IHI Call Days | Call 12

ADMIRE: **A**dvance**D** Integrated **M**edical **I**maging and **R**adiation oncology patient **E**xperience

Contact person name: Saverio Gravina

Organisation: Fondazione Policlinico Universitario Agostino Gemelli IRCCS

E-mail: saverio.gravina@policlinicogemelli.it

Link to the IHI brokerage platform:

- Proposal sharing tool: Link
- Participant profile: Link

innovative health initiative

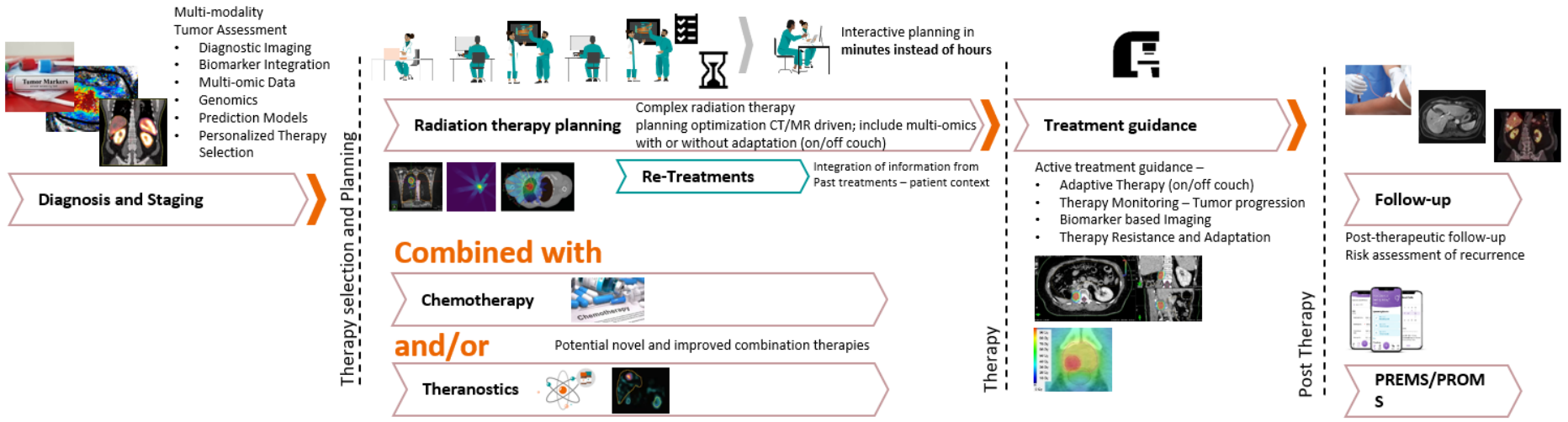
Challenges

Fragmented Cancer Pathways	Inefficient Imaging and Treatment Integration	Delayed Access to Life-Saving Therapies	Limited Personalization of Care	Poor Patient Experience
• Current oncology workflows are fragmented between radiology, tumor boards, and radiotherapy units, leading to long delays between diagnosis and treatment • Current models do not fully integrate real-time imaging or systemic therapy response data into adaptive radiotherapy.	• Lack of interoperability between imaging and radiotherapy systems hinders seamless planning, causing redundant imaging, data loss, and workflow bottlenecks. • Separate imaging, planning, and treatment systems prevent seamless information flow and decision-making.	• Current workflows can take weeks from diagnosis to first radiotherapy session, allowing tumor progression and patient deterioration. • Imaging is not still used as biomarker to follow and predict the treatment progression • Spaces are many times fragmented and not linked to each other.	• Current models rely on generic treatment protocols, without leveraging imaging biomarkers, AI, or real-time data to tailor therapy to individual patients. • Insufficient use of imaging biomarkers and AI-driven analytics to tailor therapies.	• Patients face multiple hospital visits, anxiety, and physical and emotional strain—especially frail, elderly, and pediatric populations—due to inefficient and non-patient-centered workflows.

Obj 2: Boosting innovation through better integration of fragmented health R&I efforts

innovative health initiative

Your approach to solve the problem



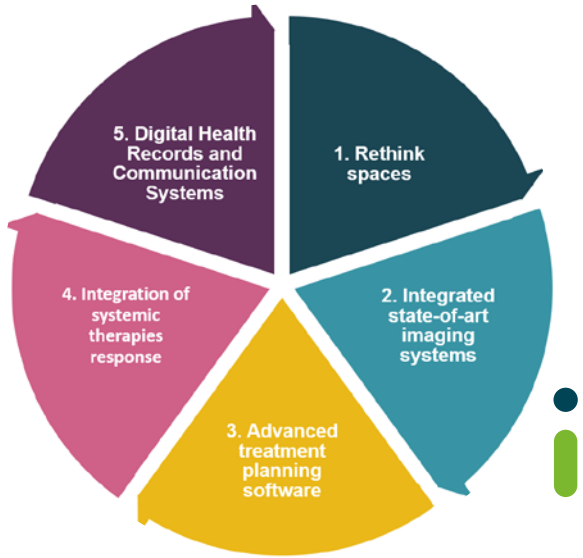
Goal of the ADMIRE Project: Seamless therapy decision, and acceleration leading to improved outcomes and improved efficiency

Minimize Time to Therapy by integrating advanced medical imaging and innovative radiation oncology, while improving the patient experience and optimizing hospital workflow

Identify imaging-based biomarkers to enhance patient selection and optimize cancer care outcomes (radiotherapy and systemic therapies) and reducing time to market for innovative therapy solutions

Integrate systemic therapies response data into innovative adaptive radiotherapy paradigms to refine dose optimization strategies.

Standardize, harmonize and integrate in a federated manner, ensuring data privacy



innovative health initiative

Is your project suitable for IHI?

ADMIRE brings together key players from academia, industry, and healthcare to co-create a new model of driven, people-centred integrated oncology care.

ADMIRE addresses one of Europe's most pressing public health challenges — cancer treatment delays and fragmentation of care — through a deeply cross-sectoral approach that integrates medical imaging, radiotherapy, pharmaceuticals, digital health, and AI technologies under a single unified and connected echosystem.

This aligns directly with the IHI's objectives to break down silos, accelerate innovation translation, and deliver integrated healthcare solutions that are safe, effective, and sustainable.

Harness new science and technologies — including quantitative MRI, radiomics, and federated AI learning — to develop novel diagnostic and treatment tools.

Demonstrate real-world feasibility through multi-centre clinical pilots that integrate imaging, systemic therapies, and patient experience in a unified care model.

Deliver people-centred innovation, with strong emphasis on patient engagement, PROMs/PREMs integration, and adaptive treatment strategies.

Scale and sustain, by evaluating cost-effectiveness, interoperability, and regulatory readiness across diverse European healthcare systems.

innovative health initiative

Outcomes

Clinical Outcomes	Technological Outcomes	Operational Outcomes
Shorter time from diagnosis → treatment (hours vs. weeks)	AI-enabled, MR-only adaptive radiotherapy workflow	Streamlined clinical workflows
Improved tumor control & survival (CNS, pediatric, prostate cancer)	Standardized MRI protocols & validated biomarkers	Reduced redundant imaging & administrative burden
Optimized therapy dosing via systemic therapy response integration	Secure, multi-center data sharing for AI model validation	Enhanced interoperability across oncology systems

innovative health initiative

Impacts

Strengthening EU Health Industry Competitiveness	Improve Patients Experience	Integrated Healthcare Solutions
Drives innovation in MR-based, AI-enabled adaptive radiotherapy	Faster treatment: Reduces waiting times, limits tumor progression	Clinical hubs & pilot on Prostate and CNS Paediatric
Promotes public-private partnerships across hospitals, pharma, and industry	Personalized care: Therapy adapts in real-time to patient data	Industrial research improvevemnts
AI models, biomarkers, adaptive radiotherapy	Enhanced patient experience	Systemic therapy response data informs personalization
Builds EU leadership in healthcare AI & precision oncology	Reduced burden: Fewer appointments, lower financial & emotional stress	Harmonized multi-center datasets for AI model generalization
Positions Europe as global leader in integrated, patient-centered oncology	Better outcomes: Safer, more effective, evidence-based treatments	Real-time symptom reporting guides adaptive care

innovative health initiative

Expertise and resources – we have

Gemelli provides a unique ecosystem for innovation in oncology through two major assets: Gemelli ART (Advanced Radiation Therapy) and Art4ART. Gemelli ART is one of Europe's most advanced radiotherapy and imaging centers, integrating MRI, AI-based planning, and digital data management for precision oncology. Art4ART ("Art for Advanced Radiotherapy") represents an innovative patient-centered project designed to engage patients emotionally throughout their treatment journey.

Siemens Healthineers is the Industrial Leader of ADMIRE. Thanks to its unique integration of advanced imaging and precision radiotherapy, it will combining Siemens Healthineers' MRI and CT expertise with Varian's adaptive therapy solutions enables a seamless imaging-to-treatment workflow. Its leadership in MRI based radiotherapy and AI-ready digital platforms supports ADMIRE's goals of adaptive, personalized cancer care.

Bracco is high interested bringing its excellence in contrast agent development, diagnostic innovation, and quantitative MRI optimization, supporting ADMIRE in creating safer and more precise imaging workflows. Bracco's strategic focus on diagnostic efficacy, workflow optimization, and AI innovation—combined with its deep expertise in contrast agents and imaging informatics—makes it a natural fit to co-develop and validate the solutions envisioned within ADMIRE.

Novartis is interested in contributing to the clinical validation of imaging-based biomarkers for and for a dedicated theranostics workstream focused on RLI/RLT.

AstraZeneca is interested in Patient Experience Pathway and systemic therapies combination and response prediction.

innovative health initiative

Expertise and resources – we scout

- Pharmaceutical companies interested in participating to integrate systemic therapies response data into innovative adaptive radiotherapy paradigms, refining dose optimization strategies and enabling more personalized, evidence-based treatments.
- Hospitals and clinical centers, particularly for use cases in CNS, pediatric cancers and prostate cancer, although other oncology use cases are also welcome. These centers will provide access to imaging data, patient cohorts, and real-world clinical insights essential for validating ADMIRE's AI-driven workflows in pilots.
- Data and IT specialists to support secure, interoperable, and harmonized data sharing across clinical and research platforms.
- Patient advocacy groups and experience design experts to co-develop digital tools and immersive solutions that enhance patient engagement, symptom reporting, and quality-of-life metrics.
- Academic and research institutions to expand clinical studies, AI model development, and translational research efforts.

innovative health initiative

Thanks

Contact person name: Saverio Gravina

Organisation: Fondazione Policlinico Universitario Agostino Gemelli IRCCS

E-mail: saverio.gravina@policlinicogemelli.it

Link to the IHI brokerage platform:

- Proposal sharing tool: Link
- Participant profile: Link