



ISOLDE MOU

Update of Annexes

March 19, 2019

Gerda Neyens



OUTLINE

- MOU automatic renewal every 3 years: new period 2020-2022
- Update of the Annexes during 2019 – aim for final approval July 1
- Status of membership (Greece, Portugal, ...)
- Amendments
 - Collaboration Agreement with BOSE Institute, Kolkota, India

MOU: automatic renewal

EXTRACT from the MOU:

3.1 This MoU shall be **valid for three years, from 1 January 2017 to 31 December 2019**, and shall thereafter be **renewed automatically, each time for a new period of three years.**

8.1 The Collaboration shall make every effort to **ensure that the information contained in the Annexes to this MoU is kept up-to-date.** To this end it shall **review the information at least annually for the ISCC.**

8.2 This MoU **may be amended at any time with the agreement of the Parties or of their appointed successors.** Any such amendments shall be subject to the prior agreement of the ISCC.

Update of Annexes

● Annex 1: Institutes representing their country in the ISOLDE Collaboration and the names of their Contact Persons

Country	Town	Institute	Representative
	Geneva	CERN, European Organization for Nuclear Research	G. Neyens
Belgium	Leuven	Katholieke Universiteit Leuven (KU Leuven)	S. Severijns
Denmark	Aarhus	Department of Physics and Astronomy, University of Aarhus	H.O.U Fynbo
Finland	Helsinki	Helsinki Institute of Physics	J. Pakarinen
France	Bordeaux-Gradignan	CENBG	B. Blank
Germany	Greifswald	Ernst-Moritz-Arndt-Universität	L. Schweikhard
Greece	Athens	INP, NCSR Demokritos	A. Lagogiannis
Italy	Firenze	INFN	A. Nannini
Norway	Oslo	Fysisk institutt, Universitetet i Oslo	S. Siem
Poland	Warsaw	University of Warsaw	M. Pfützner
Romania	Bucharest	National Institute of Physics and Nuclear Engineering	N. Marginean
Slovakia	Bratislava	Institute of Physics, Slovak Academy of Sciences	M. Venhart
South Africa	Durban	Durban University of Technology	K. Bharuth-Ram
Spain	Madrid	IEM-CSIC	O. Tengblad
Sweden	Lund	Lund University	J. Cederkall
United Kingdom	Guilford	University of Surrey	D. Doherty

Update of Annexes

Annex 2: List of Funding Agencies and their Representatives

Country	Agency	Place	Represented by
	CERN	Geneva	E. Elsen
Belgium	Fonds voor Wetenschappelijk Onderzoek – Vlaanderen (FWO)	Brussels	H. Willems
Denmark	University of Aarhus	Aarhus	K. Riisager
Finland	Helsinki Institute of Physics	Helsinki	K. Huitu
France	IN2P3	Paris	R. Pain
Germany	Ernst-Moritz-Arndt-Universität	Greifswald	L. Schweikhard
Greece	General Secretariat For Research and Technology	Athens	P. Kyprianidou
Italy	INFN	Rome	F. Ferroni
Norway	The Norwegian Research Council	Oslo	A. Moe
Poland	University of Warsaw	Warsaw	A. Nowak
Romania	National Authority for Scientific Research and Innovation - Institute of Atomic Physics	Bucharest	F. D. Buzatu
Slovakia	Ministry of Education, Science, Research and Sport of the Slovak Republic	Bratislava	Z. Hlavacikova
South Africa	National Research Foundation	Pretoria	M. Qhobela
Spain	Ministerio de Ciencia, Innovación y Universidades	Madrid	R. Rodrigo Montero
Sweden	Swedish Research Council	Stockholm	P. Karlson
United Kingdom	UKRI-STFC	Swindon	Mark Thompson

Update of Annexes

- **Annex 4: Participants in the ISOLDE Collaboration by Country and Institute**

Modifications received from Finland, Belgium, CERN, UK

Update of Annexes

● Annex 5.1: Management structure of the ISOLDE Collaboration

- Should be revised, considering that the HIE-ISOLDE project is 'finished' for CERN ? The Phase 3 is not in any CERN MTP.
- Meeting GN and R. Losito to discuss this (EN Department head)
- The contract of Yacine as HIE-ISOLDE Project Leader ended Dec. 31, 2018

10. The HIE-ISOLDE Project Leader is responsible for the advancement of the HIE ISOLDE project. Phase 2 of the project ended in December 2018, and at this time also the current Project leadership ends. The timeline for the realization of Phase 3 is still being discussed with CERN.

Update of Annexes

● Annex 5.2: Persons holding Management and other senior positions within the ISOLDE Collaboration

ISOLDE Collaboration Committee Chairperson	B. Blank
Spokesperson	G. Neyens
Resource Coordinator	G. Neyens
ISOLDE Technical Coordinator (ITC)	R. Catherall
Deputy ISOLDE Technical Coordinator (DITC)	E. Siesling
HIE-ISOLDE Project Leader	Y. Kadi (end 12/2018)
Physics Coordinator	K. Johnston
GLIMOS	K. Johnston

Update of Annexes

● Annex 7.2: Collaboration Membership Fees and extra contributions (current)

	CONTRIBUTION (kCHF)			
	Total	2017	2018	2019
CERN	285	95	95	95
Belgium	180	60	60	60
Denmark	180	60	60	60
Finland	180	60	60	60
France	180	60	60	60
Germany	180	60	60	60
Greece (since 2013)	90	30	30	30
Italy	180	60	60	60
Norway	180	60	60	60
Poland	180	60	60	60
Romania	180	60	60	60
Spain	180	60	60	60
Slovakia (since 2016)	90	30	30	30
South Africa (since 2015)	90	30	30	30
Sweden	180	60	60	60
UK	180	60	60	60

The standard membership fee is 60 kCHF/year, ~~extra contributions (also those from other funding sources) are included in the table.~~

Update of Annexes

7.3 Physics equipment permanently at ISOLDE but not forming part of the common equipment (shown for information only and not part of the responsibilities of the Institutes under this MoU) (kCHF)

	CERN	Belgium	Denmark	Finland	France	Germany	Spain	Sweden	UK	Romania
ISOLTRAP					75	3600				
COLLAPS		300				1800				
WITCH/LEWIBEL		1500								
Miniball		1300		50	8	5200		10		
Spectroscopy	360		150				200	400		
Lucrecia-Tags					200		130		200	
CRIS		800							900	
Tilted Foil & Beta NMR	30				4					
IDS		390.5		10			209.3		171.6	423.5
Reaction Chamber (SEC)								56		

Supplementary information:

- The Collaboration has contributed jointly to several experiments, e.g. the HV platform and WITCH (80 kCHF).
- Solid state experiments have invested more than 2500 kCHF.
- The NICOLE on-line orientation set-up (France, United Kingdom) is estimated to have cost 780 kCHF.
- An electron gun is planned for the new EBIS. The preliminary budget estimate is 150 KCHF.

Update of Annexes

● Annex 13: HIE-ISOLDE project

A. SCOPE

. The energy upgrade will be installed in three phases. The first phase includes the installation of 2 cryomodules bringing the energy to 5.5A MeV and during the second phase, 2 additional cryomodules will be installed to increase the beam energy up to 9.3A MeV for beams with $A/Q=4.5$. This will allow reaccelerated beams to at least this energy for all isotopes produced at ISOLDE. In a 3rd phase, 2 low-beta cry-modules will replace part of the current warm LINAC (REX-ISOLDE), thus boosting the maximum achievable energy to 10 MeV/u for $A/Q=4.5$. The first phase of the project will be exploited for physics before the installation of the second phase.

Update of Annexes

● Annex 13: HIE-ISOLDE project

B. FUNDING

1. Cost to completion table

Funding of the project is shared between CERN and outside partners. The total Cost-to-Completion of the project, up to the end of Phase 2, reached in December 2018 ~~as of November 2015~~ is 4039.4 MCHF over the period 2007-2018. The current CtC of the project excludes Phase 3 for which the 5.6 MCHF are still not funded.

<i>In kCHF</i>	Infrastructure	Machine			Total
		Phase 1	Phase 2	3 rd beam line	
CERN funding	21'840 <u>21'067</u>	4'199	416 <u>415</u>	802 <u>753</u>	27'257 <u>26434</u>
Collaboration		8'329	4'473 <u>4'222</u>		12'802 <u>12'551</u>
In kind		341	41		382
Total	21'840 <u>21'067</u>	12'869	4'930 <u>4'678</u>	802 <u>753</u>	40'441 <u>39367</u>

The CERN contribution formalized in the current mid-term plan (MTP2017-2021), considering past and future expenditure is 26.4 MCHF and covers civil engineering and general services (19.5 MCHF), the machine and the 3rd beam line (5.4 MCHF), the Design Study for the intensity upgrade (1.2 MCHF), Safety (0.6 MCHF) and project management (0.3 MCHF). The contribution from external partners, including the ISOLDE collaboration, is 12.9 MCHF and covers the Superconducting linear accelerator (Phases 1 and 2) and the high-energy beam transfer lines. Table 2 summarizes the contributions in kCHF pledged at the date of December 2018. Former contributions to the RILIS source and the RFQ cooler ISCOOL, as part of the beam quality upgrade, are detailed in annex 7.1 and not reported here.

Update of Annexes

● Annex 13: HIE-ISOLDE project

B. FUNDING

Table 2 – Cash Funding Sources secured by the Collaboration

Funding Source	2007-2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
FWO Big Science I (BE)	4'460										4'460
ISOLDE Coll.	2'477	500									2'977
MPI (DE)	115										115
Uni. Aarhus (DK)	77										77
CERN loan (KM2180)			140	140	140	140	140				700
Phase 1	7'129	500	140	140	140	140	140				8'329
FWO Big Science II (BE)	494	104									598
ISOLDE Coll.			433								433
CERN pre-payment			400	400	400	400	400	400	400	391	3191
Phase 2	494	104	833	400	400	400	400	400	400	391	4222
Total Machine	7'623	604	973	540	540	540	540	400	400	391	12'551

Update of Annexes

● Annex 13: HIE-ISOLDE project C. Structure

The Project is coordinated by a **Project Leader**, normally a member of the EN department at CERN. It is overseen by a **Steering Committee (SC)** which represents the stakeholders of the Project. Exchange of information between the users and the technical team is ensured by a **Physics Coordination Group (PCG)**. Advice on all aspects of the project is given by an **International Advisory Panel (IAP)**.

The ~~current~~ HIE-ISOLDE Project Leader ~~was~~ is Yacine Kadi (CERN-EN) **until 31.12.2018**

The SC represents the stakeholders of the project. The ISOLDE spokesperson, the Chair of the ISCC, the Chair of the INTC, the ISOLDE coordinator and the Project Leader are ex-officio members of the SC. **The SC elects its chairperson and meets at least 3 times per year. The current composition of the SC is:**

Yorick Blumenfeld (Chair)

Bertram Blank (ISCC chair)

Gerda Neyens (ISOLDE Spokesperson)

Karsten Riisager (INTC Chair)

Richard Catherall (ISOLDE Technical Coordinator)

Erwin Siesling (Deputy ISOLDE Technical Coordinator, in charge of REX and HIE-ISOLDE)

Joakim Cederkall (Sweden)

Riccardo Raabe (Belgium)

Yacine Kadi (EN dept, CERN, Project Leader)

Karl Johnston (ISOLDE Physics Coordinator)

Roberto Losito (EN dept, CERN)

Summary

- Final updates to be submitted by June 1
- GN will contact R. Losito regarding the Phase 3 of HIE-ISOLDE
- Aim at approving the new MOU Annexes, for the period 2020-2022 in June