



WP12 - Societal Applications

Rob Edgecock on behalf of WP12

Tasks

- **Task 12.1: A Strategy for Implementing Novel Societal Applications of Accelerators**
 - Study some new and important societal applications of accelerators with the aim of developing roadmaps for their innovation: novel forms of radiotherapy for cancer treatment, reduction of environmental pollution, new imaging techniques, improved methods for radioisotope production.
 - Develop a strategy to deliver these roadmaps.
 - Study the barriers which discourage the use of accelerators in industry.
- **Task 12.2: Design of advanced electron accelerator plant for biohazards treatment**
 - Processing line design, based on laboratory studies, and development of assumptions for industrial electron accelerator based sludge processing unit construction.
 - Basic engineering of e-beam municipal sludge processing line based on industrial electron accelerator.

Tasks

- **Task 12.3: Design of Internal RF Ion Source for Cyclotrons**
 - Review of the state-of-the-art internal ion source for cyclotrons and assessment of market needs.
 - Design of an Internal RF Ion Source for Cyclotrons.
 - Manufacture and characterization of an operative prototype of the Internal RF Ion Source.

12.1 Sub-Tasks

- Sub-task 1. Coordination and Communication
(Rob Edgecock - HUD)
- Sub-task 2. Novel forms of radiotherapy
(Angeles Faus-Golfe - CNRS)
- Sub-task 3. Environmental applications of electron beams
(Toms Torims – RTU
Andrzej Chmielewski - INCT)
- Sub-task 4. Accelerator imaging
(Graeme Burt - ULANCS)
- Sub-task 5. Accelerator production of radioisotopes for imaging and therapy
(Conchi Oliver - CIEMAT)
- Sub-task 6. Barriers to accelerator adoption by industry
(Andrzej Chmielewski – INCT
Andrea Sagatova – STU)

12.1 Deliverable and Milestones

D12.1	Strategy for Implementing Novel Societal Applications of Accelerators	HUD	R	M28
MS57	Projects identification for development funding	12.1	M10	Abstract of proposals
MS58	Completion of strategy documents for each application area	12.1	M40	Report

12.2 Deliverable and Milestones

D12.2	Basic engineering of electron beam sludge processing line	INCT	R	M24
MS59	Approval of basic engineering	12.2	M24	Validated by design office

12.3 Deliverable and Milestones

D12.3	Prototype of Internal RF Ion Source for Cyclotrons	CIEMAT	P	M24
MS60	First Plasma achieved in the prototype	12.3	M19	Report