

# PRESENTATION OF THE DIVISION VIRTUAL PRODUCT CREATION AND THE DEPARTMENT INDUSTRIAL INFORMATION TECHNOLOGY

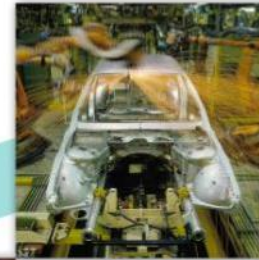
Your Partner for Applied Research, Development and Implementation

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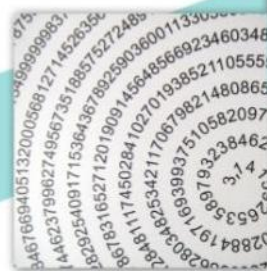


## 2. Application-oriented research



implements application-ready solutions in the **economy**.

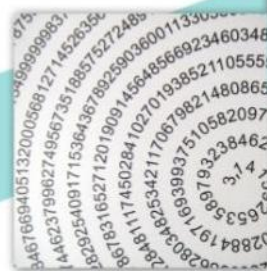
## 1. Basic research



creates **basic innovations**.

transfers basic innovations to the **application stage** and creates **prototypical solutions**.

- 1. Basic research
  - Universities
  - Helmholtz Centers
  - Max-Planck-Institutes



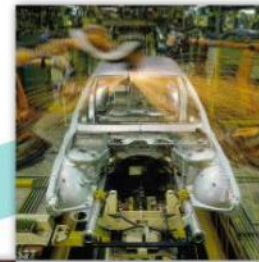
creates **basic innovations**.

- 2. Application-oriented research
  - Industrial research centers
  - Fraunhofer Institutes



transfers basic innovations to the **application stage** and creates **prototypical solutions**.

- 3. Industrial application
  - Companies



implements application-ready solutions in the **economy**.

# PTZ BERLIN | TWO INSTITUTES – ONE ROOF

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**Production Systems and Design Technology (IPK)**

**Production Systems**

Prof. Dr. h. c. Dr.-Ing. E. Uhlmann

**Corporate Management**

Prof. Dr.-Ing. H. Kohl

**Quality Management**

Prof. Dr.-Ing. R. Jochem

**Automation Technology**

Prof. Dr.-Ing. J. Krüger

**Virtual Product Creation**

Prof. Dr.-Ing. R. Stark

**Joining and Coating Technology**

Prof. Dr.-Ing. M. Rethmeier

**Micro Production Technology**

Prof. Dr. h. c. Dr.-Ing. E. Uhlmann

**Medical Technology**

Prof. Dr. h. c. Dr.-Ing. E. Uhlmann (act.)

Technische Universität Berlin

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Prof. Dr.-Ing. R. Jochem

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**Sustainable Corporate Management**

Prof. Dr.-Ing. H. Kohl

**Quality Strategy and Quality Competence**

Prof. Dr.-Ing. R. Dust

**Coating Technology**

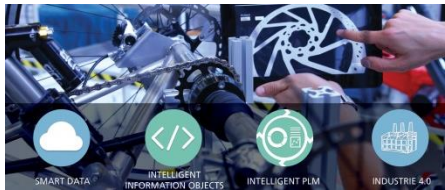
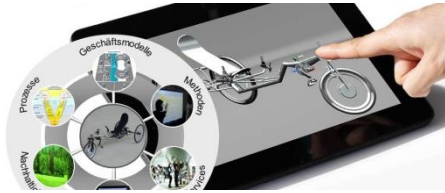
Prof. Dr.-Ing. R. Stark (act.)

**Tribology**

Prof. Dr. H. Sturm

# RESEARCH DOMAINS

## Division Virtual Product Creation



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### 1. Product development methods and processes

Analysis and composition of both product creation processes and sub-processes with regard to methodical and organizational aspects

### 2. Product design and functional validation

Modeling of product properties and characteristics (requirements, structures, functions, geometry generation incl. processing and reparation, quality of digital data, ...)

### 3. Intuitive interaction with virtual prototypes

Context sensitive provision of information for various scenarios and players in product creation (developer, designer, manager, analyst etc.)

### 4. Information management for product creation

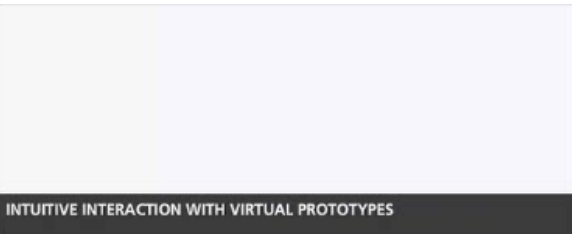
Collection, administration, processing and provision of information, which are generated in product life cycle and to be used for product creation

### 5. Digital manufacturing operations and factory processes

Modeling of manufacturing process features and characteristics (product, manufacturing/assembly process, equipment, factory layout, ...) in the context of product creation and reviewing of each production process with respect to the specific objectives

# KEY RESEARCH AREAS

## Division Virtual Product Creation



### 3. Intuitive interaction with virtual prototypes

Context sensitive provision of information for diverse scenarios and players in product development (developer, designer, manager, analysts etc.)

Current Situation:

- Growing information pools with product related data
- Digital media is primarily storage and exchange format
- Interaction techniques from the late 1980's

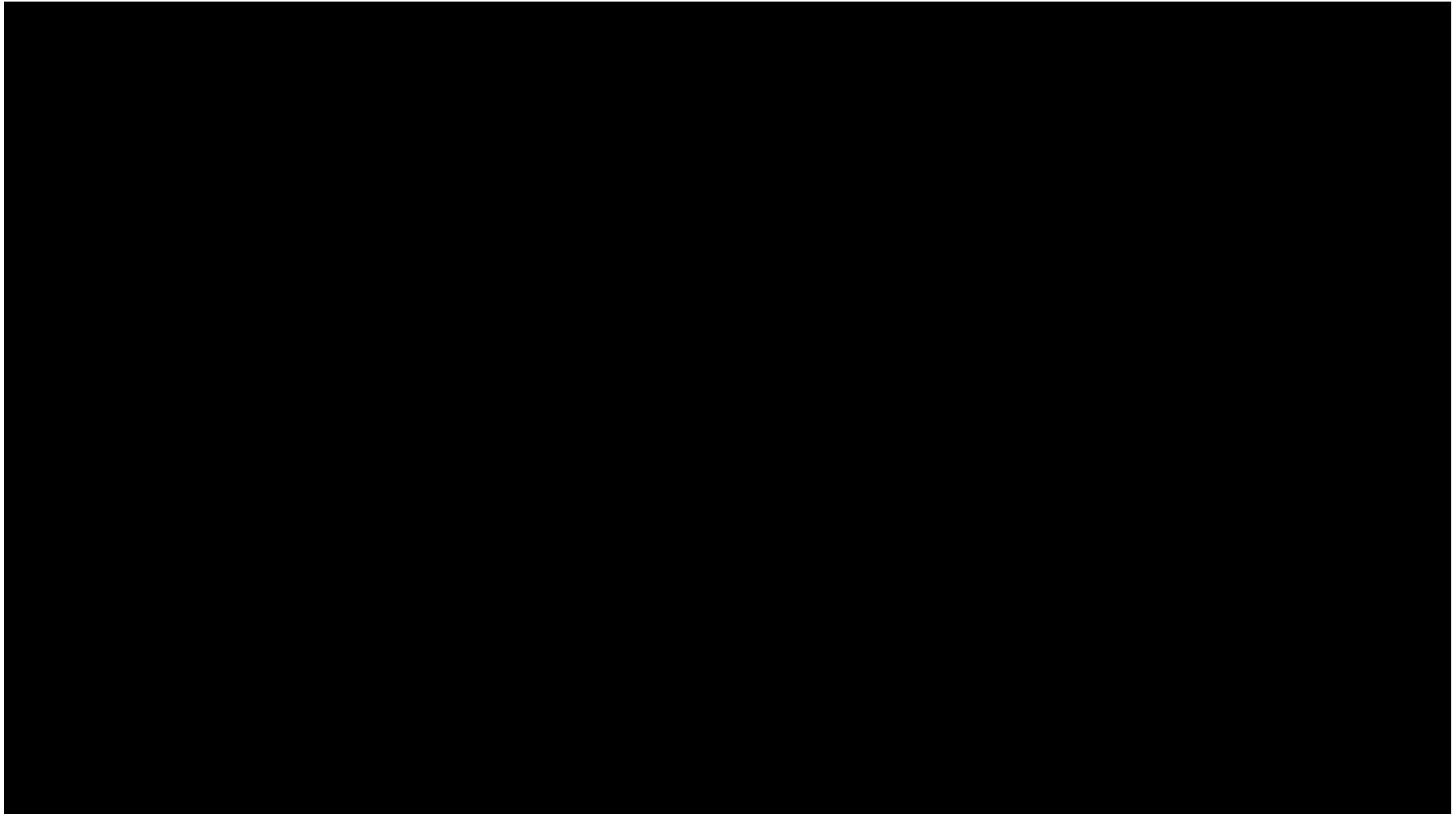
Future Solutions:

- Providing intuitive access to large information spaces
- Provide context sensitive decision support
- Employ user-centered interaction techniques, e.g. interactive surfaces, 3D user interfaces, tangible interfaces

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# Digital Cube Test Center

Mode of operation: Functional Drive Simulation





**Thank you for your attention!**





# Contact partner



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