



AXO-SUIT



AXO-SUI: Assistive exoskeleton suitable for elderly persons

AXO-SUIT DELIVERABLE

Deliverable D5.5C Scientific Publications

Workpackage WP5: Commercialisation

Task D5.4: Scientific dissemination

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Classification:

Restricted to AXO-SUIT consortium

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Ambient Assisted Living Joint Programme Call 6: AXO-SUIT





Ambient Assisted Living Joint Programme



AXO-SUIT: Assistive exoskeleton suitable for elderly persons

Task 5.4:

Public and scientific dissemination

Task Co-ordinator:

Hjälpmedelsteknik Sverige AB

Task Members:

Aalborg University

University of Limerick

COMmeto bvba

Hjälpmedelsteknik Sverige

Welldana, Denmark

AXO-SUIT Partnership:

Participant no.*	Participant organisation name	Participant short name	Organisation type	Country
1 (Coordinator)	Aalborg University	AAU	Univ, End user	Denmark
2	University of Gävle	UGAV	Univ, End user	Sweden
3	University of Limerick	UoL	Univ, End user	Ireland
4	Welldana A/S	WELL	End user, IND	Denmark
5	Bioservo Technologies AB	BIOT	IND, business	Sweden
6	MTD Precision Engineering Ltd	MTD	IND, business	Ireland
7	Hjälpmedelsteknik Sverige	HJALP	End user	Sweden
8	COMmeto bvba	COM	IND, Business	Belgium



The AXO-SUIT project has made significant progress in technology development, which has been reported in total 15 publications, 10 journal articles and five conference papers, in 2017-18 by three research organizations.

The papers are listed below.

AXO-SUIT SCIENTIFIC PUBLICATIONS				
Organization	Journal or conference	Publication Date	References	Note
AAU, Denmark	book	01/30 2018	S. Bai, G. Virk, T. Suger (Eds.) Wearable Exoskeleton Systems: Design, Control and Applications, the IET Press, 2018	
AAU, Denmark	journal	2018	S. Christensen and S. Bai, Kinematic Analysis and Design of a Novel Shoulder Exoskeleton using a Double Parallelogram Linkage, ASME J. Mechanisms and Robotics 2018	In press
AAU, Denmark	conference	2017	S. Bai, S. Christensen and M. Raza UI Islam, "An upper body exoskeleton with a novel shoulder mechanism for assistive applications", IEEE International Conference on Advanced Intelligent Mechatronics, July 3-7, 2017, pp. 1041-1046	
AAU, Denmark	conference	2017	Muhammad Raza UI Islam and Shaoping Bai, "Intention Detection for dexterous human arm motion with FSR sensor bands" Proceedings of the Companion of the 2017 ACM/IEEE International Conference on Human-Robot Inter-action. ACM, March 6-9, 2017, pp. 139-140	
AAU, Denmark	conference	2018	S. Christensen, S. Bai, S. Rafique, M. Isaksson, L. O'Sullivan, V. Power and G. S. Virk, AXO-SUIT - an assistive modular full-body exoskeleton, IFToMM Symposium on Mechanism Design for Robotics, September 11th - 13th, 2018 Udine, Italy	accepted
UoL, IRL	Journal	2018	De Kruif, B.J., Schmidhauser, E., Stadler, K.S. and O'Sullivan, L.W., 2018, Simulation architecture for modelling interaction between user and elbow articulated exoskeleton, Journal of Bionic Engineering, Journal of Bionic Engineering, 14, 706-715.	
UoL, IRL	Journal	2018	Power, V., de Kruif, B., Kim, C. and O'Sullivan., L.W., Modelling biomechanical and interaction effects for design evaluation of an assistive ankle exoskeleton, Journal Bionic Engineering.	under review

UoL, IRL	Conference	2016	de Kruif, B.J., Schmidhauser, E., Stadler, K. and O'Sullivan, L.W., 2016, Identification and Predictive Modelling of Exoskeleton-human Interaction, WeRob 2016: International Conference on Neurorehabilitation, 1085-1090.	
UoL, IRL	Conference	2015	O'Sullivan, L., Power, V., Masud, N., Haider, U., Virk, G., Christensen, S, Bai, S., Cuypers, L., D'havé, M. and Vonck, K., 2015, End user needs elicitation for a full-body exoskeleton to assist the elderly, <i>Procedia Manufacturing</i> , 3, 1403-1409.	
UGAV, Sweden	Journal	2017	BS Rupal, S Rafique, A Singla, E Singla, M Isaksson, GS Virk. "Lower-Limb Exoskeletons: Research Trends and Regulatory Guidelines in Medical and Non-medical Applications", <i>International Journal of Advanced Robotic Systems</i> 14 (6), 1-27, Dec 2017.	
UGAV, Sweden	Journal	2016	U. Haider, I. Nyoman, C. Kim and G. S. Virk, "User Centric Harmonised Control for Single Joint Assistive Exoskeletons," <i>International Journal of Advanced Robotic Systems</i> , 13:115, pp. 1-9, 2016.	
UGAV, Sweden	Journal	2016	Ashish Singla, Baltej Singh Rupal and Gurvinder Singh Virk, "Optimization of stepped-cone CVT for Lower-Limb Exoskeletons", Elsevier: <i>Perspectives in Science</i> , Vol. 7, 2016	
UGAV, Sweden	Journal	2016	Baltej Singh Rupal, Ashish Singla and Gurvinder Singh Virk, "Lower Limb Exoskeletons: A Brief Review", <i>International Journal for Scientific Research and Development</i> , pp. 18-24, Vol- COMET-2016.	
UGAV, Sweden	Journal	2016	Ashish Singla, Saurav Dhand and Gurvinder Singh Virk, "Mathematical Modeling of a Hand Crank Generator for Powering Lower-Limb Exoskeletons", Elsevier: <i>Perspectives in Science</i> , Vol. 7, 2016.	
UGAV, Sweden	Journal	2018	Nauman Masud, Christian Smith and Magnus Isaksson, "Disturbance Observer based Dynamic Load Torque Compensator for Assistive Exoskeletons", <i>Journal of Mechatronics: The Science of Intelligent Machines</i> , Revision submitted.	Under Review