

Herzlich Willkommen



## Lösungen für Mensch & Technik



# Why exoskeletons?



A rising percentage of employees is 50+

24% of sick leave are caused by muscle-skeletal issues

Demographic change

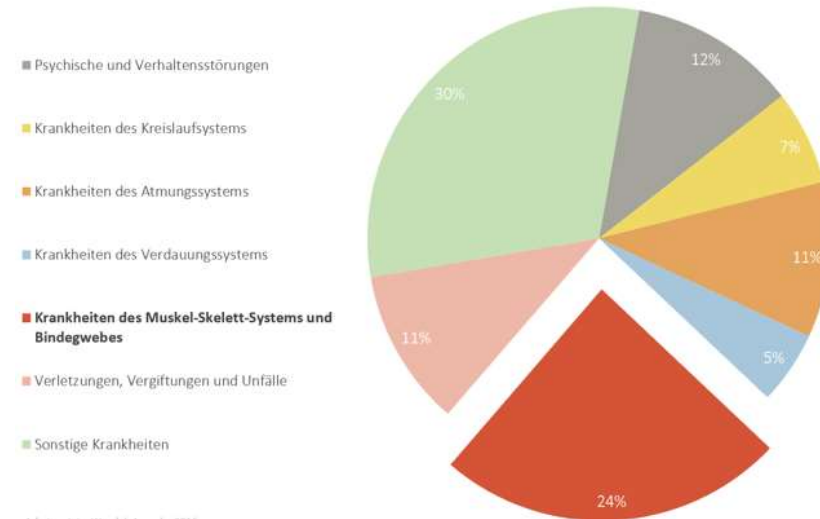
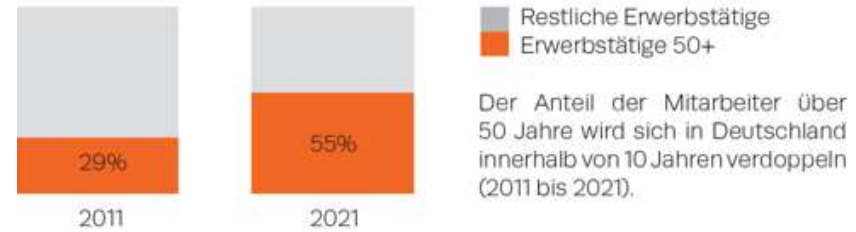
Lack of skilled workers

Number of days with sick leaves rises with aging workers

Prevention

Innovation & caring for employees

Marketing



## SOFT - Exoskeleton







## Passive - Exoskeleton



## Active - Exoskeleton



-  **High comfort through a flexible neck support**
-  **Quickly attachable**
-  **Stable and very light design**
-  **Easy to combine with Paexo Shoulder**

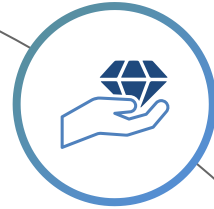
**ottobock.**



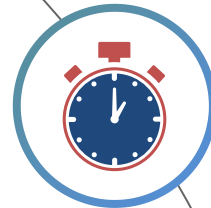


# Paexo Back

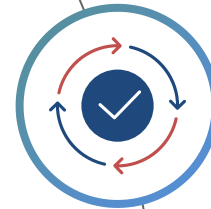
Entlastung des unteren Rückens



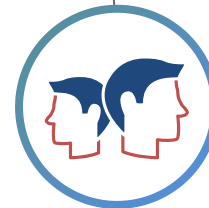
Noticable **Relief of spine** without restricting freedom of movement



**Taking on and off** in 20 seconds

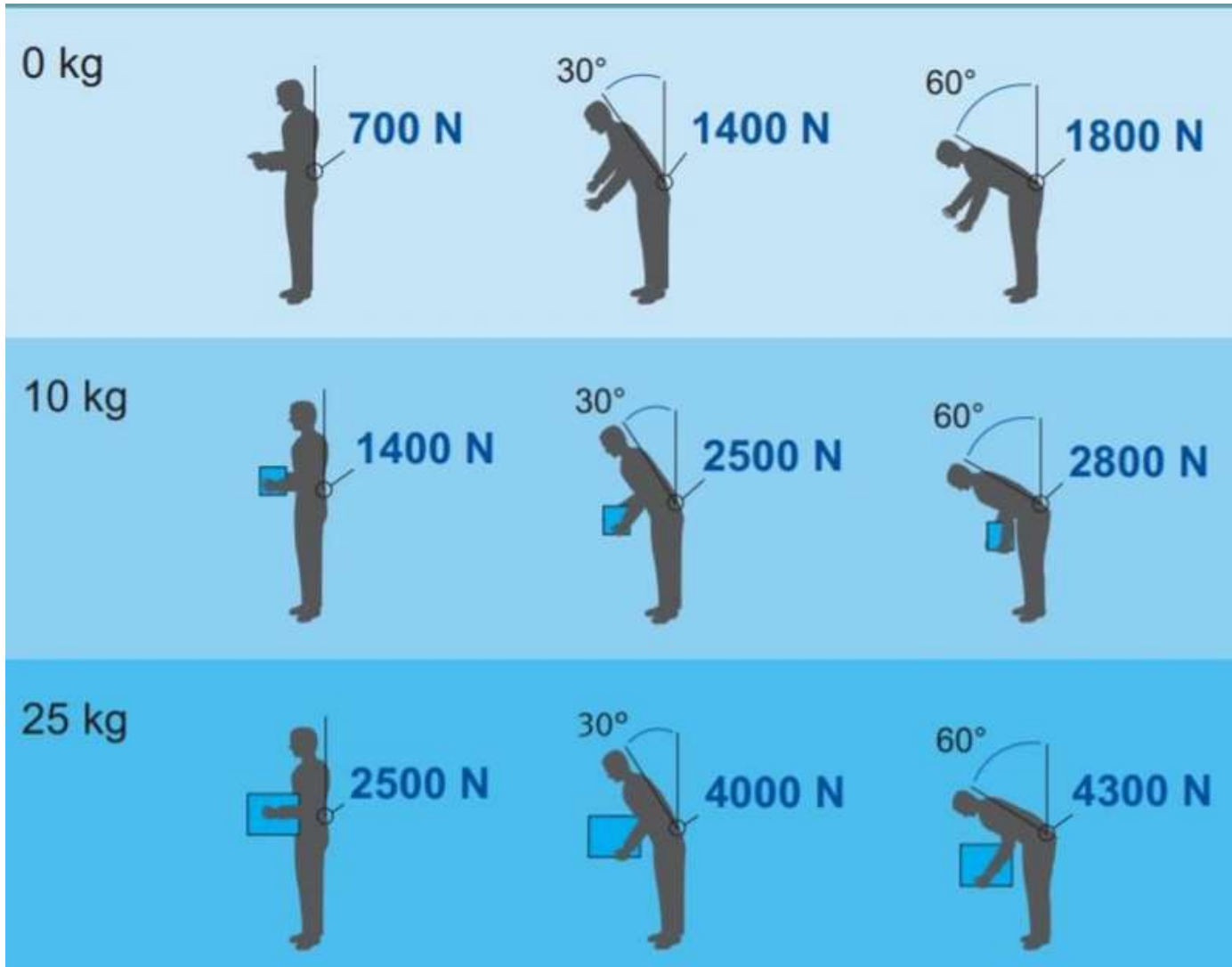


**Low weight** through passive structure, full back support up to 25 kg



**Adjustable** to all sizes, high comfort











# Auxivo LiftSuit

- Support of muscles in back and thigh
- Relief: approx. 13kg
- Weight only 0,9kg
- Passive system made of textiles
- Sitting is possible
- Very compact design
- Developed to reduce workload and prevent fatigue
- Perfect for diverse jobs with medium workload



# Which positions are supported?

**Lifting**



**Reduktion 25-35%**



**Forward bended**



**Reduktion 40-60%**



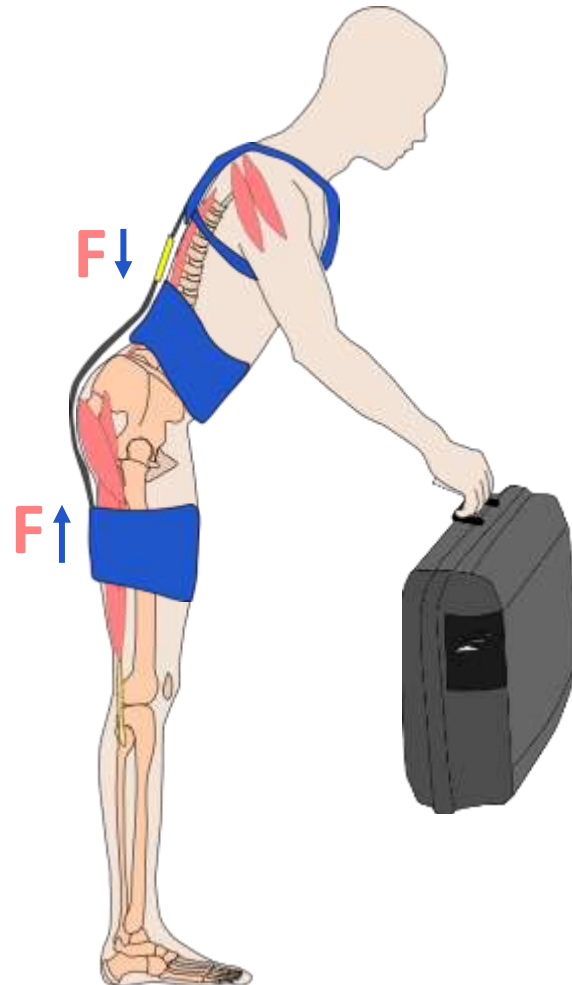
**Kneeling**



**Reduktion 25-35%**



# Der LiftSuit – Mode of operation

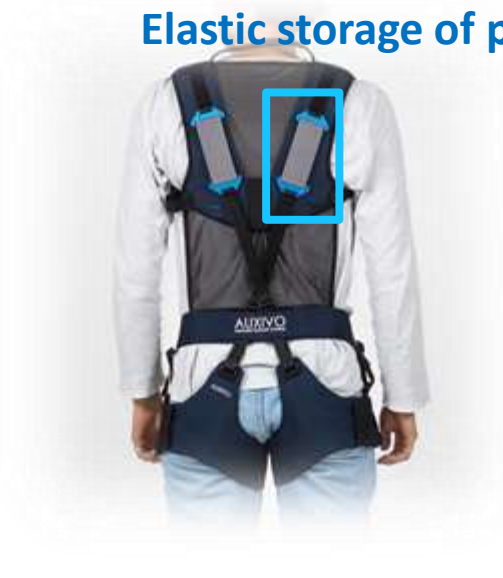


Der LiftSuit works like a pair of external muscles

Activation mechanism



Elastic storage of power



# Der LiftSuit – Übersicht



## Lift Suit








- Entlastung: ca. 13kg
- Gewicht: 0,9kg
- Passives System aus Textilelementen
- Sitzen möglich
- Sehr kompaktes Design
- Perfekt für Abwechslungsreiche arbeiten mit leichter bis mittlerer Belastung

## Paexo Back



- Entlastung: 25kg
- Gewicht: 4,3kg
- Passives System aus Textil – und Metallelementen
- Ergonomisches Design
- Perfekt für hohe Belastung und wiederholte Tätigkeiten

ottobock.

-  Support of an upright position while standing, thus helping to improve ergonomic posture
-  Increases blood flow and activates muscles
-  Taking on and off within seconds
-  Discreet design and available in 6 sizes
-  Combinable with Paexo Shoulder for perfect support of lower back



# CarrySuit

- Light exoskeleton for upper body
  - CarrySuit (5.2 kg)
  - CarrySuit Advanced (6.4 kg)
- Passive system – no motors, electronics, batteries etc.
- Adjustable in both height and width
- Several ways to attach goods
- Developed to reduce workload and prevent fatigue

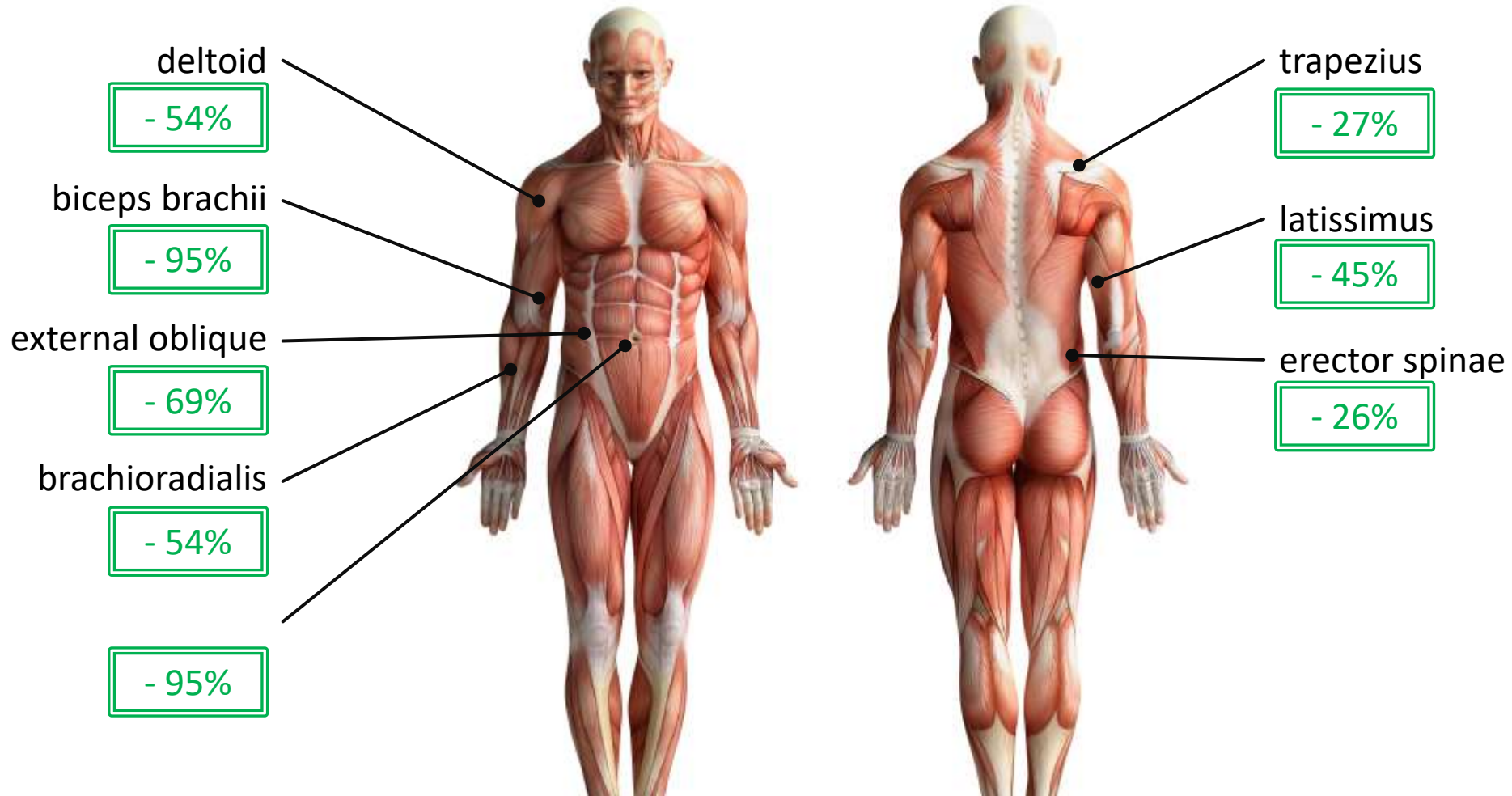




# CarrySuit at work



# Relief on the upper body when carrying 20kg



# Heart rate when carrying 20 kg



↓ 44%

# Use cases

Der CarrySuit wird in enger Zusammenarbeit mit Partnern aus verschiedenen Industrien entwickelt.

- **Construction**
  - windows
  - kitchen
  - sanitary
  - metal
- **Logistics**
  - removal
  - commissioning
- **Automotive**
- **Agriculture**





**Aufbau** der  
Oberschenkel-  
muskulatur



Dauerhafte **Stärkung**  
des Mitarbeiters



**Entlastung** Hüft-  
und Kniegelenk



**Verringerung** der  
Belastung um 64%

**Muskeln stärken**  
=  
**Gelenke schonen**



**Verbesserung** der  
Körperhaltung



Weniger Belastung  
im **Rückenbereich**



**Abnahme** der  
Arbeitsplatzbelastung

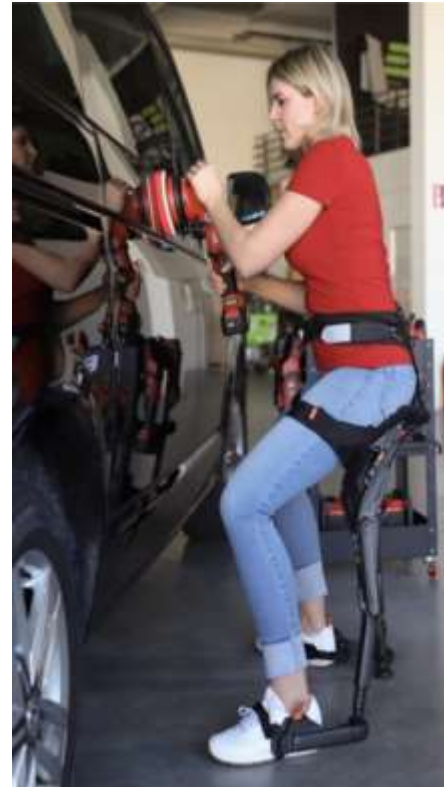
## Chemical & Pharma



Heraeus



## Und viele mehr...



AIRBUS



EvoBus

CANYON

CATERPILLAR

SIEMENS



## Hufschmiede



B/S/H/  
BSH Hausgeräte Gruppe

### Automotive



### Maschinenbau





### Logistik



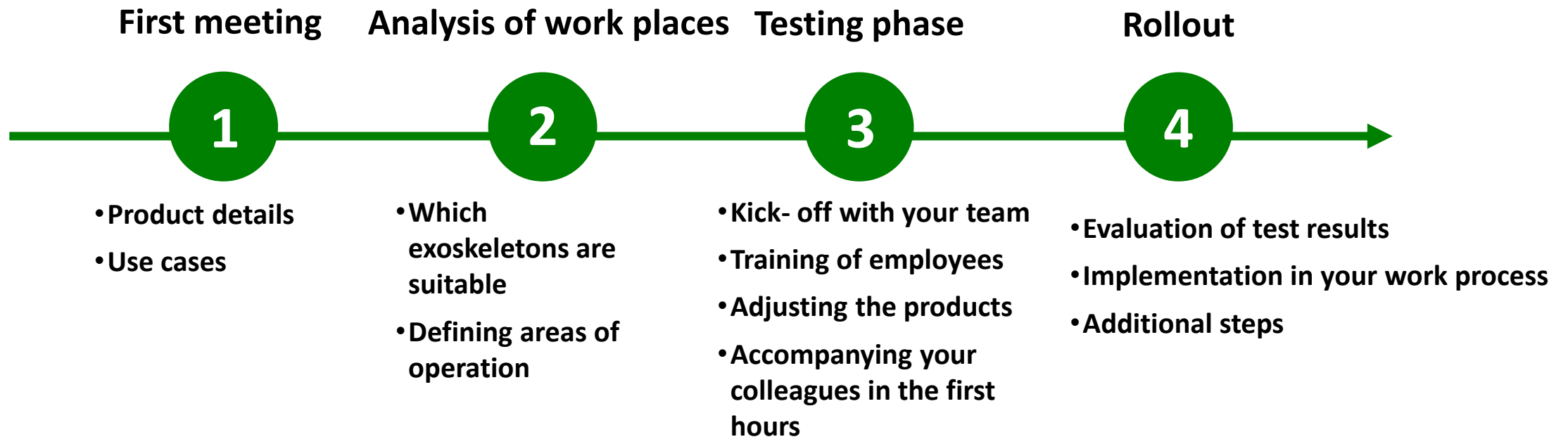




noonee

-  **Relief of wrist when lifting and holding**
  - **One-handed operation with 2-lock-mechanism**
-  **Temperature regulate through innovative outlast material**
  - **can be used on both hands, easy to adjust on every user with 3 sizes**







Wir freuen uns auf  
die  
Zusammenarbeit