



operation name: Emissionsarme Maschinen und Prozesse (EMiMasch)

operation summary: Dust, vibrations and fumes are only some of the

resulting products during mechanical production and affect efficiency as well as precision. The main focus of the research activities in the project is the study of the system machine/tool/process for friction based welding, for chipping and for laser material processing, in order to allow the development of machines and processes with low emissions. Robot systems as well as conventional tool machines will be linked to the processes, so that an overall strategy can be deducted.

The results of the project which deals with basic research, will allow in further steps, industry to develop methods in order to reach low emission processes.

total eligible expenditure (ESF): 647.000,00 EUR

operation start and end date: 01.03.2016 - 31.08.2018

Technische Universität Ilmenau beneficiary name:

contact: Technische Universität Ilmenau

> Mr. Prof. Dr. Bergmann Ehrenbergstraße 29 98693 Ilmenau

phone: 03677 692981

email: jeanpierre.bergmann@tu-ilmenau.de

picture:

Processes with direct contact tool/material (friction)



K. Szallies (TU Ilmenau)



FG Fertigungstechnik



(TU Ilmenau)

Processes without direct contact



J. Bliedtner; H. Müller; A. Barz: Lasermaterialbearbeitung. Carl Hanser Verlag,

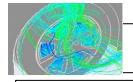
Chipping

Friction based welding

Laser material processing of plastics and hybrids

Dust and vibration (noise)

Dust



Analysis and evaluation of vibrations Simulating and modeling of flows

Models for dynamic interaction