THILO.TECH PRESENTS

Makers vs Virus

Würzburger Web Week 2021

Makers vs Virus

AGENDA

Thilo Röhl - My Background
Starting 3d Printing - 2018
Josef Prusa - 3d Printers from Prague
Open Source - Prusa Mk3s as example
Tomáš Kapler - Corovent - Open Source Ventilation
Machine
Lessons Learned

Dipl. Inf. Thilo Röhl

SICHER IST, DASS NICHTS SICHER IST. SELBST DAS NICHT !

https://thilo.tech

Tech innovations fascinate me

MY FIRST HELICOPTER FLIGHT

Im going to fly one myself in November - a childhood dream becomes true !

thilo.tech | 10/2021

Enthusiasm

DANN GEHE ICH HALT STAPLER FAHREN...

Im out... driving a stapler

Abi with LK Biologie

GOAL TO STUDY MEDICINE

Carl-von-Frisch Preisträger
Took addional latin sessions

Civil Service in a hospital

FIRST CONTACT IT SECURTIY

Installed a Firewall, Network, JAVA, XML - felt like my second home

Studium
TU Darmstadt

FOCUS IT SECURITY, SECOND FOCUS BIOLOGY

Im still thankful for the laboraty session at the genetics lab !

Critical Infrastructures

FROM SYSTEM ADMINISTRATOR TO TEAMLEAD

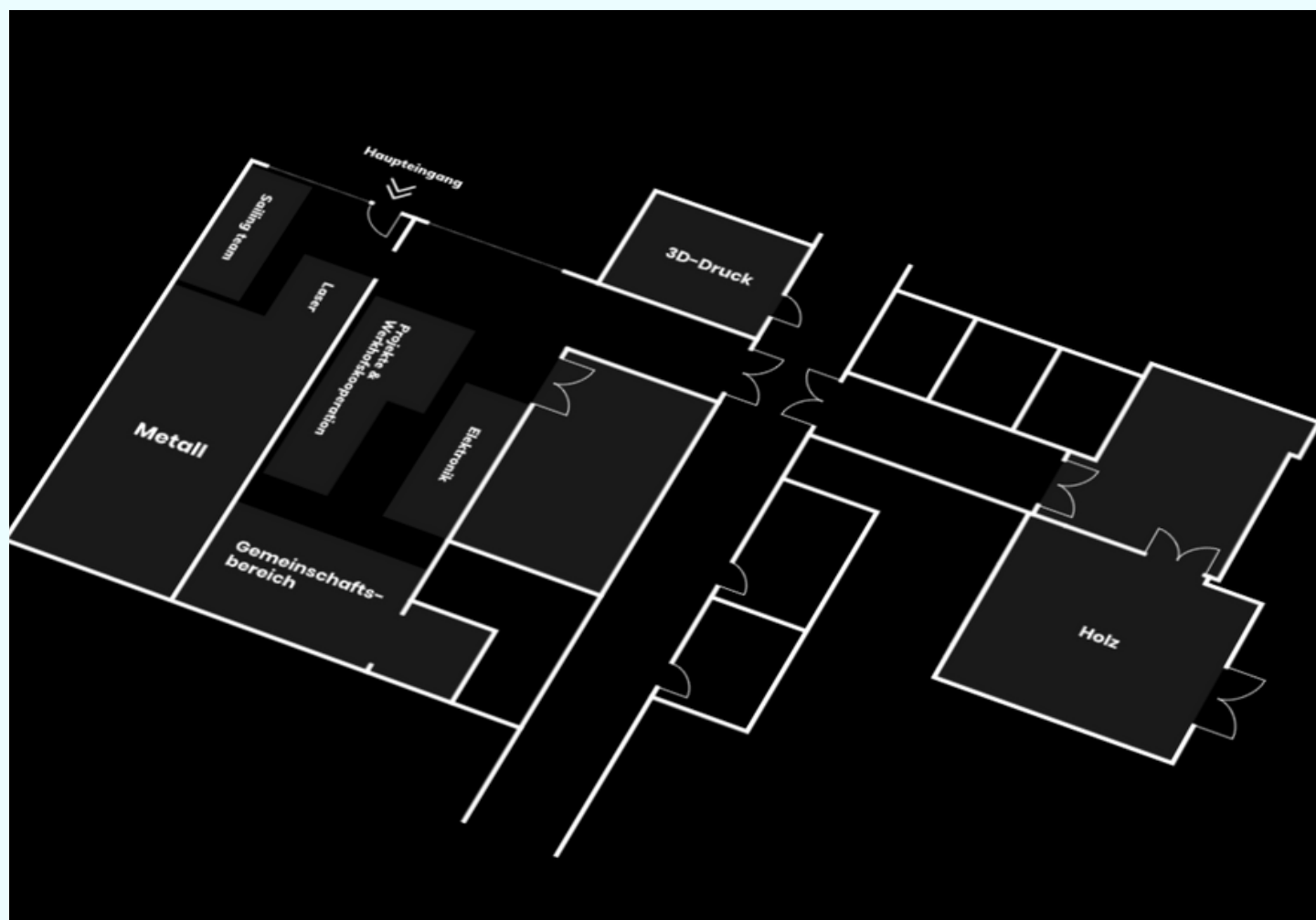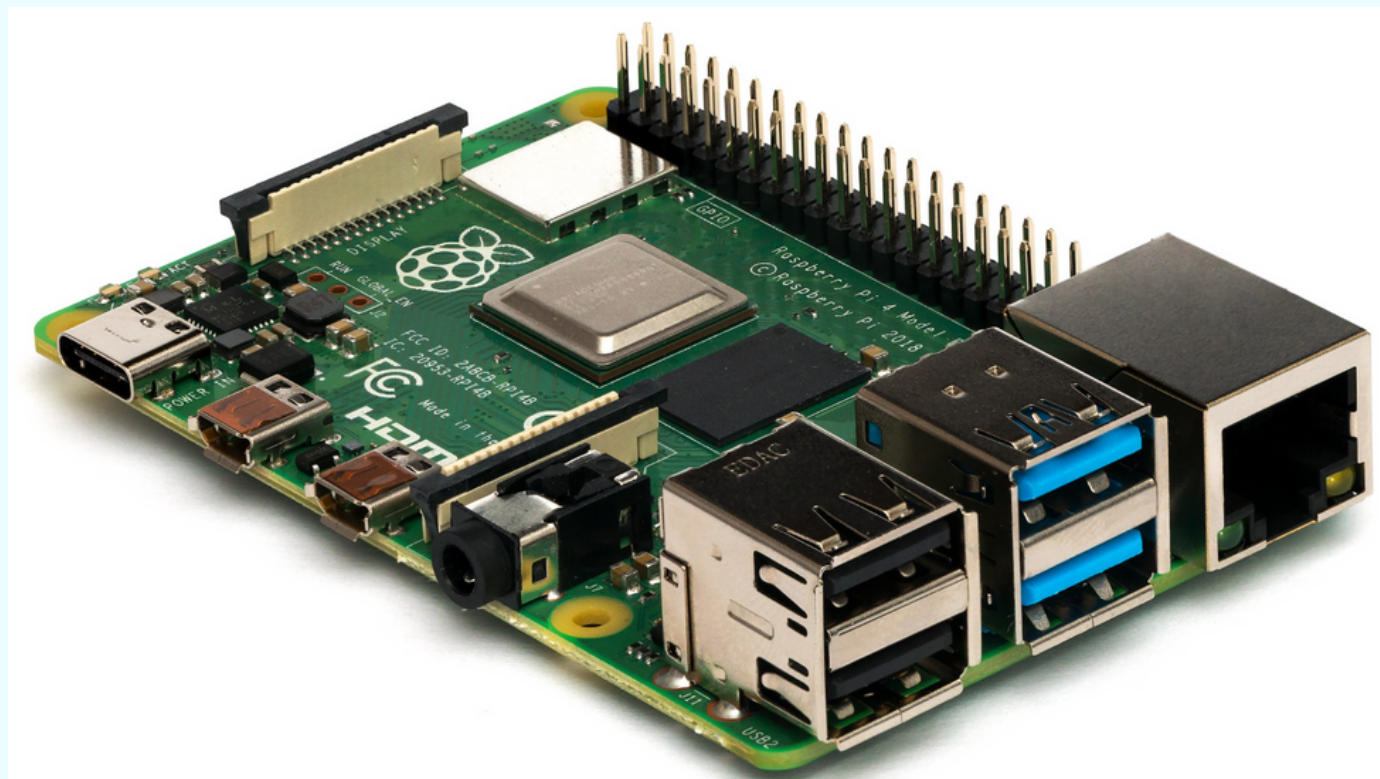I take care about my people and my services

Maker #353

DO IT YOURSELF

https://www.makerspace-darmstadt.de/

Open for everybody - Sharing professional
equipment and knowlege in a team approach

3d Printing, Steel, Wood, Pottery

thilo.tech | 10/2021

Raspberry Pi

HACKABLE SINGLE CHIP SERVER

Eben Upton : We honestly did think we would sell about 1,000, maybe 10,000 in our wildest dreams"

Used for pupils to teach MINT and linux.

As of May 2021, more than **forty million** boards have been sold !

Starting 3d Printing

FOCUS ON RELIABLITY AND SAFETY

Ordered a Prusa MK3s on 26.1.018
Delivered 26.04.2018
Coming as a KIT

Josef Prusa

THE MAN NAMED AFTER A PRINTER

Long history with Open Source Development for RepRap Printers

Printing 3d printer parts with > 400 printers in Prague

Open Source

FIRMWARE, PARTS, DOCUMENTATION

Mk3s

PRINTER PRINTING PRINTERS

Put it yourself together ! Parts are openly available,
Firmware is openly available, upgrade kits

Community

TWO FACEBOOK GROUPS

20 000 Users / 45 000 Users

Very active and helpful - faster than online chat.

Thingiverse

3D MODELS FOR FREE

More than 2 Million Modells !

Covid appears 3/2020

WHAT CAN I CONTRIBUTE ?

Thilo joined "Gemeinsam gegen Corona"

HTTPS://DASPRINZIPFREUDE.DE

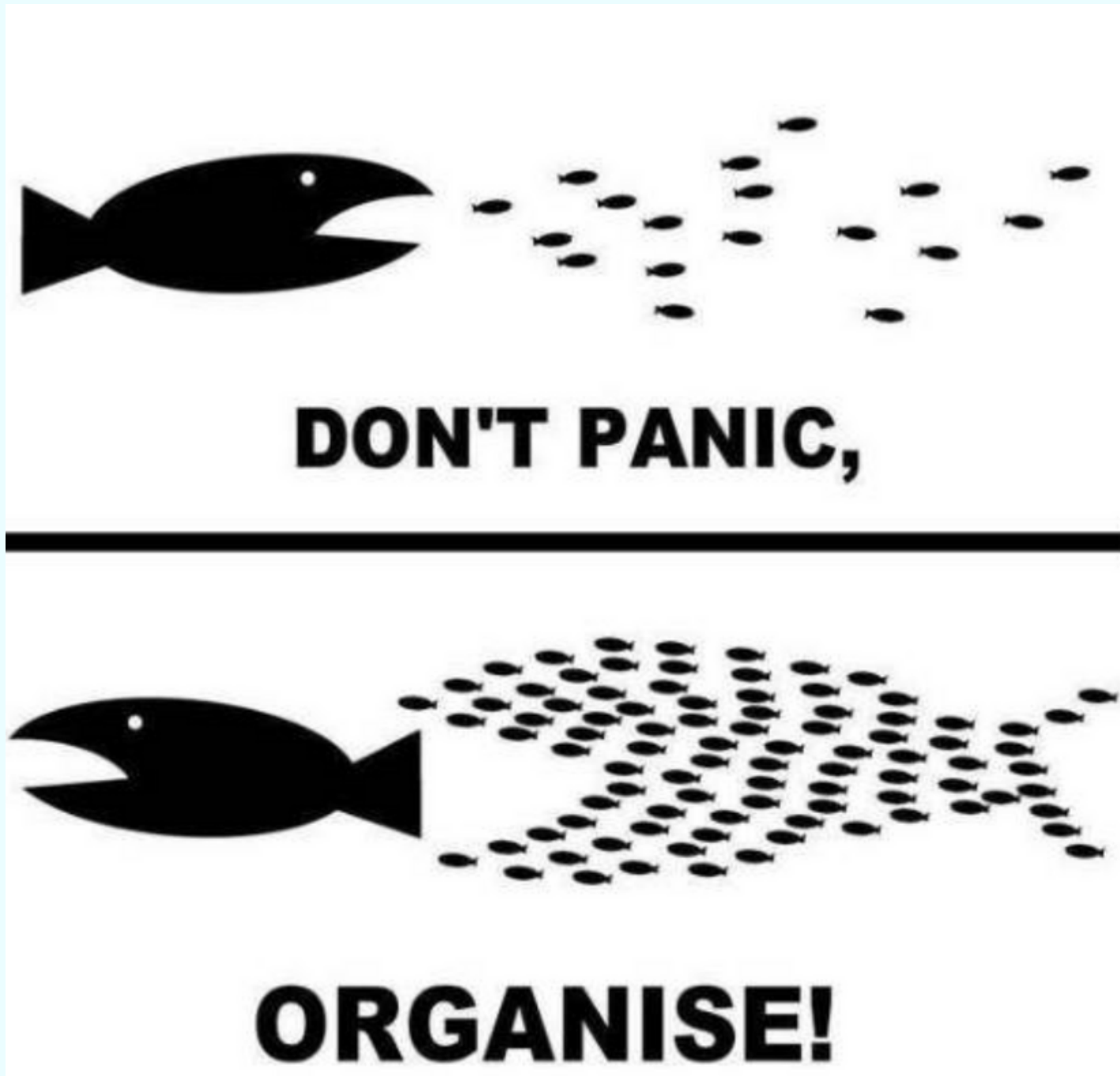# Thilo created dedicated web page for Home Office and Security

HTTPS://WWW.HOME-OFFICE-ABER-SICHER.DE/

open source covid19 medical supplies

FACEBOOK GROUP MAINLY US FOCUS

thilo.tech | 10/2021

Created a german FB group

COLLECT PEOPLE AND PROJECTS WITH FOCUS GERMANY

Build networks to deliver shields
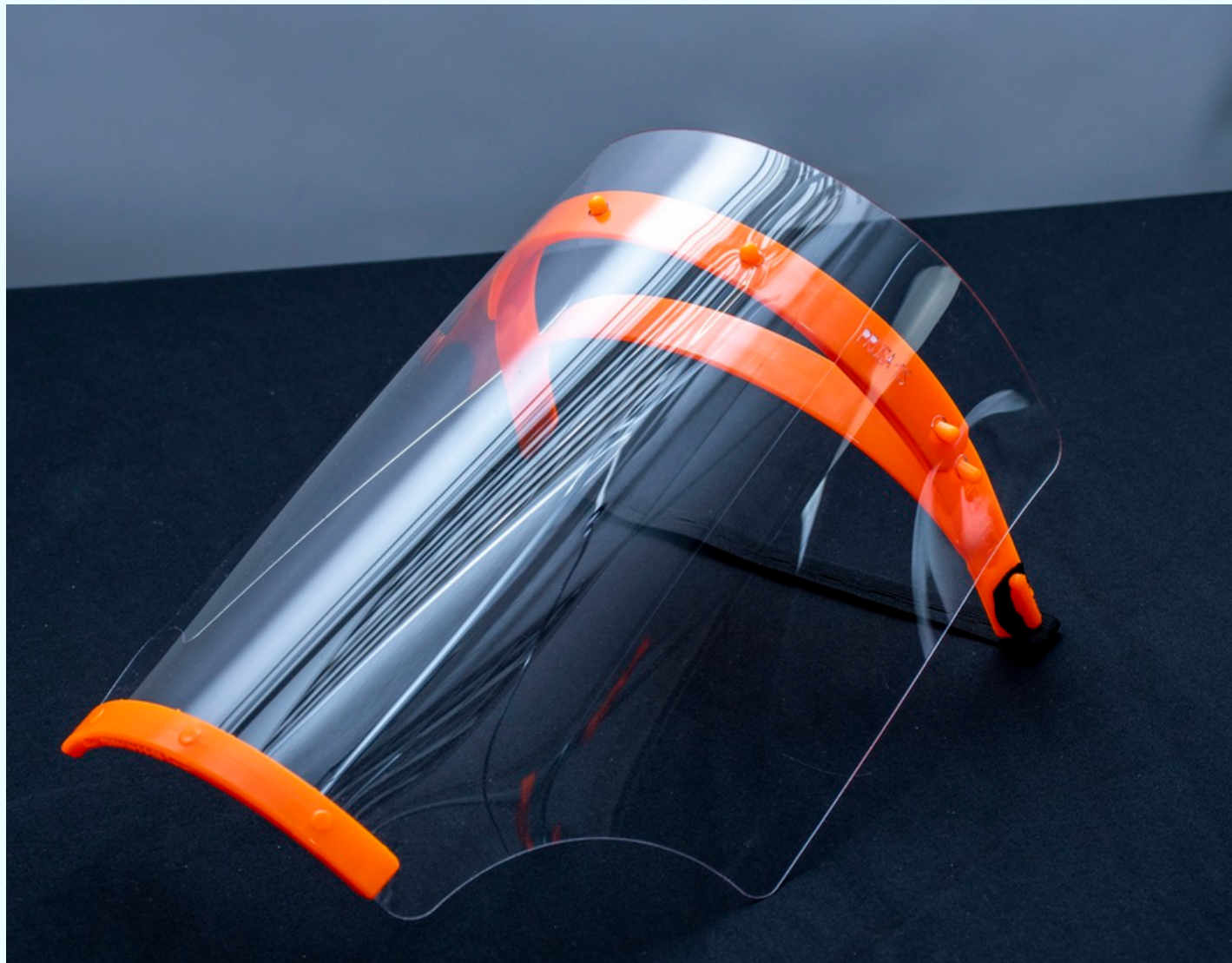
Politics

BERET ROOTS

Networking to connect local groups

Legal and Tax

CHAN-JO JUN

Provided legal advise about self sewn Facemask "Never promise a medical influence, offer it as fashion device"

Josef publishes Prusa Faceshield

GLOBAL PROJECT TO PRINT THEM

https://www.prusa3d.com/covid19/

They donated 200 000 shields to local community, Over 250 000 downloads of model, global production

Josef is live testing real Covid against the shield

PROVES THEY CAN BE REUSED

https://www.prusa3d.com/covid19/

A prototype face shield that we developed. In three days, we went through dozens of prototypes and two verifications with the Czech Ministry of Health.

On May 14 2020, this RC3 version received the CE certification and it complies with the EU regulation about personal protective equipment. It can, therefore, be officially used as a protection against mechanical impact. We state that the purpose of the use is to provide the wearer with frontal protection against flying drops. **Unfortunately, every manufacturer has to go through the certification procedure individually.** For more information read the article How to get a certification for face shields.

Josef is providing discounted filament for PPE

LESS QUALITY BUT ENOUGH FOR SHIELDS

PRUSAMENT PETG ORANGE FOR PPE

IN REACTION TO THE ACUTE SHORTAGE OF PROTECTIVE WEAR FOR MEDICAL PERSONNEL IN THE CURRENT PANDEMIC SITUATION, WE STARTED PRODUCING PRUSAMENT PETG ORANGE FOR PPE.

To support everyone who produces 3D-printed PPE, such as face shields, we decided to make **Prusament PETG Orange for PPE** available with a heavy discount.

The world is printing shields

MORE THAN 250 000 DOWNLOADS

4/14, 14.00

https://www.prusa3d.com/covid19/

250K+ DOWNLOADS! THE WHOLE PLANET IS PRINTING SHIELDS!

More than 70.000 protective face shields 3D printed in three weeks by our factory alone! What started as our local initiative to print protective face shields has turned into a massive endeavor driven by 3D printing communities worldwide. Tens of thousands of people began to print protective face shields using the design we have made available, helping hundreds of thousands of frontline staff - doctors, firefighters, police officers, social workers and many other brave people who risk

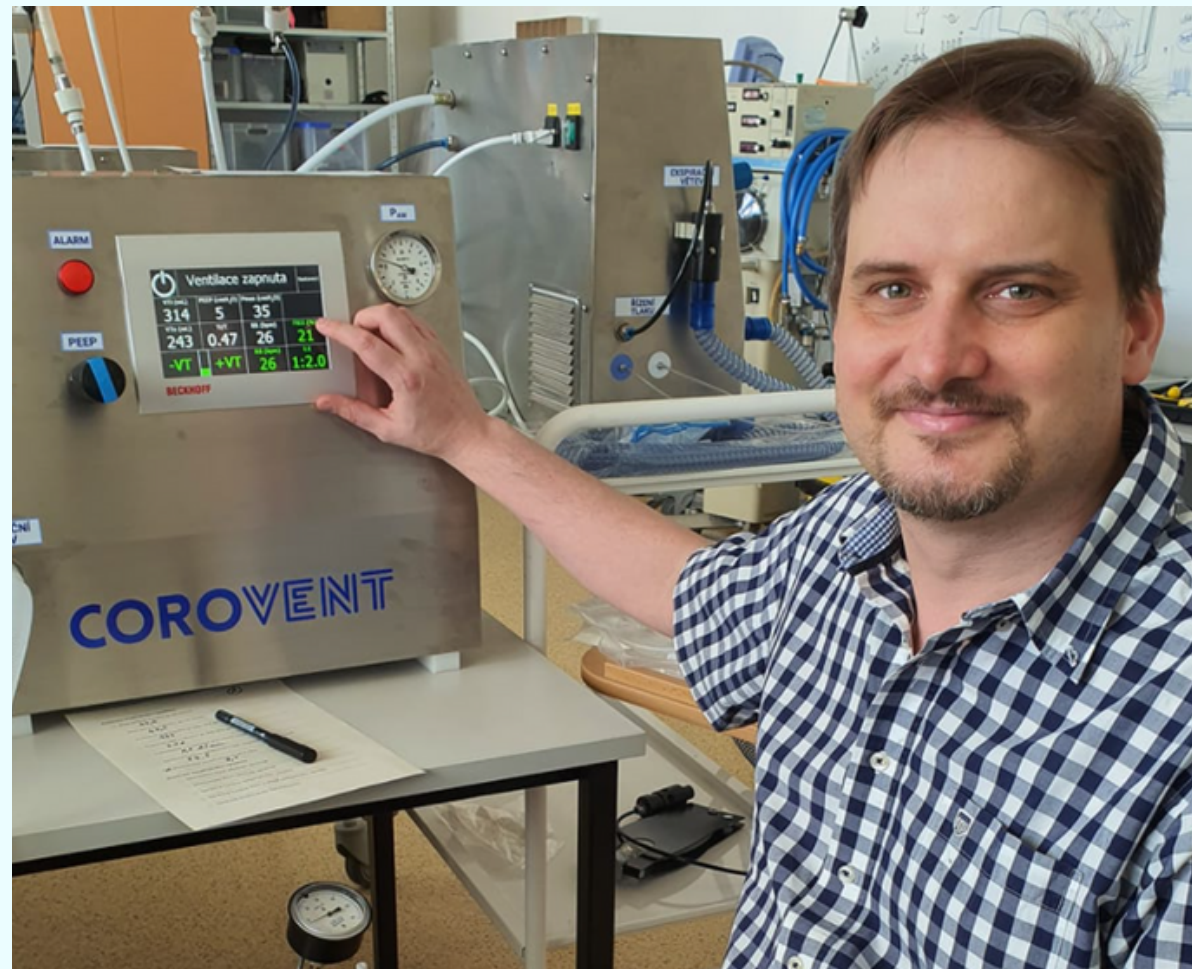# Makers created spoke and hub distribution

Bridging the gap

DECENTRAL 3D PRINT UNTIL MARKET IS READY AGAIN

Got in touch with Corovent project team

USING GOOGLE TRANSLATE

Refusing any sponsorship

Tomáš Kapler

COROVENT FOUNDER

Initial idea, formed a dev team of 30 professionals and lead it. Responsible for the marketing

Thilo was advertising Corovent in FB

AGGRESSIVE BEHAVIOUR

Discussion about Open Source principle rather than supporting the project

Design ready - no parts available

CoroVent ▶ Open Source COVID19 Medical Supplies - Germany
5 April 2020 · 🌐

Hi. Just a brief info from our https://www.corovent.com/ ✅ team - we have finalized the design and manufacturing process of our ventilator and this week we going for Czech/EU certification. Our ventilator is not a toy, and naïve/dangerous as all the designs i see here (see the explanation video https://www.youtube.com/watch?v=7vLPefHYWpY ✅).

CoroVent is prepared with biomedical engineers who spend last 25 years designing ventilators, with cooperation with Covid doctors, manufacturing professionals etc.

Our factory is prepared for making hundreds of these units every day. The problem we are facing now is the supply channel - companies and states are buying valves, sensors and other parts in hundreds of thousands, even they do not have anything to produce. We have material for first few hundreds and promises for maybe few thousands, if we would be lucky and fast enough.

We can prepare other variants of our designs with other valves / sensors, that would meet our criteria, we are also wiling to share our design with the other teams of biomedical engineers + government + doctors (+ optionally manufacturers) to accommodate the design for other countries. (We have already

thilo.tech | 10/2021

Tomáš offered a dedicated session for Corovent

Meanwhile in US

MOST PROJECTS LOOKING FOR SPONSORSHIP

Ford advertising with Prusa Shield

FOX NEWS, STILL ONLINE

Thilo Röhl ▶
Prusa Community Forum - Original Prusa MK2/2.5, MK3, MMU2, MINI & Mods
24 March 2020 ·

Looks like Ford is a Prusa Fan, too! They print a Prusa Face shield and this looks like it's their design and product. Do they have a license to provide advertising with a Prusa Product or dont they understand the difference between creating a print and making offical photos with it so that someone not understanding about stls assume this is all the work of Ford? Will they keep the Prusa logo intact ? Will Prusa now get new car ?

thilo.tech | 10/2021

Meanwhile in Germany

Lack of Toilet Paper

Trigema printing masks

TRIGEMA stellt wiederverwendbare
Behelfs– Mund- und Nasenmaske in Corona-Krise her

Lack of Desinfection

Alkohol und Ethanol werden als Desinfektionsmittel freigegeben

23. März 2020

MÜNCHEN Bayerns Wirtschaftsminister Hubert Aiwanger hat bekanntgegeben, dass jetzt auch Ethanol und reiner Alkohol im Freistaat zur Produktion von Desinfektionsmitteln freigegeben werden.

Aiwanger: „Es geht darum, Engpässe zu reduzieren. Arztpraxen und Krankenhäuser haben teilweise keine Desinfektionsmittel mehr, das gefährdet Menschenleben. Deshalb handeln wir jetzt pragmatisch. Wir müssen auch die Kleinversorgung von Altenheimen, Kliniken und Arztpraxen gewährleisten. Deshalb gehen wir jetzt zwei Wege gleichzeitig: Chemie-Unternehmen und Apotheken werden Desinfektionsmittel aus Ethanol und reinem Alkohol herstellen. Der Rohstoff Alkohol kommt aus der Biospritschiene und von Brennereien. Die Branntweinsteuer ist dafür ausgesetzt worden."

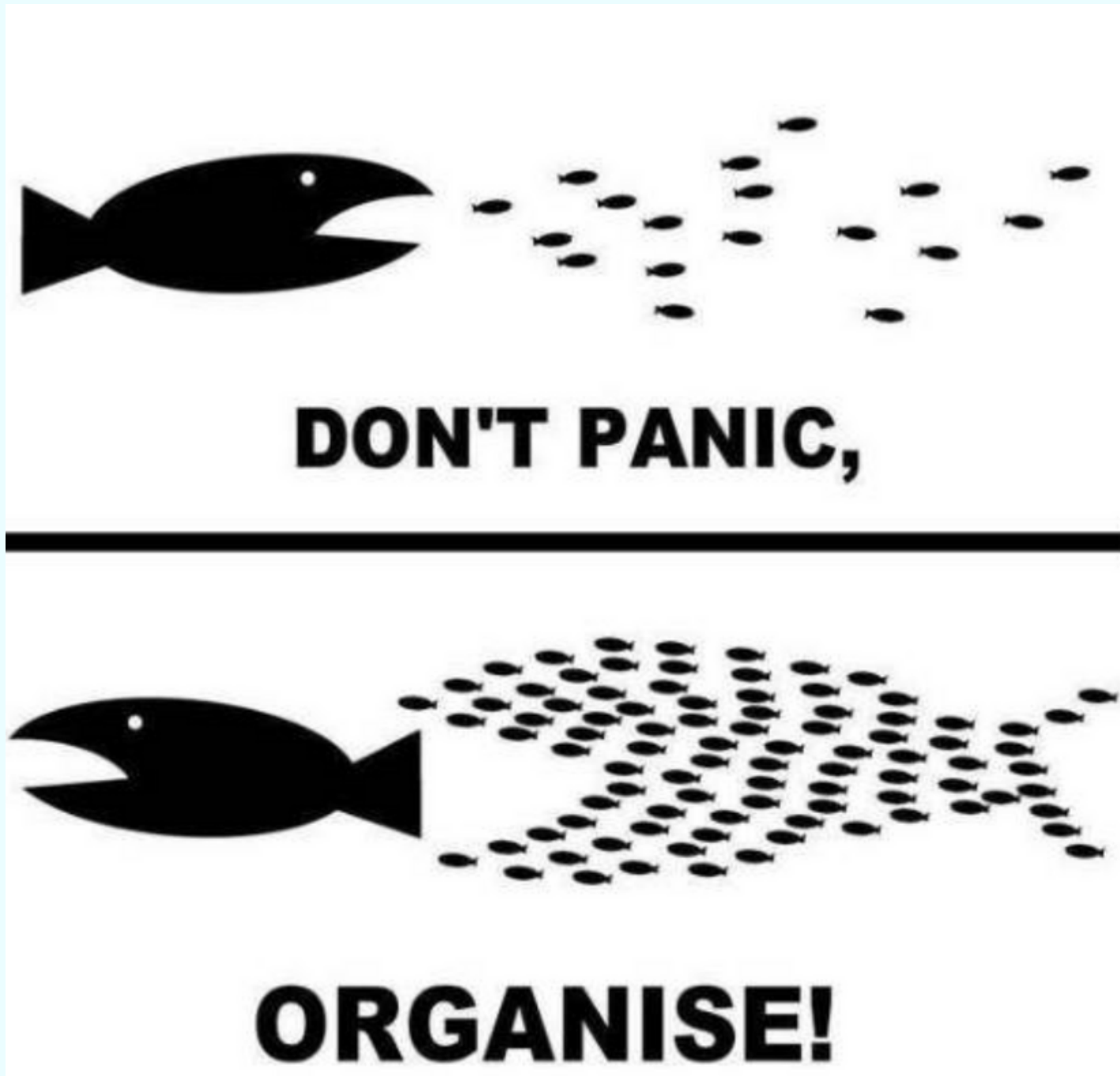# Lessions leanerd

If you think you are too small to make a difference, try sleeping in a closed room with a mosquito

AFRICAN PROVERB

thilo.tech | 10/2021

We depend on each other

DONT PANIC, ORGANIZE !

We are europeans. Act like it.
FB is not usable for knowlege sharing
Slack ist mostly used for the maker community
A common Makers Platform is required
Join a local makerspace !

Save one soul.

And you save the world.

Was it worth it ?

WHAT DID WE REACH ?

If we just saved one soul !

Thanks for your time !

BLOG ENTRY WITH LINKS AND ADDTIONAL INFORMATION :