

Title: Soft upper limb exoskeletons

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Abstract: Applications of robotic exoskeletons have undergone an enormous research interest in the last years for rehabilitation therapies. However, although the wide research in this field, there are still open issues, especially in the development of devices for upper limb, that limit their implementation in real clinical practice. One of the limitations in the development of wearable soft robotic devices lies in the development of lightweight actuators. Thanks to their flexibility, high force-to-weight ratio and small volume, SMA-based actuators can be considered a good actuation solution for soft robotic applications and especially for rehabilitation devices. The devices that we have shown in this presentation and the developments carried out by our research group demonstrate the real possibilities of applying soft robotics in rehabilitation and the advantages that these devices offer for patients and therapists.