HERSTELLUNG VON SOFT WEARABLE DEVICES IN OPEN SOURCE SZENARIEN

SMARTTEX
Symposium Smart Textiles
29.1.2019

ADRIANA CABRERA, HOCHSCHULE RHEIN-WAAL, FABLAB KAMP-LINTFORT 3D-KOMPETENZZENTRUM NIEDERRHEIN

FAB LAB KAMP-LINTFORT

ADRIANA CABRERA, HOCHSCHULE RHEIN-WAAL, FABLAB KAMP-LINTFORT 3D-KOMPETENZZENTRUM NIEDERRHEIN

EIN FABLAB ZU SEIN BEDEUTET, SICH MIT EINER GLOBALEN GEMEINSCHAFT VON LERNENDEN, LEHRERN, TECHNOLOGEN, FORSCHERN, MACHERN UND INNOVATOREN ZU VERBINDEN - EIN NETZWERK ZUM AUSTAUSCH VON WISSEN, DAS 30 LÄNDER UND 24 ZEITZONEN UMFASST.

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ÖKOSYSTEM

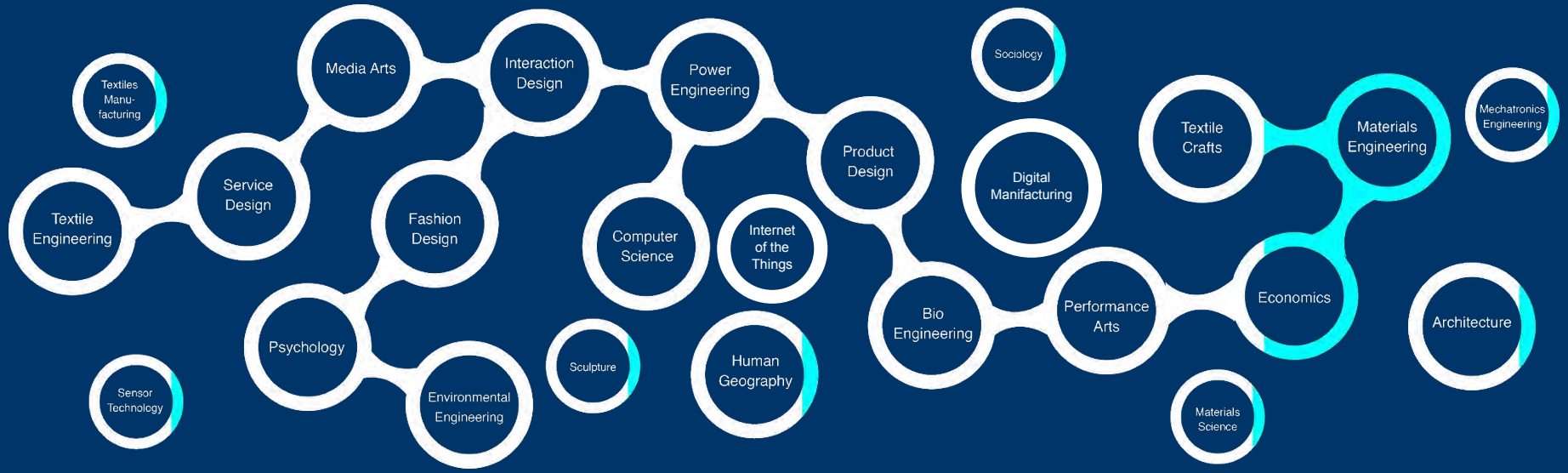


Abbildung: *Anpassung WEARSustain Ökosystem Von einige Disziplinen Kunst, Design und Technologie, die an WEAR Sustain beteiligt sind. https://wearsustain.eu/about/wearables-e-textiles/*

DER DIGITALE SCHNEIDER

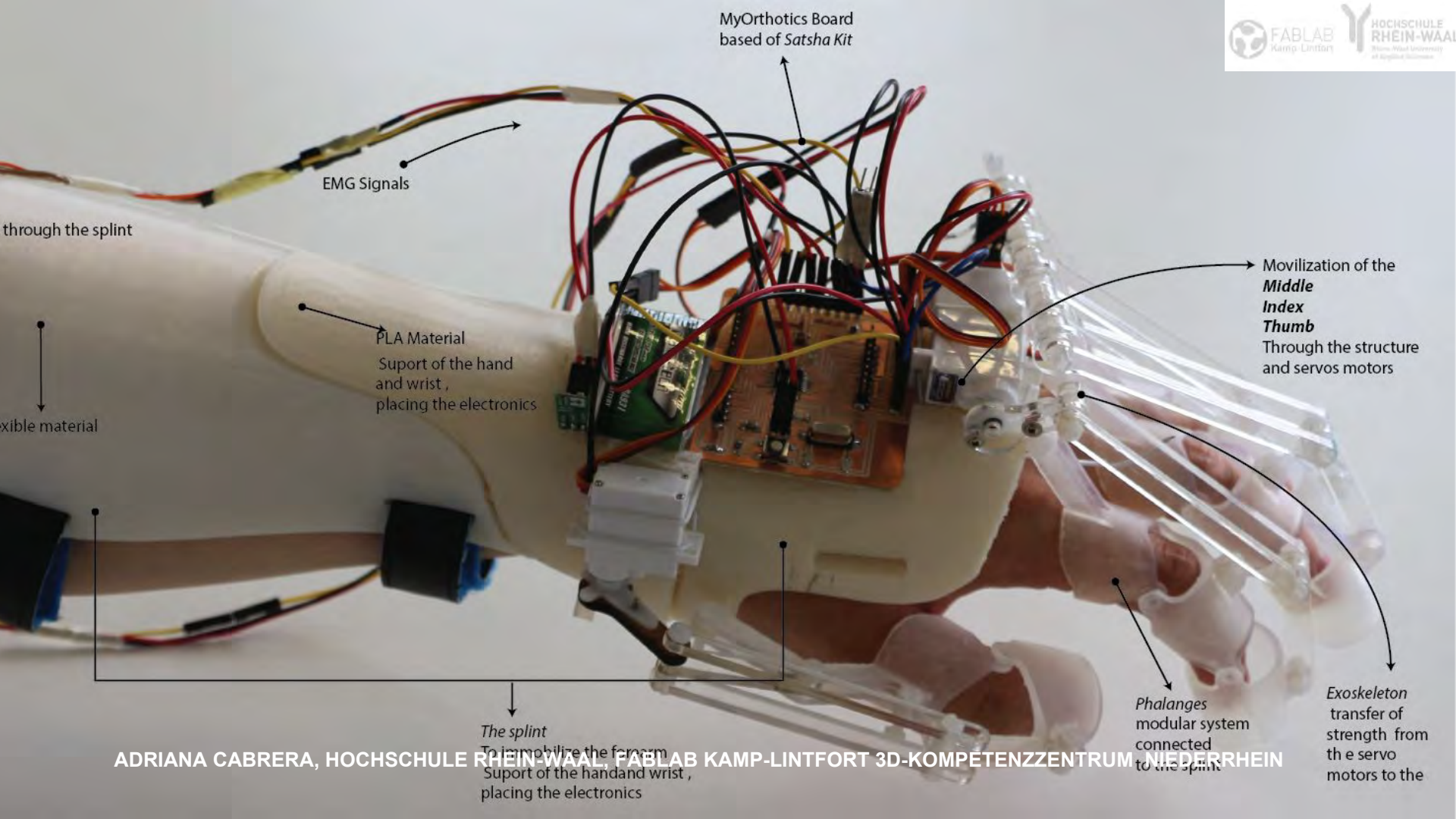
FUNKTIONALITÄT
PERFORMANCE
KOMFORT

ADRIANA CABRERA, HOCHSCHULE RHEIN-WAAL, FABLAB KAMP-LINTFORT 3D-KOMPETENZZENTRUM NIEDERRHEIN

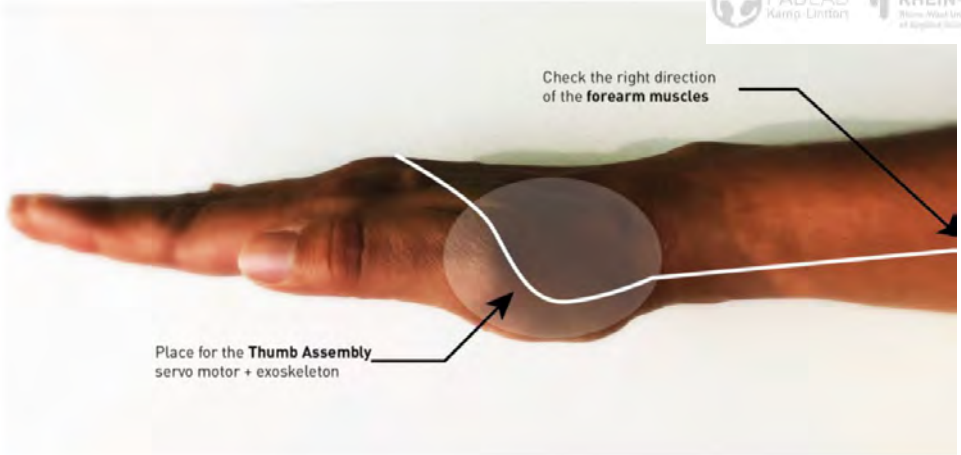
AUFBAU VON GERÄTEN FÜR INDIVIDUELLE BEDÜRFNISSE

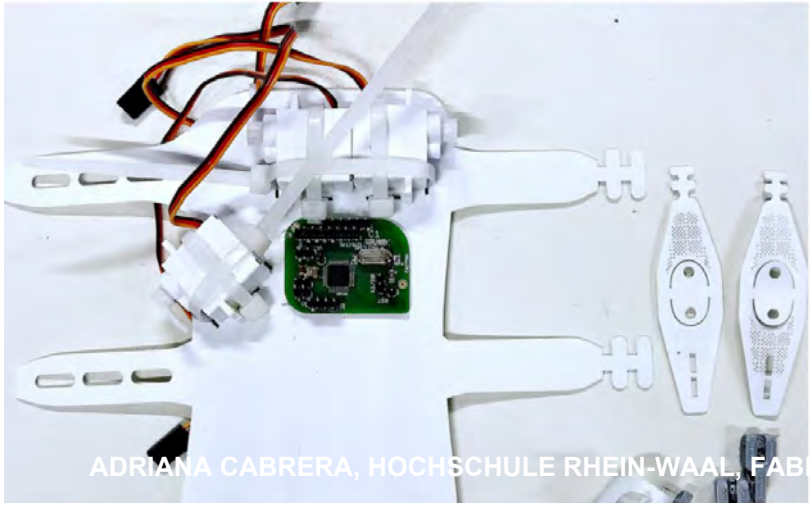
MYORTHOTICS

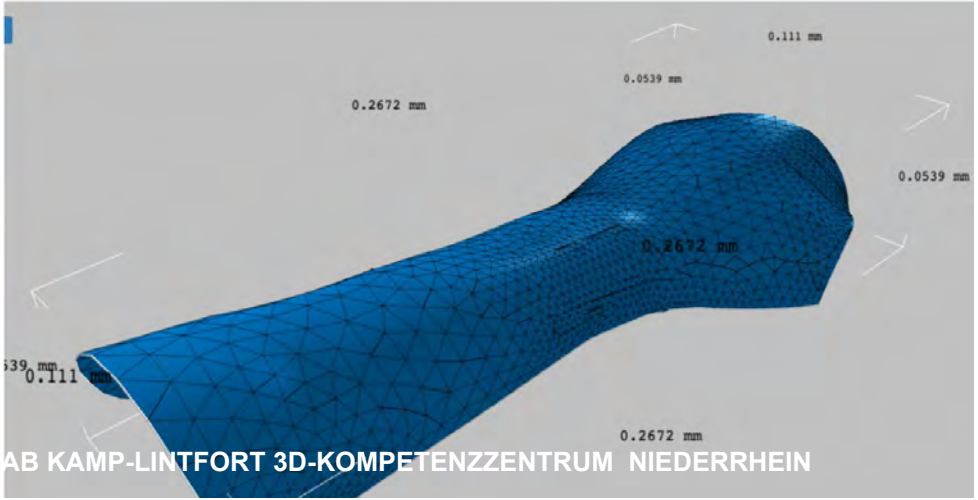
Adriana Cabrera
FABACADEMY2016- HOCHSCHULE RHEIN-WAAL
ADRIANA CABRERA, HOCHSCHULE RHEIN-WAAL, FABLAB KAMP-LINTFORT 3D-KOMPETENZZENTRUM NIEDERRHEIN


MyOrthotics Board
based of *Satsha Kit*
EMG Signals
through the splint
PLA Material
Suport of the hand
and wrist ,
placing the electronics
xible material
Movilization of the
Middle
Index
Thumb
Through the structure
and servos motors
The splint
To immobilize the forearm
Suport of the handand wrist ,
placing the electronics
Phalanges
modular system
connected
to the splint
Exoskeleton
transfer of
strength from
th e servo
motors to the

PROZESS DER DIGITALISIERUNG







OFA

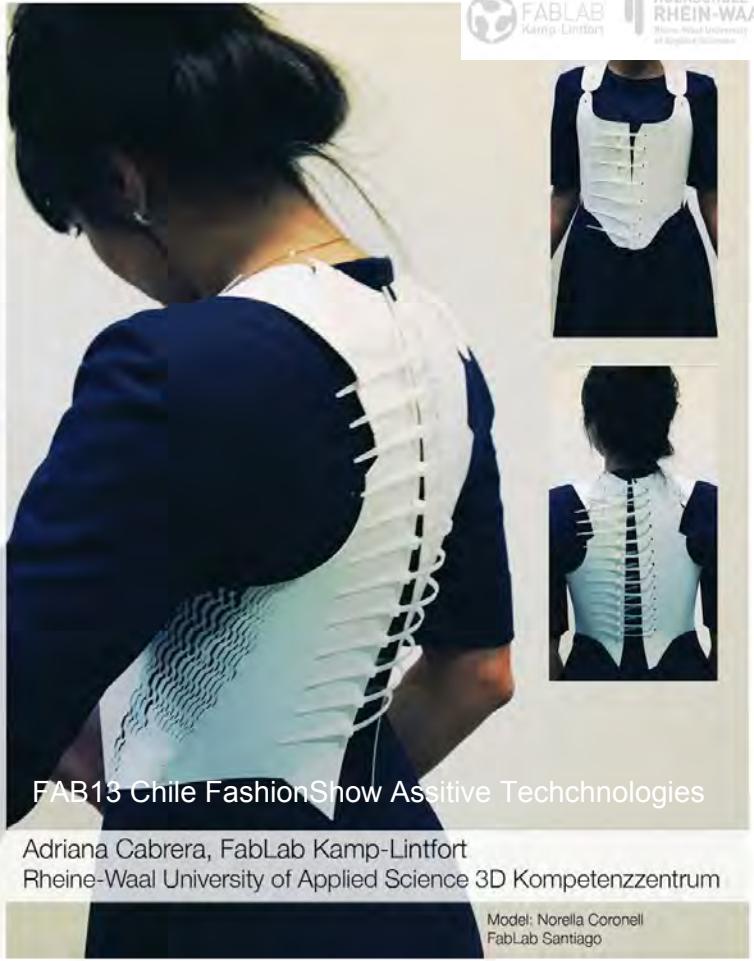
Orthoses for First Aid

Orthoses for First Aid are devices designed for the immobilization of the body and limbs in case of an emergency. As a corset, this membrane is quickly armed and adjustable, providing support for the spine and the abdomen.

Model: Emma Pareschi

This device was based on the workshop Hands On Assistive Devices (MyOrthotics 2.0) in the Fab13 Conference. The splint is made based on the art of folding, in which the material transforms to a memory shape through the semi cuts, which also provide the device the required stability. This device is generated with a 3D scanner and later cut with a laser cutter and can also be generated in different sizes to be included in an emergency kit.

These smart cuts demonstrate that elegant aesthetics can be integrated in the design of any functional element, as well as in first aid equipment.



Adriana Cabrera, FabLab Kamp-Lintfort
Rheine-Waal University of Applied Science 3D Kompetenzzentrum

Model: Norella Coronell
FabLab Santiago

NEUE DEFINITION DER GRENZEN VON ASSISTENZSYSTEME

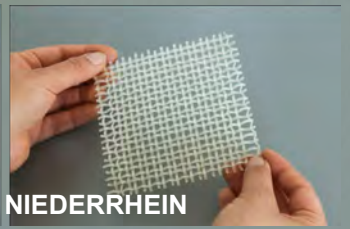
ANPASSUNG DER TRAGBAREN TECHNOLOGIE MIT CAD & CAM

(COMPUTER-AIDED-DESIGN & MANUFACTURING)

TECHNOLOGIEN

ADRIANA CABRERA, HOCHSCHULE RHEIN-WAAL, FABLAB KAMP-LINTFORT 3D-KOMPETENZZENTRUM NIEDERRHEIN

ADAPTIVE DESIGN MATERIALIEN AUF BASIS VON MIKROSTRUKTUREN



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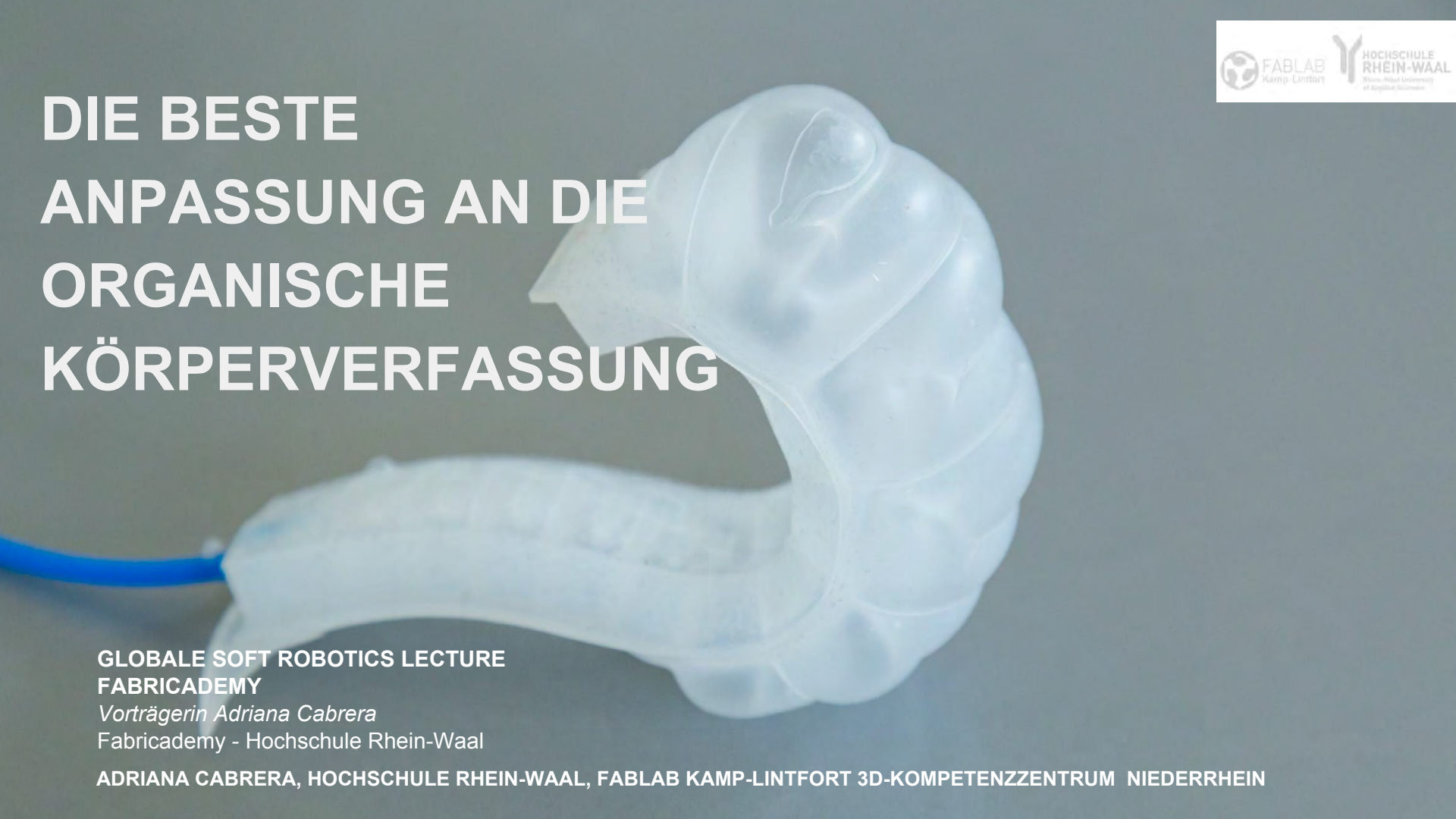
DIE BESTE ANPASSUNG AN DIE ORGANISCHE KÖRPERVERFASSUNG



GLOBALE SOFT ROBOTICS LECTURE
FABRICADEMY
Vorträgerin Adriana Cabrera
Fabricademy - Hochschule Rhein-Waal

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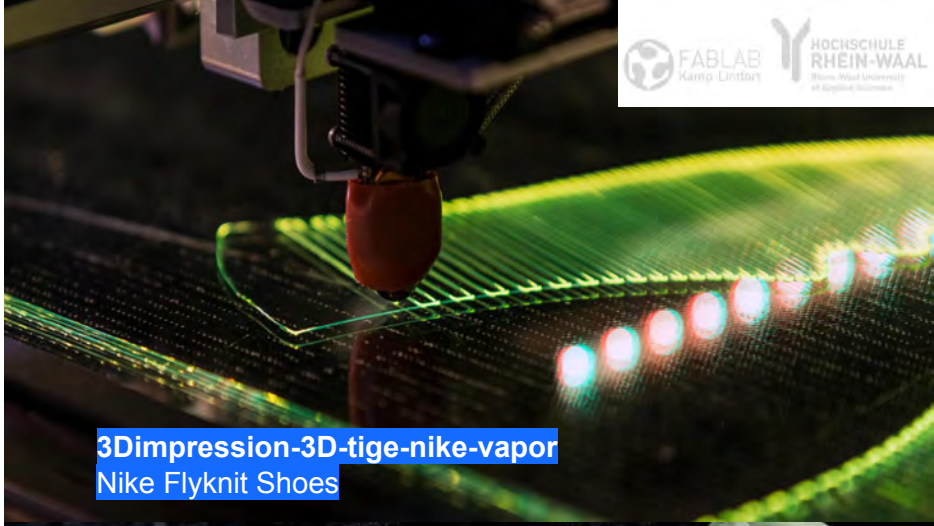
PERFEKTE PASSFORM

3D KNITTING NIKE
Nike Flyknit Shoes



3Dimpression-3D-tige-nike-vapor
Nike Flyknit Shoes

3d Printed sole
Adidas Futurecraft 4D

NEUINTERPRETATION VON DATEN

UNDERCODING

ADRIANA CABRERA
Kunsthochschule Berlin.Weißensee

LIVING ORGANISMS

DISTRIBUTIVE WORKSHOP BIOSHADES

Adriana Cabrera
TextileLab Amsterdam - Hochschule Rhein-Waal

FABRICADEMY

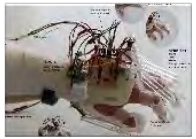
FABRICATION FOR CARE

GLOBALE ACADEMIE

State of the Art
WEEK 1

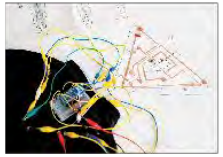
Bio Fabricating Dyes & fabrics
WEEK 4

Textile as Scaffold
WEEK 7



Implications and Applications
WEEK 10

Digital Bodies
WEEK 2



E-Textiles and Wearables I
WEEK 5

Open Source Hardware
WEEK 8

Soft Robotics
WEEK 11

Circular Open Source Fashion
WEEK 3

Computational Couture
WEEK 6

E-Textiles and Wearables II
WEEK 9

Skin Electronics
WEEK 12

SERENA
a wearable to combat anxiety and induce calm
Wei-Ying Cheung
Fabricademy - Hochschule Rhein-Waal

ONE STEP FORWARD

Sophie Akhibi

Fabricademy - Hochschule Rhein-Waal

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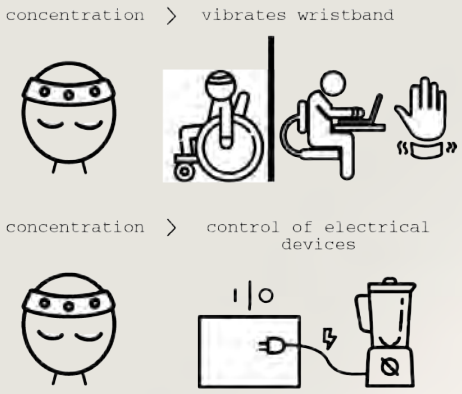
INTUITIVE KOMMUNIKATION



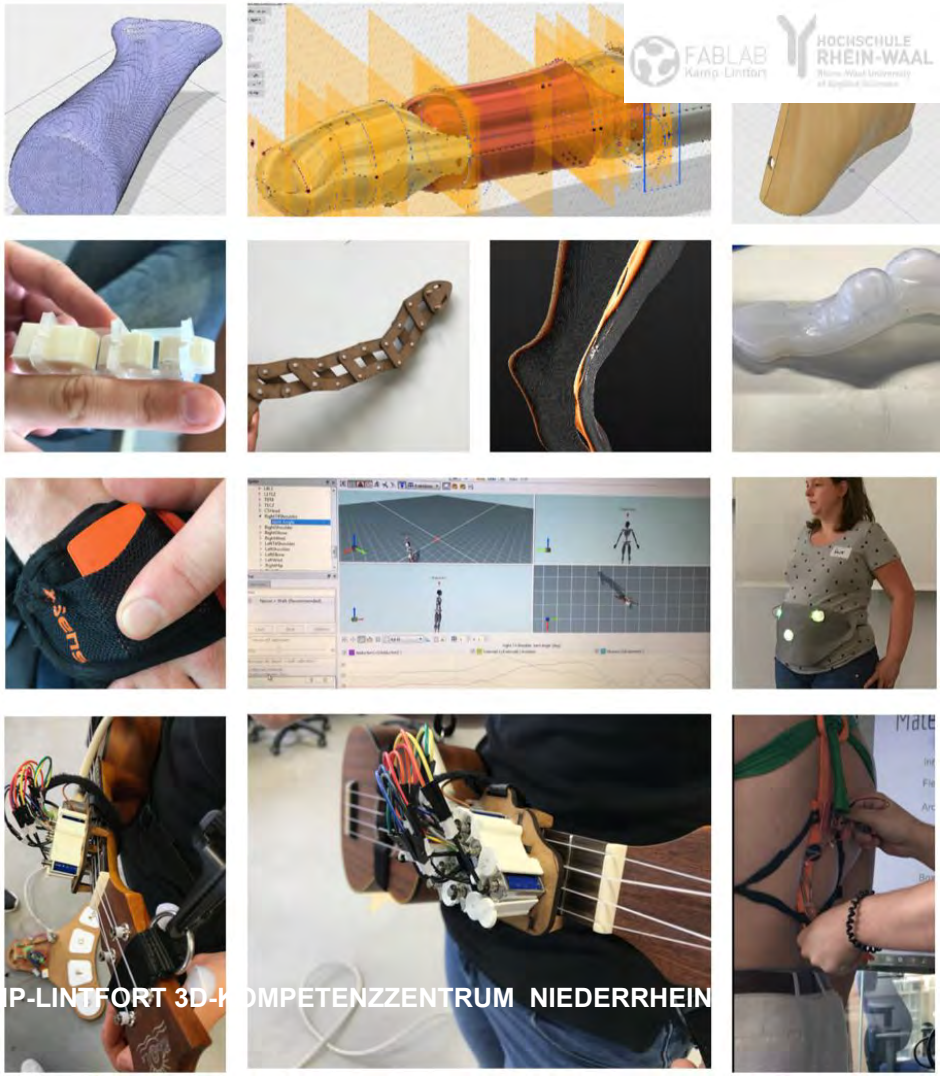
PARALYSIS ASSISTIVE WEARABLE

LIANE HONDA
Fabricademy - Hochschule Rhein-Waal

BIOMECHADEMY

LOKALE ACADEMIE
BIONICS & KOMMUNIKATION STUDIEN
Hochschule Rhein-Waa
Prof. WilliamMegill
Adriana Cabrera
Claudio Abels

- Software-Tools
- Scannen und Integration von CAD-Software
- Exoskelette: Statik & Passive Bewegung
- Tracking & Kinematik: Fortbewegung
- Sensoren
- Accessathon
- (Allgemeine Einführung Interaktive Objekte (I/O) Hilfsgeräte)
- Motoren und Pneumatik I
- Soft - Robots
- Auswirkungen (Erfüllung der Erwartungen)
- Abschlussprojekte

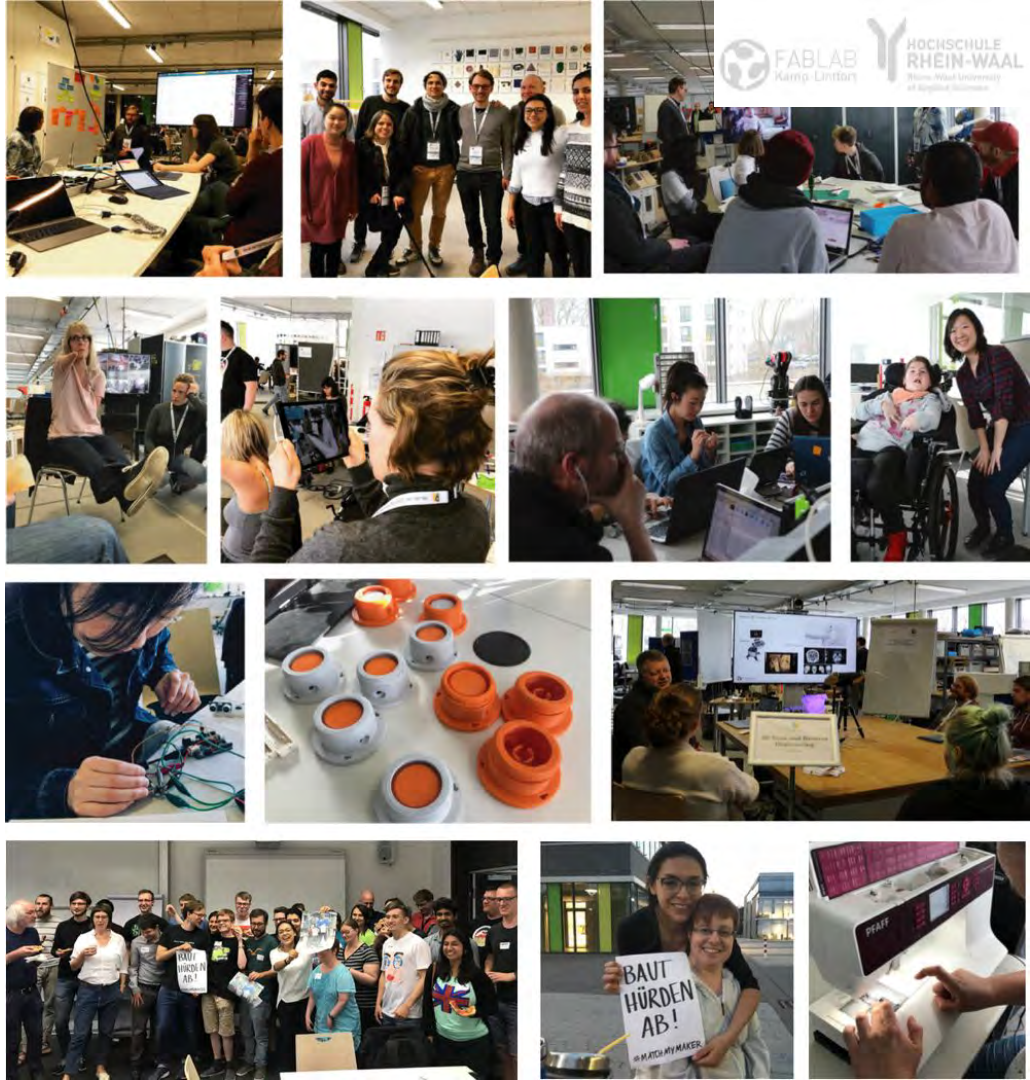


HELPCAMPS

nnovationsforum

ACCESSATHON

Hochschule Rhein-Waal



MATCH MY MAKER

Finalist der
Google.org Impact Challenge
Deutschland 2018

HelpCamps

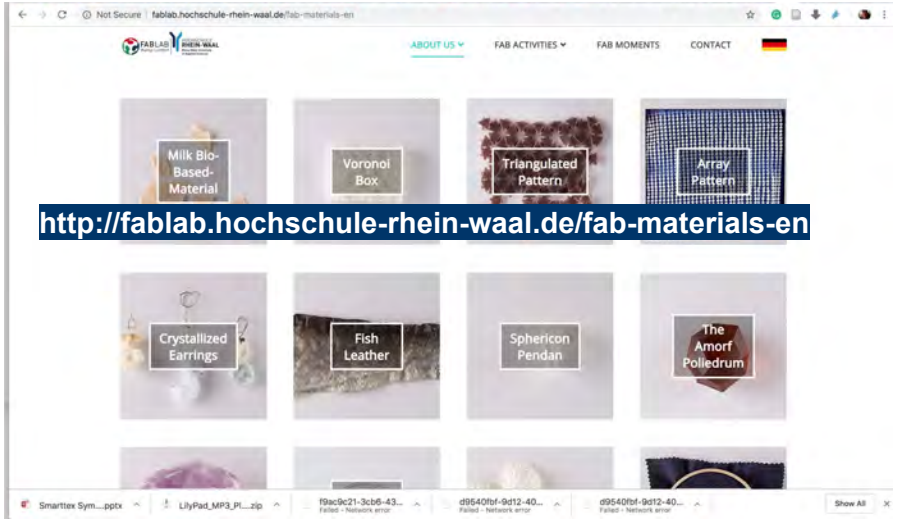
ACCESSATHON

FABMATERIALS

Hochschule Rhein-Waal

MEHR INFO§

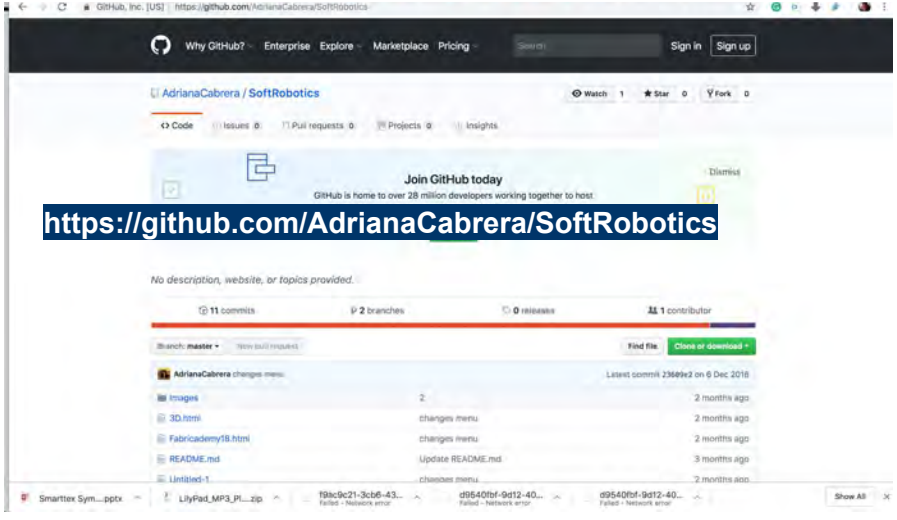
http://fablab.hochschule-rhein-waal.de/about-us



http://fablab.hochschule-rhein-waal.de/fab-materials-en

https://adrianacabrera.github.io/SoftPrototyping/index.htmls

https://adrianacabrera.github.io/Fab4Care/



https://github.com/AdrianaCabrera/SoftRobotics

VIELEN DANK FÜR IHRE AUFMERKSAMKEIT!.

ADRIANA CABRERA

HOCHSCHULE RHEIN-WAAL / FABLAB KAMP-LINTFORT
3D-KOMPETENZZENTRUM NIEDERRHEIN
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