

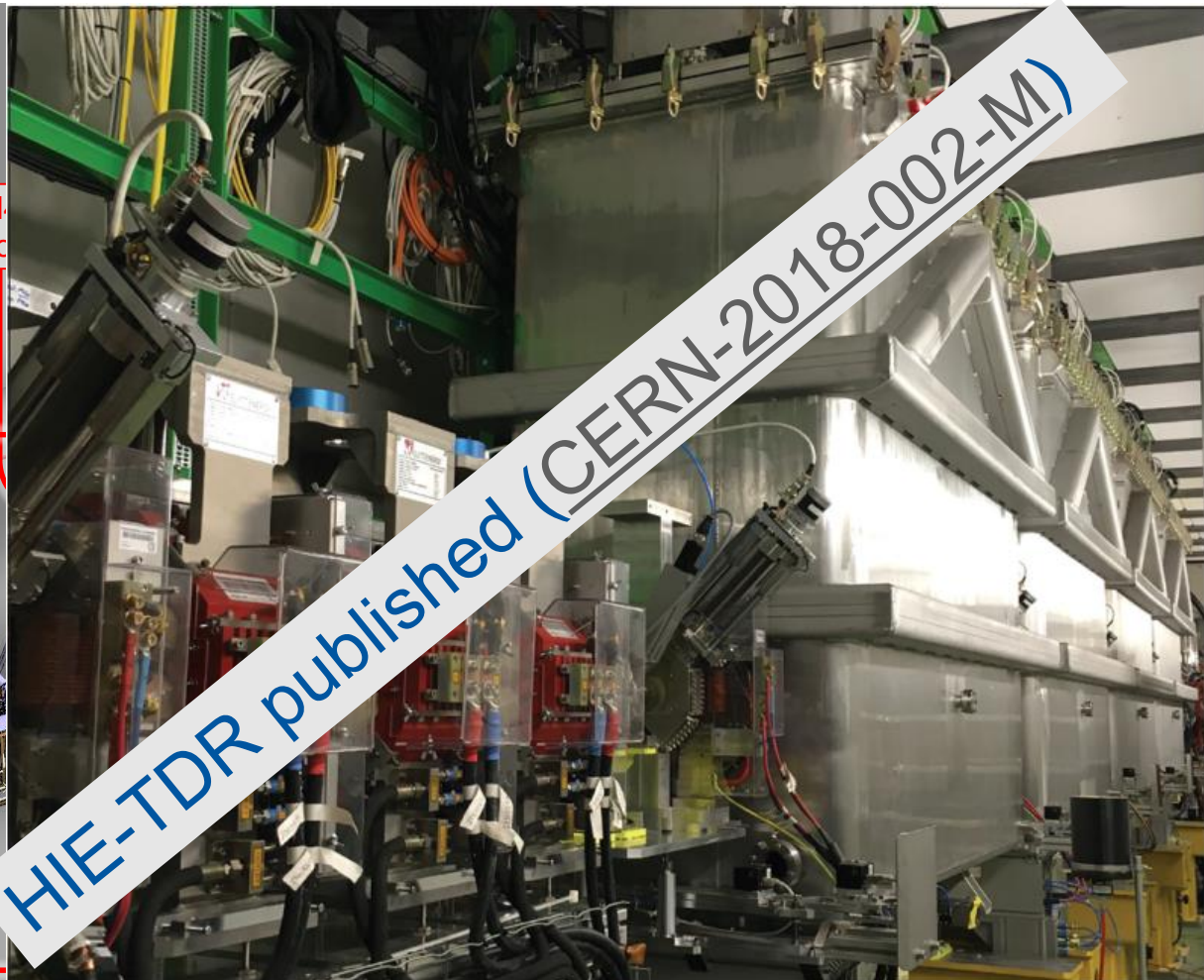
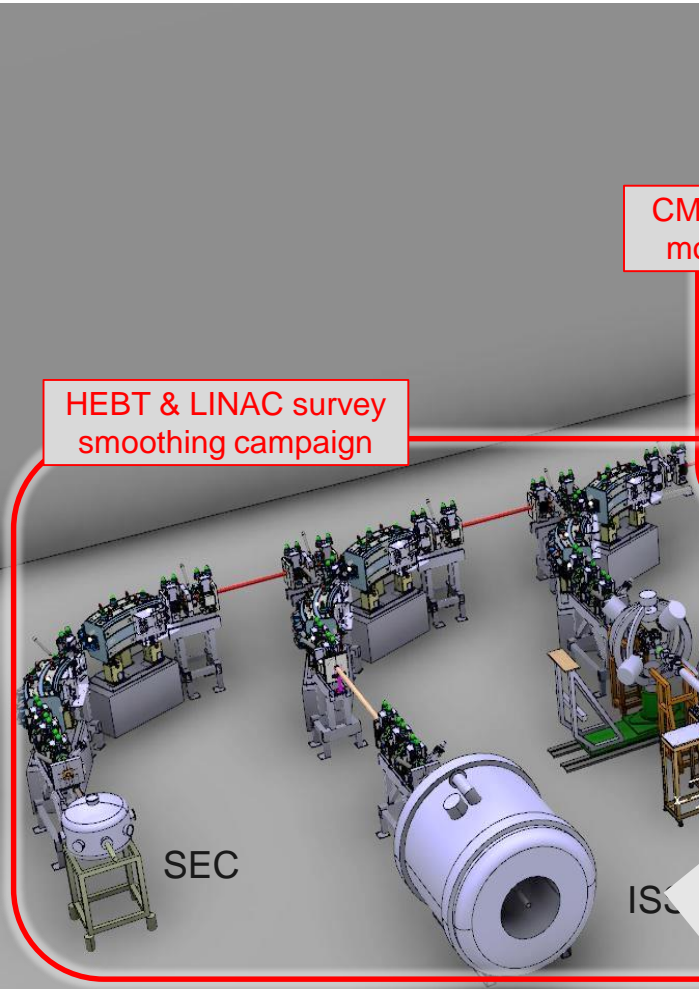
HIE-ISOLDE Status Report

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for the HIE-ISOLDE project team

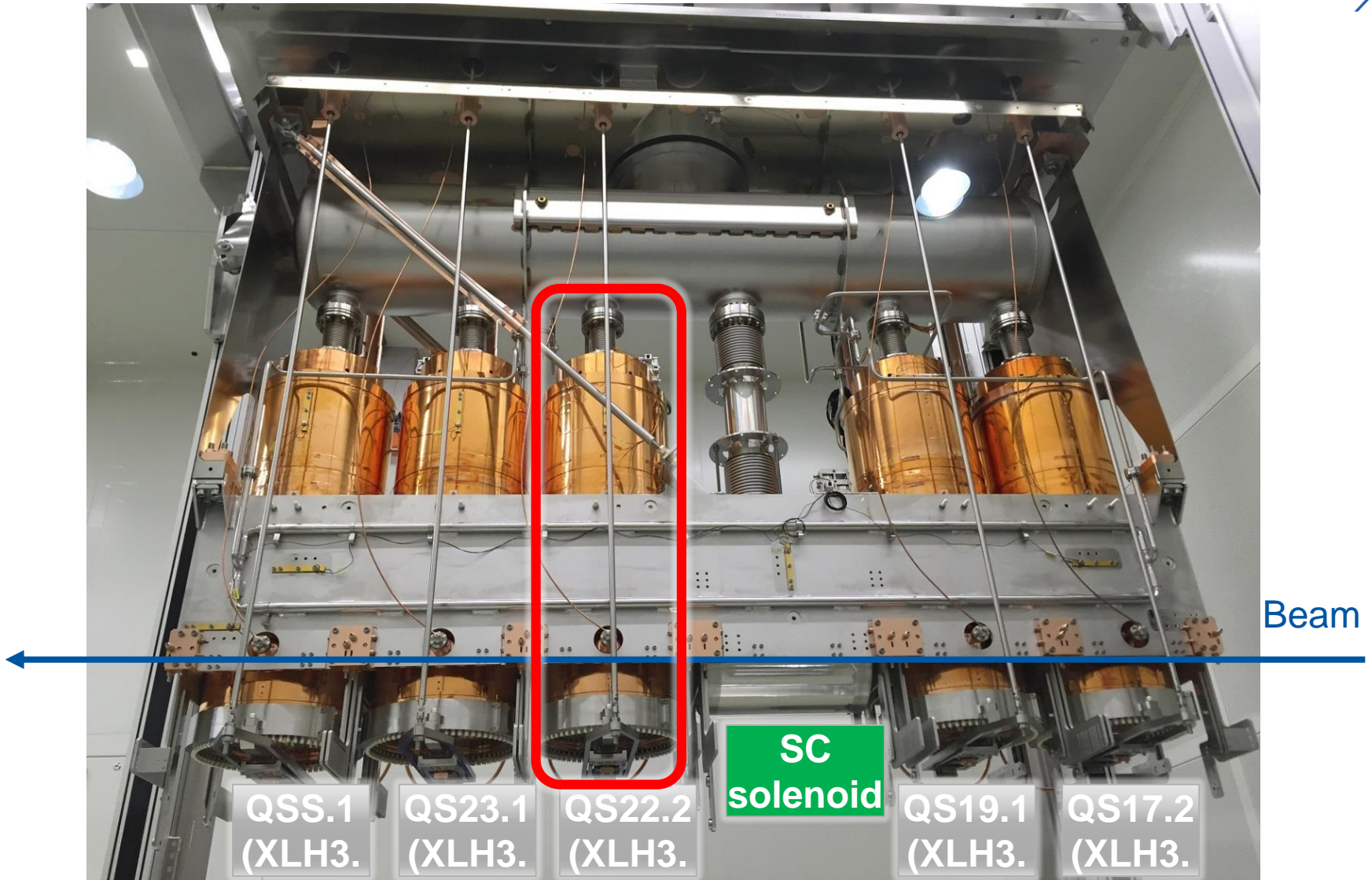
Outline:

- Status of Phase 2
 - 2018 HW Commissioning Highlights
 - Outstanding Issues
 - Spares Production
- Final Cost to Completion of the Project
- Summary

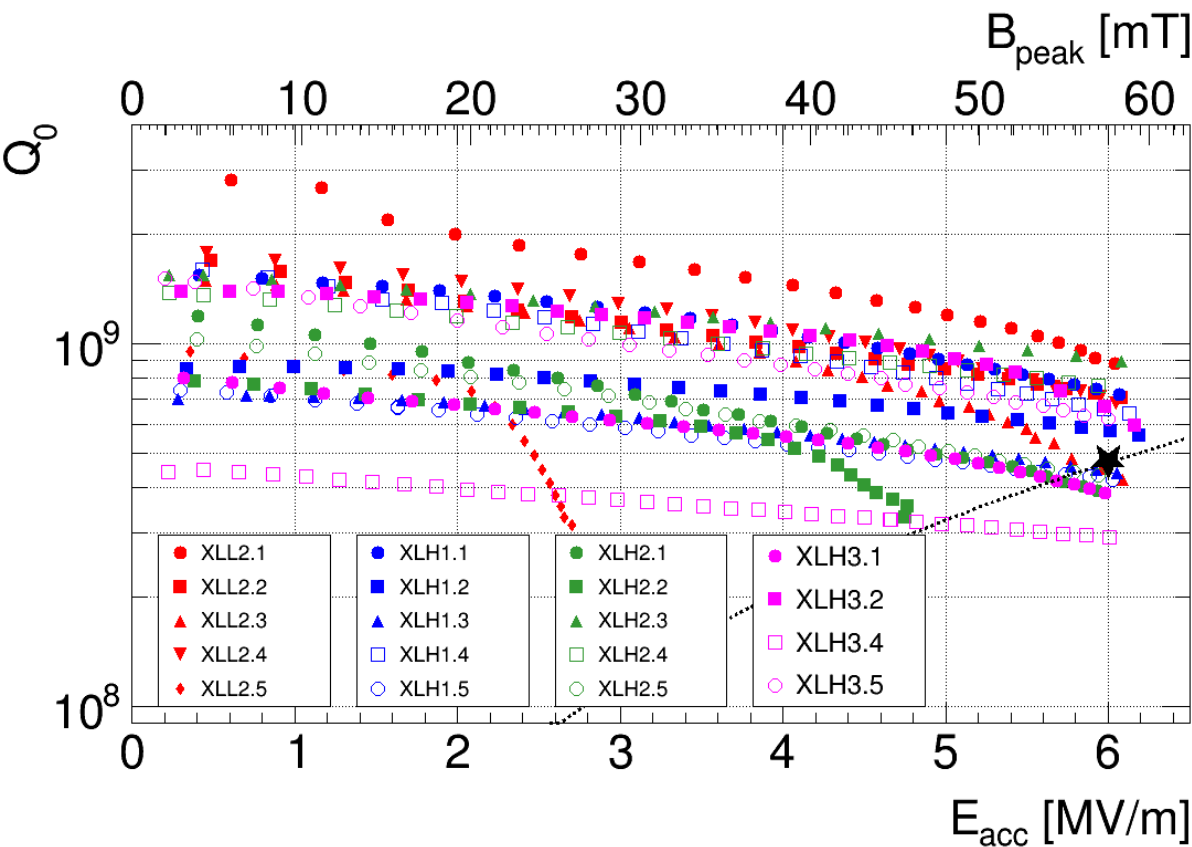
Phase2 reached completion in May 2018



2018 HW Commissioning Highlight

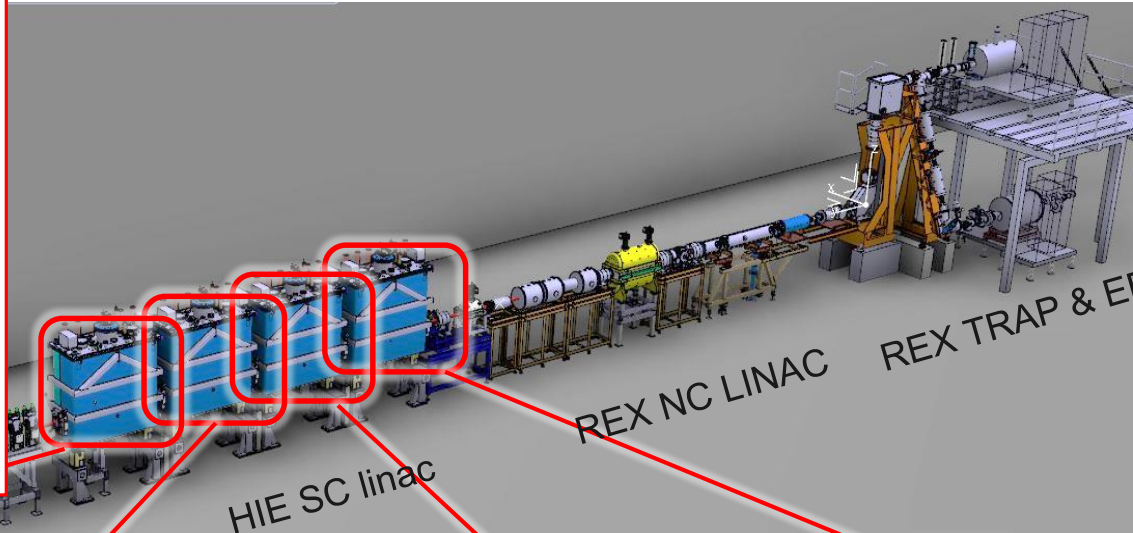
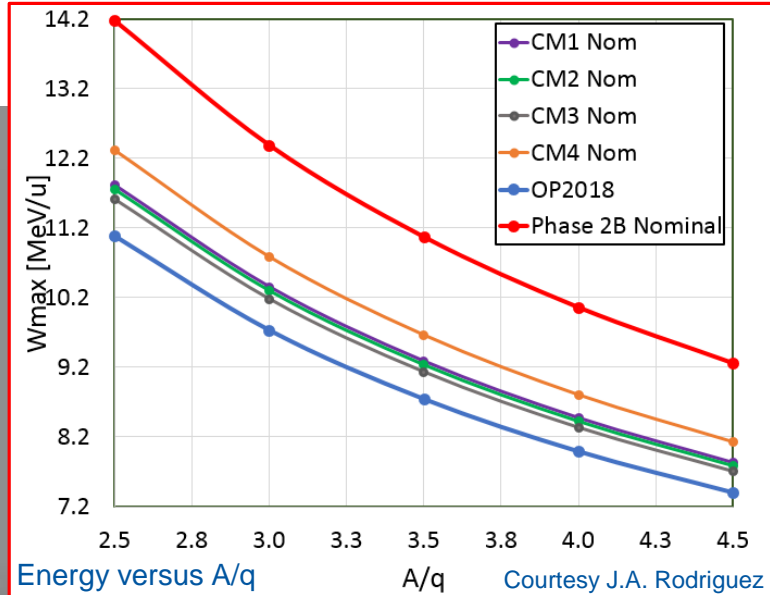


SC Cavity Performance



- Cool down gradients over T_c less favourable than in the past
- Most cavities reaching 6 MV/m above specified Q
- 3 cases of field emission (one new). For the moment, no He processing
- CAV3 of CM4 will not be used in 2018

Outstanding Issues



- CM4:**
- Non-conformity for CAV 3 (SRF18) – RF coupler issue
 - Two other cavities with low Q
 - All cavities running at lower gradient
 - Worst operational CM

- CM3:**
- Close to specs at 5.5MV/m
 - Very stable
 - Best operational CM

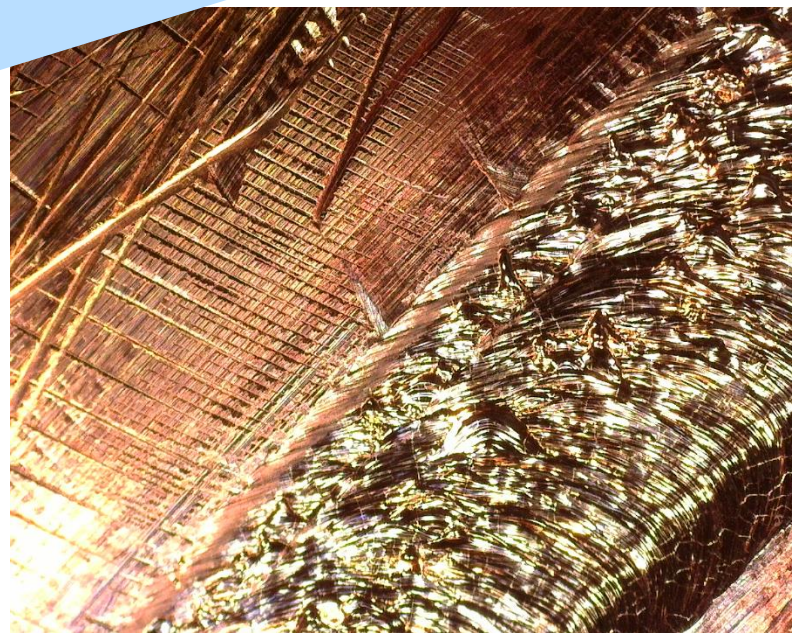
- CM2:**
- Most problematic CM
 - Running at low gradients
 - Mild Field emission in CAV 3 (SRF8)
 - Instabilities CAV 2 & 4 (SRF7 & SRF9)
 - High vacuum at start of run which disappeared
 - Anomalous static heat load and microphonics. Not understood.

- CM1:**
- Field emission mostly in CAV5 (SRF5)
 - non-conformity of solenoid#1 – short to ground (but able to run)



Status of Spare Cavities

- **QSS2, QS18, QS20** were fully qualified as spares
 - **QS18** needs to be requalified after V5 incident
 - **QS20** has the lowest Q, it could be stripped and re-coated
- **QSS3** was coated at the end 2018
- **CM4 refurbishment: Profit to replace some of the cavities with the best spares (starting May 2019)**
- **QSS4** is the fourth seamless cavity in the lead (QSS4) → raw material is available, pending acceptance



Cost to Completion of the Project

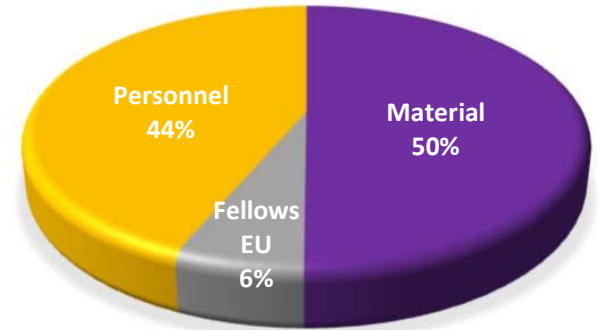
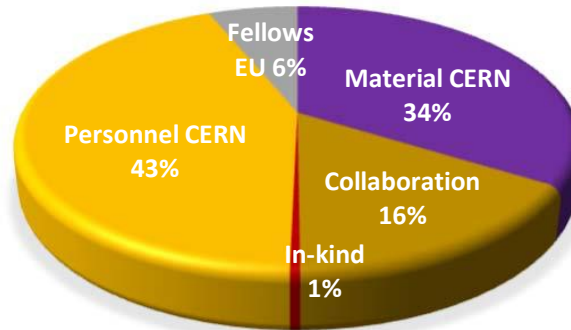


Cost to Completion (P+M)

in kCHF 78,187

Material CERN	26,440
Collaboration	12,551
In-kind	382
Personnel CERN	33,946
Fellows EU	4,868
	78,187

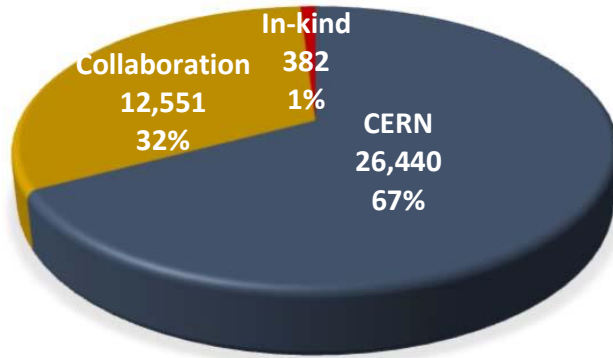
P vs M distribution (without in-kind)



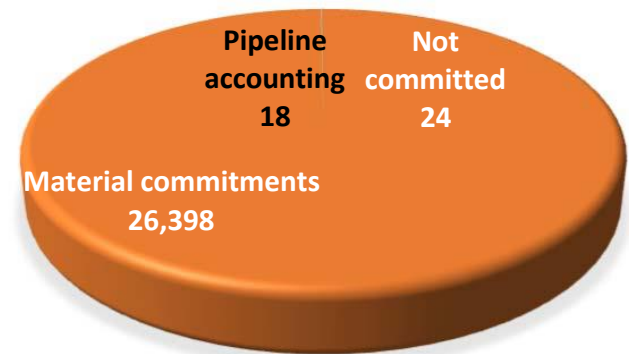
Material Budget

in kCHF 39,373

Funding



Budget usage (CERN funding)



Cost to Completion by Phase (kCHF)



2018

	Infrastructure	Machine			Total
		Phase 1 ¹	Phase 2	3 rd beam line	
CERN funding	21,067	4,199	415	784	26,434
Collaboration		8,329			8,329
In kind					
Total	21,067	12,528	415	784	39,367

2017

	Infrastructure	Machine			Total
		Phase 1 ¹	Phase 2	3 rd beam line	
CERN funding	21,067	4,199	415	784	26,434
Collaboration		8,329	4,472		12,801
In kind		341	41		382
Total	21,739	12,869	4,928	784	40,320

CtC reduced by 950 kCHF
700kCHF Infrastructure
250 kCHF Machine

Summary:



- HIE-ISOLDE phase 2 is completed
 - 2 years delay
 - +5 MCHF w.r.t initial estimate in 2010 → +1.5%/yr !
- The Machine now in the hands of BE/OP
 - Anomalous static heat load in CM2... not understood
 - Issue with CAV3 of CM4: not a showstopper for 2018,
 - Intervention during LS2 approved by LS2C
- Spares:
 - 3 spare cavities already secured
 - 2 spare solenoids in store
 - 1 spare cryo compressor + 2 spare motors in store

In memory
Nicolas Delruelle
&
Hervé Milcent