

SPAIN

Elena García Armada

Industrial engineering

Elena García Armada began her career designing industry-oriented robots, but in 2009 she met a young girl who had been left with severe tetraplegia after a traffic accident. This meeting resulted in a radical change in her research career, leading her to focus on creating devices to improve the physical abilities of children suffering from degenerative neuromuscular diseases, and to help with their rehabilitation and increase their mobility.

She is currently a tenured scientist at the Centre for Automation and Robotics (CAR) CSIC-Universidad Politécnica de Madrid UPM, and leads the Spanish Research Council group that developed the world's first bionic exoskeleton for children with spinal muscular atrophy, a degenerative disease without cure.

García Armada is the founder of the company *Marsi Bionics*, a company dedicated to the research and development of paediatric exoskeletons. These structures are adjustable supports that fit to a child's legs and chest, and which have small incorporated motors that mimic muscle function, providing the strength needed to walk and stand up. Her ATLAS2020 model is equipped with smart joints that interpret the movements of the patient, detecting both desired and unwanted movements.

She has received numerous awards in recognition of the quality and innovation of her projects.