

# WE ARE MAKING INDUSTRY 4.0 LEGALLY COMPLIANT



## »INDUSTRY 4.0 LEGAL TESTBED«

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#### CONTACT

Industry 4.0 Legal Testbed

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We are looking forward to collaborating with you!

Visit our  
Website:



<https://legaltestbed.org/en/start/>

#### Our objective

As an interdisciplinary research and development project, Legal Testbed aims to systematically use the potentials of digitalization of Germany as a business location by creating a legally watertight basis for negotiations and contracts concluded by machines. In our pilot project, a publicly accessible, digital testbed is being created that enables companies to develop and extensively test automated business processes for use in production and logistics. The project launched on June 2019 and will run until May 2023.

#### The challenge

When it comes to automating contract processes, there are currently still considerable security and legal uncertainties for companies, which pose an obstacle for small and medium-sized enterprises

in particular. There are various issues at hand regarding the conclusion and implementation of contracts by machines, accountability, liability, IT-security, data protection as well as traceability. These issues need to be addressed to minimize risks for companies.

#### Our approach

Negotiations conducted by machines are carried out by using blockchain technologies, smart contracts and software agents so that legally secure contracts may be concluded. Therefore, Legal Testbed also establishes a digital testbed for evaluating new business models concerning decentralized, heterogeneous ecosystems. To make it easier for companies, especially small and medium-sized enterprises, to enter Industry 4.0, Legal Testbed supports them with concepts and tools for the IT- and legally compliant implementation of automated business processes.



## Our scenarios

The use cases of Legal Testbed depict typical business processes during transportation and production in Industry 4.0 and enable the project to be tested on tangible use cases:

In the transport use case, a freight contract is negotiated and executed automatically. In this context, the transport of goods within the EU is examined. The analysis focuses on the legally compliant conclusion of the contract and compliance with the correct process within the service provision.

In the production use case, the production of various products is negotiated between a customer and a supplier. The quantity to be produced is distributed over several requests, so that in this case there is a longer-term contractual relationship.

In addition, the two use cases are supplemented with errors or malfunctions to create technical and legal implications.

## Automated trust management

For a contract to be concluded, mutually perceived trust must first be established. Since January 2021, an additional research topic of Legal Testbed is the exploration of automated trust management. Hence business, legal, and security requirements for

trust formation are being investigated. With the help of trust agents, trustworthiness profiles and an evaluation model, trust building is also to be managed automatically.

## Your benefits

By providing a versatile set of tools, Legal Testbed reduces risks and enables companies, in particular small and medium-sized businesses, to use Industry 4.0 technologies.

After the first version of the publicly accessible testbed went online with the transport use case at the end of 2021, work is now underway on the production case. In addition, transfer modules are now being developed to support companies on their way to automating business processes.

Your company is interested in benefitting from the numerous possibilities and chances that a collaboration with our project entails? Do not hesitate to contact.

## Our consortium research partners



INSTITUT FÜR  
RECHTSINFORMATIK  
UNIVERSITÄT DES SAARLANDES



## Our cooperation partners



INTERNATIONAL DATA  
SPACES ASSOCIATION

Supported by:



on the basis of a decision  
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