Your Companion

Life Science Filtration

"WE'RE CURIOUS ABOUT TOMORROW'S TECHNOLOGIES".

Beyond all experience and know-how one characteristic of our company is particularly characteristic: CURIOSITY. It makes us look beyond the horizon of established technologies beyond the horizon of established technologies.

Can membranes do more than just filter? Answering this question led to the foundation of i3 Membrane. The results of our research proved it: Membranes can do much more than filter. With the help of plasma-immersion ion implantation we succeeded in developing the first digitally controllable membrane. Since this groundbreaking success we know that curiosity about the solutions that do not yet exist today is our most important motivation.

That's why we never stop being inquisitive. We are always on the lookout for the best solution, picking up on the latest trends and trying to find out-whether previously unsolvable problems can be solved after all. This is the source of our ambition and perseverance when it comes to implementing pioneering achievements.

However, our curiosity is not only about technologies,but also about the people for and with whom we develop our solutions. We are curious about their experiences, the expertise that they share with us, and especially the challenges they face and how we can provide them with support.

As an agile company we believe that excellent solutions can only be created through communication and exchange. That is why we are in close contact with our customers and collaborate with leading research institutions such as the Technical University of Munich, Helmholtz-Zentrum Dresden-Rossendorf and Leibniz and Fraunhofer institutes in the development of novel membranes and highly selective separation technologies.

We can promise one thing to our partners, customersand the people whose health and safety dependon our products: WE CONTINUE TO BE CURIOUS!


"EXCELLENT SEPARATION
TECHNOLOGIES
ACCELERATE THE DEVELOPMENT
OF NEW THERAPEUTIC
SUBSTANCES".

The smallest particles are what become the most dangerous to our health and the environmentcin the form of pathogens or contaminants. But in the form of active therapeutic substances they can also provide us with the most benefits. An immense amount of expertise is required to detect, filter, separate, purify and analyze the smallest particles. We love pursuing our passion for state-of-the-art technology to improve health and protect people and the environment. We do so in three areas:

Medical

Pathogengs found in drinking water pose a serious risk in the clinical environment, especially for newborns and intensive care patients. Through state-of-the-art technology in the field of sterile filtration we help to contain the risk of waterborne nosocomial infections in medical facilities.

Our solutions for infection prevention in the medical sector demonstrate that excellent technology can be minute, compact and powerful. At the heart of our sterilizing sterile filter is a high-performance membrane, which we have optimized in through precision engineering to ensure reliable sterile filtration with a high flow rate even in the case of poor water quality. This reliable barrier against waterborne pathogens protects particularly vulnerable patients from severe infections.

Lab/Pharma

Anyone taking medicines must be able to rely on them being free of harmful impurities. Therefore, freedom from particles in the sphere of nano- and microstructures is a fundamental requirement in the production of pharmaceuticals and in other industries. Monitoring and controlling them poses major challenges for those responsible in the laboratory sector. High-quality polymeric membranes from i3 meet the highest demands for particle analysis.

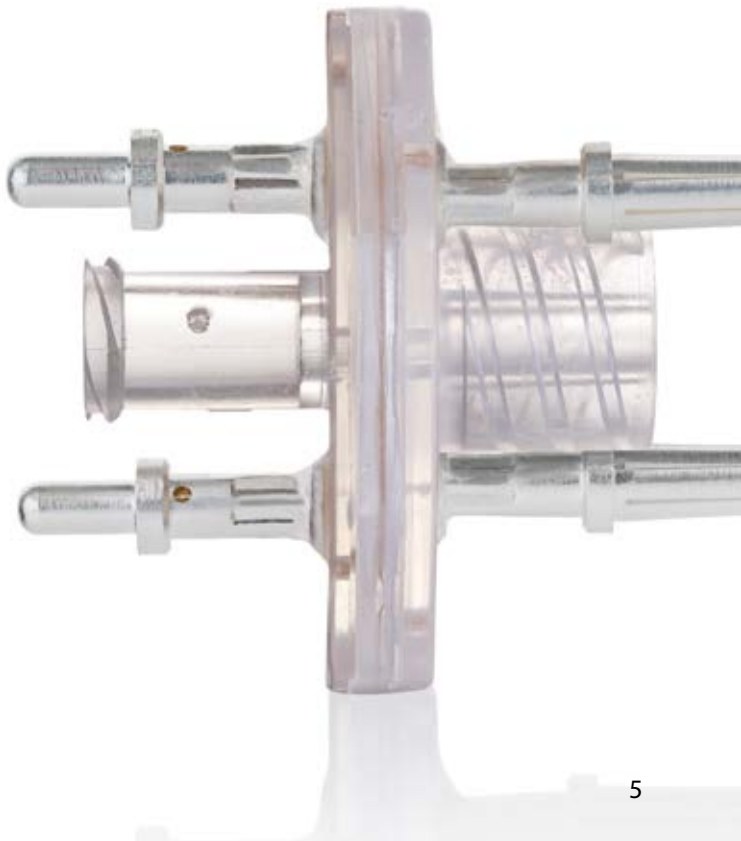
Ultra-thin layers of gold, titanium or other precious metals applied to the membrane result in extremely smooth surfaces and provide optimum conditions for precise and fast analysis. They provide optimal reflection in Fourier Transform Infrared (FTIR) microscopy, RAMAN or LDIR and form a suitable conductive substrate for imaging in scanning electron microscopy (EDX/WDX).

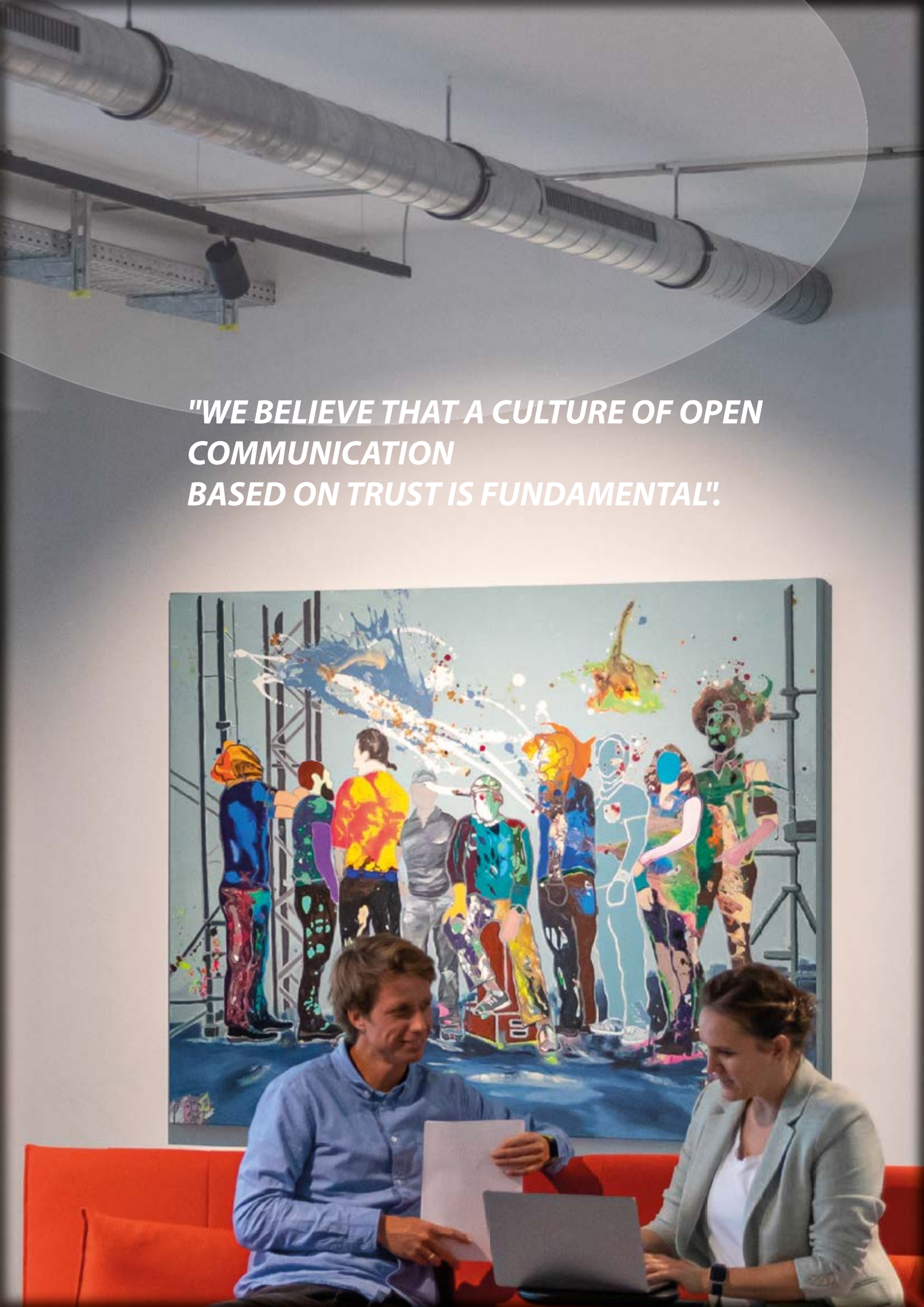
Our high-tech membranes help make products safer, protect people's health and protect the environment.

Biotech

The separation of monoclonal antibodies plays an important role in the development of vaccines and cancer therapies. The membrane chromatography process has significantly accelerated the separation, purification and concentration of biomolecules required for this purpose. Until now, however, these could only be recovered in a complex and expensive process.

i3 succeeded in solving this challenge with an ingenious idea: By applying an ultrathin layer of gold on both sides of the chromatographic membrane and connecting it to a voltage source, an electric field is generated. Biomolecules can now be desorbed quickly and easily and the process can be repeated as often as is needed. Membrane chromatography goes digital. This example shows how our innovations help to make biotechnological separation processes gentler, more efficient and easier to design, and thus accelerate the development of biotechnology.





"WE BELIEVE THAT A CULTURE OF OPEN COMMUNICATION BASED ON TRUST IS FUNDAMENTAL".

We are proud of what we have achieved together with our partners.

However, our successes are always just milestones on the road to the future. Development in the life science sector proceeds at a rapid pace. Demands for new products are becoming ever greater and the half-life of innovations ever shorter. Our aim is not just to pick up on trends, but to set and shape them ourselves.

For example, we continue to drive forward the development of potential-controlled membrane products with the European "FlexFunction2Sustain" project. For the first time, we have succeeded in coating a flat membrane with a thin, homogeneous gold film in a roll-to-roll (R2R) process. This continuous coating process is a milestone for further industrialization when it comes to manufacturing digital membrane products.

Looking to the future, we see great challenges – but also great opportunities. Together with our customers and partners at leading research centers, we play an active role in seizing and exploiting them. We look forward to using our innovations to facilitate the development of new solutions that make life better, healthier and safer.

We are your companion in Life Science Filtration.

i3 Membrane GmbH - Theodorstr. 41 P - DE-22761 Hamburg
info@i3membrane.de - www.i3membrane.de
Tel.: 040-2576748-0 - Fax: 040-2576748-48

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