



The European Coordination Hub for Open Robotics Development

---

## Final Review Meeting – WP 3 Experiment Booster

---

Adam Schmidt, TUM

---

Barcelona – 27.03.2019



# Background

---

- ECHORD++ experiments created lots of great technology, some of the developments were already close to the market, but still needed a small push to turn it into great product
- Different projects faced different difficulties in those final stages – ranging from reengineering the prototype to developing new business strategy
- A new instrument using some of the unspent budget – the Experiment Booster – was proposed to support them

# Concept

---

- The concept of the Experiment Booster Programme was presented during the last review and welcomed by the reviewers
- The final shape of the instrument was agreed upon with our PO
- The proposed 10-month support programme involved:
  - Up to 15,000€ for subcontracting of consulting services targeting individual needs of the project
  - Up to 60,000€ for direct costs (personnel, travel, consumables)

# Selection

- We invited Experimenters to submit proposals addressing their specific needs.
- Six proposals were submitted and internally evaluated according to the impact, excellence and implementation criteria - four were selected for funding
- The budget of the selected proposals was negotiated to maximize the impact
- All of the selected projects acquired targeted solutions to their individual challenges

Project	Solution
EXOtrainer	Targeted market strategy and business plan
MODUL	Reengineered, industrialized product
SAGA	New vision, strategy and business model
LINarm++	Reengineered prototype and new business model
3DSSC	
HOMEREHAB	

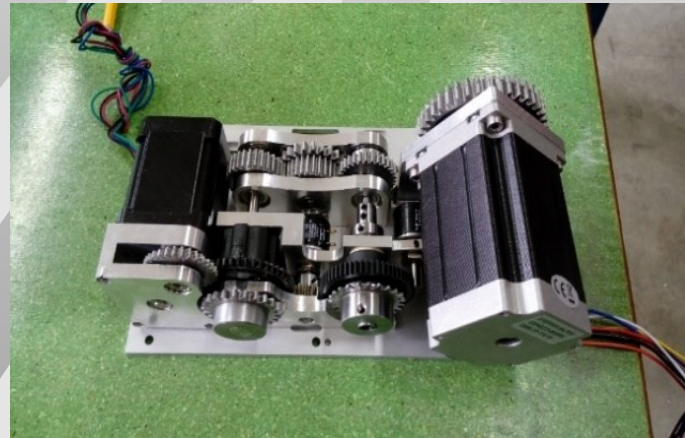
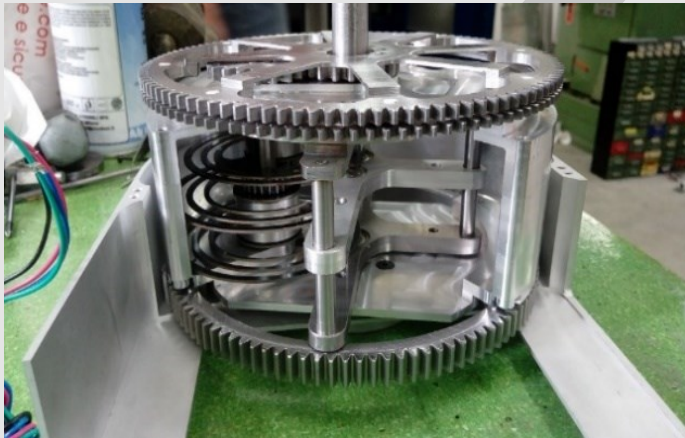
# LINarm++

## The challenge:

- The Series Elastic Actuator (SEA) could be commercialized to support further development of the rehabilitation device
- However, the early prototype was not market ready

## Development within the Booster Programme:

- A new, more mature prototype has been developed and tested
- Value proposition and business model for the new venture have been established
- A patent application protecting the results of the project has been submitted



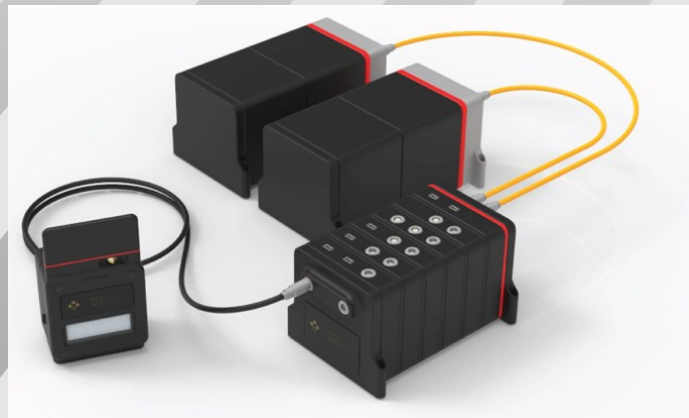
# SAGA

## The challenge:

- Avular has been facing difficulties in the highly competitive drone market
- However, the newly developed navigation and on-board module could be a product on its own

## Development within the Booster Program:

- A new vision and strategy of the company have been established
- The new business model is centred around the new product – the Curiosity Core
- A new investor – Lumipol Holding B.V. has been found
- Avular engaged with new customers – e.g. Vanderlande, with whom it is developing navigation systems for airports robotization



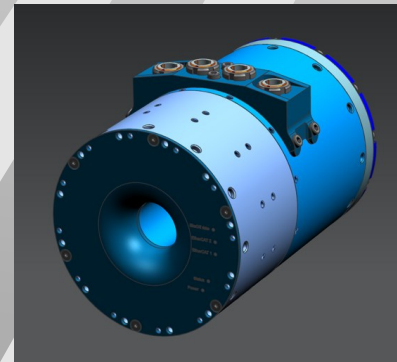
# MODUL

## The challenge:

- Both the Series Elastic Actuator (SEA) and the robot have been successfully sold
- However, as a pre-product, they were delivered without qualification or guarantee
- Moreover, test showed limited lifetime of the actuators, which hindered further commercialization

## Development within the Booster Program:

- The actuator has been reengineered:
  - Durability increased 10-fold (from 100k to 1M cycles)
  - The manufacturing costs were reduced by at least 40%
- The zero series is being manufactured and will undergo testing and certification to be delivered to customers in late 2019





# EXOTrainer

## The challenge:

- The prototype has been already industrialized and has been undergoing CE qualification
- Marsi Bionics decided to target Germany as the first market, however they had no knowledge about the public health sector and reimbursement system there

## Development within the Booster Program:

- The company gained knowledge on the reimbursement system, which allows them to prepare more attractive offers
- The approach strategy tailored to the German market has been defined
- The business plan taking advantage of the German healthcare system promoting innovative medical devices has been developed
- Clinical trials in Germany have been prepared





# Conclusions

---

- The program proved to be highly successful and helped the involved companies to get closer to the market by establishing new business strategies and development of more advanced prototypes
- Individual, targeted support is needed to facilitate commercialization of the FSTP projects
- Support cannot focus only on technology development – it needs to include industrialization of the products, establishment of strategy, preparation for expansion and internationalization, and finding future investors – all those activities can be provided by DIHs