



The new year has begun turbulently. The Fraunhofer Cleaning has also made some innovations. In the first, newly designed Newsletter 2020, we would like to give you an overview of current topics and plans as well as a preview of many exciting autumn activities. In addition, you will find current information and interesting reports from our partners.

## Introducing the new office

At the beginning we would like to introduce you to the new contact persons of the office of the Fraunhofer Cleaning community. As usual, you are welcome to contact the following contact persons regarding your questions about cleaning technology via the website or directly.



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THE  
**FRAUNHOFER CLEANING TECHNOLOGY ALLIANCE**  
BECOMES **FRAUNHOFER CLEANING –**  
THE HIGH-TECH PLATFORM  
FOR CLEANING PROCESSES

Dear partners, customers and colleagues  
after 18 years of successful work with you and for you in the field of industrial cleaning technology, we  
have decided, in the course of the reorganization of our office, to give our grown portfolio a new name.

The familiar remains:

- ✓ reliability as a partner in the solution of cleaning tasks
- ✓ interdisciplinary competence network
- ✓ application-oriented research and development
- ✓ partner of the parts2clean
- ✓ further training in collaboration with the Fraunhofer Academy
- ✓ active shaping of standards and guidelines
- ✓ the logo

Innovative focus areas will be strengthened:

- automation, digitization and use of AI
- initiative in education and training for the challenges of the digital knowledge society
- cleaning in hygiene-relevant areas up to disinfection and sterilization
- sensor technology development for online process monitoring
- quality assurance
- conservation of resources, environmental protection
- and much more

In the coming weeks and months, you will notice in some places the changes that this transformation process brings with it. Stay excited and accompany us on this challenging journey into the future of industrial cleaning of surfaces, components and functional surfaces

## Review general assembly



The annual general meeting of the Fraunhofer Cleaning Technology Alliance (FAR) took place on February 27th and 28th in the premises of the Fraunhofer IVV. Among other things, the meeting focused on the transfer of the head office and the associated transformations and new targets. Frank-Holm Rögner (Fraunhofer FEP) was elected speaker of the FAR. Thus, after 6 months of provisional work, the Fraunhofer FEP now takes over the office of the Fraunhofer Cleaning Technology Alliance. The

transfer of the office is accompanied by further adjustments that will improve the service and customer friendliness of the Fraunhofer Cleaning Technology Alliance. For example, a new version of the image brochure will be published soon and the newsletter will also receive a fresh layout and expanded information. Following a decision by the members, the growing demand for a new edition of the MARKET AND TREND ANALYSIS IN INDUSTRIAL COMPONENTS CLEANING will be met and preparations will start in 2020.

Another major topic was the commitment to the international trade fair Parts2Clean. Also in this area, Mr. Rögner (Fraunhofer FEP) was elected as a new member of the trade fair advisory board and Sascha Reinkober (Fraunhofer IPK) was bid farewell. On the one hand, the 2019 trade fair was reviewed and on the other hand the further planning steps for 2020 were discussed. Despite economic difficulties, last year's trade fair was very well attended. The Fraunhofer Cleaning Technology Alliance continues to be the specialist cooperation partner of Deutsche Messe AG for the design of the accompanying expert forum. This year, again, you can submit your application-oriented talk and take the opportunity to present your processes and solutions to an interested audience of experts and generate new contacts.

One planned event, which could still be postponed due to the current Covid-19 situation, is the 5th symposium on partial component cleaning of functional and joint surfaces on 26 November 2020 in Ulm, Germany. [Link](#)

A selection of the current projects of the member institutes:

- Fraunhofer Board project FALKE2
  - Cleaning of burnt pocket clocks of the Staatliche Kunstsammlungen Dresden (SKD) (Fraunhofer IWS and FEP)
- ULTRAREIN Multisensor system for monitoring the ultrasonic effect chain (Fraunhofer IVV Dresden and IGCV)
  - Multisensor system for ultrasonic component cleaning
- Battery cell production (Fraunhofer IGCV and IPA)
- SensoRein (Fraunhofer IVV Dresden, IPM, IST, IFAM and further partners)
  - Federal Ministry of Food and Agriculture (BMEL)
  - SensoRein - Sensor-based monitoring of the cleaning requirement and cleaning result in closed system

## New: Interview with our members

### 1. How did you join Fraunhofer Cleaning?

I had just completed a difficult and lengthy planning and acquisition of a very special cleaning system for metallic strips and components for the newly built PVD coating system MAXI at the FEP, which meant an enormous learning process in the field of cleaning processes for me when an internal



Fraunhofer survey came from Dr. Wissenbach (Fraunhofer ILT) about who is involved in cleaning processes and who is interested in working together. After a few meetings with varying participants, this led to the foundation of the Fraunhofer Cleaning Technology Alliance – the predecessor of Fraunhofer Cleaning - in October 2002, where I have been working ever since.

### 2. What goal have you set yourself as the new spokesperson of Fraunhofer Cleaning?

The cleaning of surfaces in industrial production is currently in a challenging situation regarding the increasing automation of industrial production in general and the tension between increasing cleanliness requirements and enormous cost pressure. In this phase it is both task and challenge to expand the excellent possibilities of Fraunhofer Cleaning in order to strengthen its leading role as a competence center for cleaning technology and to remain an attractive research partner for our customers. The use of artificial intelligence, innovative process sensor technology and environmentally friendly cleaning processes are just a few examples of current development directions. All this requires excellent training of personnel who have to deal with cleaning processes in production. For this reason, a major focus will also be on expanding activities in the area of education and training. Last but not least, Fraunhofer Cleaning is on the threshold of expanding its activities. This will be another focal point.

### 3. What would you like to pass on to the customers of Fraunhofer Cleaning?

Imagine driving at high speed on the left lane of the highway to the next meeting. At an average speed of 200 km/h you could just about make it, as usual. Suddenly a dustcloud blocks your view completely. Emergency braking! The car lurches, you're pressed into the seat belt, all assistance systems engage. After nearly endless seconds without orientation, your vision clears up and you see that you have barely escaped a frontal crash while the car is rolling out. What do you do now? You step on the gas pedal, shear left and try to get back into the tight schedule at 210 km/h?

You stop on the hard shoulder, inform your family, take a deep breath, are grateful that all the assistance systems were there to protect you from major damage and drive carefully to the nearest garage to have everything checked. Everything else is unimportant for this moment.

We find ourselves in a similar situation because of the Covid-19 Pandemic and hoping to come to a halt before the frontal crash. How will you start again afterwards? It's up to you!

Think about what the quality-safe cleaning of your components is worth to you and take into account that with every insufficiently cleaned part the entire previous added value is destroyed and it becomes worthless. Rescuing "assistance systems" in this case are always well-trained specialists for your cleaning processes, whose value is usually only appreciated when they have been able to prevent a crash. We support you in this, also with our further training offer!

**4. What does the Fraunhofer Institute for Organic Electronics, Electron Beam and Plasma Technology FEP offer in cleaning technology?**

The Fraunhofer FEP as one of 10 member institutes of Fraunhofer Cleaning is at first sight a research institute for surface technologies. Every surface treatment whether it be coating or structuring, for example, requires a suitable pre-treatment or cleaning of the respective substrate surface in order to achieve the desired coating adhesion and functionality of the surface. Thus, the Fraunhofer FEP has many years of experience in various cleaning technologies and corresponding surface analysis, starting with classical aqueous cleaning methods up to low-pressure plasma ultra-fine cleaning before PVD coating. Both the extreme requirements of microelectronics production and robust processes for cleaning fast-moving steel strips play a role at the Fraunhofer FEP. Especially in the fields of medical, bio- and pharmaceutical technology, our institute works at the interface of cleaning and sterilization.

**5. What makes you a competent partner in cleaning technology?**

If you want to be successful in industrial cleaning technology, an interdisciplinary understanding in combination with a criminalistics flair is of great advantage. I have acquired both in the past almost 20 years in industrial component cleaning through cooperation with many competent partners and customers. Being a physicist is helpful, too.

**6. What do you wish for the industry?**

The recognition that this important step in the production process deserves.

**7. What is urgently needed so that the next big step can be taken in the field of cleaning technology?**

If cleaning in production can be successfully integrated into a closed production chain, not only in terms of logistics and process, but also by making consistent use of the possibilities offered by digitalization and automation, this will represent a major step for cleaning technology towards an effective production process.

## Parts2clean 2020 - YES, sure!

Currently, there are more and more announcements about the Covid-19 restrictions being relaxed and many of us are breathing a sigh of relief - also in the literal sense. More and more people are able to undertake joint activities again. Subliminal fears about a second wave of infection remain, however, and major events are still not allowed.

In this situation, planning the leading international trade fair for industrial parts and surface cleaning for 2020, is that even possible?



### **YES, we will be there!**

The trade fair advisory board for parts2clean and Fraunhofer Cleaning have made a decision with a large majority: YES, we support Deutsche Messe AG in their decision to hold parts2clean in October 2020, and thus send a signal that the need for personal contacts is important, even in critical times, and that presentation of the cleaning industry's innovative strength is profitable for visitors and exhibitors alike.

### **SAFE, we help shape the future!**

Visitors and exhibitors alike will understandably have an increased need for safety this year, so that parts2clean will once again become a technical and economic highlight for everyone. For this reason, Fraunhofer Cleaning will meet this challenge not only with interesting exhibits, but also with completely new approaches when it comes to designing trade fair presentation, in order to harmonize the need for distance and customer proximity

### **More Information:**

<https://www.allianz-reinigungstechnik.de/de/veranstaltungen/parts2clean.html>

## Call for Papers parts2clean

With over 1,300 visitors, the parts2clean expert forum is one of the most frequently attended events in the field of cleaning technologies. Under the technical management of Fraunhofer Cleaning, current topics and processes will be presented, and pioneering trends and the latest scientific findings will be presented and discussed. Again this year, you are invited to submit your application-oriented contribution to one of the topics. Take the chance to present your processes and solutions to an interested audience of experts and to generate new contacts.

A graphic showing a stack of papers with the text "CALL FOR PAPERS" printed on them.

### **More Information:**

<https://www.parts2clean.de/en/supporting-program/expert-forum-and-innovation-forum/>

## VDI-Study



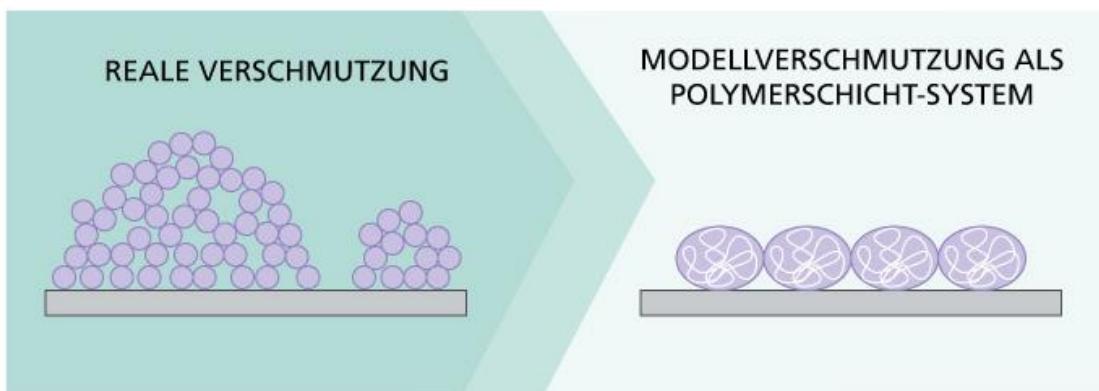
Bild: Ultraschall-Reinigungsanlage

Due to increasing cleanliness requirements and permissible remaining residues in the field of industrial parts production it is necessary to perceive the cleaning process as a highly important processing step. On behalf of the VDI Center Resource efficiency was therefore at the Fraunhofer IGCV together with the Fraunhofer IVV a study with this thematic perspective conducted. In particular the economic and ecological influence on the environment and the choice of the cleaning method and the adjustable process parameters to the increase of the resource efficiency should be shown to SMEs.

### More Information:

[https://www.ressource-deutschland.de/fileadmin/user\\_upload/downloads/studien/VDI\\_ZRE\\_Studie\\_Reinigungstechnologien\\_bf.pdf](https://www.ressource-deutschland.de/fileadmin/user_upload/downloads/studien/VDI_ZRE_Studie_Reinigungstechnologien_bf.pdf)

## Polymer layer systems for cleaning



Self-organizing, geometry-independent, and homogeneous: Test soiling for cleaning analyses rethought. In the IGF project SePoRa the Fraunhofer IVV together with the Leibniz Institute for Polymer Research Dresden develops self-organizing, fluorescent polymer layers and their application methods. With the approaches pursued in the project, for the first time cost-effective, reproducible, and meaningful investigations of the cleaning effect and efficiency of industrial component cleaning systems - with a minimum number of test executions - are in prospect.

### More Information:

<https://www.ivv.fraunhofer.de/de/verarbeitungsmaschinen/industrielle-bauteilreinigung/SePoRa.html>

<https://www.dgo-online.de/forschung/laufende-forschungsprojekte/igf-vorhaben/details/news/sepora.html?L=0&cHash=24bdaf1067a656b5f3e50fd92f04d6ce>

## Technologies for cleaning and hygiene „Made in Saxony“

Contaminations are omnipresent and can be found in all areas of life and work. In order to avoid far-reaching effects, especially in the field of life science, different stages of cleaning up to hygienisation and sterilisation are necessary. Technologies from Saxony are available in many places. In order to build bridges between users and manufacturers as well as development and science from Saxony, the Saxony Economic Development Corporation together with the Fraunhofer FEP is organizing a project workshop on the topic of "Hygienization" on **September 22, 2020**. Be part of it and network with speakers and participants who will bring interesting lectures and perspectives and present the latest technologies. We would like to discuss challenges and ideas with you in a panel discussion and industry corners.



### PROJEKTWERKSTATT: HYGIENISIERUNG – SIND SIE SCHON GANZ SAUBER?

TECHNOLOGIEN FÜR HYGIENE „MADE IN SAXONY“

#### More Information:

<https://www.fep.fraunhofer.de/de/events/Projektwerkstatt-Hygienisierung.html>

## Seminar: Expert for industrial component cleaning 2020



There is often a lack of systematic approach and methodology when analyzing cleaning issues or selecting cleaning techniques. It has not been possible until now to gain relevant expertise through vocational training or a course of study, resulting in a lack of know-how and trained employees in industry. This has prompted Fraunhofer Cleaning to offer various basic and advanced training courses, such as the seminar 'Cleaning technology – cleaning in manufacturing,' which introduces participants to basic principles. Fraunhofer

Cleaning is responding to the demands of industry by transferring its knowledge of methodical and systematic approaches to cleaning technology.

#### More Information:

<https://www.allianz-reinigungstechnik.de/de/veranstaltungen/grundlagenseminarreinigung.html>