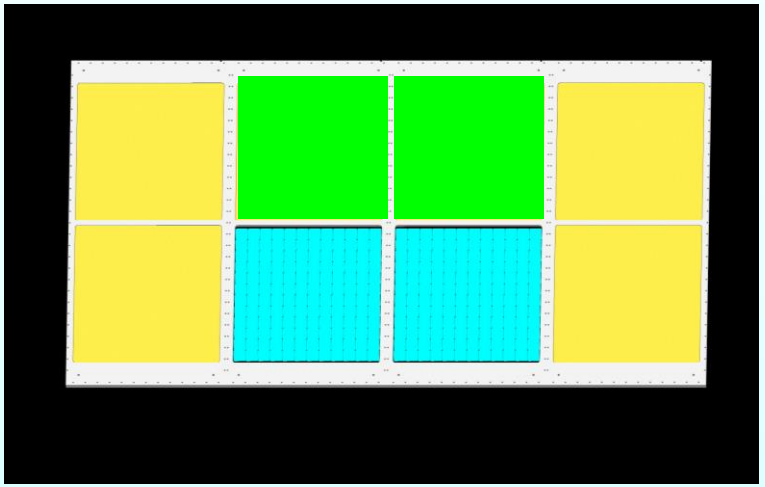


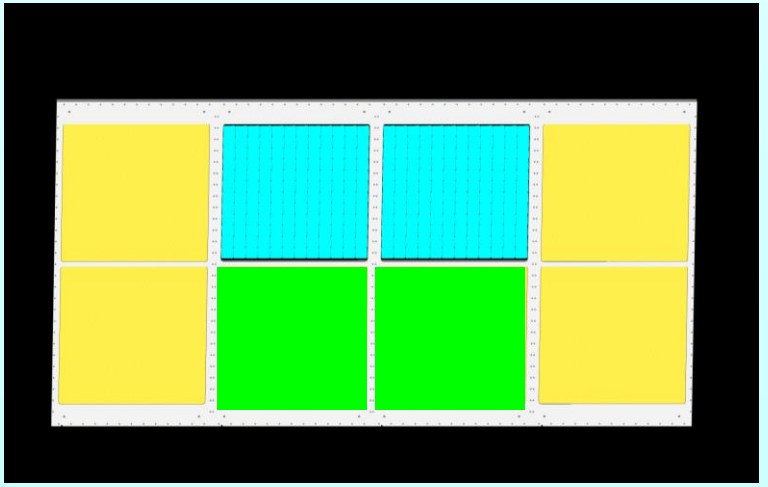


COMPASS RICH-1 PD upgrade



Foreseen for 2016





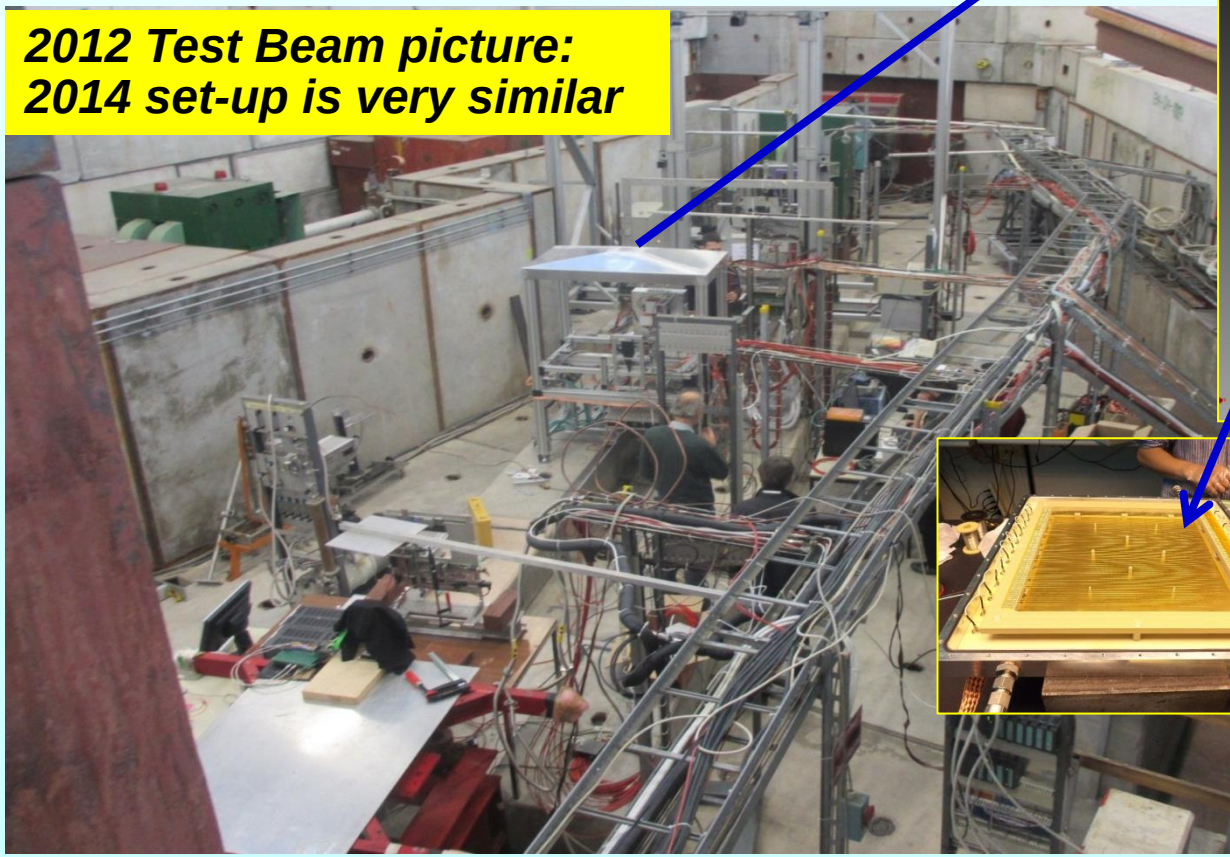
Test Beam Set-up

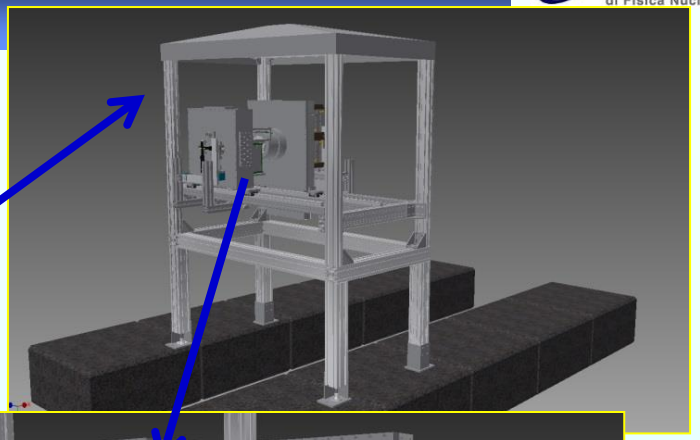
PS T10 beam line

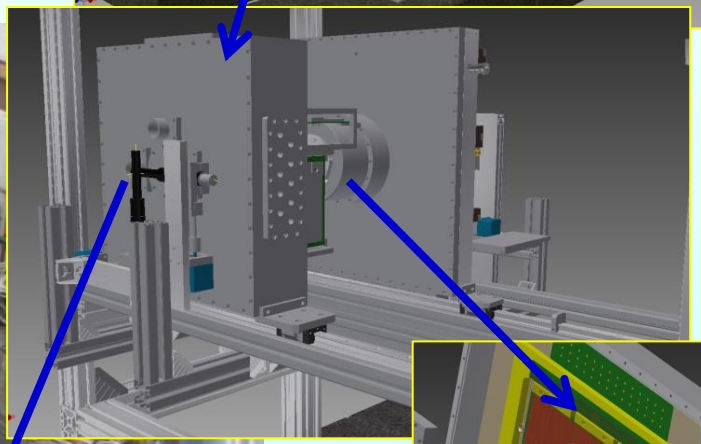
2 Hybrid 300x300 mm^2 active area photon detectors

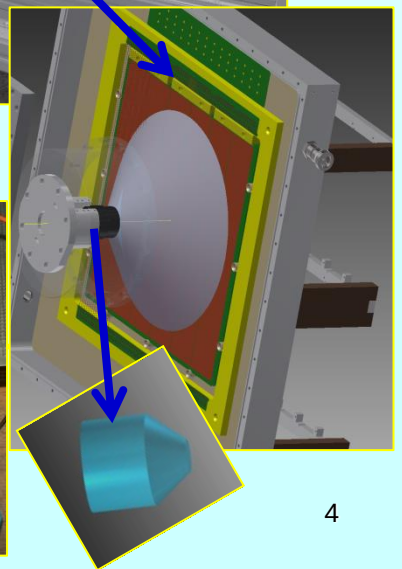
trigger system, Č radiators, analog & digital r/o, COMPASS-like DAQ, …

2012 Test Beam picture:
2014 set-up is very similar









Requirements

Beam: charged pions, 3-5 GeV/c, intensity: from 1 to max 100 KHz, beam spot (on fused silica radiator): <~ 1cm^2

Test beam duration: 3 weeks

Gas: Ar/CH_4 mixture (flammable) and nitrogen from existing (ALICE) distribution system

Power (220 V): max 10kW

Network connection