

SPOKE	Spoke 2 -Health, Food and Lifestyles
Project acronym	RehabSphere
Project title	Cutting-Edge Virtual Reality Platform for Comprehensive Patient-Centric Rehabilitation
Key-words	Virtual rehabilitation, Artificial Intelligence, Remote physiotherapy, Real-time feedback
Summary of Participating partners names and their type	Phoenix srl (PMI)
Duration	12 months
Total project budget (€)	356.886,1 €
Total grants requested (€):	197.194,53 €
Abstract	<p>The objective of the project is to develop a prototype to support the assessment of physiotherapy exercises using a virtual reality (VR) environment. The system is designed to enhance the effectiveness and quality of physiotherapy treatment by providing accurate and immediate evaluation of patient movements, offering real-time feedback. The prototype is targeted at patients who need to perform post-operative rehabilitative exercises for upper body parts (chest, breast, neck, arms, hands). The exercises will be performed either freehand or with the aid of known objects (weights, springs, mechanical devices). The physiotherapist will be able to evaluate and correct patient movements in real time. The prototype will enable remote physiotherapy sessions in a 1-to-1 multiplayer mode. The physiotherapist can record exercise movements that patients can perform in assisted mode even in the therapist's absence. The prototype will integrate an intelligent agent to evaluate exercises and provide feedback on the movements of individual body parts. This will be achieved by calculating the "distance" between the professional's and the patient's movements. The feedback can include graphical and/or vocal instructions. The intelligent agent can also function as a smart assistant, providing specific information regarding medical issues and rehabilitative practices upon request from the specialist or patients.</p>
Initial TRL	3-4
Final TRL	6