

AUXIVO

EduExo Educational Exoskeleton Kits



The Educational Exoskeleton Kits

Our EduExo kits make exoskeleton technology accessible and understandable for everyone. They provide educators, researchers and students with a comprehensive tool to teach, experiment and learn about exoskeletons, saving significant time and costs.

Each kit consists of two elements: hardware components and a handbook. These two elements allow users to acquire a broad knowledge of exoskeletons and train their practical skills by building and programming their own exoskeleton.



EduExo Pro

- Full arm exoskeleton kit
- Sophisticated exoskeleton hardware
- Extended, comprehensive handbook
- For higher education and research



EduExo Lite

- Classroom-ready elbow exoskeleton kit
- Integrated exoskeleton hardware
- Handbook covering all main topics
- For educators and students

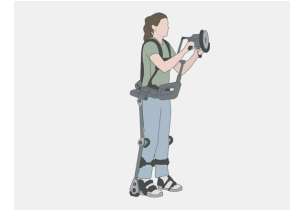


EduExo Maker

- Digital, free, open-source exoskeleton
- STL files to 3d print exoskeleton parts
- PDF handbook covering all basics
- For educators, students, hobbyists

The Handbook

The handbook is an integral part of each kit. It explores various aspects of exoskeleton technology, offering valuable knowledge and skills. The number and length of chapters varies between the different kits.



Introduction

Basics of exoskeletons, their history, functionality, and real-world examples.



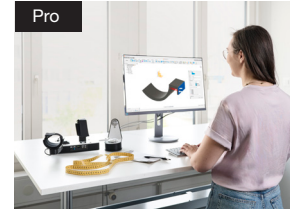
Exoskeleton Development

The development process, team dynamics, and various technologies used in exoskeleton creation.



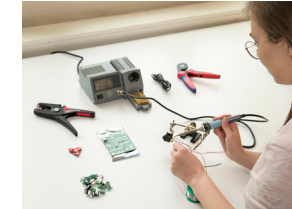
Anatomy and Mechanics

Fundamentals of functional anatomy and mechanics, integration of the human body with mechanical systems. Mechanical assembly and first use.



Mechanical Design

Sketching, CAD design, stress-strain analysis, along with manufacturing and assembly processes. Design of custom parts and 3D printing.



Electronics

Basics of microcontrollers, motors, IMUs, position, force and muscle activity sensors. Soldering and assembling of electronics.



Software

Microcontroller programming basics, developing various programs to read sensors and control the exoskeleton motor.



Control Systems

Introduction to control systems from basic position controllers to advanced controllers using bio-signals to optimize exoskeleton support.



VR and Video Games

Video games in rehabilitation and therapy. Development of a PONG-style game. Integration of the exoskeleton as a haptic interface, and controller.



Scientific Experiments

Experiments to assess the exoskeleton's benefits on the human body and statistical analysis of the measured data.



EduExo Pro

The Advanced Robotic Exoskeleton Kit

The EduExo Pro offers universities an accessible and cost-effective way to integrate exoskeleton technology into higher education and research.

It includes both hardware to build an arm exoskeleton and a comprehensive handbook. This combination allows its users to connect theoretical concepts to hands-on experience and supports them in grasping fundamental principles and acquiring practical skills.

“We use the EduExo Pro in the practical course “Haptic Control of an Arm Exoskeleton” for Mechanical Engineering students. This lab is held every week during the semester for several groups of students, each working with their own EduExo Pro. The EduExo Pro provides a great teaching platform and allows us to connect theoretical knowledge with practical experience. The students love it!”



Prof. Dr. Robert Riener
Head of the Sensory-Motor Systems Lab ETH Zurich,
Professor at ETH Zurich and Balgrist University Hospital,
Initiator of the Cybathlon

“I am a second-year PhD student working on the development and control of upper-limb exoskeletons to assist patients with Duchenne Muscular Dystrophy. The EduExo Pro from Auxivo provided a straightforward and easy-to-set-up platform, allowing me to test my initial ideas quickly. The frame of the device is made with high precision and quality, offering a robust structure for testing.”



Nada Salman
PhD Candidate in Medical Robotics,
UVSQ- Paris Saclay

Feature Overview & Specifications

Kinematics	Shoulder (2 DoF): spring supported flexion, free rotation Elbow Joint (1 DoF): Active flexion/extension support
Hardware	CNC, sheet metal, 3d printed parts Textile vest + arm cuffs Spiral Spring (24 Nmm/°)
Electronics & Sensors	Custom PCB Arduino Nano 33 IoT Microcontroller Position Feedback Servo Motor (5 Nm) Force sensor (single-axis, 10 kg) Inertial Measurement Unit (IMU) Muscle activity sensor (EMG)
Handbook	Paperback 10 Chapters (184 pages)
Price	1790 CHF / 1890 EUR / 1990 USD



For more information on the EduExo Pro,
please visit the product website.



EduExo Lite

The Robotic Exoskeleton Kit

The EduExo Lite kit includes all the components needed to build an elbow exoskeleton.

It is ideal for students, hobbyists, and educators. The kit can be used for individual learning at home or as a teaching tool in schools, providing a foundation in hardware design, electronics, programming, control theory, and game design.

“It was a great experience to witness students engaging with the EduExo Lite during our Biomechatronics course. It added a practical and enjoyable dimension to our curriculum, enriching the learning experience for everyone involved. By sparking interest in such crucial topics, the exoskeleton community stands to benefit greatly.”



Dr med. Urs Schneider
Head of the Department of Human-Machine Interaction, Fraunhofer IPA & University of Stuttgart



Thomas Dobosz
Cybernetician & Scientific Researcher, Fraunhofer IPA & University of Stuttgart

“As a psychology student, the topic of exoskeletons was totally new to me. The EduExo Lite kit was a great way to learn the basics. It made the process of building an exoskeleton easy to understand and showed me that, if you take it step by step, anyone can do it.”



Gaia Serra
Psychology Master Student University of Zurich

Feature Overview & Specifications

Kinematics	Elbow Joint (1 DoF): Active flexion/extension support
Hardware	3D printed parts Textile arm cuffs
Electronics & Sensors	Arduino Nano Microcontroller Position Feedback Servo Motor (0.6 Nm) Muscle activity sensor (EMG)
Handbook	Paperback 7 Chapters (128 pages)
Price	340 CHF / 350 EUR / 380 USD



For more information on the EduExo Lite, please visit the product website.

EduExo Maker

The Open-Source Exoskeleton Kit

The EduExo Maker edition is a fully digital open-source exoskeleton that can be downloaded for free.

It contains a PDF handbook, STL files to 3D print a simple elbow exoskeleton, and a list of the required components to order.

It is ideal for students and enthusiasts with a low budget.



“With the EduExo Maker, our students engage in a multidisciplinary learning experience, synthesizing knowledge in 3D modeling, microcontroller electronics, UI/UX design and human-centered design to build functional prototypes. The no-cost, open-source nature of the EduExo Maker is particularly valuable as it promotes accessibility and allows for students to innovate and integrate their unique ideas into the device. This not only enhances the learning experiences but also inspires creativity and practical problem-solving skills.”



Prof. Eric Joseph Bubar
Professor of Engineering, Marymount University,
Mechanical and Biomedical Engineering,
eNABLE Marymount Coordinator

“At first, I was a bit scared as to whether I would be able to manage it. After all, I had never seen a kit like this before, let alone built and programmed a robot myself. But after studying the detailed instructions, I was able to start work without any problems. [...] Above all, I learnt to have the confidence to just get started and then see if I can manage it.”



Tim Rubin
High School Student

Feature Overview & Specifications

Kinematics	Elbow Joint (1 DoF): Active flexion/extension support
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Hardware	STL files to print yourself
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Electronics & Sensors	Arduino Uno Microcontroller * Position Feedback Servo Motor (0.6 Nm) * Force sensor (single-axis, 10 kg) *
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Handbook	Digital PDF 5 Chapters (120 pages)
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Price	Free
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*order yourself



For more information on the EduExo Maker,
please visit the product website.

About Auxivo

Founded in 2019 as a spin-off from ETH Zurich, we specialize in the development and manufacturing of occupational exoskeletons designed to improve worker safety and well-being. Our goal is to provide practical, wearable solutions that reduce physical workloads and minimize injury risks.

Today, our exoskeletons are used globally across various sectors, including logistics, construction, manufacturing, healthcare, and agriculture. For professionals in these industries, we offer effective solutions that support physically demanding tasks, reducing muscle load and strain during activities such as lifting, carrying, and working in difficult positions.

With a strong academic foundation, the Auxivo team brings decades of expertise in exoskeleton research and education. We use this experience to create high-performance occupational exoskeletons and are committed to sharing our knowledge with the next generation of developers and users through our educational exoskeletons.



For more details on our company and exoskeletons, please visit www.auxivo.com

Auxivo as Partner for Exoskeleton Education

Coming from an academic background, we have extensive experience in education and research, with many of our team members having taught exoskeleton technology, robotics, movement sciences, and other subjects at universities. Through this teaching experience, we have found that project-based, hands-on learning is essential for a deep understanding of exoskeletons. Building and wearing them connects theoretical concepts to practical experience, helping grasp fundamental principles, acquire practical skills, and develop the confidence needed to create real-world solutions.

As the exoskeleton industry is still young and rapidly evolving, access to up-to-date learning resources and hardware for project-based learning is very limited. We aim to close this gap by providing schools, universities, students, and enthusiasts with access to exoskeleton knowledge and hardware. Our educational EduExo kits are designed to make learning about exoskeleton technology more accessible and efficient.



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Educating Future
Exoskeleton Pioneers



Learn more about our
educational exoskeleton kits.