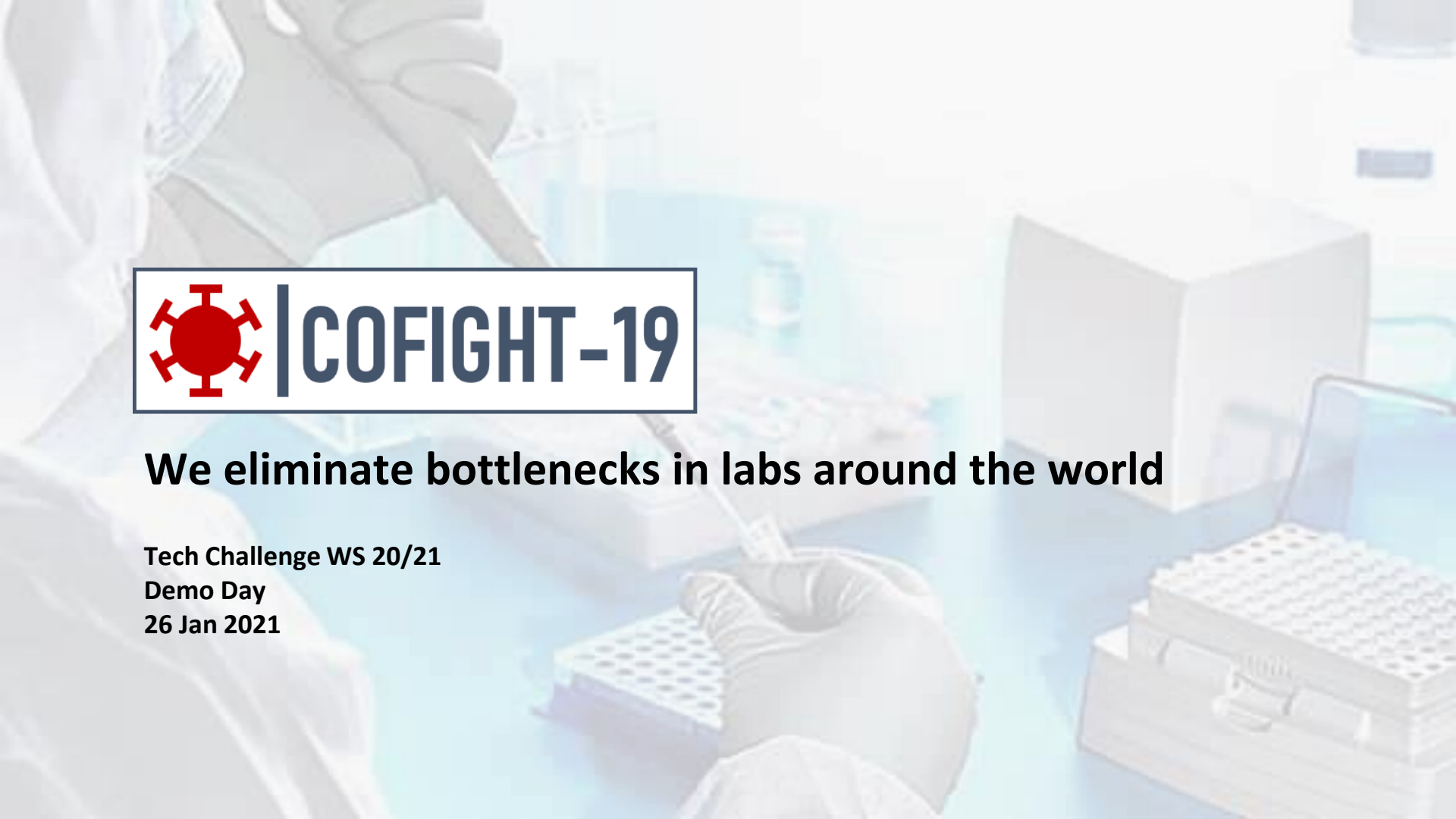
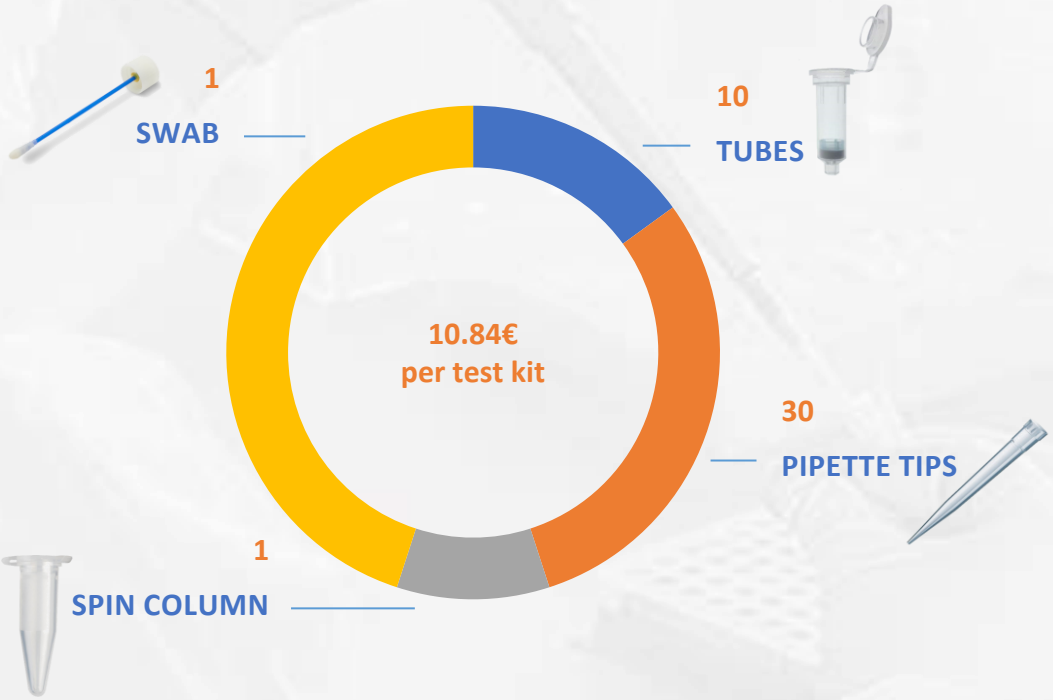


COFIGHT-19

# We eliminate bottlenecks in labs around the world

**Tech Challenge WS 20/21**
**Demo Day**
**26 Jan 2021**

# Diagnostic consumables are expensive and scarce




- One challenge is that the market for diagnostic plastic consumables is exhausted and prices exploded
- It is estimated that the costs of consumables for 300 Corona tests are of around €3,250
- We worked on a solution to provide Corona diagnostic consumables, namely pipette tips, swabs, spin columns, 1.5 ml tubes, and 0.2 ml tubes
- Our solution entails strict medical regulations such as cleanroom conditions

# The first plug-and-play kit for producing lab materials decentralized

**2x1 Meter Working Station**

## 3D-PRINTING

Printing with an SLA printer such as the Form 3B with biocompatible surgical guide resin

## WASHING

Washing in 99% isopropyl alcohol for 20 minutes under constant steering. It can be done in either a bucket or using Form Wash

## CURING

Curing under UV-light at 70°C for 30 min using Form Cure

## PACKAGING

Vacuum-package in plastic under clean bench

## STERILIZATION

Sterilize with autoclave at 132°C for 4 min followed by a 30 min dry cycle.

# What makes our solution the best?

### Automated

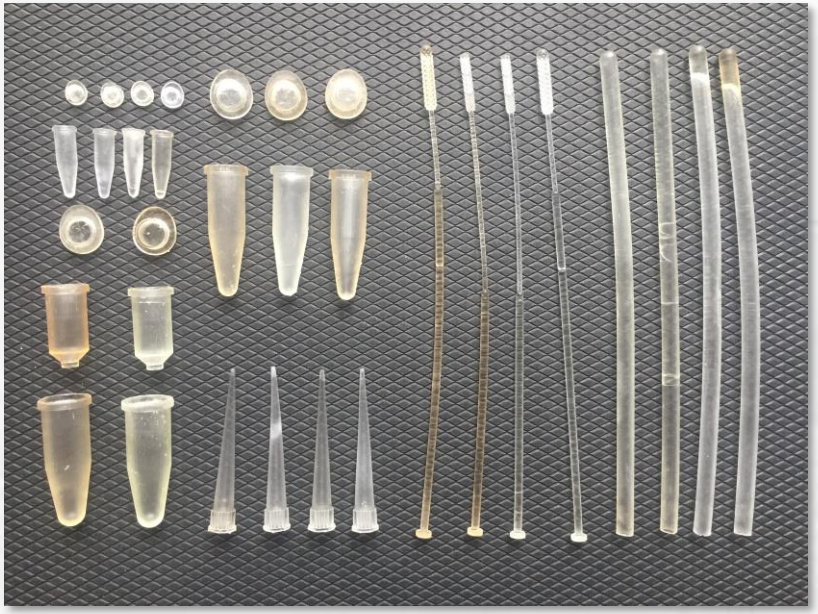
The previously illustrated process steps are designed in a way that minimizes manual work.

### Decentralized

Cofight-19 enables labs around the world to produce consumables onsite. Thereby, we reduce dependencies on suppliers.

### Stable Price

Unlike diagnostic consumables, the price for resin has been stable under any circumstances in previous years.

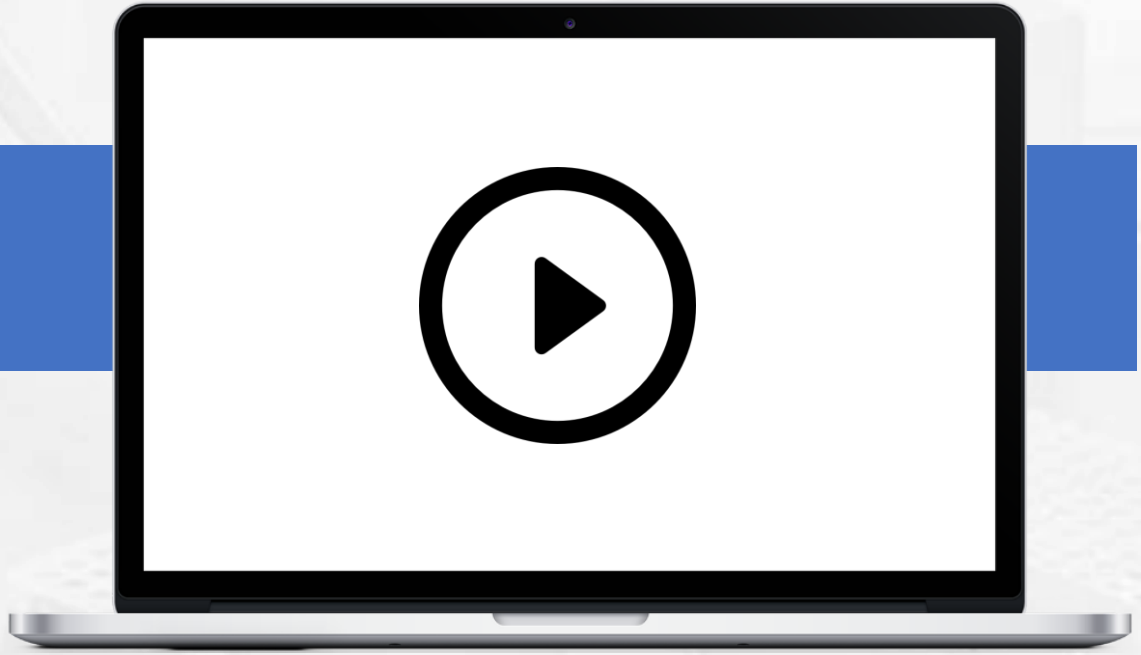


Selection of our printed prototypes

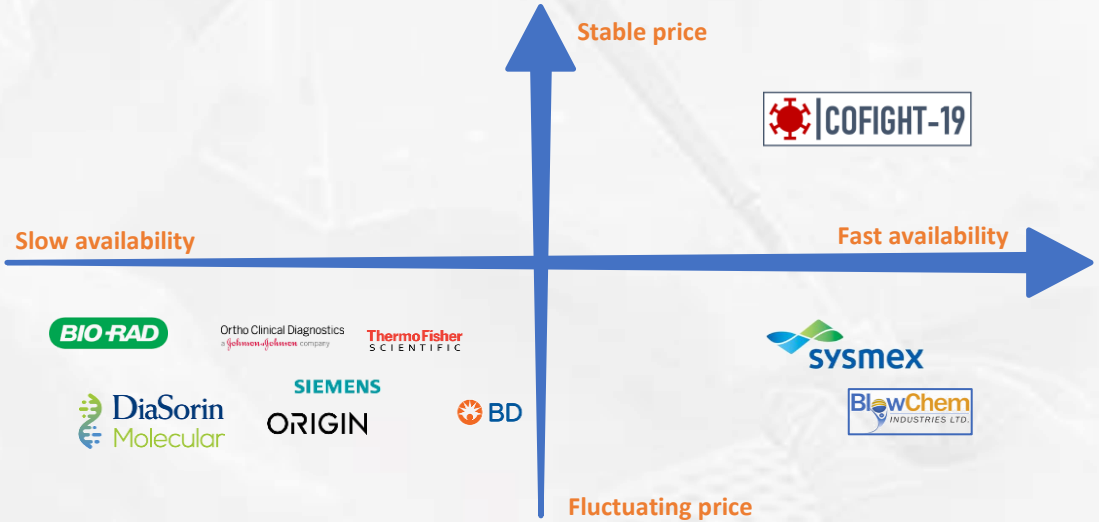
# Actions speak louder than words

**LIVE DEMO**

We printed and conducted post-processing at the TUM Chair of Medical Materials. We tested the resulting products for various characteristics at the Bio.Kitchen.



# Competitors fail to perform in critical situations




- We outperform competitors by providing a solution with **predictable low prices**. We are not affected by externalities such as a pandemic.
- As shipping is eliminated, we can grant labs access to consumables much faster than our competitors.
- Labs run more **cost effective** by printing plastic consumables. (e.g. swabs)
- Summing up, Cofight-19 makes laboratories more **independent**!

# Strong partners ensure our successful go-to-market in Ghana

## Partners

BIOKITCHEN

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

HIVE BIO LAB

## Pilot Project

- Bio.Kitchen sets up mobile Corona testing stations in Ghana in cooperation with the Deutsche Gesellschaft für Internationale Zusammenarbeit and Hive Bio Lab.
- We provide a comprehensive process description and documentation so the local lab workers can be trained on site easily. By relying on top-notch printing hardware i.e. Formlabs, we guarantee easy usage.
- We recommend to print spin columns and swabs inside the mobile lab. Our solution can produce swabs more than 4x cheaper than current market prices. Spin columns should be printed as we identified a particular scarcity among these in Ghana. The remaining plastic consumables can be sourced by local partners such as *Labmart*.

# Our team is interdisciplinary and experienced

**Yusuf Ziya Güleray**

Robotics, Cognition, Intelligence

**CAD modelling**

**Stefan Nottensteiner**

Physics

**Marketing**

**Devan Horn**

Chemistry

**Lab regulations & certification**

**Michael Hauer**

Management and Technology

**Financial modelling & partner relations**

**Simon Rudat**

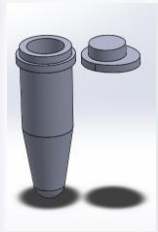
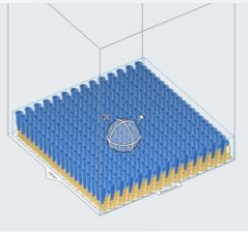
Management and Technology

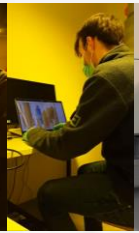
**Sales & communication**

Labs should have access to diagnostic consumables.

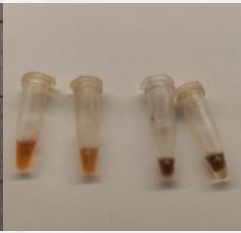
**Anywhere, anytime.**

We are thankful for your question and feedback now!





# APPENDIX

# We talked to our stakeholders to find our problem-solution fit

**Academia**

We talked to the TUM Chair for Medical Materials and Bio.Kitchen

**End users**

We contacted lab workers in Ghana via Facebook and LinkedIn

**Producers**

Formlabs provided us crucial information for the choice of resin

**Distributors**

Material suppliers from Ghana informed us about the scarcity

**Public authorities**

TÜV Süd and FDA helped us understand certification requirements

**Tech experts**

3D-printing experts showed us best-practices to print

# Co-fight 19 has promising unit economics

## Unit Economics

| | |
|---|---|
| **Setup Cost** | |
| 3 Form B Printer | €14,097 |
| 1 Form Wash | €500 |
| 1 Form Cure | €700 |
| **Total** | **€15,297** |
| **Production Cost (300 Test Kits)** | |
| Manual Workload | €4 |
| Printing | €1,425 |
| Post-processing | €855 |
| **Total** | **€2,284** |
| *Market Price* | *€3,252* |

## Revenue Stream Ideas

- **Margin on hardware components:** one idea is sell the plug-and-play kits at a higher margin than our sourcing price
- **Subscription for resin and IPA delivery:** resin and isopropyl alcohol are the two consumer goods that are needed continuously in the process. We can provide these on a subscription basis.
- **Service fees for training and maintenance:** we can charge prices for conducting comprehensive training and regular maintenance

# Prototypes of all consumables were produced and tested

Pipette Tips

Spin Columns

Swabs

0.2 mL Tubes

1.5 mL Tubes

# Sterilization Process