IFIGENEIA

Innovative Facility for Isotope GENeration with Efficient Ion Accelerator

T6.3 Implementation of a Virtual Interactive RadioIsotope production unit

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Kick-off meeting
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Thessaloniki, Greece

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T6.3 Description

T6.3 Implementation of a Virtual Interactive RadioIsotope production unit

The Virtual Interactive Radioisotope Production Unit will be a cutting-edge training tool designed to simulate the entire process of radioisotope production in a realistic and immersive virtual environment. Built on advanced virtual reality technology, the interactive unit will allow trainees to practice key tasks such as target preparation, irradiation, and quality control procedures. Through interactive modules, guided tutorials, and virtual mentoring sessions, users will enhance their understanding of radioisotope production techniques and workflows, facilitating knowledge transfer and skill development in a safe and controlled setting.

T6.3 Implementation of a Virtual Interactive RadioIsotope production unit

Start Date:	**01/03/2026**	**Task Leader:**	**CERTH**
End Date:	**28/02/2029**	**Task Contributors:**	AUTH, BIOKOSMOS, AMTH, GNP, TPOLIS, NCSRD, YFOS, UL, IJS, SIH, TALOS, UCY, SHSO, UNSA, GSI, DKFZ, CERN

Del.	Deliverable Title	Lead Partner	Diss. Level	Due On
D6.2	Virtual Interactive RI production unit	CERTH	Public	M24

Mx	Milestone Title	Lead Partner	Mean of verification	Due On
M9	First version of VR RI production unit	CERTH	D6.2	M24

T6.3 Methodology (1)

IFIGENEIA VR platform will provide a highly specialized and immersive simulation environment tailored specifically to the complex processes involved in radioisotope production.

Leveraging **advanced graphics**, **physics simulations**, and **interactive elements**, the VR unit will offer unprecedented realism and fidelity, allowing users to experience the intricacies of radioisotope production first-hand. Furthermore, the IFIGENEIA VR platform will pioneer the integration of mentoring and collaboration features, enabling experienced professionals to remotely guide and mentor trainees in real-time, fostering **knowledge exchange** and **expertise transfer** across geographical boundaries. This innovative approach will revolutionize training and mentoring in the field of nuclear medicine and molecular imaging, accelerating the development of skilled professionals and advancing the adoption of novel radioisotope production technologies for improved patient care.

T6.3 Methodology (2)

CERTH AR/VR team will collaborate with the partners with experience in radioisotope production, as well as with the training providers in order to develop the proposed Virtual unit. The initial plan is to create an application similar to the following virtual center. Co-creation meetings will take place so as to succeed the best results.

From Accelerators for Fundamental Research to Medical Accelerators for Cancer Tumour Therapy

T6.3 Timetable - Resources

Timeline

	YEAR 1												YEAR 2												YEAR 3												YEAR 4												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
T6.3 Implementation of a Virtual Interactive RadioIsotope production unit																								D6.2																								D6.2 - Final version

Effort – PMs per partner

AUTH	BIOKOSMOS	AMTH	CERTH	GNP	TPOLIS	NCSRD	YFOS	UL
3	2	1	**20**	5	1	1	2	1
IJS	**SIH**	**TALOS**	**UCY**	**SHSO**	**UNSA**	**GSI**	**DKFZ**	**CERN**
1	2	1	3	1	5	1	1	1

Interactions with other Tasks

- **T2.2 Skills training and Trainers' training** - The Virtual Interactive RadioIsotope production unit will be an innovative tool for the training actions that will take place during T2.2.
- **T6.1 Accelerator School** - The Virtual Interactive RadioIsotope production unit will be used for the training actions that will take place during T6.1.
- **T6.2 Master Classes in Particle Therapy** - The Virtual Interactive RadioIsotope production unit will be used for the Classes that will take place during T6.2.