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# Digital Platform for the Products of Tomorrow

Artificial intelligence (AI) in product creation holds great potential for economic growth and increased productivity. By 2025, 13 percent of Germany's gross domestic product is expected to be generated with services and products based on the use of AI. This corresponds to sales of 488 billion euro.

But how can small and medium-sized enterprises in particular introduce AI applications in product creation? Whether it is the automation of technology scouting or the optimisation of design data – the potential of artificial intelligence in product creation is manifold. However, manufacturing companies often lack sufficient expertise to tap into these potentials. And providers of AI applications lack access to domain knowledge to develop applications for companies.

The AI Marketplace is a digital platform where providers, users and experts can jointly develop and exchange AI solutions.

For example, companies post their challenges, while AI providers create competence profiles on the platform. A subsequent matching of challenges with competence profiles brings together suitable platform actors who can now develop solutions together.

In order to continuously improve AI applications and adapt them to customer needs, we also offer a protected data space for development and test data on the AI Marketplace. We apply an established global standard that guarantees data sovereignty - the International Data Spaces standard - and at the same time form the basis for fair cooperation. In addition, there is an app store for AI solutions and a range of standardised AI building blocks that can be combined as needed and used for the development of new AI solutions in product creation. It is being developed by 19 research institutions, companies and networks, the nucleus of which is the Leading Edge Cluster it's OWL.

Why specialise in product creation? Because it is a key driver of product innovation. In 2015, product creation was responsible for a turnover of around 710 billion euro. In addition, it determines the subsequent production costs, as up to 85 percent of the manufacturing costs are already determined here.

This brochure shows you how you too can revolutionise your product creation. You will get an overview of recommendations for action and insights into our pilot projects.

Benefit from our impulses and solution approaches and use the competences and offers of the AI Marketplace to make artificial intelligence usable in your company. Get valuable expert feedback and benefit from quick checks on the topics of digitalisation or data governance in your company.

Be inspired by our solutions, exchange ideas with the respective experts and become part of the Al Marketplace.



**Prof. Dr.-Ing. Roman Dumitrescu,**Managing Director it's OWL,
Director Heinz Nixdorf Institute

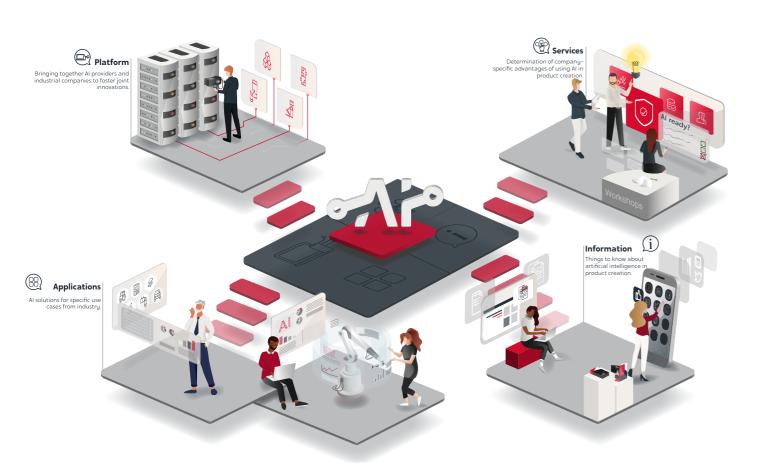
# **Al Marketplace**

### **Artificial Intelligence for Product Creation**

In the AI Marketplace, an innovation ecosystem is being created around a digital platform that brings together AI experts, solution providers and manufacturing companies. This digital platform will be successively expanded with functionalities that will enable us to jointly develop and deploy AI solutions for product creation.

### What is Product Creation?

Product creation describes all activities from the idea of a product to the start of production. This includes different fields such as strategic product planning, product development, service development and production system planning. It also incorporates cross-sectional processes such as product lifecycle management or quality management.



### Our vision

The use of artificial intelligence can significantly increase the quality and efficiency of product creation processes. Whether an automation of technology scouting or the optimisation of design data - the potentials of artificial intelligence in product creation are manifold. For example, they can increase development capacities as well as efficiency in development projects by almost 20 %. At the same time, development time can be significantly reduced by around 17 % and subsequent manufacturing costs by about 13 %. The reasons for this are, for example, a more effective use of capacities or the outsourcing of certain processes so that more important tasks can receive more attention.

Bridging the gap between product creation and artificial intelligence is absolutely necessary in order to tap into the above-mentioned potential. However, manufacturing companies often lack the resources and expertise to use Al profitably for themselves. Solution providers, on the other hand, lack access to customers or the necessary domain knowledge. This is exactly where we come in with the Al Marketplace, by creating a platform for providers and users, and in particular by supporting SMEs to make artificial intelligence usable for themselves.

"Our ecosystem provides artificial intelligence for engineering work, thus revolutionising product creation."

**Leon Özcan,** Heinz Nixdorf Institute

19%

Increase in Development Capacities

13%

Reduction in Manufacturing Costs

### An ecosystem for product creation

As the nucleus for the growing "Al in Product Creation" ecosystem, the Al Marketplace supports the development of new Al solutions via its digital platform. This can only succeed if trust and acting in partnership are also transferred to the digital world. It is the only way to ensure that the necessary data basis for Al applications is created. We therefore rely on the acknowledged IDS standard that guarantees data sovereignty and form the basis for fair cooperation at the same time.

The AI Marketplace supports all players in the ecosystem with needs-based solutions and links to the entire R&D value chain to transfer basic research into application. Each actor should participate appropriately in the success of the ecosystem. In doing so, we are focusing on successively expanding the functionalities – starting with an intelligent matching service, through a protected data space, to a marketplace for AI applications and AI building blocks.



The AI Marketplace team celebrates the project kick-off.

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# Yes to Artificial Intelligence. But What Is It Actually?

Our Understanding of AI at a Glance

Artificial intelligence is a key driver of product innovations and thus also for the Al Marketplace. But what do we actually understand by this term and which Al processes are relevant for product creation? Here you will find six essential procedures briefly summarised and clearly explained:



**Natural Language Processing:** The field of Natural Language Processing includes all procedures for dealing with human language, both spoken and written. This includes, for example, the analysis of requirements documents or customer reviews.



**Computer Vision:** The term Computer Vision describes all procedures for handling image and video data. This comprises, in particular, activities for analysing and understanding camera footage. One example is object recognition where objects, such as components, are localised and named in an image.



**Signal Processing:** Signal Processing means the handling of signal data. This includes all applications of time series as well as sensor data in general, such as vibration or temperature data. Here, mainly methods of supervised learning are included, i.e. learning methods that use labelled training data sets. One example in product creation is the analysis of machine signals to detect anomalies and associated faulty behaviour.



**Knowledge Discovery:** The field Knowledge Discovery includes activities of knowledge discovery and representation. This comprises, in particular, knowledge discovery in large data sets using data mining methods, but also the handling of structured knowledge, for example in the form of knowledge graphs. This mainly involves methods of unsupervised learning, i.e. learning without labelled training data. A classic example is cluster analysis, i.e. the grouping of data with regard to underlying similarity structures.



**Decision Support:** The term Decision Support describes methods of decision support in complex environments. This includes, for example, case-based reasoning, where solutions to problems are determined by analogy, similar problems are met with similar solutions.



**Modelling Languages:** Modelling Languages deal with formal models. In the context of product creation, this includes in particular diagrams of modelling languages such as UML or SysML. Important examples are the conversion of platform-independent into platform-specific models or the translation between different formalisms.

# A Platform Emerges

The Four Expansion Stages of the Al Marketplace



### Stage 1: Intelligent Matching

On the platform, manufacturing companies are brought together with AI providers via an "intelligent matching" service. To do this, AI solution providers create expertise profiles and companies go through an analysis to identify AI potential. By comparing expertise and potentials, suggestions for suitable partnerships are automatically derived.



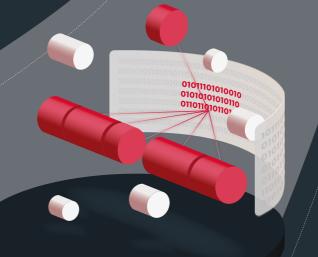
### Stage 2: Protected Data Space for Product Creation

There is often a lack of access to reliable data for the development and training of algorithms. The AI Marketplace provides a protected data space for development and test data to continuously improve AI applications and adapt them to customer needs. Another challenge in developing AI applications for product creation is the sensitivity of the data. The AI Marketplace addresses this by implementing the reference architecture from the International Data Spaces Association that ensures data sovereignty and data usage control.



### Stage 3: App Store for Al Applications

Building on the intelligent matching service, protected data space as well as the growing ecosystem, the Al Marketplace will be expanded to include an app store for product creation. This provides concrete Al applications that can be used by manufacturing companies with a manageable adaptation effort. The scope of the store will range from simple assistance functions to complex Al applications.



### Stage 4: Building Blocks for Al in Product Creation

By building a toolkit, standardised Al building blocks can be combined with each other. In the long term, this will also enable small and medium-sized enterprises to put together Al applications themselves using the "plug and play" principle, without having to hire a service provider every time.





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# From Research Into Practice -**Our Pilot Projects**

Six Pilot Applications for Al

tion? In six pilot projects, companies and research institutions are developing Al solutions for concrete use cassequence planning and Al-assisted producibility analysis: The pilot projects form the industrial core of the project, because it is here that the first AI applications for ed. Al solutions can first mature and then also be made

What does artificial intelligence mean for product crea- available to users of the Al Marketplace. The projects are presented here along the four-cycle model of product creation (see fig. below). The pilot project with Ubermetes. From intelligent product monitoring to automated rics Technologies falls into the field of strategic product planning, while the CLAAS project is part of the product development cycle. Diebold Nixdorf and Hella Gutmann focus on the service development cycle in their projects, product creation are developed, tested and implement- while Düspohl Maschinenbau and Westaflex address production system development.

> Strategic **Product Planning**



Product Development



Service **Development** 



**Production System** Development

> ...to series production.

The four-cycle model describes the individual fields of a product creation process from the business idea to the series production run.

## **Ubermetrics: Intelligent Product Monitoring**



**Challenges:** Extraction and processing of product information, especially the recognition of product characteristics as well as their evaluation in texts.



Solution Approach: Research and development of an Al-assisted observation of online content, in particular for product monitoring.



**Added Value:** Software for product monitoring as a new, independent product or as a new functionality of an existing product.

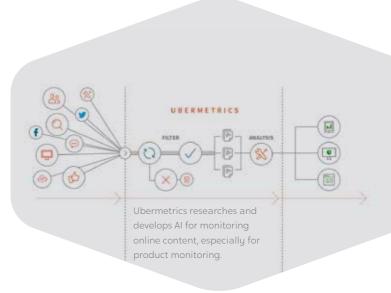
Since 2011, Ubermetrics Technologies GmbH has been developing the highly scalable text mining and media monitoring software Delta as a software-as-a-service for clients worldwide. This technology transforms publicly available content and data into meaningful insights for effective communication strategies.

However, the analysis of this content is complex and presents the company with various challenges: for example, automatically recognising relevant text sources in the future and selecting an accurate method for text extraction. Also, automatically recognising product references, product assessments or product features as well as automating the evaluation of the significance of customer feedback.

### Monitoring online content with AI

The aim of the Ubermetrics Technologies GmbH project is therefore Al-assisted monitoring of online content, especially for products. To this end, Ubermetrics is further developing an Al-based text analytics tool to provide product-related feedback to the user. For this purpose, not only existing processes are being further developed, but also completely new processes are being realised, such as the automated recognition of product characteristics.

The vision is to provide companies with an Al application that extracts and analyses relevant product information from unstructured texts. Non-public texts such as complaint emails, service reports or complaint reports can also be included. The user receives information on how existing and new products are perceived by customers in order to identify requirements for new product ideas and assess market opportunities. In addition, the product's chances of success



are to be optimised by informing the user about possible competitor products and their public feedback.

### Incorporating customer feedback into future development processes

The aim is to determine, for example, which product component frequently causes displeasure among customers. As part of the product creation process, engineers can incorporate the knowledge gained from this into the development of future product generations, thereby increasing the product's market opportunities.

The project work will result in the creation of a software for product monitoring as an independent product or as a new functionality of an existing product. Ubermetrics will also make these software competencies available on the Al Marketplace as an Al provider.

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sor data. This data is supplemented with information on a service platform, which provides a complete picture of the vending machine. Until now, patterns in the machine data have only been mapped to possible defects by simple rules, without giving differentiated repair instructions to the service technician and without verifying the service instructions by results of the technician's work. They do not use elaborate Al algorithms either.

Therefore, Diebold Nixdorf is now researching use cases together with Fraunhofer IOSB-INA to develop a suitable Al solution based on existing machine and service data. The aim is to support the company's service staff with further information on repairs during service calls. Currently, this information is obtained from data pools such as service calls, service contracts or machine data. The product portfolio is now to be rounded off with new services.

## **Diebold Nixdorf: Al-assisted Service Engineering**



Challenges: Patterns in the machine data are only assigned to possible defects based on simple rules, without deriving precise recommendations for action for the service employee.



Solution Approach: Development of an Al solution based on existing machine and service data.



**Added Value:** Support of the service staff with further information, which enables service cases to be processed more efficiently.

Diebold Nixdorf is a leading provider of IT solutions and services for retail banks and retailers. The product portfolio ranges from ATMs to software and services. Within the framework of the Al Marketplace, Al procedures will now be developed and trained in the field of cash automation, based on historical machine data as well as information about so-called service calls.

### **Understanding ATMs through data**

ATMs are highly complex mechatronic systems whose behaviour is monitored by a multitude of actuator and sen-

### Al saves time during service cases

With this project, Diebold Nixdorf is aiming for a significant reduction in the processing time of service cases during technician deployments. This makes it possible, for example, to localise the cause of a fault during servicing before the technician arrives at the unit. In addition, the process can help to bring about a reduction in the service call rate. Furthermore, interfaces to the Al Marketplace platform will be developed, taking into account the validity and meaningfulness of the database and the design of Al applications for product creation.

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### **CLAAS: Integration of AI in Computer Aided Design (CAx)**



Challenges: The search for common parts and similar parts is becoming more and more challenging as product complexity and number of variants increase.



Solution Approach: Creation of a knowledge database with CAD models for intelligent common parts management.



Added Value: Re-use of components to save manufacturing, development and storage costs and reduce the number of parts in the inventory database in the medium term.

The internationally active agricultural machinery manufacturer CLAAS is testing a special use case for the integration of AI in Computer Aided Design (CAx) in the AI Marketplace. Against the background of constantly increasing product complexity and number of variants, the re-use of components offers an important opportunity to save manufacturing, development and storage costs.

### Product complexity can make common parts search challenging

However, the search for common and similar parts is a major challenge, as these have often been developed in a project-specific context and have thus not been considered for re-use as a standard part. Furthermore, common parts often cannot be found because the master data is not correctly maintained. If one has found "too many" similar parts, today it takes human intelligence, which also means a lot of time, to reduce the search results to the usable level.

### Al methods help identify common parts

The aim of the project is therefore to develop an intelligent common parts management system and to imple-

ment it as a prototype. For this purpose, CAD models are first examined for their geometry, later also for their function, and then classified. Missing master data or further meta-data are also added so that a knowledge database for the models is created. Thanks to this data, it is possible to use AI methods such as Case Based Reasoning (CBR) to identify common parts based on geometry and in terms of their functionality.

With the help of the CBR process, CLAAS can also incorporate feedback on the components and thus gather knowledge about their re-use, adaptation or rejection in the production process. This knowledge can in turn help to improve the performance of tools.

In this way, CLAAS will improve the similar parts search in order to reduce the number of parts in the inventory database in the medium term or to keep it manageable. To this end, for example, potential common parts or evolutionary stages can already be suggested to the developer during the design phase, which reduces the design effort. The AI solution from the project will eventually be made available in generic form to other users on the Al Marketplace.

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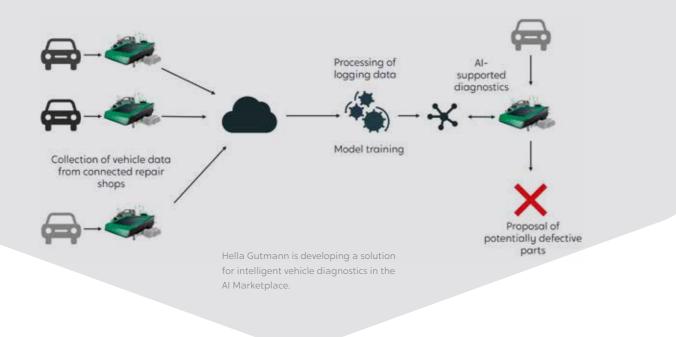


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### **Hella Gutmann: Al-assisted Diagnosis**



Challenges: Vehicle diagnosis currently requires extensive prior knowledge and a lot of time.



Solution Approach: Development of a process for automated detection of potentially defective components in a vehicle with the help of Al.



Added Value: The complexity due to different vehicle types can be better managed and the performance of vehicle diagnostics thus becomes more efficient.

The company Hella Gutmann develops intelligent solutions for the repair and maintenance of cars and motorbikes of all makes and models, especially in cooperation with independent garages.

In the Al Marketplace, the company's primary focus is Al-assisted vehicle diagnostics. Traditionally, potentially defective components in the vehicle are identified using fault codes and sensor values. Currently, a mechanic needs a lot of time in the workshop as well as extensive automotive knowledge in order to make a well-founded diagnosis on the basis of read-out error codes or measured sensor values (e.g. injection quantity). In addition, a large number of different vehicle brands are repaired in independent workshops, which increases the complexity.

### **Detecting defective components** automatically with Al

The aim of this project is to develop and test methods for the automated detection of potentially defective components in the vehicle using artificial intelligence. In particular, suitable methods for data pre-processing and the training solutions

of machine learning models with the help of vehicle data (fault codes, sensor readings and KM states) are being developed and validated.

Furthermore, it is examined whether common models from the field of machine learning are suitable for application to vehicle diagnostics. Finally, these models are integrated into a prediction model for defective components. This prediction model will be optimised step by step through feedback from automotive experts and transferred into a demonstrator for Al-assisted vehicle diagnostics.

### A demonstrator for the Al Marketplace

With this project, Hella Gutmann is developing a demonstrator in the form of a service that uses machine learning models to provide a list of potentially defective components for a specific automotive diagnostic case. In the future, the integration of this service into a product is planned. With the help of this Al solution, it will be possible for mechanics to better manage the complexity that arises from different vehicle types and thus also to carry out vehicle diagnostics significantly faster.

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### **Westaflex: Al-assisted Production Planning**



Challenge: Sequence planning in manufacturing has been done manually up to now, and the complexity of taking all the framework conditions into account is constantly increasing.



Solution Approach: Research and development of an Al application for optimised sequencing using product and production data.



**Added Value:** The usable output is optimised and thus the added value is increased by saving time in the manufacturing process.

Air conditioning and ventilation technology, components, devices and system technology: Westaflex is a German family business that has been providing architectural building services and air ducts since 1933. Solutions for a better climate and simplified construction made of aluminium, stainless steel and premium plastics. For every type of building and pipe, there are ventilation systems in many shapes and materials, in different diameters and grooves, so that the systems can be flexibly combined and adapted to the requirements. Accordingly, many different set-up processes are required in production, which in turn requires precise planning. To ensure that everything runs smoothly and as efficiently as possible, the sequence of orders must be planned precisely before production.

Sequence planning determines the production sequence of individual orders with the aim of making the production process lean, time-saving and thus efficient. Currently, the sequence planning of orders at Westaflex is still done manually, for example using spreadsheets or analogue planning boards, and not automatically. Factors such as machining, set-up and delivery times, product specifications, material or the reduction of effort must be taken into account individually. This is very cumbersome to implement: Orders and sequences of machines cannot usually be simply shifted without having to manually adjust the rest of the planning.

### Data analysis and Al make for intelligent production planning

The goal is therefore to optimise the sequence planning of production orders with the help of artificial intelligence. For this purpose, a wide variety of data, for example ERP data



and real-time data from production, are being evaluated in order to derive indications for optimal machine occupancy and to use these findings for sequence planning. For this purpose, a data platform is being developed as a web-independent on-premise solution. Order data, resource data, process data, tool/maintenance data, logistical data and monetary data are brought together on the data platform and processed for the Al application. The data platform thus represents an IT infrastructure equipped with interfaces for the plant's internal data and the data from the AI application. The solution is then implemented and tested with real data, optimised and validated.

For the Al Marketplace, this project results in valuable solutions and building blocks in the field of production system development, which will also benefit other companies facing similar problems or goals. Westaflex primarily expects this project to optimise the usable output and thus increase the added value by saving time.

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### Düspohl: **Al-assisted Producibility Analysis**



Challenges: The initial set-up process of profile wrapping systems is still carried out manually by the wrapper.



Solution Approach: A self-learning AI cycle around the machine's digital twin always provides recommendations for optimal machine settings.



Added Value: Recommendations on the manufacturability of new products and on parameters of future wrapping processes.

Düspohl is considered the world's most innovative company when it comes to developing and manufacturing profile wrapping technologies, as well as surface laminating and peripheral machines for the wood and plastics industries. At Düspohl Maschinenbau GmbH, the wrapping of wooden, metal or plastic profiles by means of so-called pressure rollers takes place fully automatically and intelligently with the help of the "RoboWrap". In the Al Marketplace, the setup process of the manufacturing plant is now to be optimised and recommendations on the feasibility of products are to be determined with the help of a digital twin.

Profile-wrapping is a process by which a decorative surface is laminated onto a substrate. The wrapping is done on a profile-wrapping machine with the help of pressure rollers.

The RoboWrap system positions them fully automatically. At present, an employee still carries out the positioning himself when first adjusting the pressure rollers to a profile geometry: he "teaches" them in. The combination that produces the optimum wrapping result is saved at the end and can be recalled at a later time. The robots then reproduce the positions of the pressure rollers automatically.

### Automated feature extraction and teaching of machines thanks to Al

As part of the Al Marketplace, experts from Fraunhofer IEM are working together with Düspohl to complete the automation and to replace the previously unautomated "teaching in". In addition, the feasibility of new product specifications will be able to be assessed automatically. To this end, an algorithm for extracting features is first developed, with the help of which all types of profiles at Düspohl can be examined for their properties. These characteristics are assigned to individual RoboWrap robots in the next step. For each robot, the third step is to determine with which roller geometry it can best process its assigned feature and where exactly the roller must be positioned.

With the help of a self-learning AI cycle around the digital twin of the machine, Düspohl will always receive recommendations for optimal machine settings in the future. At the same time, Düspohl's customers receive recommendations on the manufacturability of new products and on the parameters of future coating processes. For them, this means not only process optimisation but also a further increase in efficiency. The findings from the project will be generalised for the Al Marketplace to derive an application for the platform.

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# **Our Services**

### More Than a Platform

In the Al Marketplace, we are continuously working on various services to show you the actual potential of Al in product creation for your company and to make it accessible to you. Whether you are an Al expert or an enthusiast - contribute your skills and experience, and benefit from the know-how of others.

Get valuable expert feedback on the concrete potential benefits of AI in your product creation.

In order to open up AI technologies for your company, the Al Marketplace offers an on-site potential analysis, with which we identify and evaluate possible applications for artificial intelligence in a systematic way. As a result, you will receive concrete AI use cases for your company including tips for implementation. The analysis is carried out in four steps:



### 1. Identify Challenges

Initially, your product creation process is recorded and analysed with regard to possible challenges. These are then prioritised so that we work on your most relevant use cases.



### 2. Check Feasibility

Subsequently, we examine which challenges can be addressed by Al procedures. To do this, we draw on our AI solution classes.



### 3. Carry Out a Benefit Assessment

cess, an Al potential results. All potentials found are analysed with regard to the benefits for your company.



### 4. Exploit Potentials

together with you, develop recommendations for action to tap the identified potentials.



Is your company ready for the use of AI technologies? The use of artificial intelligence can change individual activities, entire processes or even market services. The starting points for applications of artificial intelligence are therefore individual from company to company. Nevertheless, there are general prerequisites for the industrial use of artificial intelligence. These range from technical prerequisites, such as the availability of structured data, to organisational prerequisites, such as an Al strategy, to cultural prerequisites, such as the willingness of employees

With the Al Readiness Check, you can find out whether your company is ready for the use of artificial intelligence, especially in product creation. In addition to a maturity assessment, you will receive helpful tips on how to best pre-If a challenge is addressed by an Al pro- pare your company for the use of artificial intelligence in product creation.

We process the prioritised potentials and, Optimise your data structures, data governance and data continuity with the support of the Al Marketplace team. For years, structural change through digitalisation towards an information society has led to an explosive growth of

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With the help of the Data Governance Check, you can have the current data governance in your company assessed. The assessment categories range from processes that a company has established in the field of data governance, to the current competence level of the employees, to the available technical resources in the field. As a result, you immediately receive a classification of your maturity level as well as concrete tips and information on how you can improve your data governance so that nothing stands in the way of the use of Al applications.



Are you looking for the opportunity to network with experts or exchange ideas on an equal footing? This is exactly what the associated partnership offers.

As a partner of the Al Marketplace, you receive direct access to the offers and research results from the project. This way you can stay up to date with the latest developments on the topic of AI in product creation. In addition, you receive direct access to our events and publications and thus to the innovation ecosystem that is being created around the Al Marketplace platform.

What are the advantages of the partner programme?



### **Events and exchange of information**

Attend our events to learn more about the development of the Marketplace and the associated potential for you.



### Test and help to shape

As a partner, you can test unreleased services ahead of time and actively shape the development of the Al Marketplace.



### Non-binding and individual

You can determine your individual participation as a partner according to your own preferences and have no obligations.



### Companies in the manufacturing sector

As an industrial company, you have the opportunity to discover the potential of Al for your product creation.



### Providers of AI applications or services

As an Al provider, you can prove your skills in exchange with industrial companies.



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# Voices from Politics, **Science and Business**



duct development and to test various use cases. In addition, through the exchange with other companies and AI experts, we research institutions, corporates and startgain both an insight into possible further problems and solution approaches as well as knowledge about the future potential of Al in engineering."

Thomas Böck, CEO CLAAS KGaA mbH



The AI Marketplace brings together users, solution providers and Al experts to unlock the potential of Al for product creation."

Dr. Alain Pfouga, General Manager prostep ivip

"We see that the rise of digital platforms is changing the business environment of industrial companies permanently. After the B2C sector, the B2B sector is now on the threshold of the so-called platform economy. By joining platforms such as the Al Marketplace, companies can benefit from this development, for example, to open up new markets

Prof. Dr.-Ing. Jürgen Gausemeier, acatech Vice President

at low transaction costs."

"Through the Al Marketplace, we at "To push our digital efforts forward, we CLAAS have the opportunity in the need to work together. This is espepilot project "Integration of AI in cially true for artificial intelligence, where strong networks and collaboration are key to developing top of the class applications for our industry. What we need is an ecosystem that brings SMEs, ups together to exchange knowledge and learn from each other. That we're stronger together is the oldest trick in the book, but it is very much so: The Al Marketplace is an important building block towards even better Al solutions."

Vanessa Cann, Managing Director KI Bundesverband

"The Al Marketplace is a platform that fosters exchange between users and providers of Al. At the heart of AI are data. And data are as sensitive as they are valuable. Therefore, we need a secure, certified standard that ensures data sovereignty. As part of the consortium, we are happy to provide the IDS reference architecture as the core of the Al Marketplace. The IDS reference architecture quarantees secure and fair transaction mechanisms as well as data sovereignty for all market players."

Lars Nagel, CEO International Data Spaces Association

# **These Partners** Represent the Success of the **Al Marketplace**

The guarantee for success is our project consortium made up of 19 research institutions, networks and companies, whose nucleus is the Leading-Edge Cluster it's OWL.

We rely on the expertise of the AI providers Cognitive Interaction Technology Cluster of Excellence CITEC, the Institute for Industrial Information Technology and Ubermetrics, as well as on the excellence of AI users CLAAS, Diebold Nixdorf, Düspohl Maschinenbau, Hella Gutmann and Westaflex.

The platform core is formed by the organisations Contact Software, the Fraunhofer Institutes IEM, IOSB-INA and IPK. the FIWARE Foundation, the Heinz Nixdorf Institute, innofocus businessconsulting gmbh, the International Data Spaces Association, prostep ivip e.V. and UNITY AG.

### Our Consortium











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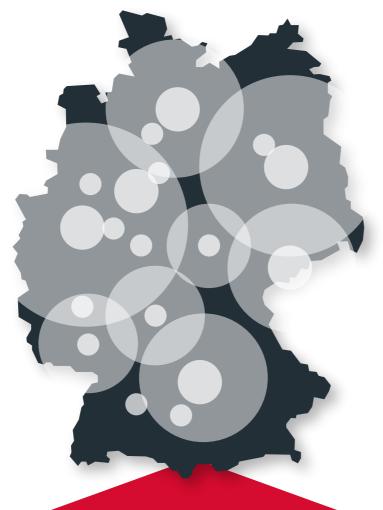












### Our Associated Partners

The Al Marketplace ecosystem is growing every day and many partners have joined the project to profit from our partner perks and latest insights. Join us as well and become part of our ecosystem to exploit the potential of artificial intelligence for your company.





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