



Fraunhofer

IPA

FRAUNHOFER INSTITUTE FOR
MANUFACTURING ENGINEERING AND AUTOMATION IPA

CLEAN AREA TECHNOLOGY AND CLEANROOM TECHNOLOGY IN MANUFACTURING AND ASSEMBLY ENVIRONMENTS





Starting point

Cleanroom technology is used to protect manufacturing processes and products against contamination from the surrounding air. Nowadays it is impossible to imagine the microchip, pharmaceutical or food industry without it. Even in the sensitive areas of vehicle body painting and the final assembly of precision engineering products, cleanroom facilities have become indispensable.

Integrating cleanroom technology to create clean areas also affects material flows and the movements of workers in the production process. The design of clean areas, localizing workplaces, production machinery, material buffers, locks and even making provisions for maintenance work on operating utilities all have a huge influence on the success of cleanroom applications as well as on costs for air-conditioning units and constructional measures.

Due to the rapid development of technical cleanliness, metal and plastics processing companies active in the sectors of mechanical engineering, plant engineering and vehicle construction pose the following important questions:



- Do I need cleanroom technology?
- Where do I need cleanroom technology?
- Which and how much cleanroom technology do I need?
- How much will it cost?
- Will it improve product quality?
- Where can I get the right solution?

Our skills

For 30 years now, the Department of Ultraclean Technology and Micromanufacturing at Fraunhofer IPA has been practicing applied research in the field of clean manufacturing. For this purpose, it even has its own cleanrooms and clean areas as reference environments to carry out project-related tests.

We have been able to prove our competencies in a number of successful planning projects, and offer a range of testing methods and consulting services that are unique throughout the cleanroom industry.

As experts, we are on specialist committees and are actively engaged in shaping and maintaining national and international standards in the constantly-expanding discipline of cleanliness technology and cleanroom technology.

Our range of services

- Providing cleanroom capacities for small series production and assembly tests, for example
- Advice on investment decisions
- Support in realizing cleanroom facilities
- Cleanliness-compatible design of operating utilities and manufacturing equipment
- Designing workplaces, cleanliness-suitable logistics and material flows
- Staff training
- On-site cleanliness tests and measurements
- Adapted cleanliness quality control



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Your benefit

As a neutral and independent partner, we provide you with competent support in planning and realizing cleanroom projects – whether you want to set up a clean area in an existing factory or build a completely new cleanroom production facility on a green field.

With our wealth of experience and knowledge of a broad spectrum of industries and applications, we'll help you design the layout, purchase cleanroom technology and equipment and even give staff training courses. Because we are manufacturing engineers and automation experts, we never lose sight of the practical aspect and benefits of your cleanliness-suitable manufacturing environment.

TITLE *Conventional assembly environment.*

2 *Sensitizing and training workers.*



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If you require more information about our range of services or specific advice, please get in touch with our contact partners.

Department

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