

accensors

*Smart
catheter*

make medical probes
intelligent, with retrofit
foilsensors



www.accensors.com



accensors *Printed Foilsensors*

accensors is a business unit of innoME GmbH, which was founded in 2015 as a spin-off from the Erwin Quarder Group. Today, we are an interdisciplinary team of engineers, chemists, physicists and biologists who are passionate about developing and implementing new sensor solutions at our locations in Munich and Espelkamp.

We want to realize customized and customer-oriented foil sensors, inspire our customers and end users and provide valuable and sustainable knowledge through sensor data.

Contact Us :



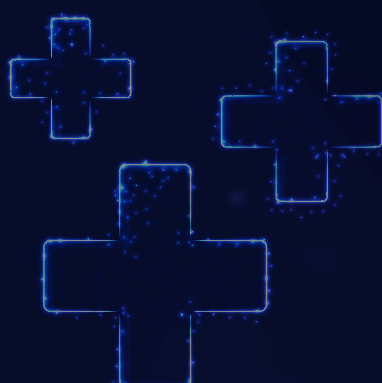
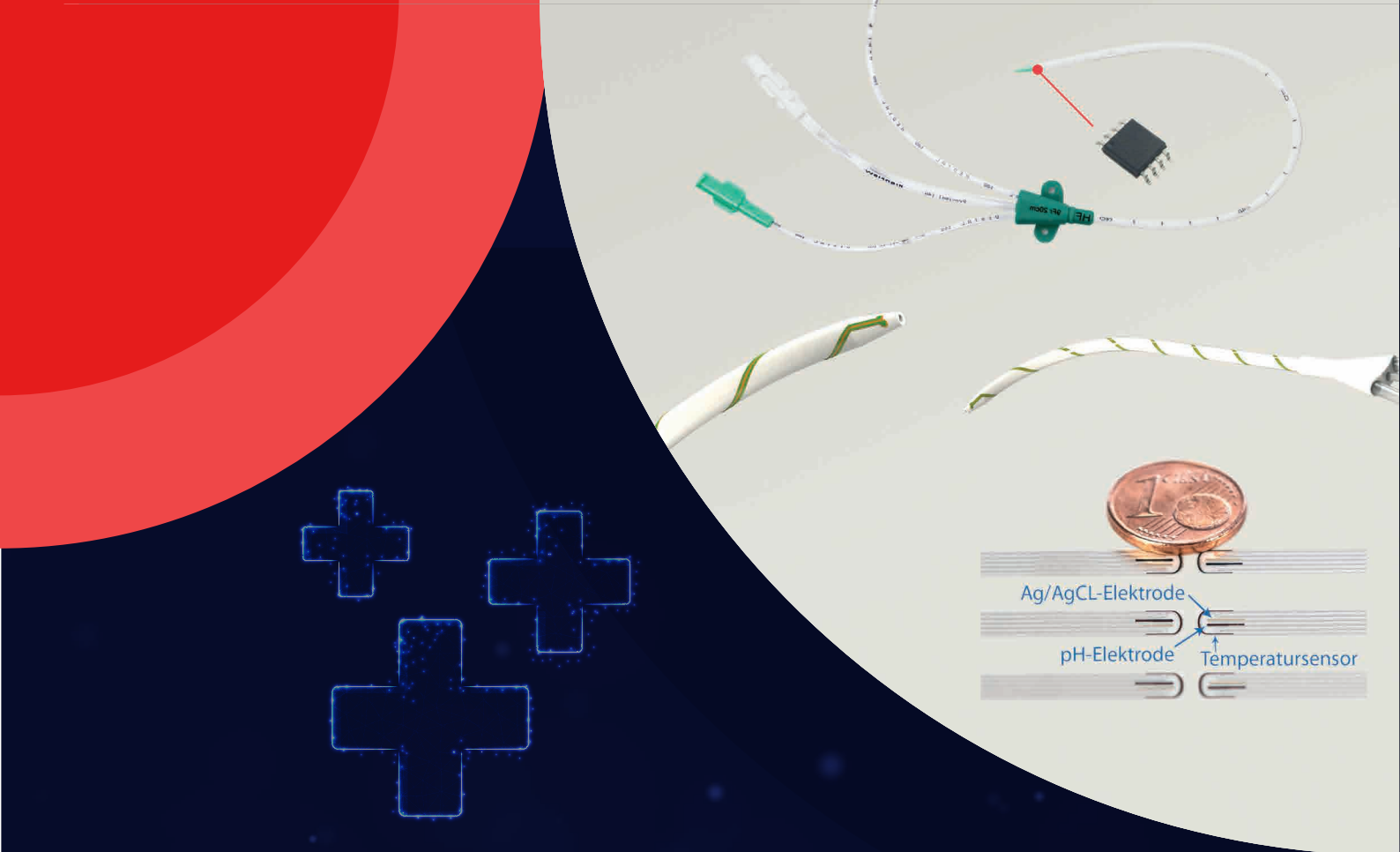
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Invasive and intelligent

More safety, more insights through smart catheters and probes.

Our technological progress shows particularly meaningful benefits in medicine and healthcare. Especially in the invasive field it is relevant to get more comprehensive and earlier information. It is not obvious and immediately recognizable, because it is invasive.

It is only logical and useful to think about how catheters and medical probes can be meaningfully enhanced and upgraded with sensors. Through the probe, an invasive access already exists which makes it possible to use assisting sensor technology as well.



Equipping catheters and medical probes with sensor technology

Miniaturized, flat and flexible - these are the required characteristics of sensors for catheters and probes. Foil sensors from accensors deliver exactly these properties.

The concepts for integrating foil sensors on or in medical probes are different not only in the parameters to be detected but also in the position of the foil sensor.



Outside, to monitor the environment of the probe.

Inside, to continuously measure fluid and flow parameters.

The foil sensor runs along the outer wall of the catheter. The interface to the read-out unit is located in the end area, which enables the foil sensor to be read out continuously during catheter use via an easy plug-and-play clip connection. After use, the read-out unit is simply unplugged, wipe-sterilized and can be used for further catheters.

The sensor elements of the foil sensor can be placed directly at the tip of the catheter to perform close environment monitoring. In addition, it is possible for the foil sensor to be flipped over at the tip and continued on the inner wall of the catheter. Thus, sensors can also be placed in the inner fluid channel without any interference in the production process of the catheter manufacturing.



Catheter or probe ? Inside or outside ? pH and temperature or urea ?

We at accensors love and live sensors. Therefore, it is not only a task but a sense-giving passion for us to develop sensors in such a way that they provide meaningful, important and useful insights and information.



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*For all our love of technology,
our focus as a sensor product
developer is always on the
benefits in the use case.*



Development

The know-how of accensors is the development of customized sensor solutions. According to your needs and the attributes of your product, the sensor technology is adapted.



Prototyping

We are specialized in accelerated development processes. As a result of the first R+D phase, rapid prototyping and the production of small functional batches are part of our daily tasks.



Testing

Our production facility has a wide range of options for testing sensors and validating functions. In-house developed and built test equipment is successfully used here.



Up-scaling

Here small-batch manufacturing to large-batch production. This is done in collaboration with our partner network. Membranes and sensor components will be applied by us afterwards.



Integration

To connect your foil sensor to your product, we have a variety of different integration methods at our disposal.

gluing & bonding / Laminat / Injection Molding / Assembling / Welding



Serial production

Finally, the product design allows for large scale production with roll-to-roll processes in our partner network. Together, we make sure that we take care of all quality steps.



Quality Control

Finally, the product design allows for large scale production with roll-to-roll processes in our partner network. Together, we make sure that we take care of all quality steps.

The accensors USP's form a mix of

- Know how*
- Desire*
- Intellectual property rights*



Know how

Skills - That's what it's all about.

At accensors, we bring together a team of technicians, scientists, health experts and business economists to fully realize maximum success for our sensors right from the start.



Desire

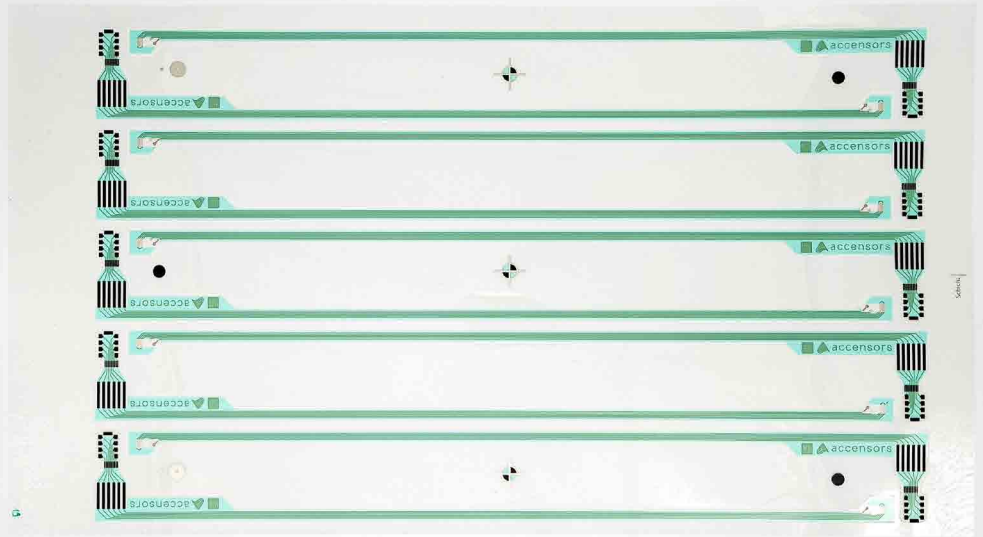
Realization strength and motivation to achieve something new, to realize new sensors, is in our DNA. As a whole accensors team we want to make a meaningful contribution to more safety in healthcare, higher quality of life for patients and professional assistance through our foil sensor solutions.



Intellectual property rights

A broad portfolio of intellectual property rights anchors our ability and desire. We at accensors differentiate our property rights into three classes.

- Basic technology and processes
- Special sensor features for UseCases
- Integration in or on products



Printing, cutting, bonding

These three processes describe our basic concept for intelligent catheters or medical probes very precisely. Depending on the dimension and quantity, the sensors developed for your product are manufactured in a sheet-based or Roll2Roll-based printing process. They are then cut free and bonded to the product using an adhesive process.

Roll or wrap:

The foil sensor can be applied to the outer surface using a roll or wrap process.

Shrinking:

Shrink tubing can be applied over the externally applied foilsensor for additional protection.

Key facts and uniqueness



Who always does what he is already able to do, always remains what he already is.
- Henry Ford

Thinner than a hair

At accensors we use foil materials from a thickness of 6µm on which we build our sensors.

Biocompatibility Clotting

The compatibility of our foilsensors is a "must have". We have developed different concepts to ensure compatibility.

Disposable ability

Foilsensors from accensors are developed in such a way that a sustainable recycling process can take place.

Not just some measurement values ...

but the really relevant ones - For us, it is standard to develop multiparametric sensors to record several different parameters simultaneously.

No "product change" due to upgradeability

To avoid major changes to the product or manufacturing process, we develop solutions for retrofitting foilsensors to existing products.

Response times

A big PLUS of foil sensors. Due to the small wall thicknesses and the quasi direct contact with the analyte, our foilsensors have extremely fast response times.

Material flexibility

Depending on the conditions of use, we use different foil materials, such as PEEK, PEN, PC, PET or PI. Elastic foil material is also possible and offers options especially for balloon catheters.

In the future - Active treatment

We at accensors are working on further functions that can be directly combined with our foil sensors. Thus, active sensor-based monitoring and treatment becomes real.

Applications and handling



Bladder catheter for urea balancing

*Drainage catheter for inflammation
monitoring of the invasive wound*

Physical sensors:

Temperature
pressure
flow rate
conductivity or impedance
many other parameters

Electrochemical sensors:

pH
sodium
magnesium
urea
many other parameters





why choose accensors?

*Your vision is our mission:
customised sensor development*

Whether smart plasters, intelligent catheters or other consumables with integrated sensor technology, as a service provider we offer companies and customers our development expertise and the corresponding connectivity. Let us transform your idea together to realise your innovation thrust and make your products become more intelligent.

„Who if not us – when if not now?“

We offer agile milestone-based development with regular review of deliverables and increments. After reaching each predefined milestone, there is the possibility to continue or stop the development process in the follow-up sprint. While you focus on your core business, we explore how we can solve your problem or come to new insights with your products.



Regardless of whether you already have a clear project idea or would like an initial brainstorming session with our team. Just contact us if you are curious about working together!



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