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New Possibilities for Effective On-Site-Sterilization

Fraunhofer scientists present first results of the development of a new sterilization technology and a highly effective hygiene safety process for the preparation of aseptically packed medical products within the project SteriHealth®.

Medical technology is one of the sectors within the fields of technology and research with a rising demand for innovations and a high dynamic of research and development. The increasing complexity of disease patterns, the rising life expectancy and the high pressure for rationalization in the healthcare sector offer good future opportunities for companies in field of medical technology, but at the same time imply a lot of risks.

Some of the major risk factors of medical treatment are postoperative and nosocomial infections. The necessary funds which are required for these factors are estimated up to 1–2 billion Euro per year. A result of this is an increasing social and political pressure.

A significant solution for the minimization of infection risks are safe, flexible and quick hygiene protection processes. Especially thermolabile microsystems, instruments or implants with intelligent sensors and cell-therapeutic products are problematic so far.

To minimize the deficits of the common processes the Fraunhofer Institutes FEP, IBMT, ITEM, IVV, IVV Dresden and IZI worked on the development of a highly effective hygiene safety process for the processing of aseptically packed medical products for hospitals, medical offices and geriatric care facilities within the Fraunhofer-funded project SteriHealth®. The key part of the joint project was the the transdisciplinary development of a technology for the miniaturization of the common beamsterilization based on the gentle, but highly effective low-energy electron-beam technology in order to enable an on-site sterilization within a few seconds.

“Once more this project demonstrates, that Fraunhofer Institutes with very different expertise are in able to solve highly complex questions by concentrating their professional competence successfully. The consortium had to face a number of sophisticated challenges, e.g. the development of technology, qualification of the packaging material, the development of a monitoring system as well as the evaluation of the efficiency of the sterilization. My special thanks goes to the members of the consulting board, who enriched the project with their expertise during the whole term of 3.5 years”, states the leading project manager Dr. Axel Wibbertmann of Fraunhofer ITEM.

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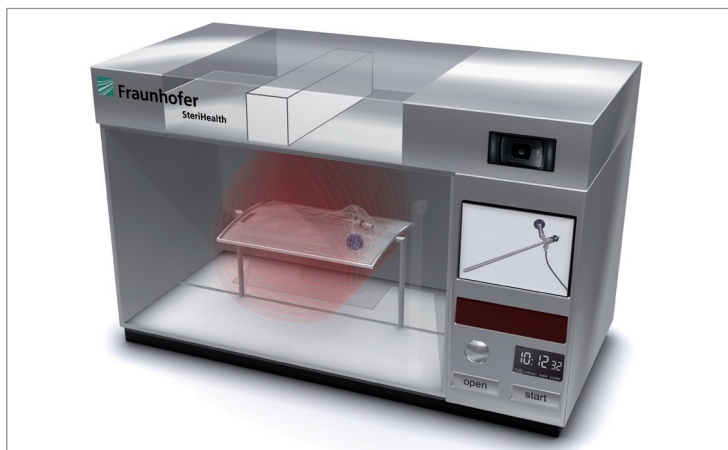
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The next aim of the consortium of SteriHealth® is the finalization of the Mini-Sterilizer. "Therefore we offer the opportunity to interested partners from industry to cooperate with us and to participate with their competence and market entry in this field. At the same time we hope for the support from politics and funding partners for this sensitive topic", Frank-Holm Rögner, project leader at Fraunhofer FEP looks ahead.

The consortium cordially invites you to join the workshop SteriHealth® "New Possibilities for Effective On-Site-Sterilization" on February 3rd, 2015. The workshop will be held in German language and the project achievements and the demonstrator will be presented. The workshop will be a platform for further discussions and exchange of ideas.

Further information about the project SteriHealth® can be found at:
www.sterihealth.de

We would be pleased to welcoming you in Dresden!



Schematic view of a possible mini-sterilizer

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The **Fraunhofer Institute for Organic Electronics, Electron Beam and Plasma Technology FEP** works on innovative solutions in the fields of vacuum coating, surface treatment and processing with electrons and plasmas as well as organic semiconductors. The core competences electron-beam technology, sputtering and plasma-activated as well as PECVD high-rate coating, technologies for the organic electronic and IC/system design provide the basis for these activities. Thus Fraunhofer FEP offers a wide range of possibilities for research, development and pilot fabrication, especially for the processing, sterilization, structuring and refining of surfaces as well as OLED microdisplays, organic and inorganic sensors, optical filters and flexible OLED lighting. Our aim is to develop the innovation potential of the electron beam, plasma technology and organic electronic for new production processes and devices and to make it available for our customers. Formerly COMEDD (Center for Organics, Materials and Electronic Devices Dresden) with all known activities in organic electronics now is acting as new business units at Fraunhofer FEP, Dresden, Germany.

For further information

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