Cooperation in Digital Health
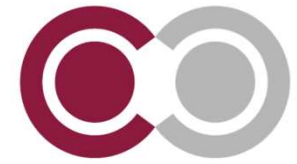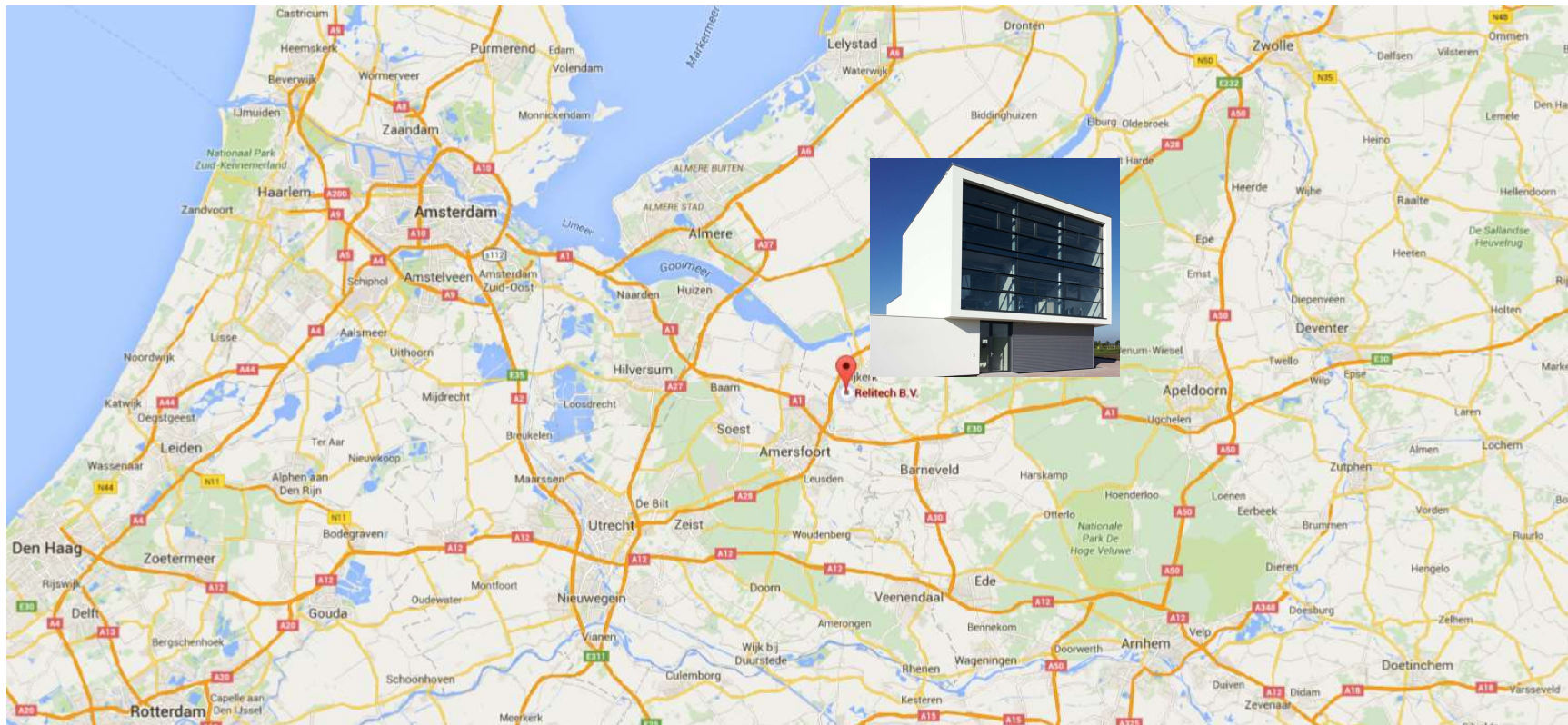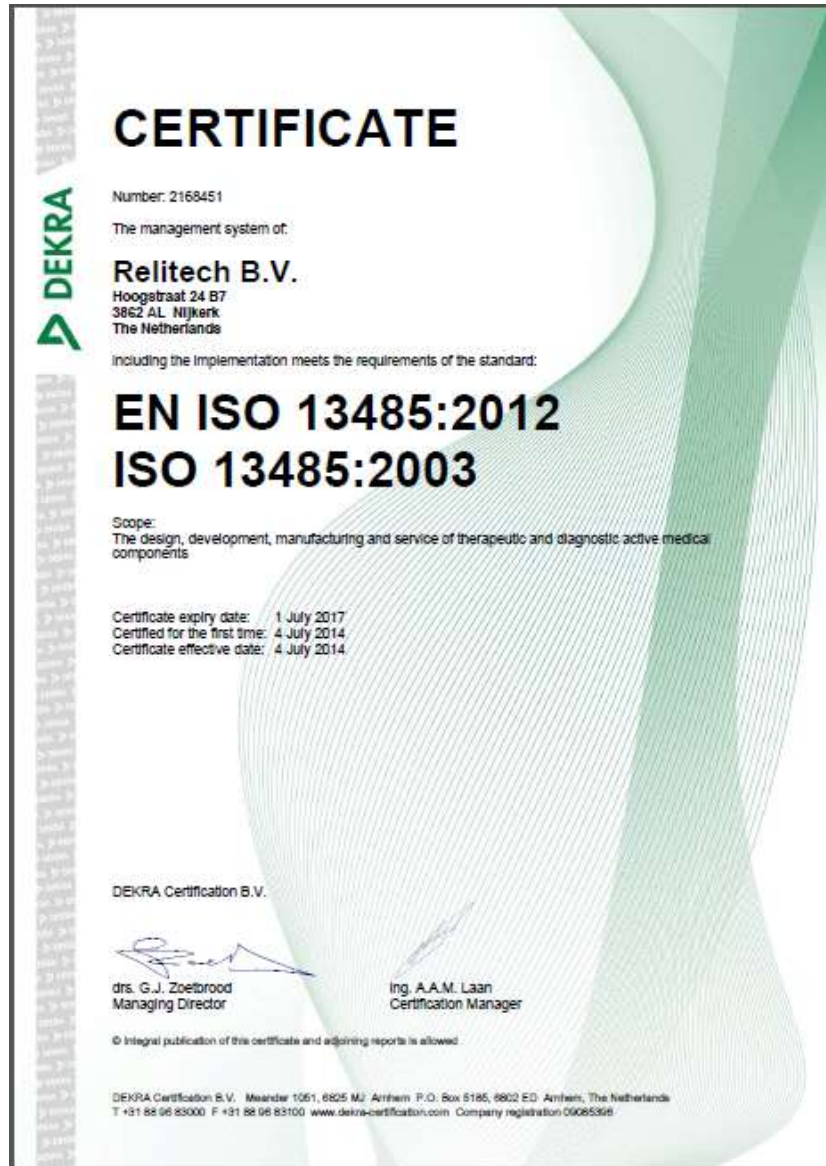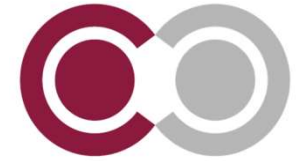
The co-creation team:

- 25 FTE
- Staff level: University
- Mechanics, Electronics, Software, Algorithms
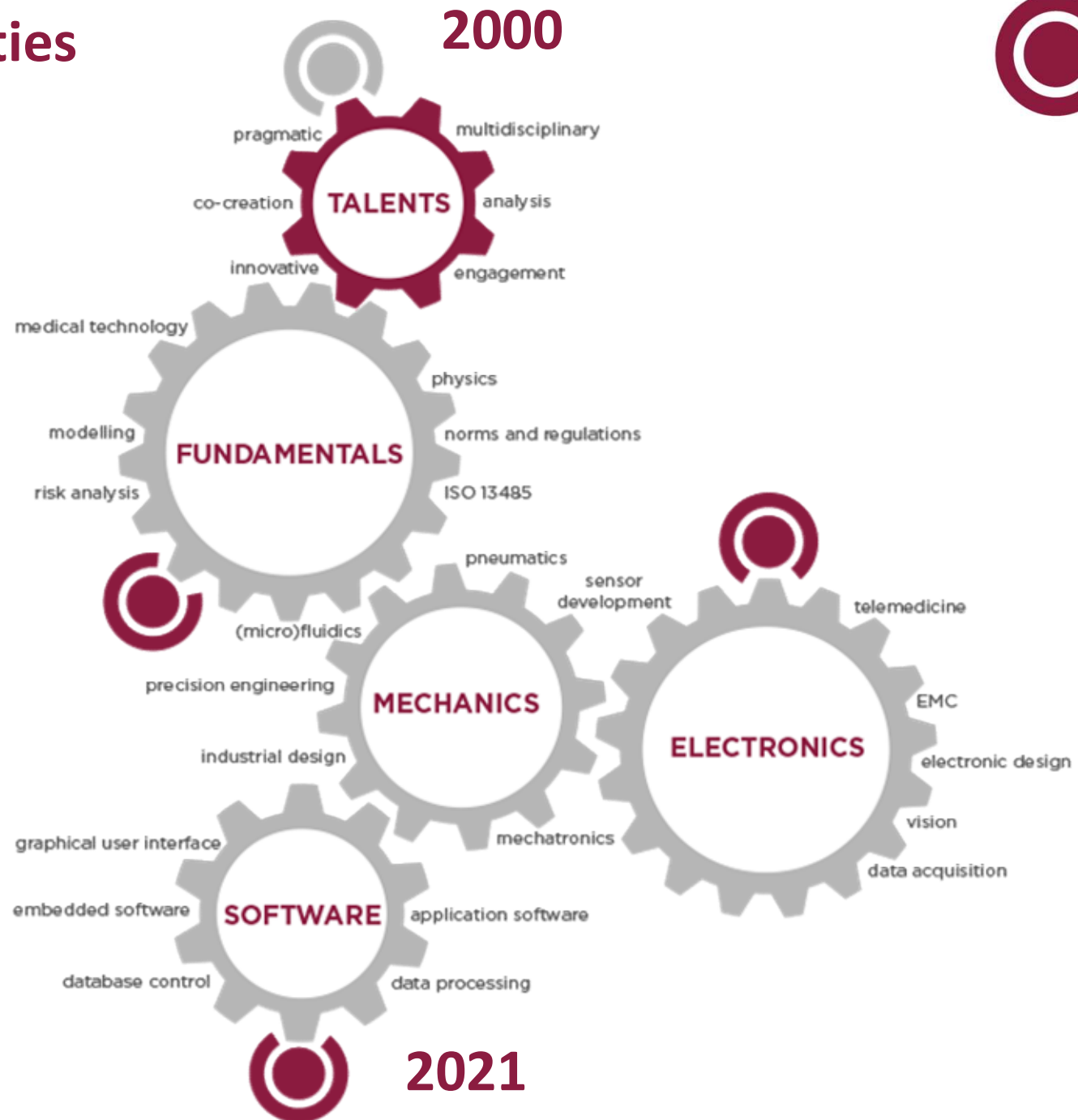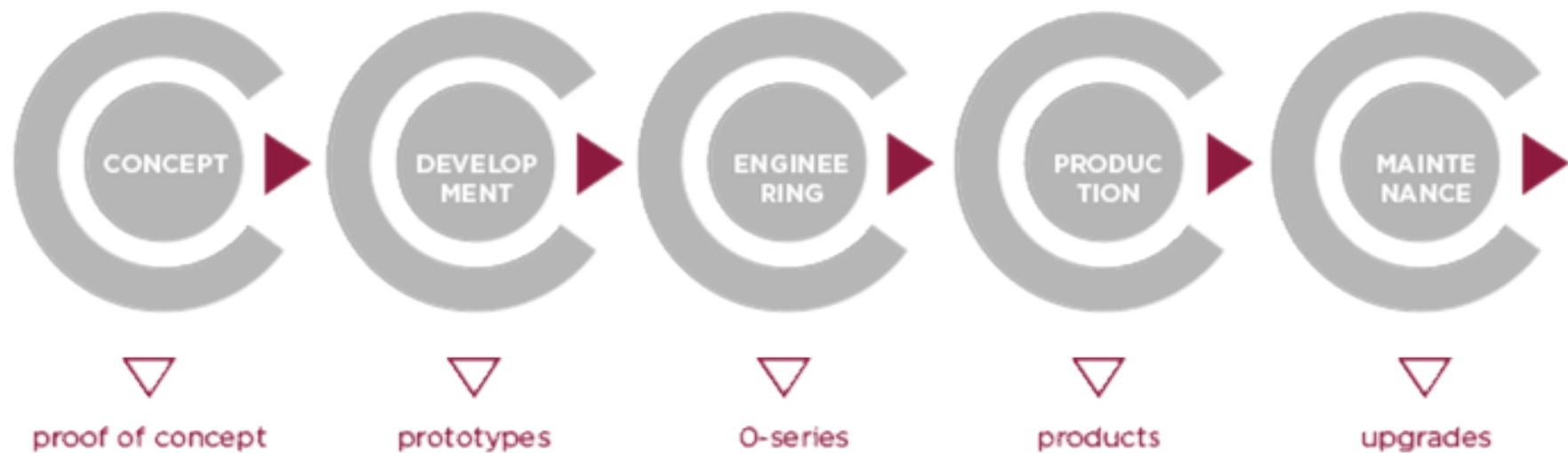- Experienced and well trained staff

Certification for medical products

Scope:

The design, development, manufacturing and service
of
therapeutic and diagnostic
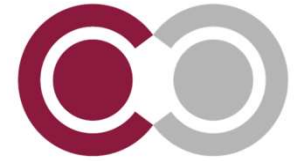active medical components.

Competenties

2000

TALENTS
- pragmatic
- multidisciplinary
- co-creation
- analysis
- innovative
- engagement

FUNDAMENTALS
- medical technology
- physics
- modelling
- norms and regulations
- risk analysis
- ISO 13485

MECHANICS
- pneumatics
- sensor development
- (micro)fluidics
- precision engineering
- industrial design
- mechatronics

ELECTRONICS
- telemedicine
- EMC
- electronic design
- vision
- data acquisition

SOFTWARE
- graphical user interface
- embedded software
- application software
- database control
- data processing

2021

Approach

CONCEPT	DEVELOPMENT	ENGINEERING	PRODUCTION	MAINTENANCE
▽	▽	▽	▽	▽
proof of concept	prototypes	O-series	products	upgrades

- Use of proven technology if possible
- Risk analysis up front
- Milestones with go/no-go decisions
- Narrow multidisciplinairy contact with clients
- Clients are SME, Multinationals & Universities

Strategy

Co-creator of practical solutions in measuring and control technology

- Complete (medical)productdevelopment
- Strong in multidisciplinairy development
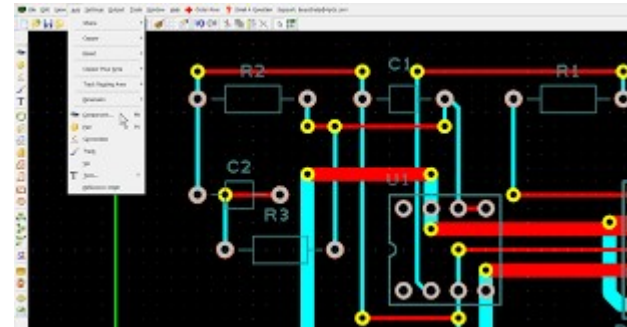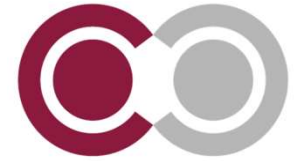- Strategic cooperations
- High availabilty of knowledge

Project-role

- ℂ Sensor selection
- ℂ Development of a wearable measurement device
- ℂ Calibration, filtering and correct the sensor-signals into readable measurement data
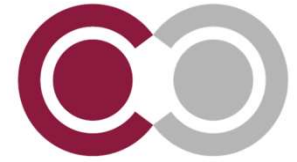- ℂ User software development incl. userinterface

Existing sensors or custom development

- **Define requirements**
- **Do a feasibility on the available key components**
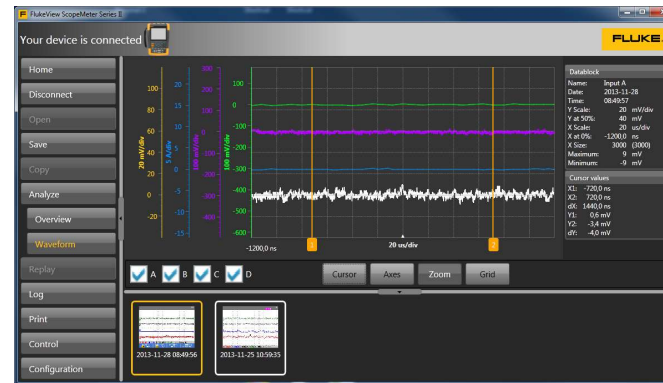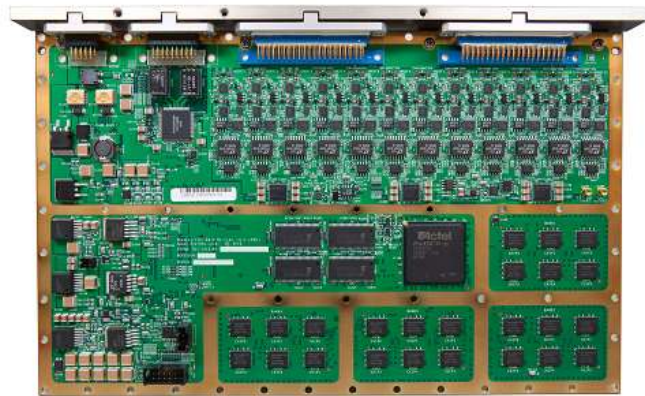- **Design a PCB**
- **Use of the shelve available components**
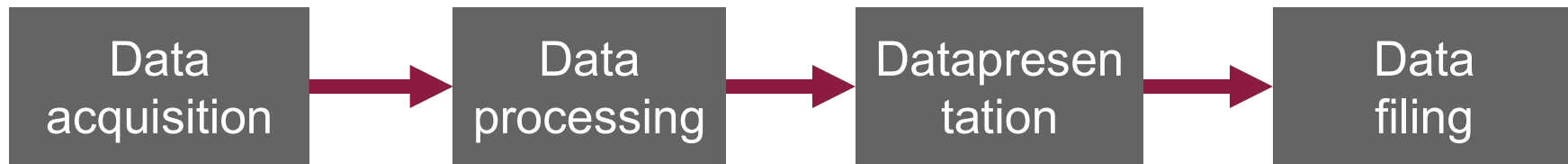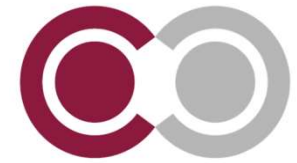
Deliverable

- Cheap reusable sensor with disposable patch (0,75 eurocent per patch)
- Bluetooth module integrated
- Integrated features such as accelerometer
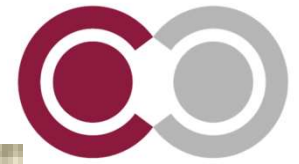- Battery-life 6 hours
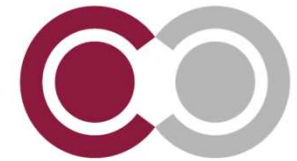- Large datastorage on PCB

Data: Measuring and control chain

Data acquisition	→	Data processing	→	Datapresentation	→	Data filing

- **Userinterface for patient & care-taker**
- **Stress Algorithm development**
- **Continous measurements**
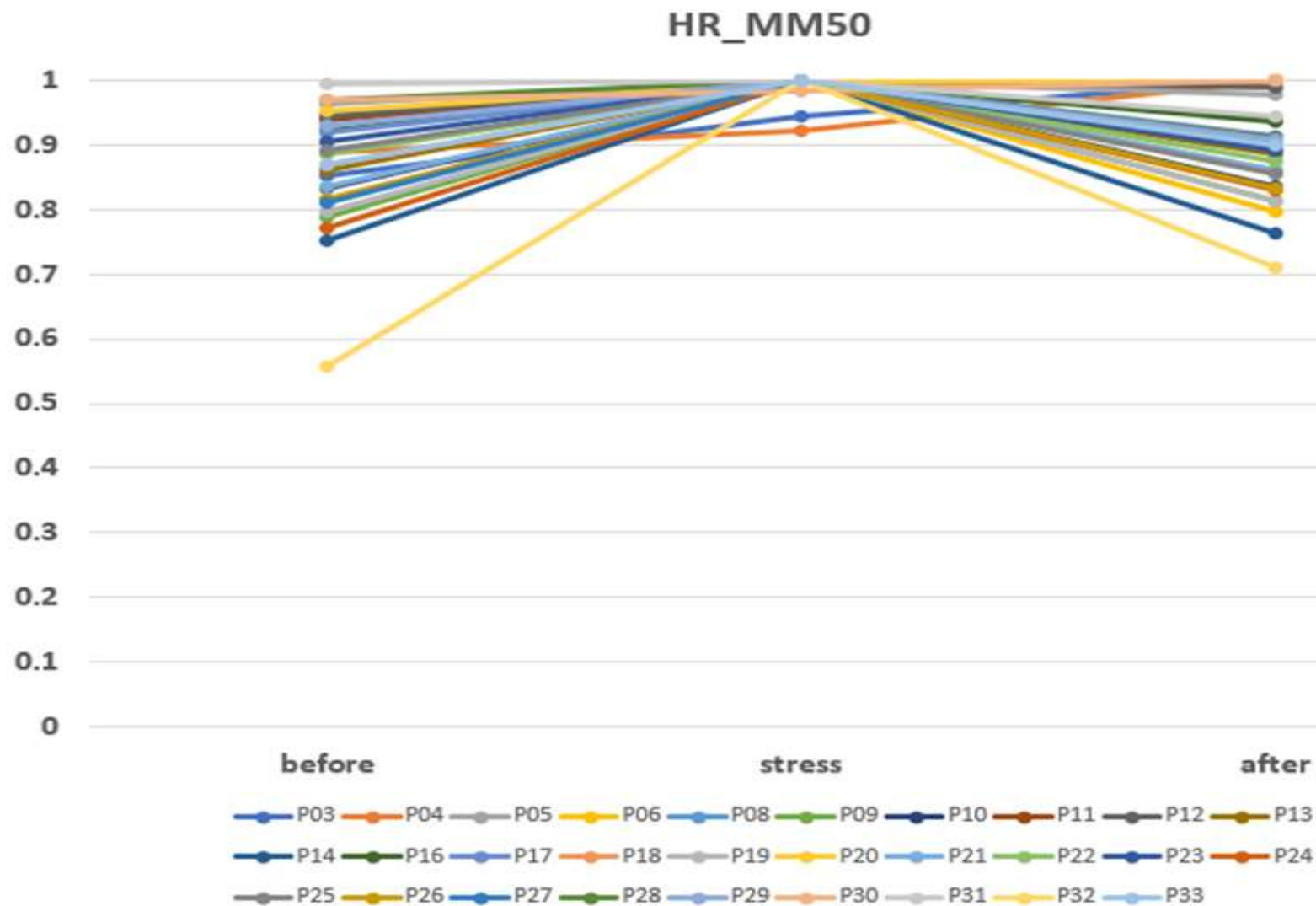
Supervisory control

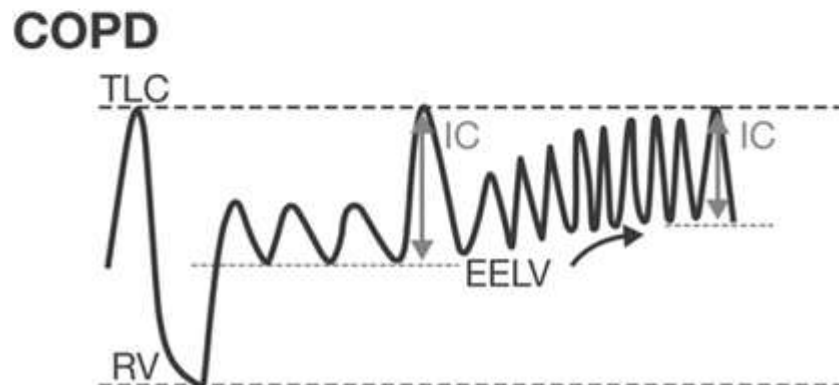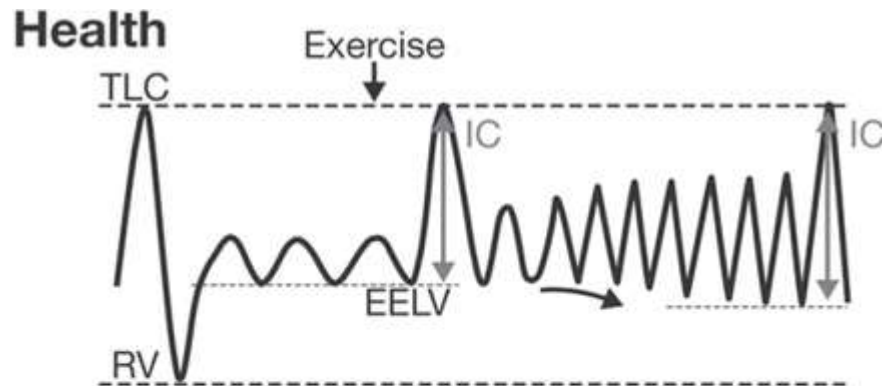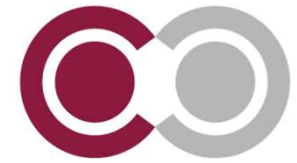# First step to create data for Algorithm development: elevator plank test

Sensor/data output:

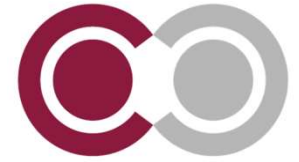Ⓒ **Test: stress test & measurement hart-rate**

HR_MM50

Legend: P03, P04, P05, P06, P08, P09, P10, P11, P12, P13, P14, P16, P17, P18, P19, P20, P21, P22, P23, P24, P25, P26, P27, P28, P29, P30, P31, P32, P33

X-axis: before — stress — after

Other home measurement wearables: Dynamic Hyperinflation warning system

Health
- TLC
- Exercise
- IC
- IC
- EELV
- RV

COPD
- TLC
- IC
- IC
- EELV
- RV

MEDWEAR
HEALTH MONITORING SOLUTIONS

HEXOSKIN
WEARABLE BODY METRICS

Idea's or need some help?

◉ **Relitech B.V.**

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