

Mobile patient monitoring

Small, lightweight, close to the brain.



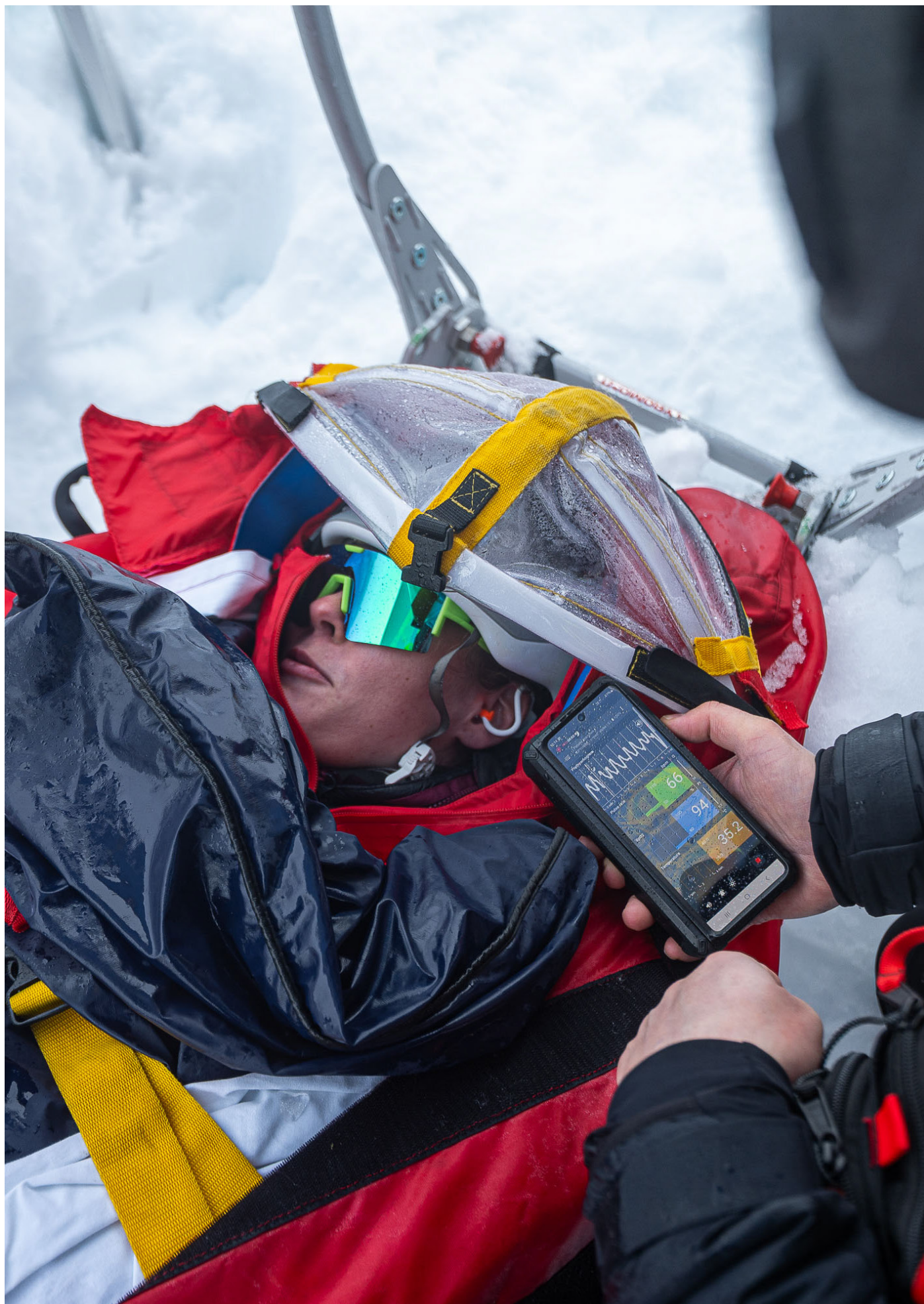
COSIRUSS[®]
by **corpuls[®]**

The ultralight solution for mobile patient monitoring

For health professionals
in rough & challenging environments

Ultralight patient monitor that can be carried in the pocket:
An in-ear sensor and a smartphone application to monitor your
patients' vital signs close to the brain. Getting access to vitals
even when there is bad perfusion in the finger.

- One device
- 5.5 cm
- 6.5 g
- Three vitals:
Body temperature, oxygen saturation, pulse rate
- Additional parameters:
Perfusion, Quality index, pulse wave
- Inside the ear canal
- Close to the brain



Slovenian Mountain Rescue Association (GRZS) | Staged scene: Alpe Adria Mountain Rescue Practical Exercise

Benefits

One device – three vital signs

The c-med[®] alpha captures oxygen saturation (SpO₂), body temperature and pulse rate continuously. In addition, it provides the PPG curve, perfusion index and the quality index, which indicates measurement accuracy.

Close to the brain

The sensor is applied inside the outer ear canal and is monitoring the vital signs close to the brain. This measuring site not only enables access to readings even in cold weather and during bad perfusion in fingers but may also provide additional information about oxygen supply to the brain itself.

Fast access

The sensor can be placed in the patient's ear swiftly as the head is usually exposed first during the initial assessment. This allows rapid deployment without requiring the patient to be exposed further for monitoring.

Simultaneous access on multiple devices

Multiple devices are able to receive and visualize the data of the same patient at the same time which allows several medical professionals to look at one patient. This ability is especially valuable when a patient is passed on to another healthcare provider and improves coordination in complex scenarios.

Wireless connectivity

The wireless design eliminates the need for cables, making the sensor suitable for tight spaces, air transport, and areas where cables would hinder operations. Its flexibility enhances usability in difficult-to-access locations.

Real-time data transfer, no internet required

The implemented wireless technology allows real-time, near-field data transmission without the need for an internet connection. This ensures monitoring anywhere since no network access is needed.

Continuous access to body temperature without the need for a temperature probe. In-ear sensor is continuously measuring the temperature (IR) inside the ear canal. When covered appropriately, also possible in lower outside temperatures.

In addition, the measuring site is always supplied with blood, which ensures the possibility and accuracy of the measurements.



Photo: cosinuss®

22-43 °C

For use in hypothermic patients as well.

5.5 cm

Slim & small, fitting easily in the pocket.

6.5 g

Lightweight champion.

Breaking boundaries

– mobile patient
monitoring in the
world's toughest
environments







Focusing on patient safety

Martin Flugrettung, a leading force in Austrian air rescue, has significantly enhanced patient safety and rescuer efficiency through the adoption of the cosinuss° mobile patient monitoring solution. The use of a small, ultralight in-ear sensor and a smartphone app proves invaluable in challenging situations, particularly when patient access is restricted or clothing removal is not advisable. This technology showed to be a crucial support, especially when bulky monitoring devices are unsuitable or not usable.

The c-med° alpha enabled reliable and effective patient monitoring, even in cases of poor finger perfusion or hypothermia, where vital parameters can still be accurately derived from the ear canal. It has also proven vital in situations where esophageal probes are not feasible, allowing for the monitoring of temperature-related complications nonetheless. Moreover, the technology's ability to function in challenging terrains, such as during avalanche situations or when treating hypothermic patients, makes it exceptionally beneficial.

In conclusion, the cosinuss° technology has emerged as an innovative and indispensable asset for patient monitoring and care at Martin Flugrettung, ensuring reliable data even under the most extreme conditions.

- Martin Air Rescue: Over 4,000 missions every year
- Access vital signs data when other systems fail
- Patients require no clothing removal
- Reliable monitoring even under extreme conditions



First responders do not need to transport bulky equipment and can monitor wirelessly.

Photo: cosinuss® | Staged scene

Due to the time spent in the snow body temperature is one of the decisive parameters in avalanche rescue.



Photo: cosinuss® | Staged scene



Upper Austria: The c-med° alpha – a game changer in mountain rescue

Weight, size, and functionality of medical devices are of enormous importance in mountain rescue. The ultralight patient monitor from cosinuss° has proven to be a true “game changer” and has been used by the Mountain Rescue Upper Austria teams since early 2024.

After using the technology for a year, the Austrian mountain rescuers value it greatly because continuous body temperature monitoring is particularly crucial in alpine environments. The c-med° alpha enables precise temperature measurement in the ear canal, which had been a big challenge before.

The introduction of the c-med° alpha into the teams went smoothly, with high acceptance among rescuers from the start. Numerous missions were completed where the monitor provided crucial information, especially during pain management and temperature-critical rescues. With the c-med° alpha, the Austrian Mountain Rescue organisation did not only increase patient safety but also streamlined their workflows.

- Mountain Rescue Upper Austria:
23 local stations, more than 861 volunteers
- Quickly adopted by the team
- Crucial for continuous temperature measurement
- An integral part of the equipment

„It's lightweight, wireless, and has a long battery life. These features are incredibly advantageous in alpine operations.“

– Dr. Tobias Huber, state medical director
and deputy federal medical director



Photo: cosinuss® | Staged scene



Disaster resilience reinvented

— scalable remote
vital monitoring
for crisis response

Photo: AdobeStock | Symbolic image

Improving emergency care in rural areas

Gaining overview in critical situations

(NO-FEAR, ESCORT)



In the future, we aim to improve the efficiency and effectiveness of emergency care in rural areas. A pilot project is initiated to help provide the same level of emergency care as in urban areas, which can be based on the existing personnel.

The idea is to equip the responsible personnel, independently of their medical knowledge, with the cosinuss° monitoring solution and enable them to get help on site from remote experts. This is achieved by monitoring and transmitting the patient's vital parameters and receiving advice from remote experts. Even decisions about additional help can be taken remotely, thus potentially decreasing costs of rescue immensely.

New possibilities arise within emergency medical response in mass casualty incidents. The cosinuss° monitoring solution enables not just quick and easy access to relevant vital parameters of each patient and thus continuous triage. It is also displaying all patient data on one central screen thus enabling medical personnel to continuously oversee all patients and react to changing health conditions.

This and other aspects of the technology are the reasons that it was chosen and presented by the NO-FEAR project (financed by the European Commissions under Horizon 2020) as the most helpful innovation and is now included into the follow-up project named ESCORT, which, among others, will demonstrate how the use of the cosinuss° technology can enhance the resilience of the healthcare system in case of natural disasters.



Mobile patient monitoring in offshore operations

Delivering healthcare services on offshore platforms face exceptional challenges due to extreme weather, limited access to professionals and equipment, and long response times.

The c-med° alpha in combination with the cosinuss° Health app proved to be ideal for continuous, precise and space-saving monitoring of vital parameters in offshore and remote environments. The patient monitoring solution is valued as reliable, particularly in high-altitude rescue operations on offshore platforms. The sensor offers X-Strategies teams the advantage that it can be easily and simply integrated into the operation without burdening the patient.

cosinuss° technology has the potential to further revolutionize the medical services, by implementing more vital signs and integrating the data into existing systems. Thus, the technology could help take medical care to a new level and significantly improve the safety of teams and patients.

Patrick Ackermann, founder of X-Strategies, also sees great potential in integrating the technology into their training courses for medical staff and laypersons in order to further optimize operational readiness and decision-making.

- Continuous, precise and space-saving monitoring of vital parameters
- Supports in making informed decisions
- Very reliable in high-altitude on offshore platforms
- Easy and simple integration without burdening the patient

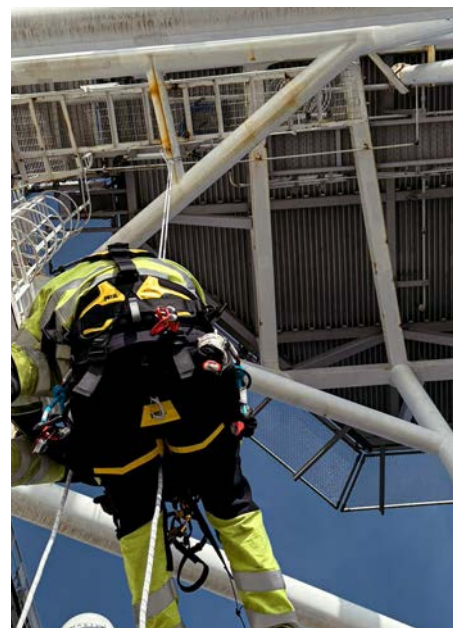
„Incorporating these sensors enables us to deliver even more precise and rapid remote care.“ – Patrick Ackermann



The orange transport and charging box contains two c-med® alpha sensors and fits easily into a jacket pocket.



Handing the device to the height rescuer allows for immediate use.



All Photos: Patrick Ackermann / X-Strategies | Reportage shot



Patient monitoring in heights and depths

Special rescue from heights and depths (SRHT) involves searching for, rescuing, providing emergency care for, and evacuating people in challenging environments. Regular practice is essential for quick, safe responses. The Training Center Retten und Helfen (TCRH) in Mosbach, also known as Disaster City, offers an ideal environment for practical training.

Axel Manz, a leading expert and founder of Global Special Rescue Solutions (GSRS), provides professional training in complex rescue scenarios and tested the cosinuss° patient monitoring solution under extreme conditions during a TCRH seminar.

Tested scenarios included a rescue from height on the training tower and evacuating a trapped person from a simulated building collapse via a narrow tube. In both cases, rescuers would lack vital sign data without cosinuss° technology, making critical decisions more difficult.

Advantages demonstrated during the trials include: Quick access to vital signs through the in-ear sensor, the convenience of one device replacing multiple instruments, reliable measurements due to sensor placement near the internal carotid artery, continuous monitoring during transport, multi-view options for team coordination, and automatic documentation in the °Health App. This pocket-sized solution enhances efficiency and safety in specialized rescue operations.

- Quick access
- One device instead of many
- Valid measurement
- Multi-view option



The vital signs can be monitored during the entire rescue process, including transportation with ropes...



... or through tubes. There are no cables that would make monitoring during transport impossible.



Photo: cosinuss® | Staged scene



Smart, mobile monitoring for mass events

– supporting
first responders
at scale

Continuous patient monitoring during the Oktoberfest 2023

cosinuss° established a continuous patient monitoring system across all stretchers, the triage area as well as all stationary areas. This way, patients were monitored completely continuously on their pathway through the Oktoberfest's healthcare services provided by AICHER Ambulanz Union: From first aid, transport on the stretchers, triage in the ward to inpatient monitoring of patients as well as telemedical services.

The c-med° alpha captured vital signs, displaying them on paramedics' mobile phones during transport and automatically switching to the central monitor upon arrival. Continuous monitoring ensured seamless transitions throughout the patient pathway until discharge.

Patient monitoring at the Hamburg Marathon

cosinuss° equipped the mountain rescue teams during the Audi FIS Ski World Cup in Garmisch-Partenkirchen with its ultralight patient monitoring system, ensuring continuous and mobile tracking of athletes' vital signs on the slopes, if necessary. The innovative in-ear sensor and associated app was used when medical aid was necessary and first aid was provided by the staff on the grounds.

High-tech for the slopes during the Audi FIS Ski World Cup

Over 15,000 runners, around 500 first aid missions – in a joint pilot project, the Hamburg Altona and Mitte district association of the German Red Cross (DRK) used cosinuss° patient monitoring technology to monitor the vital signs of participants in the Haspa Marathon Hamburg 2024 during medical care. In addition to DRK, helpers from Johanniter-Unfall-Hilfe and Malteser-Hilfsdienst were also present. The first aiders used the cosinuss° patient monitor in the care and intensive care area of the Medical Center. The values measured with the cosinuss° system could be compared with the reference devices. The feedback was very positive, as the in-ear sensors and the app were easy to use and impressed all the helpers.



62342



Tactical medicine reinvented

— advanced
monitoring for
prolonged field
care



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43

1.5 123.744845258.4

654.2



NETWORK.....



1.380

640.198
640.002

784.023

941.782

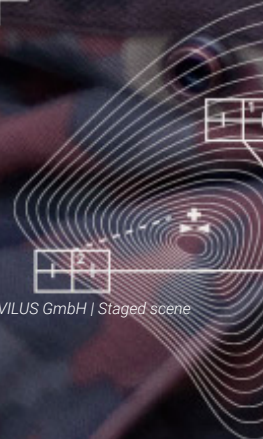


Photo: AVILUS GmbH | Staged scene



Filling gaps in patient monitoring in challenging environments

Medical personnel working on the frontlines face extremely challenging conditions. Here, every technological advantage counts. cosinuss' small and lightweight patient monitoring solution has proven to be a vital asset for paramedics and medics in these situations.



In close collaboration with several partners, cosinuss° has delivered sensor units to frontline teams in Ukraine where they use the monitoring system in military medical evacuation missions. Their feedback confirms that the system offers significant benefits in mobile monitoring, opening up new possibilities for patient care even in the most challenging operational settings.

According to statements from paramedics on-site, the solution enables medical teams to assess patient conditions more accurately and make informed decisions in real time. This capability is critical in ensuring that patients receive the appropriate level of care under extreme circumstances.

These insights from Ukrainian medics reinforce our commitment to supporting medical professionals in challenging environments. By advancing mobile patient monitoring, we make critical care accessible where no alternatives exist. We remain dedicated to collaborating with on-site medics and partners to continuously evolve our solutions, ensuring our technology meets today's demands and tomorrow's challenges

- Improved health monitoring and enhanced decision-making
- Monitoring multiple patients

- Useful thresholds and notifications
- Hypothermic patients
- Enabling monitoring in more situations

Medics at the frontlines state that traditional finger probes very often yield less accurate readings.



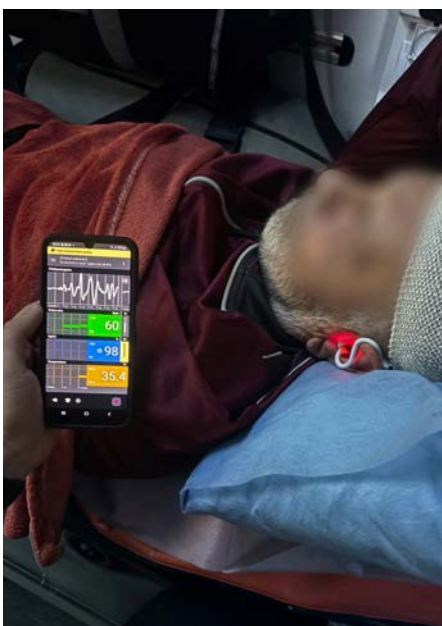
Photo: Tactical Medicine North

The cosinuss° solution enables medical teams to assess patient conditions more accurately.



Photos: Several partner organizations and the users

Monitoring of patients with the c-med° alpha and the °Health App.



Photos: MKM SERVICE LTD

Kevin Krausse

Medical care in hostile operational scenarios

Rescue missions in the military sector and especially special operations not only present medical teams with extraordinary challenges, but are also very dangerous for patients and soldiers.

Hostile and remote areas, opposing combat forces, weather conditions, limited access to medical care, and long and complicated routes to clinical facilities require specialized solutions to safely care for patients.

This is exactly where the former medical advisor to the Bundeswehr's Special Forces Command, Kevin Krausse, worked

for over 12 years. Today, Mr. Krausse supports our sales team with his experience, know-how and network to provide medical teams with the technology that can effectively support their work.

C

Mr. Krausse, you mainly worked as a medical leader and advisor in the Bundeswehr (German Armed Forces).

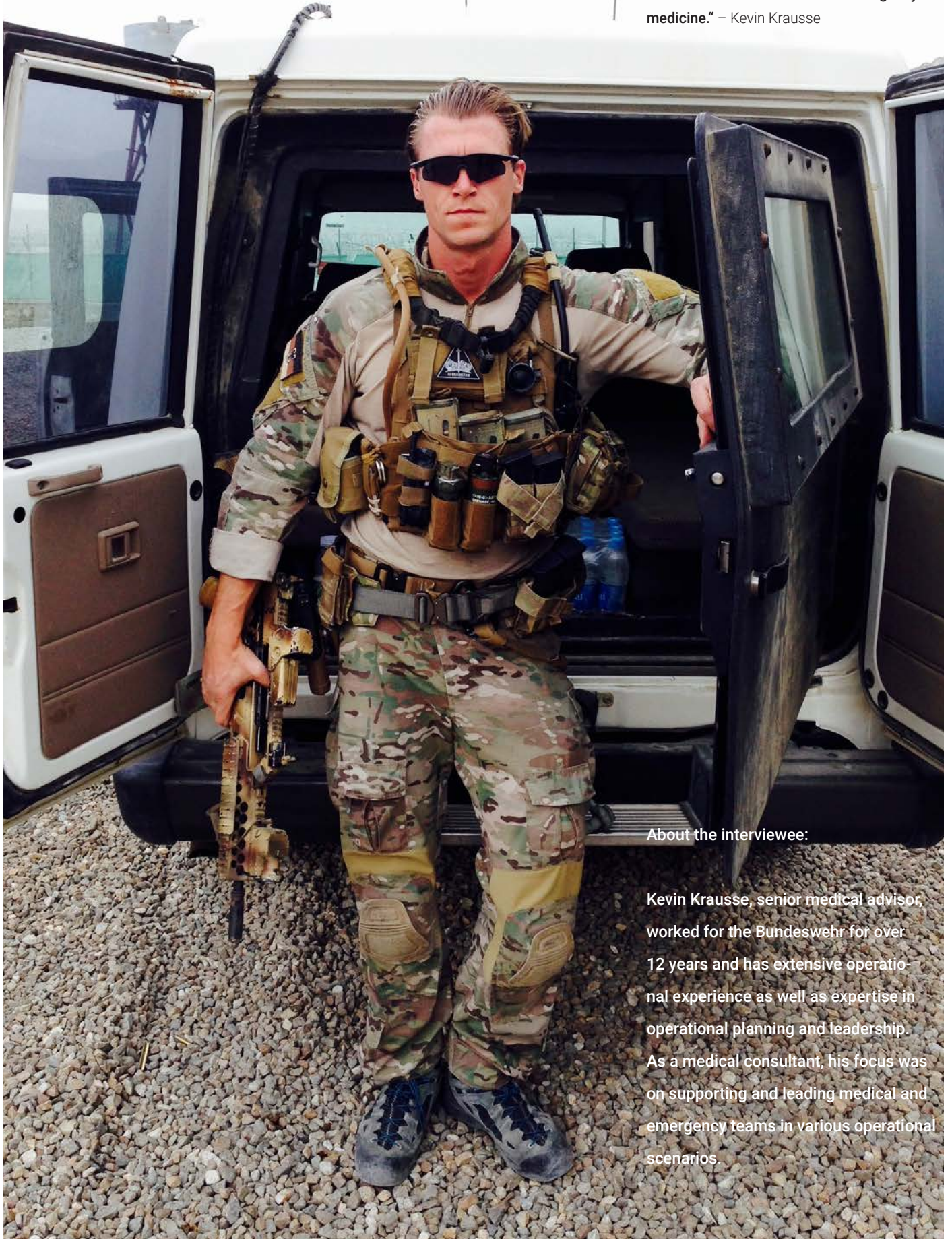
How did you come to this?

K

After graduating from high school, I was called into basic military service and coming from competitive sports,

Interviewer: Melanie Schade (cosinuss®)

„The c-med° alpha was recommended to me as a new and interesting tool by an acquaintance from the field of tactical emergency medicine.“ – Kevin Krausse



About the interviewee:

Kevin Krausse, senior medical advisor, worked for the Bundeswehr for over 12 years and has extensive operational experience as well as expertise in operational planning and leadership. As a medical consultant, his focus was on supporting and leading medical and emergency teams in various operational scenarios.

Photo: Kevin Krausse

the camaraderie, the team spirit and the physical challenge appealed to me very much, especially in the area of the elite units.

C

You were also active in the KSK (Special Operations Forces), which is a very prestigious position. Many relevant special operations forces around the world look to the KSK. At the KSK, you were also responsible for medical care. Can you tell us more about your activities there?

K

After previous assignments in the specialized forces of the Bundeswehr, I was recruited by the KSK in 2011 for a team leader position in the field of medical support for the special forces, which I filled after an 18-month medical/tactical training with the US Special Forces. In the main focus, I was responsible for the following with my team, including doctors:

- The planning and implementation of rescue chains in various countries/regions of operation
- Basic medical care in operations and on exercises
- Emergency medical care during missions/special operations
- Advisory for higher ranked decision makers
- Medical training of various tactical forces

C

What special challenges did you and your colleagues have to face in medical care at the KSK?

K

The biggest challenge or special thing about the job was the independent/self-reliant work with the tactical elements and the great responsibility associated with it, without having a real fallback level. Most of the time, you were responsible for a lot of people during the missions and only equipped with a small emergency ambulance/intensive care unit in the form of a backpack on your

back. Our equipment contained the best and newest, but we were still very limited in scope.

C

Can you give us a rough impression of what a common deployment scenario looks like and what tasks and responsibilities you have?

K

Much is now known about the KSK and its tasks. Nevertheless, I do not want to go into too much detail on this question. To put it simply, we were given an assignment, immediately afterwards we went into planning the implementation with all responsible persons, and finally instructed all persons including the leadership team.

Here I was responsible for the risk assessment and advice on the tactical elements, the rescue chain (how does the injured person get to the clinic), the special material to be carried such as blood products, agreements with external players such as helicopter crews, etc. If our plan was approved, I then of course accompanied the elements and ensured medical care and evacuation if necessary.

C

What would the same scenario look like if you were to use the mobile cosinuss° patient monitor?

K

It would have made a lot of things much easier. Often initially, I was alone responsible for the patients and especially in the first few minutes there is too much to do at the same time so with the injured you are limited to feeling pulse and blood pressure at the beginning, observing / feeling breathing and weighing up whether it is sufficient / efficient. With very critical patients and if the situation allowed, I got a colleague who counted the values for me precisely or I had the opportunity to connect monitors later on, but only in the helicopter on the return flight.

The only easily usable monitor was the finger pulse oximeter for oxygen satura-

tion and pulse, which I always tried to use as early as possible, but unfortunately it was not always usable or reliable due to the well-known disadvantages of peripheral measurements.

The cosinuss° patient monitor would have been much better and also easier to use, especially since it provides me with more data, especially if the blood pressure can still be established and everything can be viewed in real time via the app. It would be also very helpful if other players in the rescue chain such as receiving clinics can access the data and the historical curves of the vital parameters.

C

How did you become aware of cosinuss°?

K

The c-med° alpha was recommended to me as a new and interesting tool by an acquaintance from the field of tactical emergency medicine.

C

You already have tested the mobile cosinuss° patient monitor yourself. What added value does this technology offer you in special operations?

K

It simplifies the work on the patient, creates "free hands" and makes your head a bit freer, as you no longer have to have the constant thoughts of the possible change in vital parameters or the associated reassessments so superficially. It is also easier to use, as it measures centrally, holds better in its position and can also be additionally fixed with simple means such as a hat, which is usually essential for heat retention anyway.

Again, I would like to emphasize that if the additional planned features are available, you would have a small device that covers all important vital parameters in monitoring. That would be absolutely groundbreaking in my eyes and I definitely think about it from time to time or

have conversations about what might have been easier or better on some nights if you had had this opportunity.

C

In which (other) areas do you see the future use of the cosinuss° patient monitor?

K

Coming from the special operations forces, I also see areas of application in training and education. With the possibilities of this simple monitoring this could also allow conclusions to be drawn, e.g. resilience, and could thus support psychological screenings. It could be used for areas of human performance enhancement and optimization in special operations forces or for competitive athletes.

For tactical emergency medicine, it is also highly valuable for the area of Prolonged Field Care (PFC). This is referred to as intensive care medicine and nursing work. In my opinion, the product would be the ideal all-rounder, especially because of the small, light pack size compared to other patient monitors.

In the clinical setting as well as in pre- or post-operative patients (at least for most routine procedures), the c-med° alpha is certainly sufficient and makes life easier for both patients and staff, but also for monitoring in emergency rooms or peripheral wards.

Extreme sports or high-risk professions are also an exciting field in my opinion. Extreme mountaineers, divers, companions of expeditions in difficult climate and vegetation zones also benefit from the use.

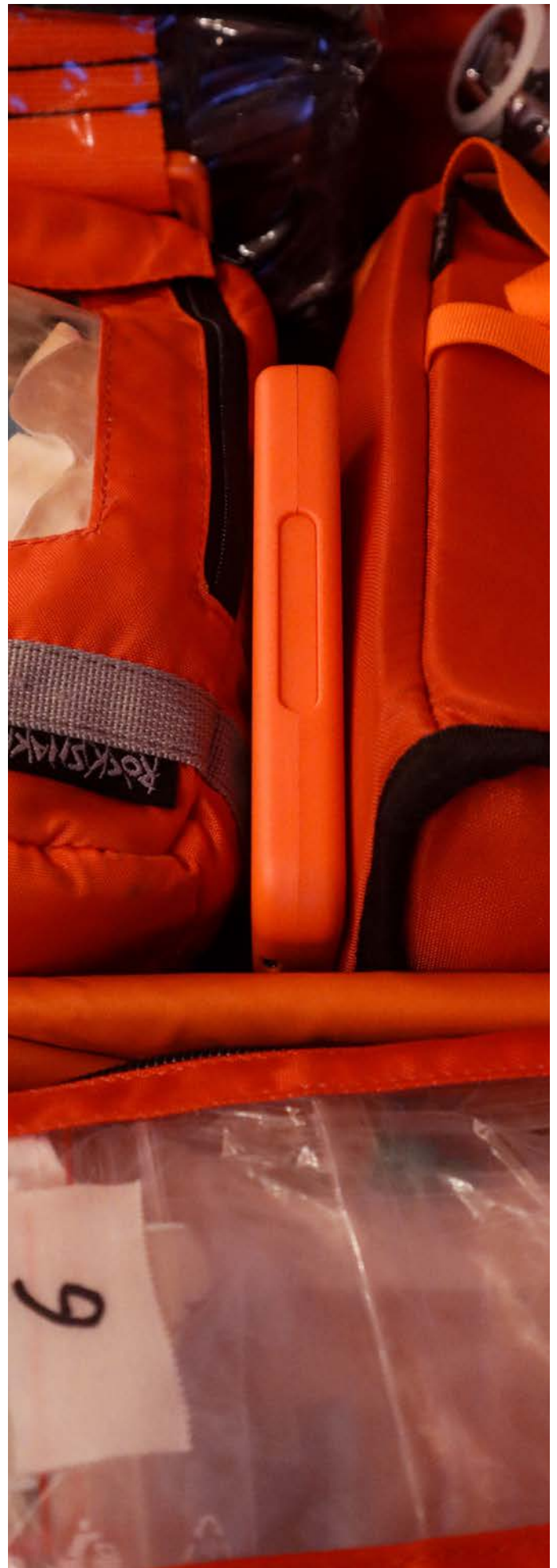


Photo: cosinuss°

Studies

Our goal is to give healthcare providers the tools they need to deliver the best possible care to their patients. Thus, we are continuously developing and evaluating our sensor technology.

This evolution is demonstrated in numerous studies and projects and in various use case scenarios. Our efforts range from internal studies through external collaborations with renowned universities, clinics and other companies to completely independently conducted studies that buy and use the cosinuss® technology for their purposes.

VALIDATION

Desaturation: SpO2, Pulse rate | Technical University of Munich

Temperature | Ludwig Maximilian University Hospital; Technical University of Munich; University Hospital Ulm; Hôpitaux Universitaires de Genève

Respiration rate | Technical University of Munich

Blood pressure | University of Connecticut - UConn; Texas Tech University - TTU; Ludwig Maximilian University Hospital

PRE-CLINIC

Mountain Rescue: MoReTech / MoReCPR | Ludwig Maximilian University Hospital; Bergwacht Bayern; Bergrettung Oberösterreich

Air Rescue | Ludwig Maximilian University Hospital; Heli Austria

Reanimation | Ludwig Maximilian Uni-

versity Hospital; Medical University of Innsbruck

Oktoberfest | Ludwig Maximilian University Hospital, Institute for Emergency Medicine and Medical Management - INM; Aicher Ambulanz

CLINIC

OP Monitoring Carotis | Benedictus Hospital Tutzing

OP and Post OP Monitoring | University Medical Center Göttingen - UMG

Post OP Monitoring: ProPair | Technical University of Munich

Post OP Monitoring | Technical University of Munich; University Hospital Ulm

Delir detection | Ludwig Maximilian University Hospital; Technical University of Munich

Stroke Unit: stenosis and perfusion | Ludwig Maximilian University Hospital

ICU Circadian Rhythm | University of Pennsylvania - UPenn

Sleep monitoring | Ludwig Maximilian University Hospital

REMOTE PATIENT MONITORING

COVID 19 | Ludwig Maximilian University Hospital; Technical University of Munich; Medical University of Innsbruck

Oncology: CO-SI-ONKO | Technical University of Munich

Long COVID: RAPID_REVIVE | Techni-

cal University of Munich, Charité – University Medicine Berlin, University Hospital Frankfurt, and more

HEALTH & CARE

Tuberculosis Screening | Technical University of Munich, Freundeskreis für Internationale Tuberkulosehilfe e.V. (FIT)

COPD: ESCORT | VUB Research Group on Emergency & Disaster Medicine; Magen David Adom in Israel; Università Cattolica; Karolinska Institutet Stockholm, Aristotle University of Thessaloniki

Heart failure: UNISONO | University Hospital Würzburg

Human Activity Recognition | Ludwig Maximilian University Hospital

Epilepsy: EpiTect/MOND | University of Bonn

Polyscore: INVADE | Technical University of Munich

WORK SAFETY

(Heat) Stress monitoring | Ludwig Maximilian University Hospital

Firefighters | University of Groningen

PERFORMANCE / SPORTS

Energy expenditure, temperature | Technical University of Munich; University of Bonn

Automotive | Technical University of Munich, Mercedes Benz

Hydration | Rodin Scientific

Science meets scalability

– results from cutting-edge hospital studies



Reanimation efficiency made visible

Studies have monitored blood flow and perfusion, among other parameters, during resuscitation of pigs. The recorded data shows that it is possible to clearly see how blood flow dries up during cardiac arrest and how resuscitation measures act to restart blood flow. First results indicate that even the start of ROSC could be detected by the in-ear monitoring technology.

In the future, the cosinuss° monitoring solution can support resuscitation by making the effect of the measures visible. Medical personnel receive reliable feedback on the patient's condition.

After more thorough tests, it could be even possible to set up a reanimation register with data about the efficiency of the reanimation process. Based on the gathered data it could be possible to improve resuscitation efforts and create the opportunity to save more lives.

- Co-monitoring reanimations for more than 12 months
- Potentially detecting ROSC during resuscitation
- Reliable data compared to reference measurements

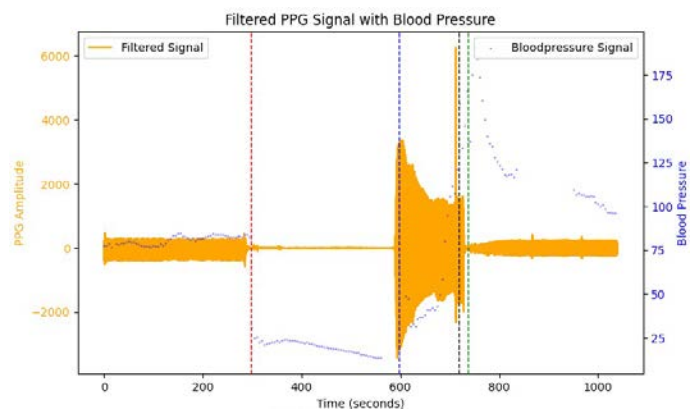


Fig. 1: PPG amplitude (measured with the c-med° alpha) and blood pressure over time during resuscitation of a pig. Depending on the measures taken (cardiac arrest, CPR, shock), the changes in PPG amplitude and blood pressure are visible. These curves may allow conclusions about changes in blood flow to the brain during resuscitation.

Publication:

Data on file.

Clinical evaluation conducted in collaboration with Ludwig Maximilian University Hospital and Medical University of Innsbruck, 2024.

Heart surgery: Temperature validation against clinical gold standard

At the University Hospital of Munich in Großhadern, a validation study for core body temperature measurements of the c-med° alpha against clinical gold standard temperature probes was conducted. During heart surgery, patients were continuously monitored with the in-ear sensor c-med° alpha in both ears and with four additional temperature probes: nasopharyngeal, vesical, esophageal and rectal.

For the duration of the surgery, patients were cooled down to as low as 22°C and rewarmed again to normal body temperature. The temperature data recorded by the probes and the c-med° alpha throughout the entire process was subsequently compared.

The results demonstrate that the c-med° alpha can accurately track core body temperature not only at near normal body temperature ranges but also in a therapeutic hypothermia setting (see fig. 1). A high agreement was found between the standard temperature measurement (esophageal) and the in-ear measurement with the c-med° alpha (epitympanic).

In addition, the authors discuss the possibility of estimating brain temperature based on the in-ear measurements due to the common blood supply through the carotid arteries and the proximity of the two body parts.

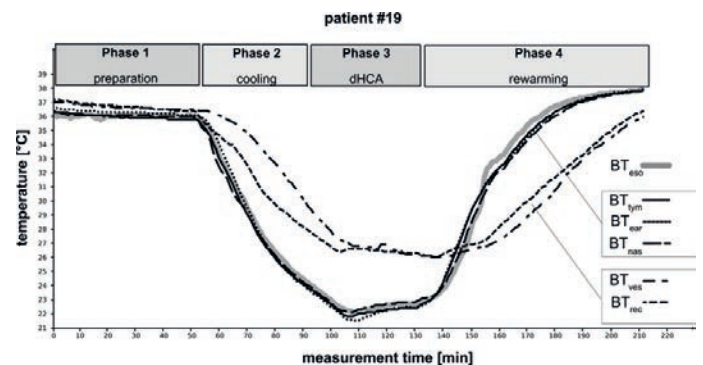


Fig. 1: Single patient comparative BT measurement results. Comparative BT data of patient #19 for all study phases. BT: body temperature; C: celsius; CA: cardiac arrest.

Publication:

Jonas Langenhorst et al. "Agreement of in-ear temperature to core body temperature measures during invasive whole-body cooling for hypothermic circulatory arrest in aortic arch surgery". In: *Scientific Reports* 14.1 (2024), p. 27607.

Desaturation study: SpO2 validation against clinical gold standard

To validate the c-med° alpha, measurements of oxygen saturation (SpO2) and pulse rate were carried out and compared with a reference pulse oximeter.

This prospective compliance study was performed on 12 healthy adults. The seated subjects were fitted with the Rad-5 finger pulse oximeter and one c-med° alpha sensor in each ear. The inhaled oxygen level was gradually reduced via a tight-fitting breathing mask (a total of five defined plateaus with stable SpO2 between 99% and 70%).

The results show that the c-med° alpha meets the accuracy requirements and can reliably measure oxygen saturation and pulse rate. The c-med° alpha therefore complies with the EN ISO 80601-2-61 standard and is sufficiently accurate for measuring SpO2 and pulse rate in healthy adults at rest.

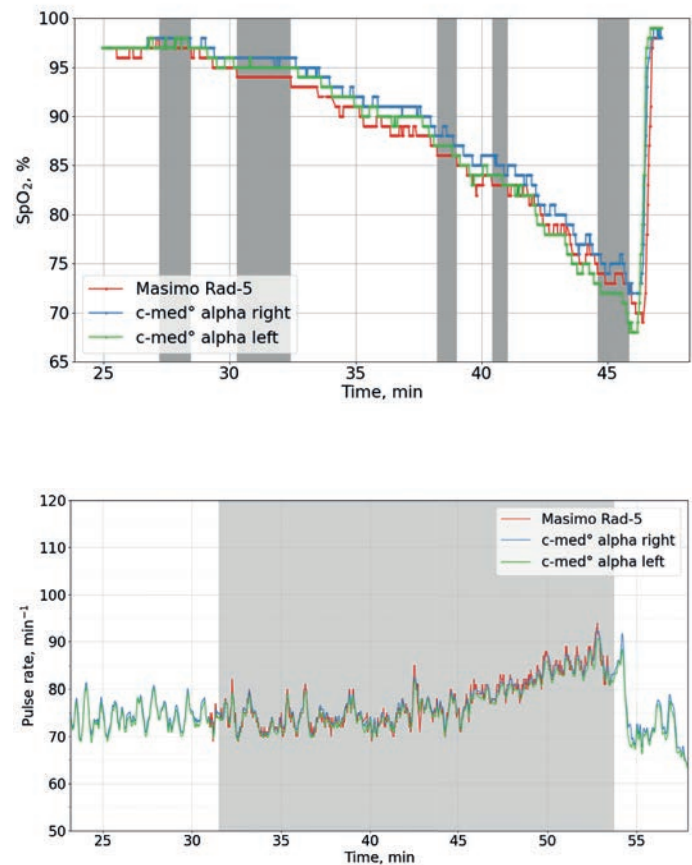


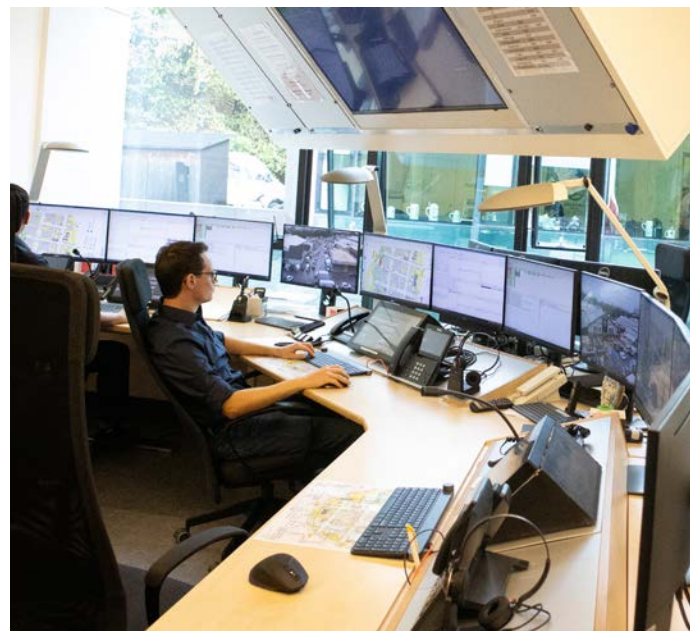
Fig. 1: Example plots. (A) SpO2 measurements with highlighted stable plateaus of consecutive SpO2 values measured with the Rad-5. Arms = 1.9% relative to the Rad-5, a non-significant bias (-0.1% (-0.2% to 0.0%)), levels of agreement from -4.0% to 3.8%, and the same repeatability coefficient (0.8% vs. 0.8%). (B) Pulse rate measurement with the time interval of the desaturation measurement. The c-med° alpha measured pulse rate did not deviate from the one measured with the certified finger pulse oximeter (bias: 0.1 min⁻¹ (0 to 0.1 min⁻¹), level of agreement: -3.6 to 3.7 min⁻¹, Arms: 1.8 min⁻¹).

Publication:

Catherina AB Bubb et al. "Wearable in-ear pulse oximetry validly measures oxygen saturation between 70% and 100%: A prospective agreement study". In: *Digital Health* 9 (2023), p. 20552076231211169.

More solutions for vital signs monitoring

The modular design and coordinated components allow the assembly of the best solution for every application. In addition to the mobile monitoring solution, cosinuss° offers a range of other options. Moreover, the mobile solution is fully expandable and can be tailored to meet evolving needs.



Stand-alone

Mobile network solution for simultaneously monitoring the vital signs of several patients in a defined area – autonomously and without an internet connection. Can be set up and used locally, regardless of location. A self-contained system, secure and reliable with a self-sufficient server solution.

Remote

Remote patient monitoring made easy: user-friendly Remote Patient Monitoring (RPM) solution for continuous monitoring and recording of vital parameters from a distance. Easy for patients, full access to data for healthcare professionals.

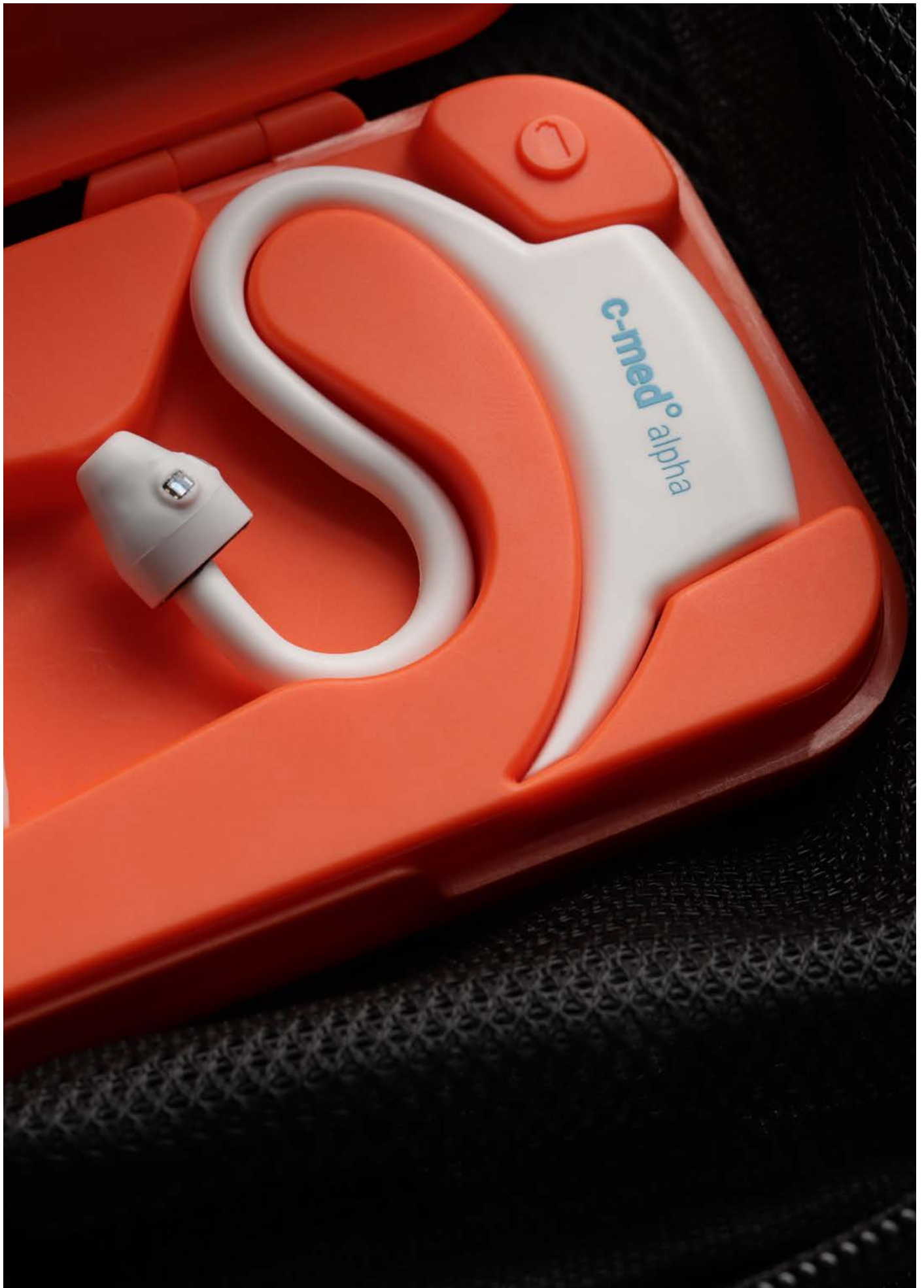


Photo: cosinuss®



Photo: cosinuss®

Cosinuss GmbH is a certified medical devices manufacturer based in Munich specializing in mobile and continuous monitoring of several vital parameters.

With more than 15 years of research and development, numerous patents and medically certified products, cosinuss° is a pioneer in the field of mobile and continuous monitoring.

Following the vision to contribute to the change of healthcare into a connected and extended organization by making essential vital signs data of patients universally available for all relevant healthcare providers.

Ortus Technologies

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COSINUSS°
by **corpuls°**