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VIRTUAL FIRES CONGRESS

10.+11.11.
2022

St. Georgen | #VFC22

Game Changer & Hidden Champions in Civil Protection & Rescue

VIRTUAL DIMENSION CENTER
TZ ST. GEORGEN



presented by **imsimity**



Baden-Württemberg

MINISTERIUM DES INNEREN, FÜR DIGITALISIERUNG UND KOMMUNEN

VIRTUAL FIRES CONGRESS #VFC22

VIRTUAL DIMENSION CENTER
TZ ST. GEORGEN



Digital pioneer work - from the Black Forest into the world.

WELCOME

**to the 17. VIRTUAL FIRES CONGRESS |
10. + 11. Nov. 2022**

**Game Changer & Hidden Champions in Civil
Protection & Rescue**

Patronage:



Baden-Württemberg

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OUR GOAL:

UNDERSTANDING NEW TECHNOLOGY
TOGETHER TO HELP USE IT FOR THE
COMMON GOOD.

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THU | 10.11. | PROGRAMME

from 9:30 a.m. | ONBOARDING | Online in Zoom & with avatar in CyberCinity

(>> After your registration you will receive the access links two days prior to the event | Participation with PC, laptop, tablet, smartphone or in the metaverse also with VR glasses possible)

10:00 a.m. | Opening of the 17. VFC

Martin Zimmermann, Board of Directors & Initiator VDC TZ St. Georgen and Fellbach

10:05 a.m. | Words of welcome

Thomas Strobl, Minister of the Interior of the State of Baden-Württemberg & Patron of the #VFC22 |

Michael Rieger, Mayor of the City of St. Georgen

MODERATION | **Bea Nitschke**, M.A., imsimity; **Steffen Blessing**, M.S., German Aerospace Centre, Fire Brigade VS (tbc)



10:15 a.m. | FUTURE TALK 1 (engl.)

OUR WORLD IN DANGER | FOREST FIRE DETECTION FROM SPACE BY SATELLITES & ARTIFICIAL INTELLIGENCE?!

Impulse: **Osmar Bambini**, Co-founder & CIO umgrauemeio, Brazil | Talk guests: **Thomas Grübler**, CEO & Founder Ororatech; **Dr. Christoph Lamers**, Institute of the Fire Service NRW, FP ERWIN & CCFireSense; **Lindon Pronto**, European Forest Institute (EFI) Bonn; **Dr. Ulrich Cimolino**, Head of the Arbeitskreises Waldbrand, Deutscher Feuerwehrverband (DFV) und Fire director of the FW Düsseldorf (all conf.)

Global warming will also exorbitantly increase the risk of forest fires. A forest fire in Greece, for example, costs on average €1 million. Last year, there were 84 of these fires there. Not taken into consideration are the costs of reforestation, the health and economic damage to local residents and the CO2 emitted. We are looking at the issue: **How can space-based solutions help to respond faster and reduce the spread of forest fires?**

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COFFEE BREAK until 11:30 a.m.

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11:30 a.m. | FUTURE TALK 2

OUR WORLD IN DANGER | CYBERCRIME, CYBERWAR & BLACKOUT ... WHO PROTECTS THE CRITICAL (IT-)INFRASTRUCTURE?

Impulse: **Manuel Atug**, Founder and spokesman of the independent AG KRITIS, co-initiator of the “CyberHilfswerk (CHW)” (conf.) | Talk guests: **Albrecht Broemme**, Honorary President THW, Chairman of the Board ZOES (conf.); **Dr. Ingmar Baumgart**, Head of Competence Centre IT Security, Research Centre for Information Technology (FZI), Project CYBERWEHR BW; **Dr. Dirk Häger**, Head of the Bundesamt für Sicherheit in der Informationstechnik (BSI), Podcast CyberSnacks (all tbc)

In the course of the Ukraine war, the BSI identified an increased threat situation for critical infrastructures. Companies, organisations and authorities were called upon to review and adapt their IT security measures. We address the question: **How can and should a cyber aid organisation contribute to improving the threat situation in the short, medium and long term?**



12:15 p.m. | FUTURE TALK 3

OUR WORLD IN DANGER | HORNET + CAVE: HOW TO PREDICT NATURAL DISASTERS AND SIMULATE CRISES

Impulse: **Dr. Uwe Wössner**, Head of Visualisation, HLRS_HPC | Talk guests: **Cornelia Weigand**, District Administrator of Ahrweiler (tbc), **Albrecht Broemme**, Honorary President THW, Chairman of the Board ZOES (conf.); **Dr.-Ing. Sarah K. Hahn**, Presidium Member Research vfdb, Otto-von-Guericke-University Magdeburg (conf.); **Gerold Zeilinger**, University of Potsdam, Geoscience 3D-Lab, FP oKat-SIM (conf.)

Global warming will make natural disasters happen more and more frequently. We will have to deal with these extreme events - all over the world. Using the example of VR simulation of storms, the HLRS_HPC is researching possible early warning systems for extreme events. We are addressing the question: **Which computer simulations are useful so that disaster management can act earlier and in a more targeted manner?**

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10.+11.11.
2022

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LUNCH BREAK until 2 p.m.

>> MEET & GREET IN THE METAVERSE! Network
with your avatar in the metaverse

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2:00 p.m. | FUTURE TALK 4

BEAM ME UP BOTI ! | VISIONS AND CHALLENGES POSED BY THE MOBILITY OF THE FUTURE, BECAUSE UTOPIAS OF TODAY ARE THE REALITIES OF TOMORROW

Impulse & Moderation: **Dr. Isabella Hermann**, Science Fiction Scientist, Scientific Coordinator „Verantwortung: Maschinelles Lernen und Künstliche Intelligenz“, BBAW (conf.) | Talk guests: **Prof. Dr. Alexander Szameit**, Head of Experimental Solid State Optics, University of Rostock (conf.); **Gabriele Semino**, TUM HYPERLOOP (conf.); **Balazs Nagy** / **Christopher Mühlbach**, HORYZN, Aerospace TUM; **Prof. Dr. med. Stephan Prückner**, Research Project Volocity (all tbc)

New speeds, new autonomies and new realities are influencing our possibilities of getting from A to B. Warp drives with superluminal speed and beaming for everyone are utopia, and yet research is already being successfully conducted into real teleportation possibilities with quantum computers. We deal with the question: **What do the emergency scenarios of the future look like and how do we prepare for them?**



2:45 p.m. | FUTURE TALK 5

LESSONS LEARNED @ METAVERSE?! | LEARNING AND LIVING IN YOUR/A DIGITAL PARALLEL WORLD

Impulse: **Sebastian Klöß**, BITKOM, [Signpost Metaverse](#) | Talk guests: **Dr. Christoph Runde**, Geschäftsführer VDC Fellbach (conf.); **Stephan Bauer**, Microsoft Deutschland (conf.); **Martin Zimmermann**, Vorstand VDC St. Georgen & Fellbach, CEO imsimity (conf.); **Constanze Osei**, Meta EMEA (all tbc)

The current hot topic in the field of digitality is called "Metaverse" - the new world next to the world. The walk-in online spaces are called Spatial, Viverse, Mozilla Hubs or Horizon - the latter in particular pushed by Marc Zuckerberg and his company Meta as a centralised mixed reality platform for all aspects of future digital life. We are concerned with the question: **What is the meaning-giving potential of the metaverse in the field of education / lifelong learning?**

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VIRTUAL FIRES CONGRESS

10.+11.11.
2022

St. Georgen | #VFC22

COFFEE BREAK until 4 p.m.

>> MEET AGAIN IN THE METAVERSE! Familiarise
with the communication of the future ...

(invitation only)

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4:00 p.m. | FUTURE TALK 6 (engl.)

AI 4 GOOD | A (CO)ROBOT - YOUR FRIEND AND HELPER?! | AI-ASSISTED ROBOTICS TO AID AND PROTECT RESPONDERS IN HOSTILE LIVE ENVIRONMENTS

Impulse & Moderation: **Nicola Rupp**, Deutsches Rettungsrobotik-Zentrum (DRZ) (conf.) | Talk guests: **David Hanson**, Founder & CEO Hanson Robotics, Omdea Community “Sophia Project”; **Dr. Sirko Straube**, Research Manager at DFKI, Initiator Podcast Think Reactor, Member of Germany's AI Platform Lernende Systeme (conf.); **Dr.-Ing. Arne Rönnau**, FZI / KIT, FP ROBDEKON; **Armin G. Schmidt**, CEO & Co-Founder German Bionic; **Rafael Hostettler**, Founder & CEO Devanthro GmbH (all tbc)

Research is striving for cooperation between humans and robots, in which robot operators are relieved by autonomous assistance functions and can thus increase the performance of the task forces. We deal with the question: **What are effective robot deployment scenarios and where are the boundaries in the future as well?**



4:45 p.m. | FUTURE TALK 7 (engl.)

ON THE WAY TO THE CYBORG?! | THE FUTURE HUMAN WITH FULL BODY TRACKING, BRAIN CHIP AND AR-LENS

Impulse: **Sergei I. Nossoff**, CEO TeslaSuit (conf.) | Talk guests: **Dr. Tanja Schulz**, Professor for cognitive systems at University of Bremen; **Prof. Dr. Stefan Selke**, Hochschule Furtwangen University; **Abhivyakti Gautam**, Neuralink BCI / BMI, U.S. (all tbc)

Digital wearables are already available on the market in many different forms. Smart wristwatches were the beginning - the world's first augmented reality contact lens is the current attempt to integrate digital added value into life even more easily - without cumbersome headsets. We are looking into the question: **Which future wearable solutions would be suitable for efficient use in civil defence or rescue services and in what form?**

ca. 5:30 p.m. | End of the online programme

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10.+11.11.
2022

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EVENING BREAK until 7:00 p.m.

>> XCHANGE XPERTS & NEW BLOOD | KIPPYS ...

Networking Dinner for old hands and young talents

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FR | 11.11. | GET TO KNOW XR - **TRAINING MODULES WITH AR & VR TECHNOLOGY**

10:00 a.m. | Greeting | #VFC22 REGIONAL | BEST PRACTICE ON-SITE

with Martin Zimmermann & the insimity Team | on site at the XRTZ, Technologiezentrum St. Georgen

**11:00 a.m. | Lecture & Demo | Use of MR/VR technology in training at the
Hessischen Landesfeuerweherschule**

Dr.-Ing. Heiko Neumeyer, Leadership Training Department, Disaster Prevention and Digital Learning
Section, **Hessian State Fire Brigade School** (conf.)

Abstract follows ...



FRI | 11.11. | FOREST FIRE OPERATION

THE EU CONCEPT FOR SUPRA-REGIONAL TRAINING

12:30 p.m. | Lecture & Demo | AR drone deployment for life-saving medical deliveries using the Hololens as an example

Britta Rudolphi, Head of Technology Innovation & Business Development @ vodafone, **Mohamed Azzahhafi**, Master student, Vodafone Innovation, 5G Mobility Lab in Aldenhoven (tbc)

The use of gesture-controlled augmented reality (AR) drones can be useful in two ways: Firstly, control by hand or head movement is much more intuitive than previous navigation devices and thus easier to learn for rescue workers, for example. On the other hand, the controller's field of vision can be digitally extended by the virtual marking of the drone. This makes the position of the drone easier to recognise even in unclear situations, which can significantly increase safety during flight operations.



FR | 11.11. | EINSATZ WALDBRAND - **EU CONCEPT FOR SUPRA-REGIONAL TRAINING**

2:00 p.m. | Lecture or workshop followed by best practice demo |
New training methods for vegetation firefighting involving inclusion of fire-fighting vehicles (working title)

Christoph Schaaf, Lecturer Department IV.2 "Risk and Crisis Management - National", Bundesakademie für Bevölkerungsschutz und Zivile Verteidigung (BABZ) im Bundesamt für Bevölkerungsschutz und Katastrophenhilfe (BBK) (tbc)

The BABZ develops a comprehensive training programme, which they implement together with their network and participating fire brigades. The whole programme is supported by the forest fire experts of the [organisation @fire](#) with extensive experience in vegetation firefighting. [>> Watch the film ...](#)



FR | 11.11. | WORKSHOP

DRONES IN THE VOLUNTEER FIRE BRIGADE

from 15:30 p.m. | Lecture & Demo | situation assessment with digital drone images & multi-stereo photogrammetry technology |

on site at the TZ St. Georgen & Outdoor

Thomas Weisser, Commander of FFW Gremmelsbach (conf.)

Lecture approx. 45-60min, afterwards **flight demos with different drones**

In the field of building exploration, the potential of 3D capture for visualisation in virtual reality (VR) is being recognised more and more. Changes in fire development due to new materials and construction methods pose dangers for the emergency services. Therefore, it is even more important to be well prepared for an emergency scenario. We provide an insight into how photorealistic 3D models are created using photogrammetry and can be used for situation assessment and training.



FR | 11.11. | BEST PRACTICE | **DRONES IN THE VOLUNTEER FIRE BRIGADE** | AGENDA:

- Creating digital georeferenced mission & environment plans using drones in 2D+3D
- **2D maps** | real-time mapping | 2D reconstruction in high resolution
- **3D model** | 3D mapping in real time | 3D reconstruction in high resolution
- **Data analysis**, 2D+3D Measurements | Measurements with User-Friendly Tools for Distances, Areas and Volumes
- **Flight order** creation | **Data reconstruction** function
- **Practical examples** from the areas of single farmstead, city centre, industrial plant & wind turbine
- The following drone was used to create the images and data: **DJI M300 with P1 camera**

16:30 | Demo | Presentation of the BOS Drohne DJI Modell M30

Meeting point: large car park next to the Stadthalle St. Georgen (footpath from TZ to Hochwald approx. 5-10 min.)

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FR | 11.11. all day

VIRTUAL FIRES youth AWARD 22





FRI | 11.11. | VIRTUAL FIRES YOUTH AWARD

from 9:30 a.m. | Onboarding of the Galactic School Creativity Teams ;-)

On site at TZ & Klosterbergfabrik St. Georgen

(or online in Zoom + with your avatar in CyberCinity, depending on pandemic boundary conditions, >> after your registration you will receive the access links two days prior to the event | participation possible with PC, laptop, tablet, smartphone or VR glasses)

VIRTUAL
FIRES
youth 
AWARD 22

10:00 a.m. | INTRODUCTION

Presentation of the teams

Introduction of the mentors:

Dr. Ulrich Grüneisen (conf.) | Albrecht Broemme (conf) | Erwin Schnell (conf.)

Prof. Jirka Dell´Oro-Friedl (conf.) | Prof. Marion Meinert (conf.)

& a team of students from HFU (all tbc)

Moderation | Start-up BW Young Talents Team



FRI | 11.11. | VIRTUAL FIRES YOUTH AWARD

Create your safe world! *Create a/your safe world!*

Categories:

- A) **BENEFIT OF BEING A CYBORG** or BEING AN **AVATAR@METaverse** | *The added value of being a Cyborg or an avatar in the metaverse*
- B) UTOPIAN **SOLUTIONS** FOR THE RESCUE SYSTEM OF **FUTURE MOBILITY** | *Utopian solutions for the rescue system of future mobility*
- C) **SAVE NATURE** & HUMAN BEINGS WITH PREVENTIVE **SECURE ACTIONS** | *Protect nature and people through preventive safety measures*

SEVEN FUTURE TALKS.
THREE CHALLENGES.
ONE WINNING TEAM.

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youth
AWARD **22**





FR | 11.11. | VIRTUAL FIRES YOUTH AWARD

Create your safe world! *Create a/your safe world*

Timetable:

10:30 a.m. | Intro **Creativity techniques** “Design Thinking & WOL” | **Start-up BW Young Talents Team**

11:00 a.m. | **Speed Challenge 1 of the teams** | Idea generation & development | **Supervision by your mentors according to the buddy principle**

13:00 a.m. | Lunch break

02:00 p.m. | **Presentation techniques** “Pitch & Petcha Kucha” | **Supervision by the Start-up BW Young Talents**

02:30 p.m. | **Speed Challenge 2 of the teams** | Preparing and practising presentations | **Supervision by your mentors according to the buddy principle**

04:15 p.m. | **Pitch of the teams** in front of the jury

06:00 p.m. | Break for the teams | Voting in the jury

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2022

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EVENTING BREAK until 7:00 p.m.

>> AWARD VIRTUAL FIRES YOUTH AWARD

WINNER | KLOSTERBERGFABRIK ST. GEORGEN |

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GENERAL NOTES

****PROGRAMME WORK IN PROGRESS****

UPDATES & REGISTRATION FOR THE INDIVIDUAL PROGRAMME ITEMS:
WWW.VIRTUAL-FIRES.DE

Subject to change without notice

The #VFC22 team is looking forward to receiving **sponsor enquiries to support** the provision of free tickets for volunteers and young people in BOS organisations.

Feel free to contact Tina Cizmek / Barbara Zimmermann:

kontakt@virtual-fires.de

