



### Contact and Coordination

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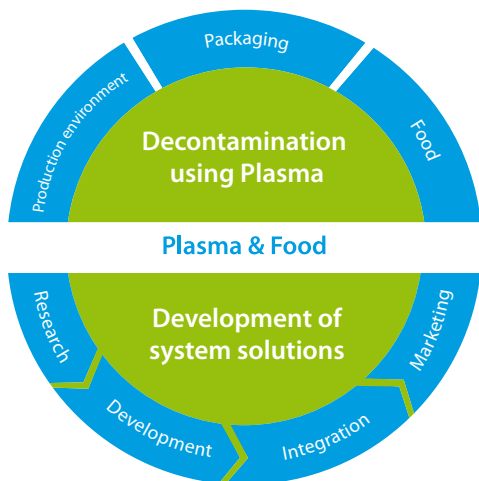
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The tasks of the Plasma4Food network are the collective development, manufacturing and marketing of plasma-based systems for the efficient and gentle disinfection of foodstuffs and their packaging and for an increase of hygienic conditions of surfaces in the production process. The systems should be directly integrable into the production processes of the user, practical, and economically sustainable.



Plasma4Food is mainly focused to the food industry and offers

- R&D cooperation with well-known research institutes and industry partners
- Joint project development
- Product innovation and process innovation
- Expertise and clarification of legal matters
- Customer focused technology marketing



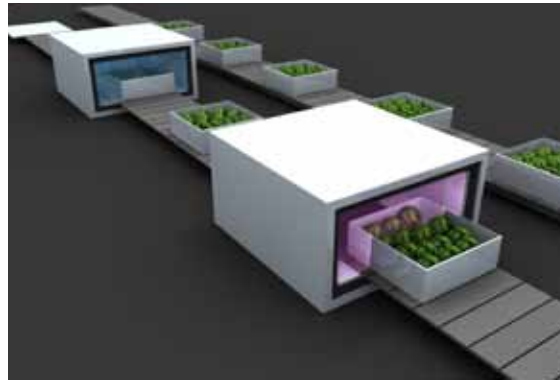
Contaminations by pathogen microorganisms are an essential problem in various fields of the food industry. Most of these microorganisms such as Escherichia coli (e.g. EHEC), Salmonella, Listeria, molds and the spread of multi-resistant strains represent a substantial risk for the health of the customer. An example for this is the massive outbreak of EHEC in 2011 with more than 3800 cases and 53 deaths caused by contaminated seeds of fenugreek [BfR 2011].

The deployment of innovative plasma technology may offer an effective decontamination and functionalization of biological and technical surfaces and therefore, an increase of microbiological safety.

Plasmas are ionized gases, which are used for the fast decontamination of materials and packages in medicine, the pharmaceutical and the food industry. Furthermore, plasma based technologies have the potential to ensure better food safety by non-thermal inactivation of microorganisms and to reduce the risk of food-borne outbreaks.

The microbicidal effects of plasma are based on a cocktail of components with effects against a broad spectrum of microorganisms. In contrast to chemical and thermal treatments, the products are treated gently and without residues.

With the usage of plasma technology in the production process, economic losses should be reduced or even avoided. In this way, the product safety and the customers' confidence will be increased. The additional extension of the shelf life results in economical advantages for the production and trade.



The network guarantees all necessary competences, due to the fields of activity of the network members:

- Plasma and microwave technology
- Food technology and food safety
- Sensory, measurement and diagnostic systems
- Food chemistry
- Food sensor technology
- Microbiology
- Process engineering and mechanical engineering
- Food Law and standardisation
- Usability and customer perception
- Technology transfer and marketing

Several organisations are engaged as associated network partners: Food-Processing Initiative (Bielefeld), BalticNet-PlasmaTec (Greifswald), Law Office Krell Weyland Grube (Gummersbach), Packaging Excellence Center of the Stuttgart Region and FlandersFood (Brüssel).

Currently, the network includes companies and research institutes located in Germany.

## Industry

- automation & software Günther Tausch GmbH, Neubrandenburg
- Camfil KG, Reinfeld
- CINOGY GmbH, Duderstadt
- First Sensor AG, Berlin
- Fricke & Mallah Microwave Technology GmbH, Peine
- Mecklenburger Ernte GmbH, Wittenburg
- neoplas control GmbH, Greifswald
- ROSOMA GmbH, Rostock
- SynCen GmbH, Schwerin
- TIGRES Dr. Gerstenberg GmbH, Rellingen
- YOUSE GmbH, Berlin / München
- Zentrum für Lebensmitteltechnologie Mecklenburg-Vorpommern GmbH, Neubrandenburg

## Research Institutes

- Fraunhofer-Institut für Verfahrenstechnik und Verpackung IVV, Freising
- INNOVENT e.V., Jena
- Leibniz-Institut für Agrartechnik Potsdam-Bornim e.V. (ATB)
- Leibniz-Institut für Plasmaforschung und Technologie e.V. (INP Greifswald)
- ttz Bremerhaven

*Plasma4Food* is open for new members, which are interested in the development of practical and innovative solutions for the food industry.