

# ERGONOMIC SUPPORT FOR DELIVERY PERSONNEL BACKPACKS

Backpack Carrier | Ergonomic support system | Delivery backpack innovation | Shock Absorption  
Health-focused design | Workplace ergonomics

Our patented innovation provides a novel solution for the ergonomic relief of delivery personnel on bicycles who carry heavy backpacks. Combining innovative mechanical components and advanced design, this system reduces strain on the back and shoulders, significantly improving the health and working conditions of users.

## background

Delivery personnel are often required to carry heavy loads for extended periods on bicycles. Conventional backpacks offer little to no support, leading to overstrain and long-term health issues. This physical burden reduces employee efficiency and increases the risk of absenteeism.

## benefits

- Health-promoting: Noticeable reduction in back and shoulder strain through weight reduction.
- Modular integration: Can be easily retrofitted into existing backpacks or used as a standalone solution.
- Enhanced stability: The secure attachment to the bicycle frame prevents the backpack from shifting during rides.
- Improved comfort: The spring means reduce the impact of shocks and vibrations, making the rides more comfortable.
- Convenience: A quick-detach mechanism can allow for easy attachment and removal of the backpack.
- Productivity-enhancing: Enables delivery personnel to work more efficiently with less fatigue and reduced risk of injury.

## options

- R&D cooperation
- Development partnership
- License agreement

## potential applications

Logistics and Delivery Services: Enhancing employee well-being and operational efficiency.

## technology

The patented support system for backpacks features an innovative frame and suspension design that takes over part of the weight and absorbs dynamic movements. The construction adapts individually to the wearer's body shape, significantly reducing peak stresses. Its modular design allows for easy integration into various backpack models, making it versatile and user-friendly. Our innovation combines ergonomic functionality with technological advancement. Employers and delivery services benefit from healthier, more satisfied, and higher-performing employees.

Together Towards Better Working Conditions!



Prototypes of the support device: 3D printed (left), made of spring steel featuring an adapter for different saddle tubes (right)

## development status

Prototype available  
TRL = 4-5

## IPR

AT and PCT filed

## inventors

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