Fraunhofer

IPT Fraunhofer Institute for Production Technology IPT

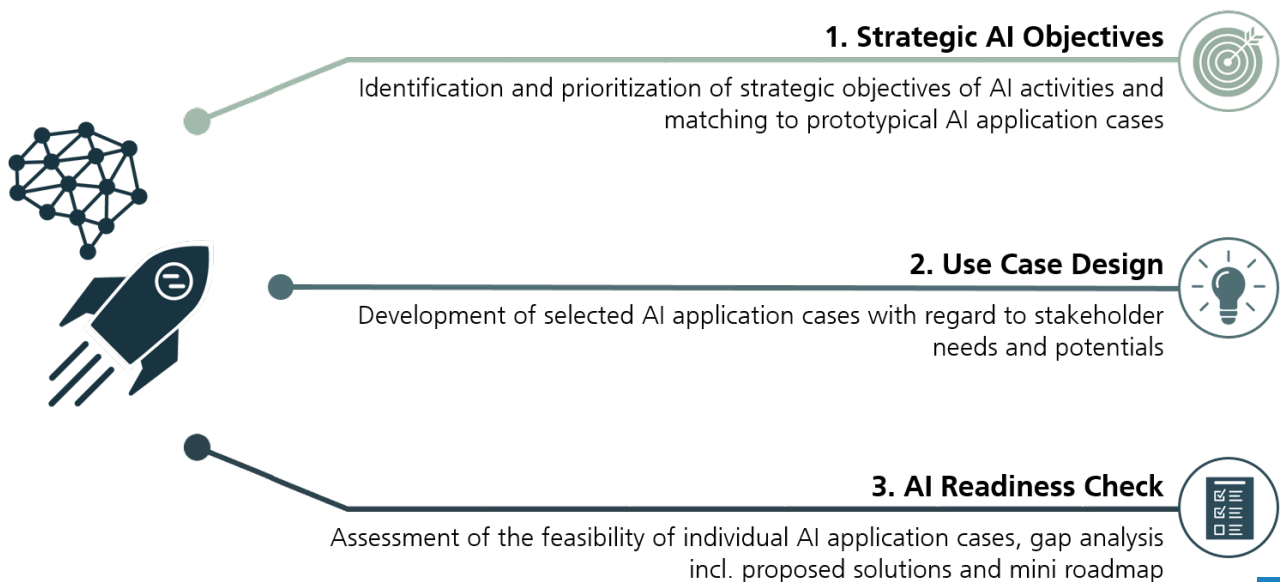Fraunhofer Institute for Production Technology IPT

Where am I?

Selection of AI Use Cases

Big Data for the middle class

Artificial intelligence (AI) can already be used in production today: Examples are the automation of routine activities, the prediction of plant failures and the optimization of processes. For medium-sized manufacturing companies, however, there is a risk of missing out on the developments and potential of AI. Many companies lack the expertise and experience to take the first steps towards more intelligent production on their own without expert guidance. The Fraunhofer Alliance Big Data AI therefore bundles its expertise in the fields of AI and production and offers the management of manufacturing companies a structured introduction to this complex topic.
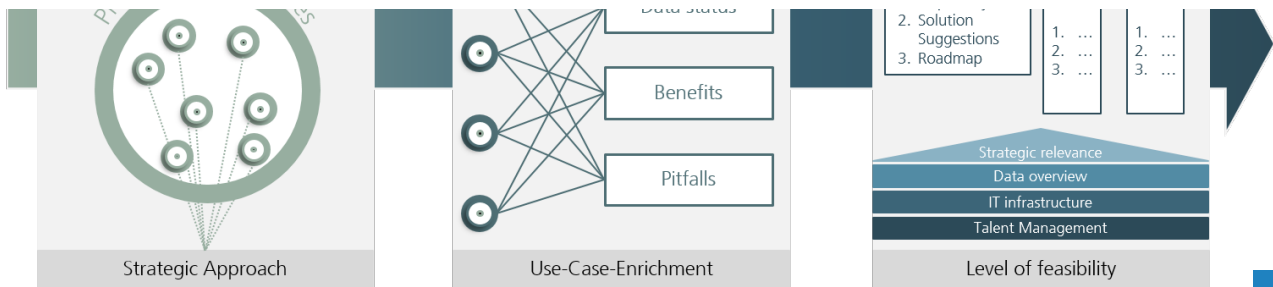
The use of AI seems to be indispensable in the future to increase the productivity and competitiveness of enterprises. Today, especially small and medium sized companies are facing the task of implementing AI with regard to their own business model in suitable use cases at reasonable costs.

In cooperation with other institutes of the Fraunhofer Alliance Big Data AI, Fraunhofer IPT offers manufacturing companies the opportunity to apply expert knowledge from research into artificial intelligence in a targeted manner to industrial practice. To this end, the researchers have developed the "AI Kick-Starter Bundle" in an interdisciplinary alliance.

1. Strategic AI Objectives

Identification and prioritization of strategic objectives of AI activities and matching to prototypical AI application cases

2. Use Case Design

Development of selected AI application cases with regard to stakeholder needs and potentials

3. AI Readiness Check

Assessment of the feasibility of individual AI application cases, gap analysis incl. proposed solutions and mini roadmap

Concept »AI Kick Starter« of the Fraunhofer Alliance Big Data AI

Strategic AI Objectives	Use Case Design	AI Readiness Check
Management-Perspective	Stakeholder-Perspective	Technical Perspective
Prototypical Use Case	Data status	1. Gap Analysis

Phases of the »AI Kick Starter« of the Fraunhofer Alliance Big Data AI

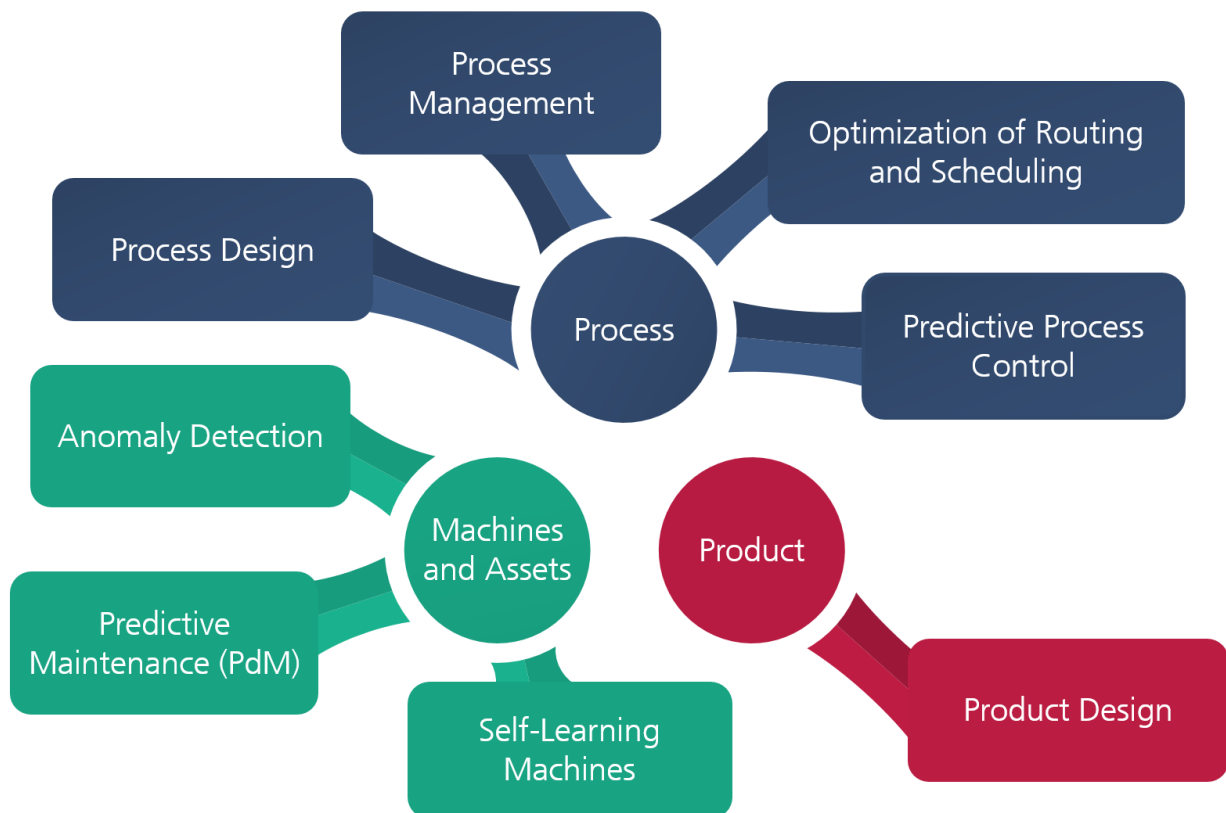## First own steps: Freely accessible data sets to start the first own AI project for production

The lack of experience of the employees in dealing with AI and machine learning leads to an enormous number of corresponding projects failing despite the increasing amount of data. Reasons for this are that internal company data is available in an unstructured form, does not contain the relevant information or is not stored in sufficient quantities. In these cases, it is possible to gain initial experience in the use of machine learning by using freely available data sets. However, the publicly available data sets in the production area are stored on different platforms.

To gather initial experience, the Fraunhofer IPT has collected and compiled publicly available data sets for companies with a focus on »production«. These data sets can be assigned to the eight most important fields of application. A complete overview can be accessed via the link https://www.bigdata-ai.fraunhofer.de/s/datasets/index.html .

Our range of services

In cooperation with the Fraunhofer Alliance Big Data AI we offer the following services

Identification and prioritization of strategic goals of AI activities
Development of new AI use cases
Evaluation of the technical and economic feasibility of individual AI use cases and roadmapping

Application areas for artificial intelligence and machine learning in production

Further Information

Online-Training / 13.7.2022 & 13.12.2022

Data Quality and Data Preprocessing

In cooperation with Fraunhofer IAIS, we offer an online seminar on "Data Quality and Data Preprocessing".

MORE INFO [GERMAN]

© Sergey Tarasov/stock.adobe.com

Artificial intelligence in single-item and small-batch production

You can download the free whitepaper from our website.

GO TO DOWNLOAD
[GERMAN]

Related Projects

Technological change in Industrie 4.0

Industry and research partners are jointly developing approaches to solutions for the development fields of Industrie 4.0 at the "International Center for Networked, Adaptive Production".

CENTER-WEBSITE

Flexible, efficient value chains

The aim of "Leistungszentrum" is to develop networked, adaptive production by networking and digitizing hardware and software systems as well as the product itself.

MORE INFO

Data sets for machine learning applications

Discover our freely accessible machine learning data sets in the production application area.

DATA SETS

AI for the middle class

Discover the press release on "Artificial intelligence for medium-sized companies: Fraunhofer prepares manufacturing companies for the introduction of AI systems".

PRESS RELEASE

Innovative battery technology

The Fraunhofer "Forschungsfertigung Batteriezelle" is engaged in the research of new, production-relevant battery cell concepts and their implementation.

MORE INFO

Share

PRINT

Follow us

Contact