Berner Fachhochschule
Haute école spécialisée bernoise
Bern University of Applied Sciences

E-Climber

Michael Haldimann

- Institut für Rehabilitation und Leistungstechnologie

Übersicht

- Von der Idee zum Prototyp
- FirstVentures
- Prototyp
- Erfahrung
- Ausblick

Team

Fabio Fitz

Motorradmechaniker EFZ

BSc. Maschinentechnik

Kevin Heiniger

Polymechaniker EFZ

BSc. Maschinentechnik

Kand. Msc. Engineering

Michael Haldimann

Polymechaniker EFZ

BSc. Maschinentechnik

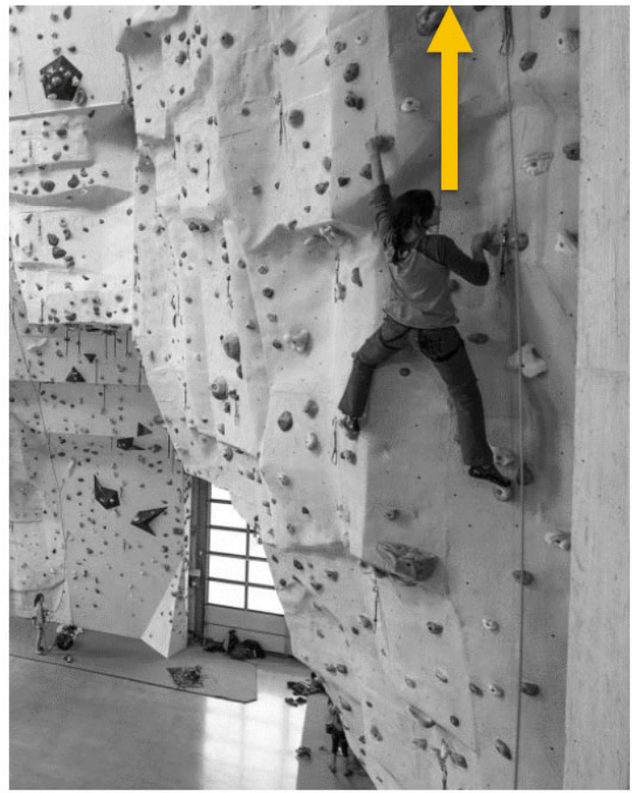
Kand. Msc. Bio. Engineering

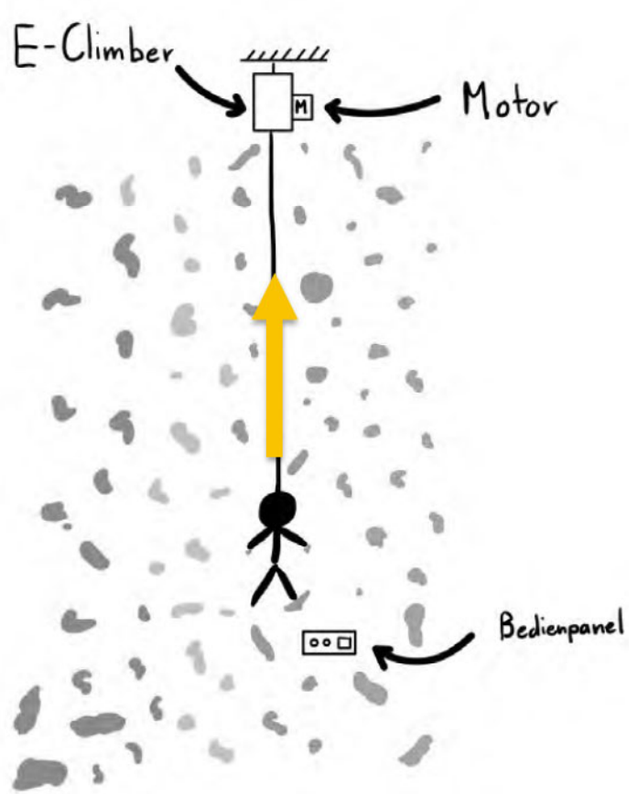
Von der Idee zum Prototypen

E-Climber

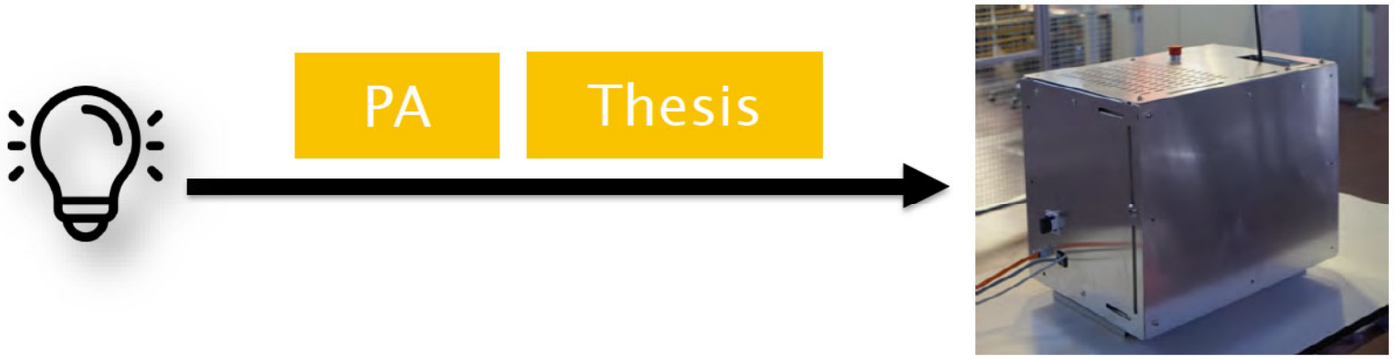
Berner Fachhochschule | Haute école spécialisée bernoise | Bern University of Applied Sciences

Von der Idee zum Prototypen





Von der Idee zum Prototypen

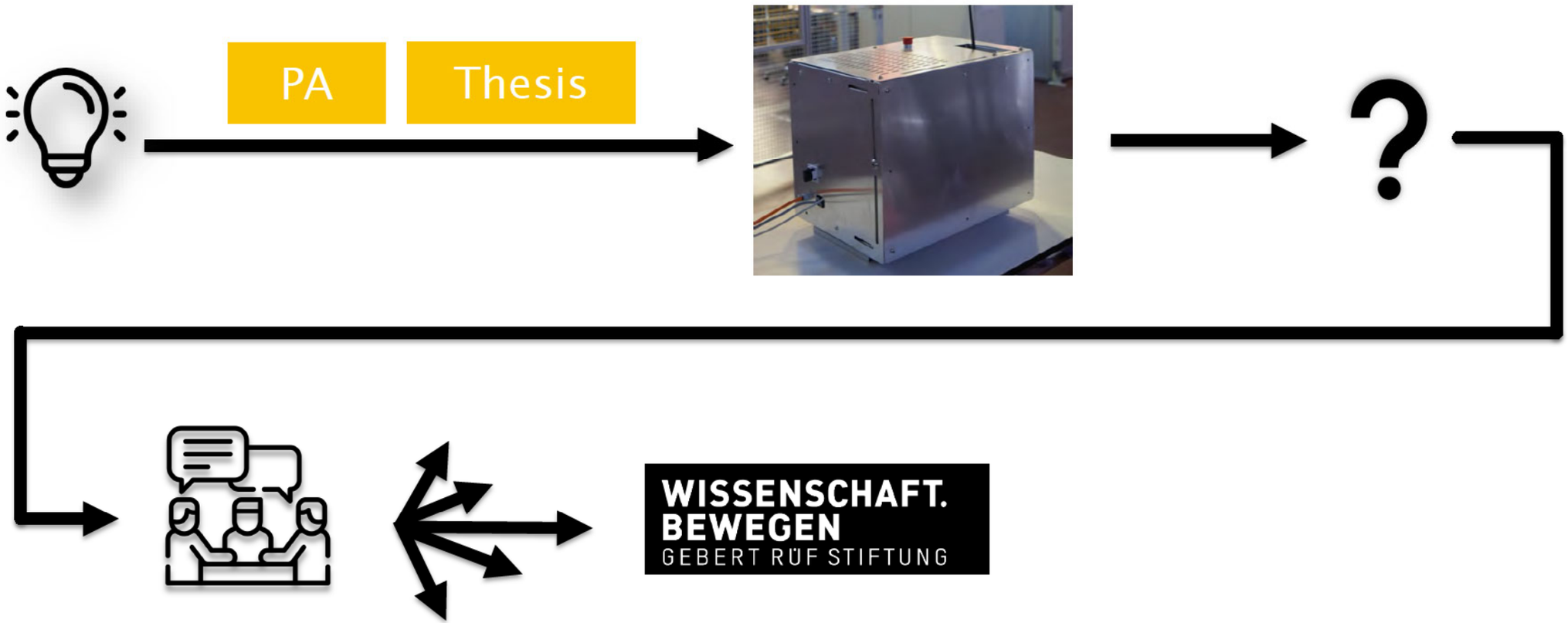


FirstVentures

E-Climber

Berner Fachhochschule | Haute école spécialisée bernoise | Bern University of Applied Sciences

FirstVentures



Stiftung Gebert Rüf

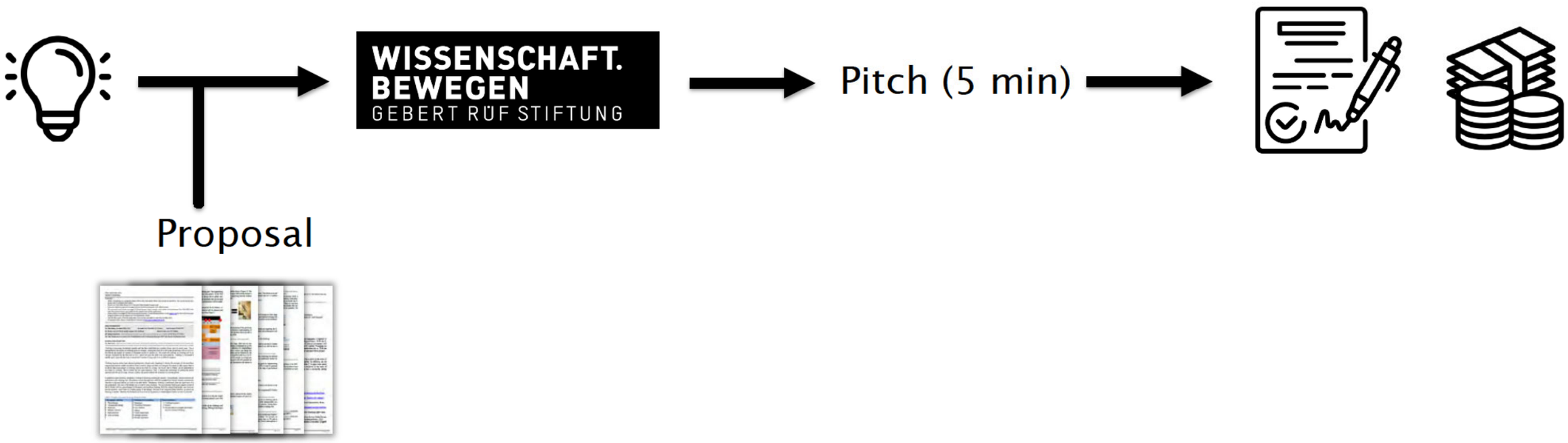
- Gegründet 1997
- 14 Mio. CHF

- Innovation
- Entrepreneurship

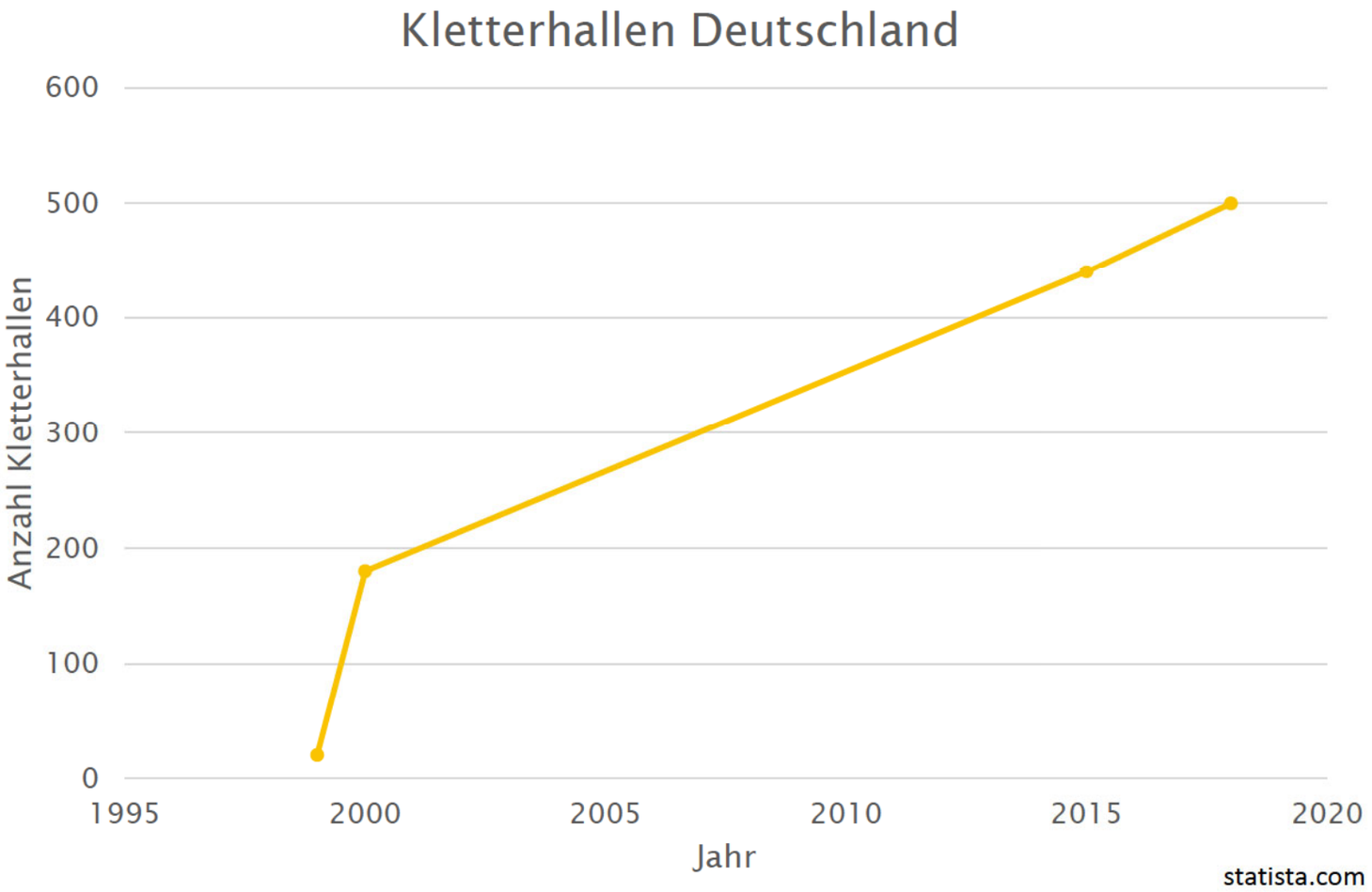
- FirstVentures
  - FH-Angehörige
  - Angestellt an der FH
  - Projektautonomie

Heinrich Gebert† : 1917–2007

FirstVentures



Hallenklettern



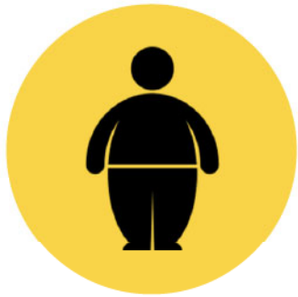
Hallenklettern

Therapeutisches Klettern

- Physiotherapie & Ergotherapie
- Krankenkasse
- Verschiedene positive Effekte

Physiotherapie

Adipositas



Parkinson

MS

Schlaganfall

Rückenschmerzen

Reha

Problem

- Kraft & Ausdauer
- Handicap
- Limitierte Zielgruppe
- Limitiertes Potenzial

Value proposition

Zugang zum Klettern

Reduzierte Belastung

Qualitäts-steigerung

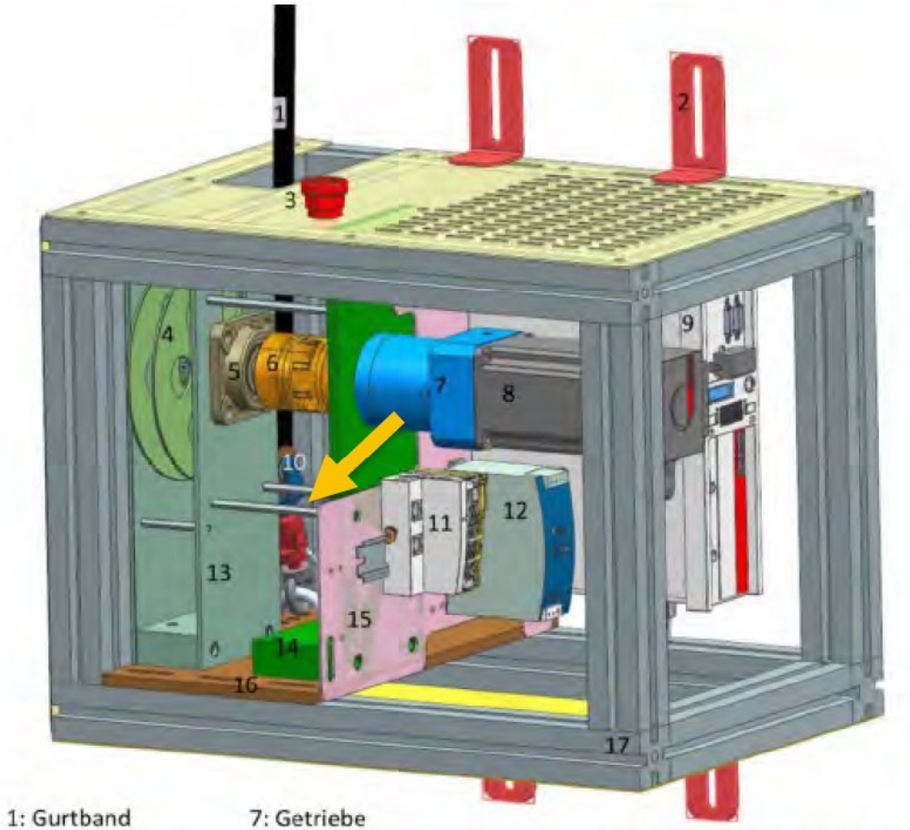
Abwechslung

Prototyp

E-Climber

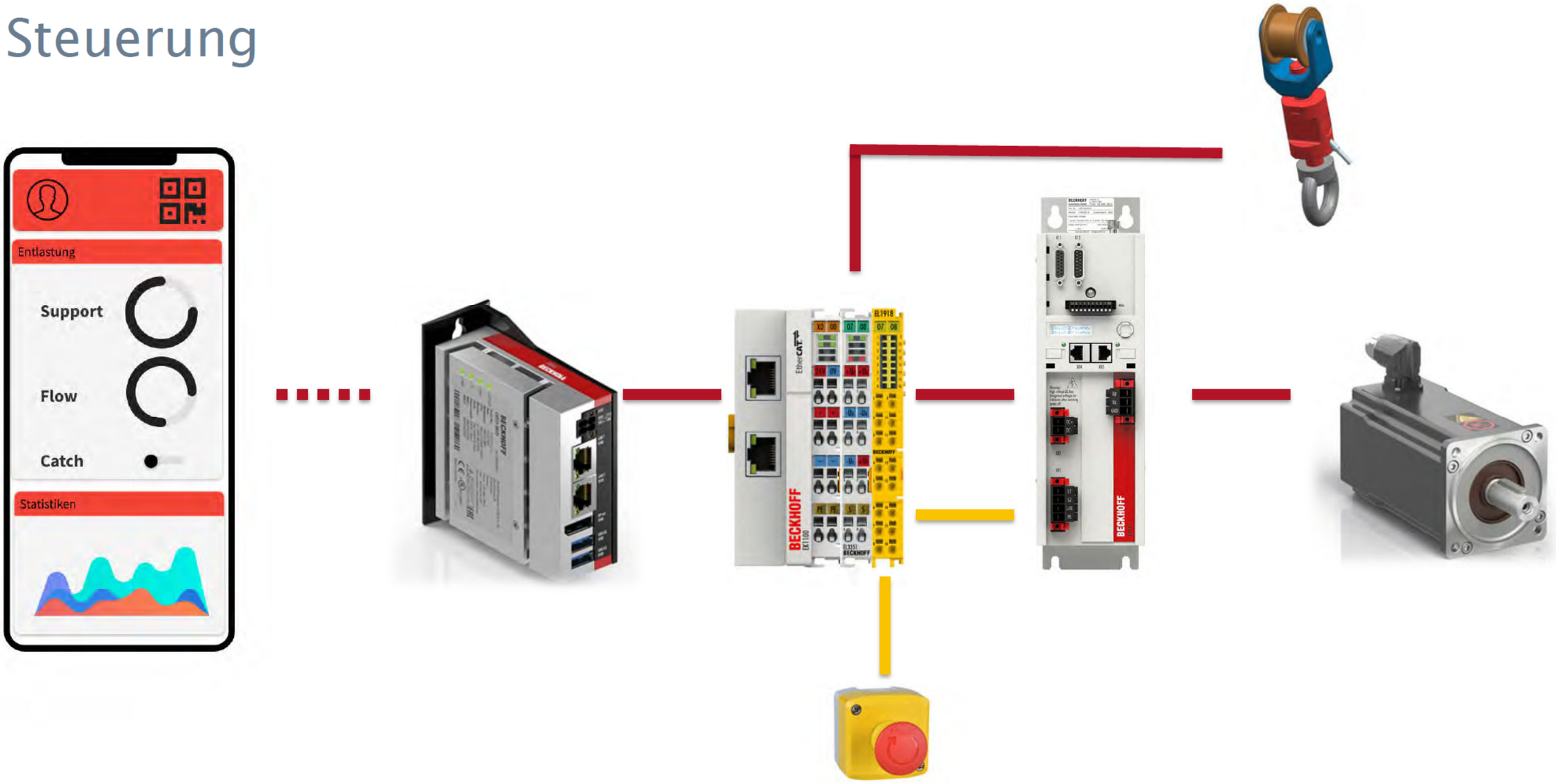
Berner Fachhochschule | Haute école spécialisée bernoise | Bern University of Applied Sciences

Prototyp

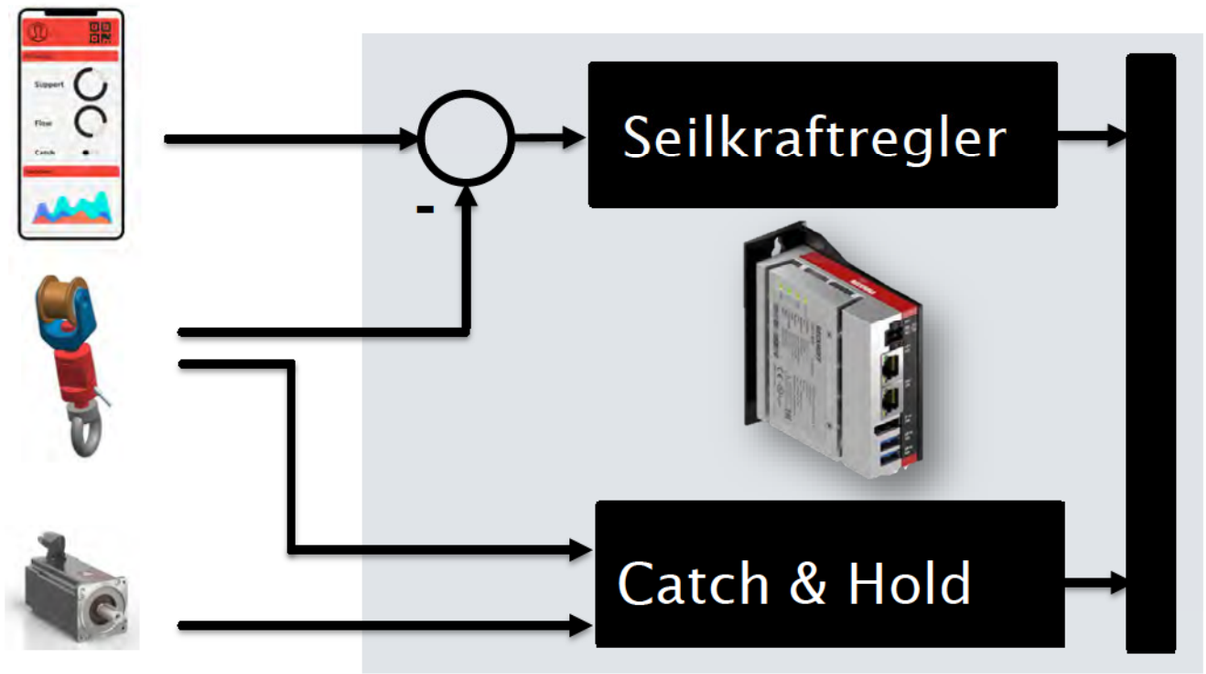


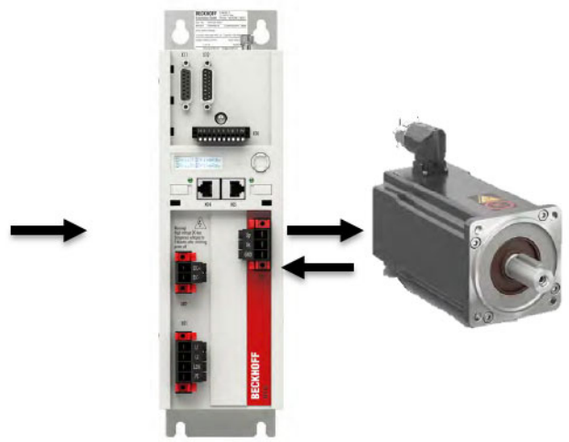
1: Gurtband
2: Montagehalter
3: Notstopp
4: Gurtbandrolle
5:Lager Gurtbandrolle
6: Kupplung
7: Getriebe
8: Motor
9: Servoverstärker
10: Umlenkrolle mit Kraftsensor
11: Steuerungskomponente
12: Netzgerät 24 V
13: Gurtbandrollen Halterung
14: Motorhalterung
15: Lochblech Elektro
16: Sensorhalterung
17: Strebenprofil

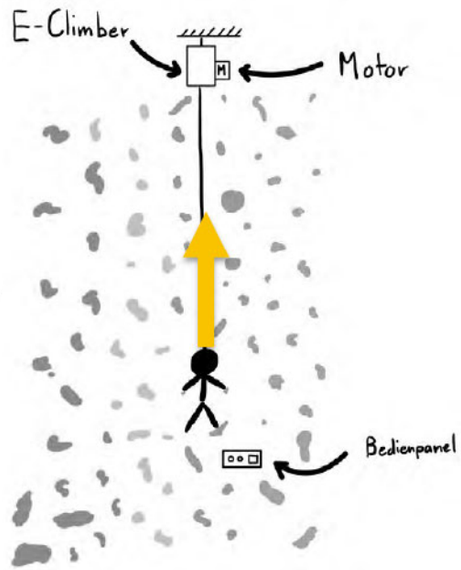
Steuerung


Entlastung
Support
Flow
Catch
Statistiken
BECKHOFF
EL1918
EL3351
BECKHOFF

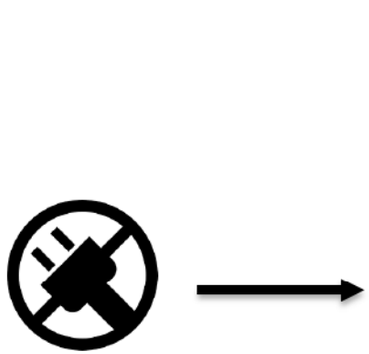
Regelkreis

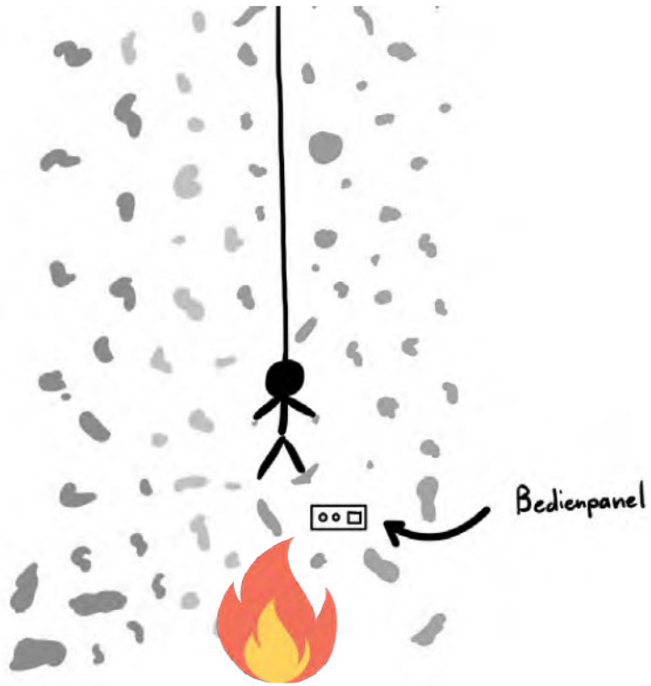




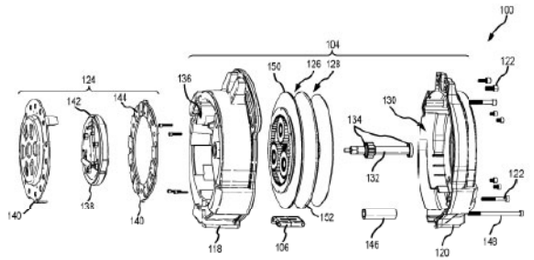


Sicherheit

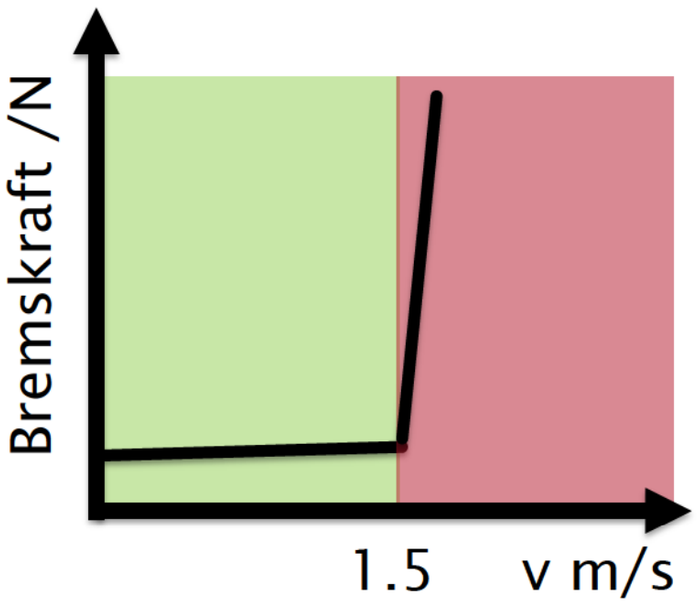


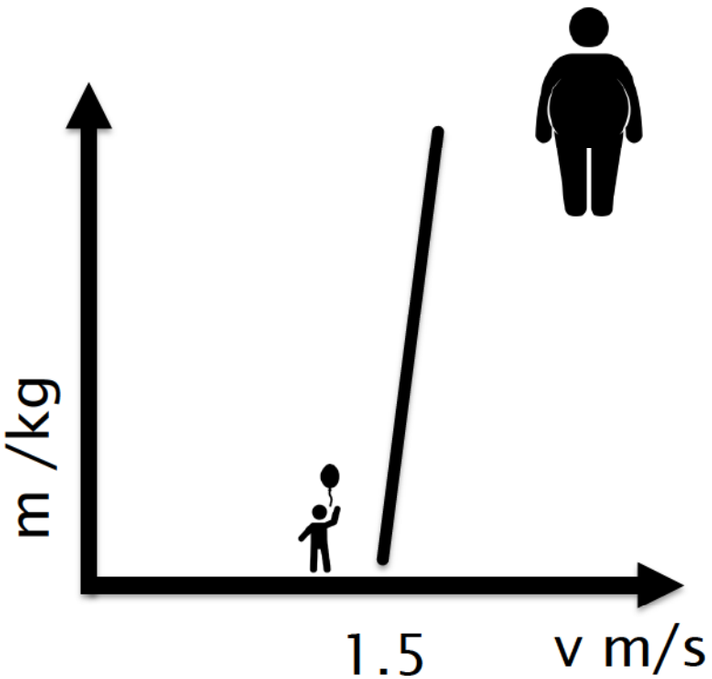


Stand der Technik

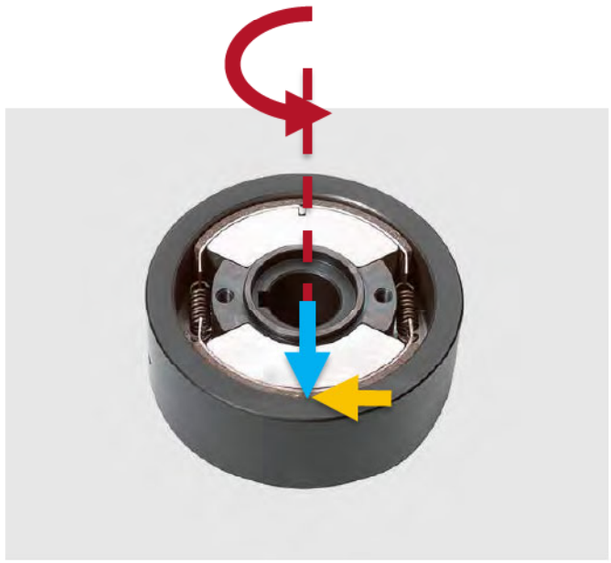


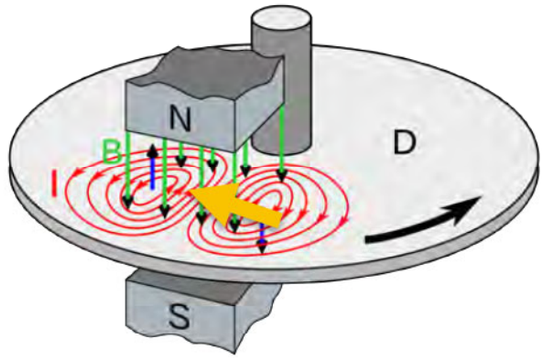
Bremse

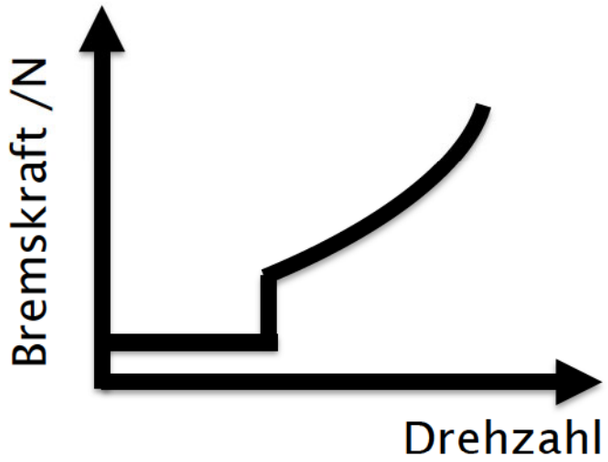


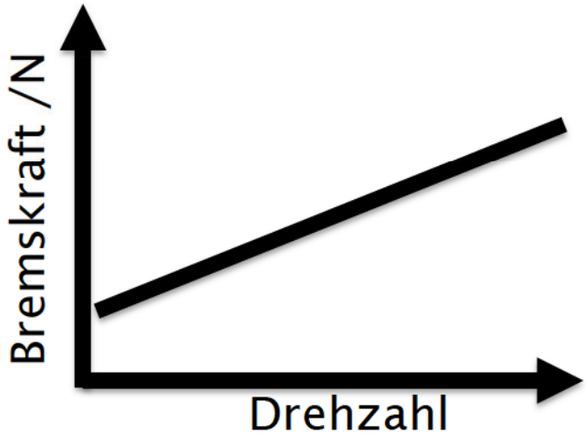


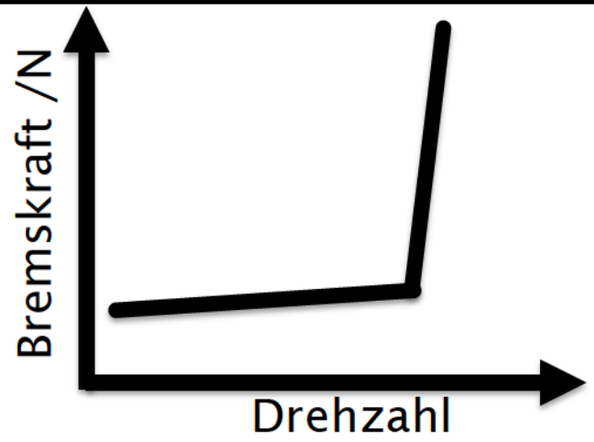
Bremsen



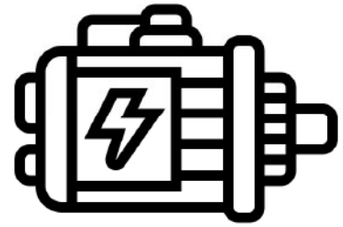

N
S
D
B
I


Bremskraft /N
Drehzahl


Bremskraft /N
Drehzahl


Bremskraft /N
Drehzahl

E-Climber 2.0



maxon

Nanotec PLUG & DRIVE

BECKHOFF

SIEMENS

WITTENSTEIN

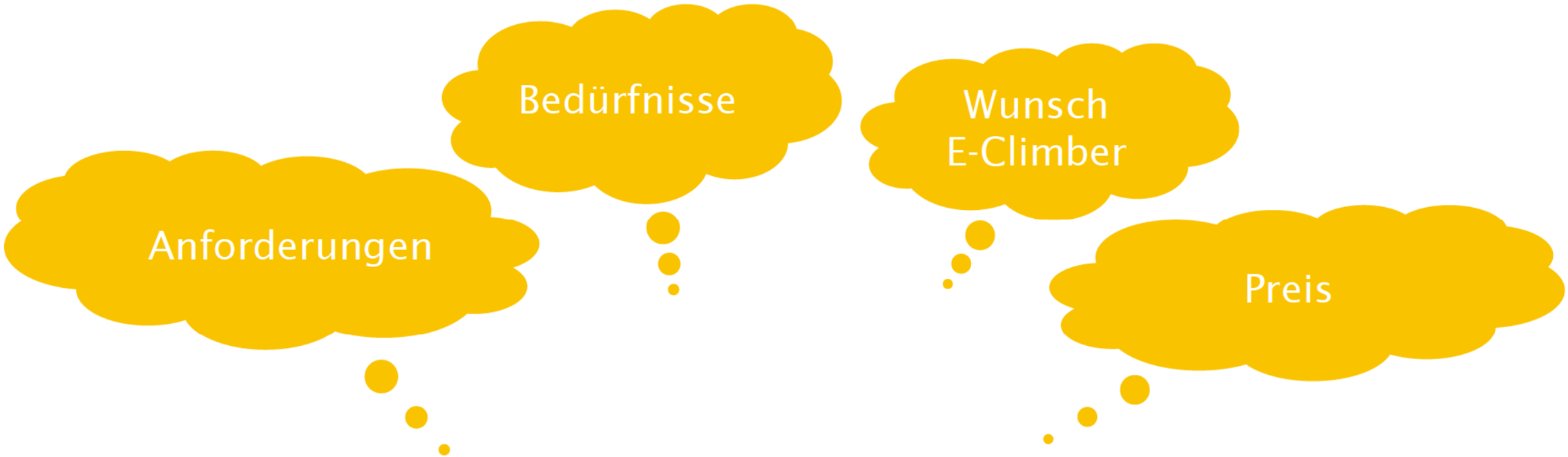
NEUGART

Business

E-Climber

Berner Fachhochschule | Haute école spécialisée bernoise | Bern University of Applied Sciences

Business

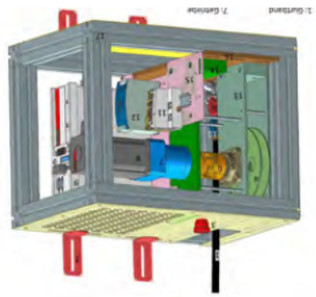


Verbänden | Therapeut*innen | Kletterhallen

Ausblick

E-Climber

Timeline



Januar 2021
Prototyp
E-Climber

März 2021
Partnerschaft
Therapeut*inner

August 2021
FirstVentures
150‘000 CHF

2022
Entwicklung
E-Climber 2.0

2023
Zertifizierung

2024+
Markteintritt

Fragen

E-Climber

Berner Fachhochschule

WISSENSCHAFT. BEWEGEN
GEBERT RÜF STIFTUNG

be advanced

maxon

SWISSFACTORY GROUP