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Reallabore  
Testräume für Innovation  
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# Making space for innovation

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*The handbook for regulatory sandboxes*

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In spring 2019, the Federal Ministry for Economic Affairs and Energy set up the Regulatory Sandboxes Coordinating Office to implement and progress the Regulatory Sandboxes Strategy. The Coordinating Office works closely together with experts from policymaking and authorities, companies and associations, the research community and civil society. It will gladly respond to any questions and suggestions you have about this handbook.

Contact: [reallabore@bmwi.bund.de](mailto:reallabore@bmwi.bund.de)

More information: [www.reallabore-bmwi.de](http://www.reallabore-bmwi.de)

# Foreword

Self-driving cars, drones and boats, tele-medicine, smart cities, connected factories, the digital energy transition: we are seeing developments today that appeared impossible yesterday. Digital technologies and solutions offer massive potential for consumers and companies. They are transforming our lives and economies – and the pace of change is accelerating.

The legislature is finding it very difficult to keep up with the new developments. How can we make good use of the digital opportunities without lowering the standards which protect us? How can we make Germany an attractive, forward-looking centre for innovation?

In view of the high pace of digital change, we need to experiment not only with our technologies, but also with our rules and regulations, so that we can test them and learn. This is what regulatory sandboxes are for. Firstly, these frameworks for testing innovation and regulation make it possible to trial new technologies and business models in real life. Secondly, they aim to liberalise legislation on a trial basis and to develop it further. Experimentation clauses offer the necessary “breathing space”.

In order to systematically establish regulatory sandboxes as an instrument of economic and innovation policy in Germany, the Federal Ministry for Economic Affairs and Energy adopted the Regulatory Sandboxes Strategy in December 2018. We are calling for more experimentation clauses and are giving recognition and support to exciting practical projects. We are bringing the decision-makers on regulatory sandboxes together, and we intend to improve the degree of expertise relating to regulatory sandboxes.

That is why we have produced this handbook. It shows the variety of ways in which regulatory sandboxes are used, and provides recommendations and practical examples. It is addressed to companies, research establishments and administrations planning and implementing a specific regulatory sandbox,

and also to legislative bodies wishing to put the legal basis in place for regulatory sandboxes.

I am most grateful to the members of the Regulatory Sandboxes Network, who have made a major contribution towards the production of this handbook. In an online consultation in spring 2019, the experts on regulatory sandboxes from companies, start-ups, municipalities, the Länder and research establishments provided many valuable suggestions for improvements and information about exciting projects.

I would also like to thank the high-level representatives from government, commerce and research who have enriched and supported the handbook with their personal contributions. In particular, I should mention Ms Dorothee Bär, the Minister of State for Digitalisation.

Finally, I should say that we are encountering more and more support at international level. In the group of the G20 Digital Ministers, we jointly recognised the role played by regulatory sandboxes for a flexible and pro-innovation digital policy on 8 June 2019.

I am therefore looking forward to joint efforts to increase the scope for innovation. Let us work together to pave the way so that smart ideas can continue to be tested and realised in Germany.


Sincerely yours,



Peter Altmaier  
Federal Minister for Economic Affairs and Energy



# REGULATORY SANDBOXES IN GERMANY

- 
- 1.1 What exactly are regulatory sandboxes?
  - 1.2 When are regulatory sandboxes and other test projects used?
  - 1.3 The Regulatory Sandboxes Strategy

Digital innovations are now conquering all fields of everyday life and business – and this is taking place faster than ever before. If companies and research establishments are to research and develop new technologies and business models and to bring them to market, they need to try them out in practice. Where possible, this should take place “in real life”.

Law-makers also need to keep pace and be aware of what rules are needed for the new technologies. How can we make good use of the digital opportunities whilst effectively countering the risks? The legislature must not become detached from advances in technology.



# 1.1 What exactly are regulatory sandboxes?





Regulatory sandboxes offer a special opportunity to learn not just about innovation, but also about the rules and regulations underpinning it. As a framework for testing innovation and regulation, regulatory sandboxes are characterised by three elements:

1. **Regulatory sandboxes are test areas established for a limited time, covering a limited area, in which innovative technologies and business models can be tried out in real life.** In many cases, innovative technologies and business models are not fully compliant with current rules and regulations, simply because the people who put the legislation in place could never have envisaged the new developments. In response:
2. **Regulatory sandboxes make use of regulatory leeway.** Experimentation clauses and other instruments to deliver flexibility make it possible to set up regulatory sandboxes even if the existing legal framework does not provide for the technologies or business models which are to be trialled.
3. **Regulatory sandboxes entail an “interest in regulatory discovery”.** This means that the focus is not only on the innovation, but also on the question of what the legislature can learn for future legislation. Regulatory sandboxes will only result in better regulation if they involve a process of regulatory discovery.


The pace and impact of digitisation necessitate a paradigm shift on innovation. The changes are too rapid and far-reaching for us to respond by sitting round tables to come up with theoretical concepts. Regulatory sandboxes are the right way forward. **I hope that this handbook on how to use regulatory sandboxes will encourage a lot of companies to press ahead boldly and to test out tomorrow’s products.**

**Dorothee Bär**  
Minister of State for Digitalisation



### › What's happening in the field?

Autonomous floating water drones could offer entirely new ways to shift the transport of freight from overloaded roads to rivers and canals. However, the technology needed is not yet available, and there are no rules to cover its use. In the **A-SWARM** project, the Economic Affairs Ministry is currently planning a regulatory sandbox which permits the development and testing of autonomous electrical watercraft whilst simultaneously aiming to generate insights into the future development of the relevant rules. Since it will probably be necessary to use public waterways in the course of the project, exemptions from shipping laws are required.

 Further information: [www.reallabore-bmwi.de](http://www.reallabore-bmwi.de)

Digital first – misgivings second? That's not the way I see it. **But we do need to be able to try things out to see what benefits can be generated by an idea, so that we can then decide what misgivings we should take seriously, and what misgivings we might be able to disregard.** Regulatory sandboxes are the right way to do this – an interesting experiment, and I am keen to see how it pans out.



**Saskia Esken**  
Member of the German Bundestag (SPD)

It should always be borne in mind that regulatory sandboxes **do not aim simply to deregulate** or reduce safety and protection standards. In fact, the opposite is the case: there are many areas in which the legal situation is unclear or uncertain and for which meaningful legislation has yet to be created.

At the same time, existing rules – which may have been established decades ago – will need to be questioned more frequently in this age of digital transformation than was previously the case. Regulatory sandboxes are intended to

help develop a suitable legal framework without relinquishing useful and necessary standards.

Regulatory sandboxes facilitate policymaking which is more data-based and driven by empirical findings. They form part of a **modern, evidence-based ordo-liberal policy**.

At the same time, they **supplement existing policies to promote innovation**. Depending on the public objectives being pursued, many test projects are also eligible for public funding.

Regulatory sandboxes are real-life regulatory policy, and stand for an urgently needed change to our mindset in Germany. **The first thing that new ideas and business models encounter should not be red tape and**



**misgivings, but curiosity and scope for testing.** Just do it, try it out, and learn from it. Innovative technologies and lean regulation can prove their worth in a regulatory sandbox before we all benefit from them.

**Dr Carsten Linnemann**

Member of the German Bundestag (CDU); Federal Chairman of the Small and Medium-Sized Business Association of the CDU

› **Information box**

**Confusing terminology**

What do we mean by “regulatory sandboxes”? There is at present no generally accepted definition of the term “regulatory sandbox” as used in research, commerce and government. Other terms, such as “living labs”, “innovation spaces”, “regulatory testbeds”, or “real-life experiments” are frequently used for regulatory sandboxes and similar tests.

Whilst the Economic Affairs Ministry regards regulatory sandboxes as “areas in which to trial innovation and regulation”, the social sciences frequently regard them as experimental spaces at the interface of science and society in which solutions are primarily sought for societal challenges and transformation processes. When it comes to testing out the application of innovations, the focus is generally placed exclusively on technological issues.

## 1.2 When are regulatory sandboxes and other test projects used?





As testbeds for innovation and regulation, regulatory sandboxes and similar test projects offer a lot of potential wherever consumers, businesses and policymakers are facing major changes due to the digital transformation.

Typical fields are those sectors in which modern digital technologies – such as artificial intelligence (AI), blockchain, the Internet of Things or digital connectivity in general – can result in new products and services.


### › What's happening in the field?

In a four-year trial period, the **Hamburg Electric Autonomous Transportation** project (HEAT) is to investigate how fully automated or self-driving electric minibuses can be safely deployed to transport passengers on urban roads. The regulatory sandbox, which is a central showcase project for the ITS World Congress in Hamburg in 2021, is scheduled to take place in three phases; in the initial stages, a staff member from Hamburg's metro system will be on board. Since the test vehicles are powered vehicles with highly/fully automated driving functions, which are to be developed into self-driving vehicles, the implementation of the project and registration of the vehicles necessitates applications pursuant to Section 21 of the German Road Vehicles Registration and Licensing Regulations with exemptions pursuant to Section 70 of the Regulations. The project is being funded by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

 Further information: <https://www.erneuerbar-mobil.de/projekte/heat>

### › What's happening in the field?

Regulatory sandboxes can also be designed as testbeds for broadbased participation. The **Baden-Württemberg Autonomous Driving Testbed** is a regulatory sandbox for mobility concepts which permits companies and research establishments to test technologies and services in the field of connected and automated driving. Here, the combination of various elements of relevance to mobility and the consortium of scientific and municipal partners create a platform on which key insights and momentum can be gained for the ongoing development of legislation and policy for autonomous driving.

 Further information: <http://www.taf-bw.de>

For example, regulatory sandboxes are indispensable if we want to find out what role will be played in future by autonomous, AI-assisted flying, driving and waterborne systems in the **transport and logistics systems** of the future.

In the **energy sector**, we need to trial innovative solutions for a future energy system which is based more and more on renewable energy and higher energy efficiency, and which is also highly digitised. In response, the Economic Affairs Ministry has for example set up

the large-scale regulatory sandbox entitled “Smart Energy Showcases – Digital Agenda for the Energy Transition” (SINTEG), offering temporary spaces in which solutions for technical, economic and regulatory challenges relating to the energy transition can be developed and demonstrated.

Also, the Economic Affairs Ministry has established “Regulatory sandboxes for the energy transition” as a new funding pillar in the 7th Energy Research Programme. The aim is to



### › Information box

#### What's happening in other countries?

Regulatory sandboxes and similar projects are also gaining traction outside Germany. Many initiatives are focused on the financial sector, where there are regulatory sandboxes in 31 countries at present, e.g. Australia, Brazil, Canada and Russia. Other such initiatives cover also different sectors, e.g. in Singapore, the United Kingdom and Japan.

**The various types of regulatory sandboxes are an important means of boosting the culture of experimentation in our society and of reaching a better understanding of and support for transformation processes.**

**Prof. Dr. Uwe Schneidewind**

President and Scientific Director of the  
Wuppertal Institute



try out technical and non-technical innovations in real life and on an industrial scale in key areas of the energy transition. The focus of the first competition for ideas for “Regulatory sandboxes for the energy transition” in spring 2019 was on the fields of “sector coupling and hydrogen technologies”, “large-scale energy storage in the electricity sector” and “energy-optimised neighbourhoods”. €100 million in funding each year has been made available for this from 2019 to 2022.

In the **health sector**, too, digital applications – such as telemedicine – offer major potential; this involves not only technical and organisational aspects, but also ethical and legal issues.

There are various possibilities for digitisation in municipalities: the Smart Cities model project aims to test these and try and ensure a good fit with sustainable and integrated **urban development**. Here, selected municipalities are developing and implementing cross-sectoral and spatially-related digitisation strategies. The Federal Ministry of the Interior, Building and Community has been funding the project since

2019. In the next ten years, a total of around 50 projects are to be provided with approximately €750 million in funding, along with accompanying research and the transfer of knowledge.

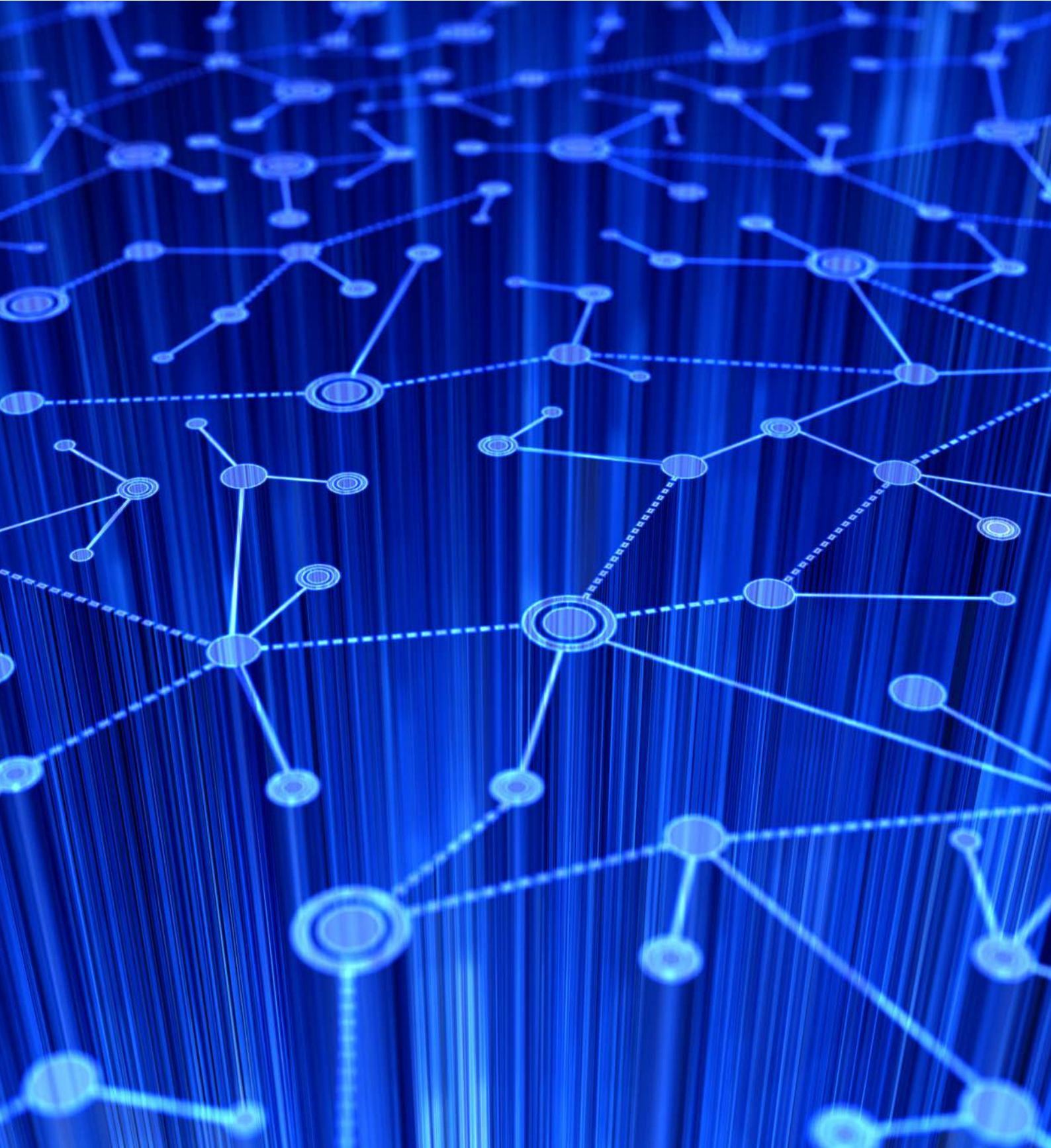
The debate about bitcoins is just one sign of the significance of digital technologies for the **financial sector**, and the scale of the regulatory challenges.

Similarly, there are numerous regulatory issues in the field of **sustainability**, the **sharing economy** and **digital administration** which can be tackled via regulatory sandboxes and similar projects.

This handbook provides insights into numerous specific regulatory sandboxes and other similar projects in this and other fields which have been collected via a research study by the Economic Affairs Ministry and an online consultation in the Regulatory Sandboxes Network. The examples provide a variety of insights into actual regulatory sandboxes – but make no claim to be exhaustive or even representative.



## 1.3 The Regulatory Sandboxes Strategy





Getting regulation right has always been a significant challenge, particularly with the advent of new digital technologies and business models. As they change the way we live and work at a fast pace, we need new approaches.

**Germany, with its regulatory sandboxes strategy is in the right track to tackle these challenges, by promoting a culture experimenting, fostering greater openness, and establishing a new normal when it comes to regulation.**

**Gabriela Ramos**

OECD Chief of Staff and Sherpa to the G20



The Economic Affairs Ministry aims to systematically establish regulatory sandboxes as an instrument of economic and innovation policy in Germany and thereby to make a contribution towards a new digital regulatory framework. This also implements a clear requirement of the Coalition Agreement.

Against this background, Economic Affairs Minister Peter Altmaier launched the Regulatory Sandboxes Strategy in December 2018. The strategy is pursuing three key goals:

### **First goal: more scope for innovation**

Germany is an attractive centre for innovation. Nevertheless, we wish to make even greater use of our country's creative potential. We need to create the necessary legal leeway so that smart ideas can continue to be tested and realised in Germany.

**Experimentation clauses** and **exemptions** are the main tools we can use to open up the legal framework for innovations and enable regulatory sandboxes to be used. So we are working to ensure that **many more laws and ordinances** will include these instruments in future. And we

want to find out how best to design experimentation clauses and exemptions (e.g. a “model experimentation clause”) so that they offer both flexibility and legal certainty for everyone involved. Legal expertises and an intensive dialogue with practitioners and experts will help us to answer these questions.

We are also focusing on ensuring that **better use** is made of the experimentation clauses and exemptions which already exist. The companies, research establishments and relevant authorities all need information, clarity and legal certainty as they apply for, grant and implement exemptions.

### **Second goal: networking and getting information out**

Regulatory sandboxes are highly diverse – in terms of the fields of innovation, the stakeholders, the goals, the regions, and the relevant rules and regulations. But many of the challenges are common to them all. Learning from one another, finding like-minded people, sharing knowledge: these are all crucial in the young world of regulatory sandboxes.

One core objective of the Regulatory Sandboxes Strategy is therefore to bring together and network the relevant decision-makers from businesses, research and administration. To achieve this, we have set up the **Regulatory Sandboxes Network**, which now has some 400 members.

We also want to develop a **comprehensive information service** about regulatory sandboxes and to make it available to practitioners, policymakers and the public. Back in mid-2017, the Federal Economic Affairs Ministry commissioned VDI-Technologiezentrum GmbH with preparing an expert opinion entitled “Potential and requirements of regulatory sandboxes”. The company worked together on this with the Munich law firm Bird & Bird LLP. Following a look at what is happening in the field, the expert opinion started by carrying out six case studies of specific regulatory sandboxes. The findings are available (in German) with a lot of other up-to-date information at [www.reallabore-bmwi.de](http://www.reallabore-bmwi.de).

The other wide-ranging findings of the research study formed the basis for this **Regulatory Sandboxes Handbook**. The Regulatory Sandboxes Network also played a key role in the production of the handbook. In an online consultation held in February and March 2019, 83 members of the network from companies, start-ups, municipalities, the Länder and research establishments scrutinised the practical part of the research findings and offered valuable suggestions for improvements (a summary of the contributions can be found in the Annex). Also, many members provided information about their own regulatory sandbox projects. Some of these examples are presented in this handbook, but space did not permit the inclusion of all of them. In future, we will continue to report on current interesting examples of regulatory sandboxes beyond the handbook.

The specific areas of application of the regulatory sandboxes go far beyond the remit of the Economic Affairs Ministry. We need close cooperation between the various federal ministries

## › Information box

### Become part of our network!

Are you interested in regulatory sandboxes or have you gained experience with this topic yourself – as an administration, a company or a research establishment? Would you like to be informed about new developments and share ideas with other experts and practitioners at various types of events? If so, please join our Regulatory Sandbox Network and help to facilitate the creation of regulatory sandboxes and to strengthen Germany’s position as a centre for innovation!



We look forward to receiving your registration at: [reallabore@bmwi.bund.de](mailto:reallabore@bmwi.bund.de)

Innovation and creativity will continue to safeguard our future prosperity. People using drones to rethink existing technologies, applications and business models need to be able to test their ideas in practice. **Our regulatory sandboxes offer this possibility and also help the legislature to try out new types of regulation.**



**Thomas Jarzombek**  
Member of the German Bundestag  
(CDU); Federal Government  
Coordinator of German Aerospace  
Policy

in order to pool the work, create synergies and progress the regulatory sandboxes in the various fields. The **interministerial working group on regulatory sandboxes** has been set up to ensure an intense and regular dialogue; it has been meeting regularly since November 2018.

### **Third goal: launching and supporting regulatory sandboxes**

We want to implement our own projects in order to link the testing of innovation and regulation more closely to actual practice and to lead the way with positive examples – show-

ing that it does work! In **regulatory sandbox competitions**, we give recognition to the most exciting ideas and projects in the field, and provide them with pro-active backing. Our common goal is to identify regulatory obstacles and to develop legally compliant solutions to facilitate innovation in Germany and gather experience for tomorrow's regulations. We are taking a bottom-up approach: the specific ideas for projects and initiatives should always come primarily from the business and research communities and from the relevant regions.

# DESIGNING REGULATORY SANDBOXES



- 2.1 Preparation and planning
- 2.2 Legal aspects
- 2.3 Design and implementation

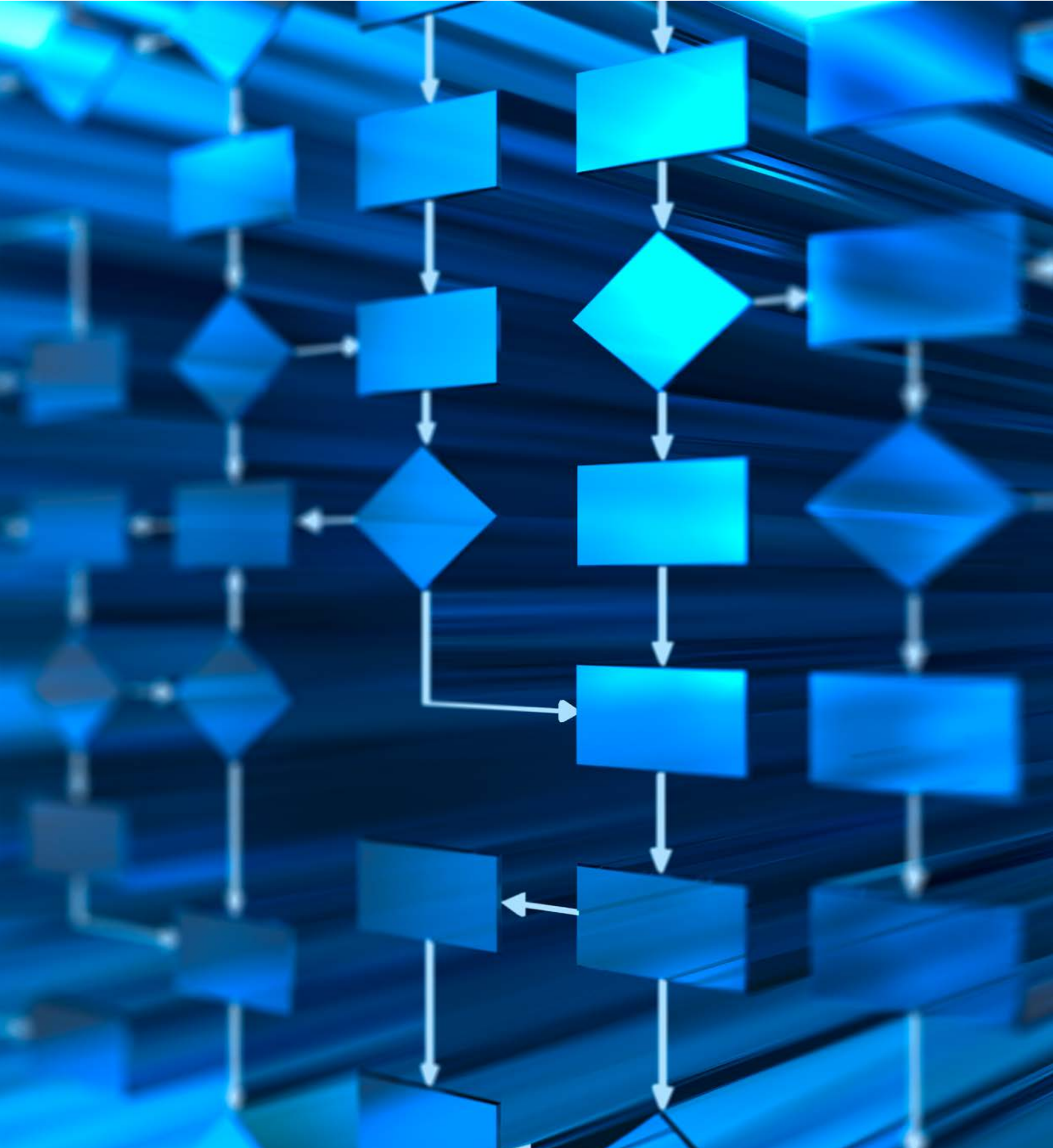


This chapter is addressed to decision-makers in companies, research and administration who would like to set up a regulatory sandbox as a framework for testing innovation and regulation. It highlights the main questions and helps to answer them. Real-life examples illustrate the explanations. The following practical guide is divided into three sections:

- **Preparation and planning**
- **Legal aspects**
- **Design and implementation**

The guide provides practical hints and recommendations, from practitioners for practitioners. An initial draft was produced during the production of the study entitled “Potential and requirements of regulatory experimental spaces (regulatory sandboxes)”. The draft was scrutinised by the experts of the Regulatory Sandboxes Network during an online consultation. More than 100 suggested improvements and comments were received, and these were used to supplement and revise the guide.

## 2.1 Preparation and planning



## Formulating goals and developing indicators

Early on in the process, it is important – depending on the specific goals of the project – to reach a consensus on common aims with

the relevant partners in the regulatory sandbox and to put these in writing as far as possible.

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“What are the key goals of the regulatory sandbox?”

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“What does the project wish to discover?”

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“How can the attainment of the goals be measured?”

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A central aim of the **companies and research establishments** engaged in regulatory sandboxes is to trial new technologies and business models in real life. In many cases, the focus is on the responses from the users and the markets, and on how well the innovations work. Aspects of public acceptance can also be of interest.

Further to this, the goal can also be to use the successful testing to promote a company’s services or products or to advocate rules that are more innovation-friendly.

**Agencies of the Länder and the municipalities** pursue a variety of policy goals in regulatory sandboxes, such as the promotion of innovation, regional policy goals, the promotion of sustainable mobility and logistics, or environmental and energy policy goals. **Legislative (federal) authorities** also aim to gain regulatory insights in many of the regulatory sandboxes in which they are involved. The goal is to find out what effect existing or revised rules and regulations have in conjunction with certain innovations, so that the rules can be updated and improved.

A healthy innovation culture needs opportunities to test out new technologies and processes. **The handbook is an important tool to give security to decision-makers in companies and administrations as they deal with experimental spaces.** Confidence in the content, purpose and scope of statutory experimentation clauses plays a crucial role in decisions to invest in innovative solutions.

**Dr Jörg Kukies**  
State Secretary, Federal Ministry of Finance



It can be seen that the various stakeholders in regulatory sandboxes have both shared and differing objectives. If a regulatory sandbox is to work well, it is vital to agree right from the

outset about **binding common objectives** and **specific research goals**, and to define these in writing.

### › What's happening in the field?

The town of Mittweida, Volksbank Mittweida eG and Mittweida University of Applied Sciences have agreed to develop the structurally weak region of Mittweida into a showcase region for blockchain technology. Together with numerous partners, the three core stakeholders wish to use their envisaged **Mittweida Blockchain Regulatory Sandbox** in order to develop a region with a strong economy with international market leaders in the ICT field, a powerful small business sector, a modern administration, commercially oriented research work and an attractive hub for other industries and providers of capital. At the same time, Mittweida is to act as a pioneer in offering legal certainty for the use of blockchain technology and to help initiate necessary legal innovations in the blockchain context.


 Further information: <https://blockchain.hs-mittweida.de/bsrm/>

In this process, the stakeholders need to consider at an early stage how to define indicators for the goals and the research work, and what **indicators** and data can subsequently

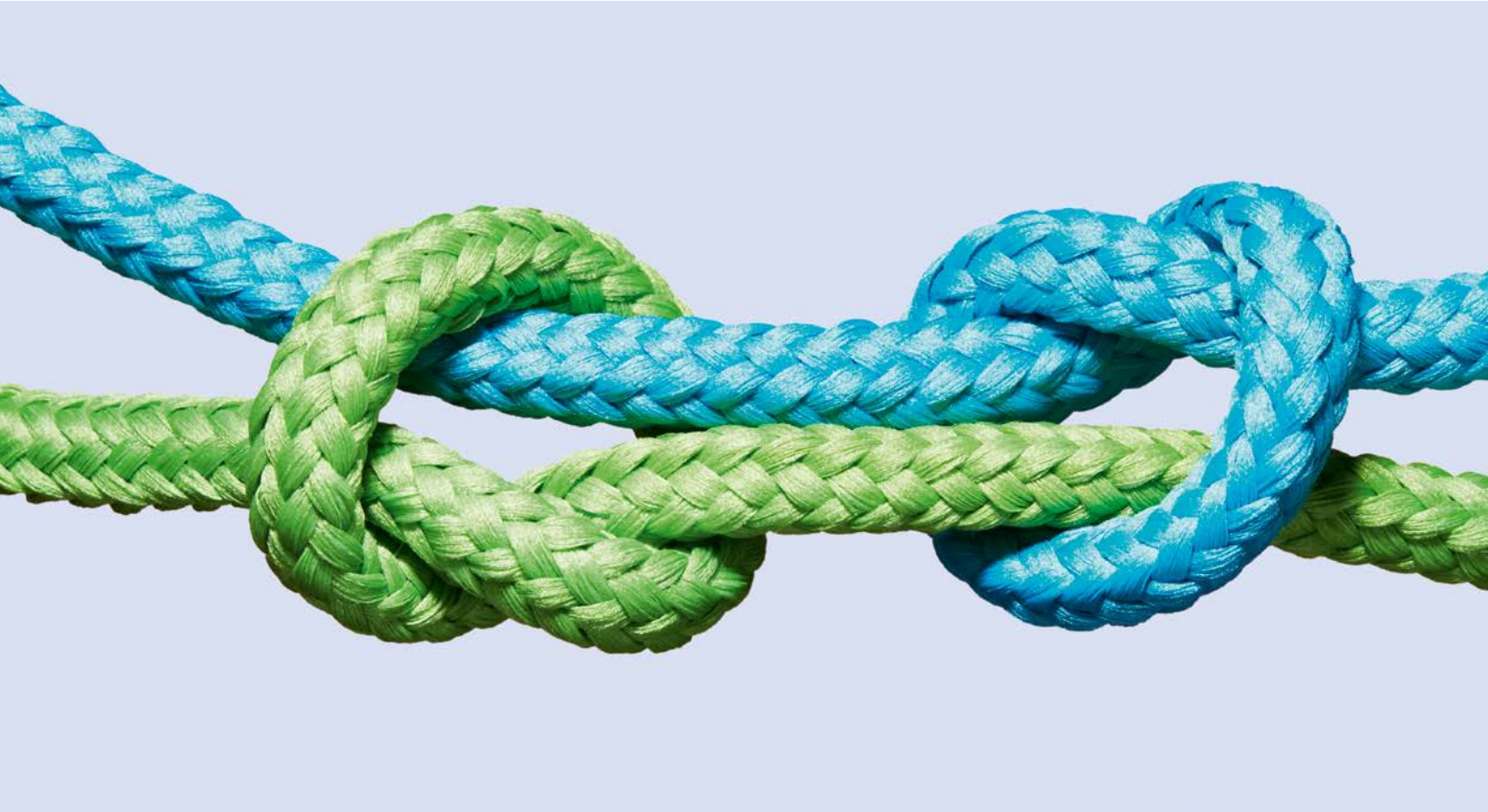
be of relevance when determining the success (cf. Section 2.3 “Defining indicators and data sources for evaluation”).

### › What's happening in the field?

Which fields of medicine and which cases are appropriate for patients to obtain medical advice via a video-based surgery? Do doctors and patients respond well to the concept? What barriers exist? And is the business model viable for the platform operators? Finding the answers to these questions is the shared aim of all the stakeholders in the “**Teleclinic in Baden-Württemberg**” regulatory sandbox, which is being run in Baden-Württemberg from November 2017 until November 2019. Measurable indicators for the responses to these questions include the number of sessions used and the number of patients who are passed on to a non-virtual doctor's surgery.

 Further information: [www.reallabore-bmwi.de](http://www.reallabore-bmwi.de)





## Making sure the stakeholders are on board

A regulatory sandbox consists of the interactions between different stakeholders from government, administration, commerce, science and other fields.

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“Which stakeholders are responsible for implementation, supervision and steering? In other words, who are the **core stakeholders**?”

---

“Which stakeholders will **play an active part** in implementation?”

---

“Which stakeholders should **take part on an occasional basis** in order to improve the preconditions for the regulatory sandbox?”

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“Which stakeholders in the **environment surrounding** the regulatory sandbox might influence the sandbox?”

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“What are the various **interests** that exist with regard to the regulatory sandbox?”

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It is helpful to start by undertaking a stakeholder analysis to determine what roles will be played by the various stakeholders in the regulatory sandbox and what their respective interests are. Working from this, decisions should be taken as to which stakeholders are to be included and how they should be involved.

**Core stakeholders** are persons or organisations with a high level of decision-making powers regarding the regulatory sandbox. Core stakeholders should be involved so closely that they pursue the implementation of the regulatory sandbox in their own interest. An open and regular dialogue is needed to gain a feeling for the interests of all the core stakeholders and to build up a robust relationship of trust.

Where core stakeholders take a critical view of a project, it may be useful to work with third parties to obtain their backing. **Political backing** can play an important role, e.g. when it comes to involving a relevant administrative agency and persuading it to use the existing scope it has to issue approvals (cf. also Section 2.2, “Identifying the route to obtaining an exemption”).

**Active participants** play an important role because they supply services or products which are essential for the implementation of the regulatory sandbox or for meeting regulatory conditions. You will approach active participants at an early stage and keep them regularly updated about progress.

**Occasional participants** can support the regulatory sandbox as door-openers to key bodies and as positive backers. They can influence the public image of the regulatory sandbox and foster – or perhaps impede – a successful implementation. Occasional participants need to be kept updated about the progress made and – if necessary – addressed specifically.

With regard to an early involvement of the real **users** of the technology or business model being tested, it may make sense to work together with promoters at an early stage in order to ensure at the design stage that the future users will take an interest in the project.

**Table: Structure of the stakeholders in a regulatory sandbox**

Core stakeholders	Active participants	Occasional participants	Surrounding environment
<p><b>Decide</b></p> <ul style="list-style-type: none"> <li>• on the set-up and design of the regulatory sandbox</li> <li>• on the implementation of subprojects</li> </ul>	<p><b>Supply</b></p> <ul style="list-style-type: none"> <li>• services for the fulfilment of tasks</li> <li>• key components of an innovation</li> <li>• access to and influence on decision-makers</li> </ul>	<p><b>Support</b></p> <ul style="list-style-type: none"> <li>• via the passing on of contacts</li> <li>• via positive backing</li> </ul>	<p><b>Observes</b> and may participate, possibly passively</p>

Particularly in the case of more sensitive issues, it is important to give consideration to the **surrounding environment** – i.e. everyone who is indirectly affected by the regulatory sandbox, e.g. as residents, businesspeople, or in another way. Seeking **public acceptance** at an early

stage can be vital for the success of the regulatory sandbox. To this end, individual groups or the general public should be informed in a transparent and open way and possibly also involved in decisions and processes.

### › What's happening in the field?

The example of the **congestion tax in Stockholm** shows how tests can help to boost public acceptance of new regulations. The tax was introduced on a trial basis for half a year in early 2006 in order to tackle congestion, with the charge being higher in periods of heavy traffic. The number of cars dropped by 20%, with half of the former drivers switching to public transport. The others drove in at different times of the day, formed car pools or opted to drive elsewhere. The test not only demonstrated the positive effect, but also boosted the level of public acceptance. Before the test phase, only 30% of the population of Stockholm was in favour of the tax; afterwards, the figure stood at 53%. The tax was introduced on a permanent basis.



Regulatory sandboxes can help us to develop a model city with new applications like an autonomous delivery robot or fully automated shuttles driving into the port city. We want to present new solutions in time for the German ITS World Congress in Hamburg in 2021. **If we don't use regulatory sandboxes there is the danger that innovative products and services will only be tested outside Germany.**

**Michael Westhagemann**

Senator responsible for Economy, Transport and Innovation in Hamburg



## › What's happening in the field?

An autonomous delivery robot has been tested in Hamburg with an individual permit and an exemption from the German Road Vehicles Registration and Licensing Regulations and the German Road Traffic Regulations.

### Core stakeholders

The parcel service provider Hermes Germany GmbH is the applicant, and the Hamburg Authority for Home Affairs and Sports and its traffic division is the relevant authority; these two stakeholders are driving the establishment and implementation of this regulatory sandbox. The authority has assumed the supervisory and control function for the regulatory sandbox via requirements imposed in its decision.

### Active participants

Starship Technologies is supplying the autonomous supply robot, TÜV Hanse and HVD insurance are participating actively in the regulatory sandbox. The Hamburg Authority for Economy, Transport and Innovation sets up contacts and cooperation between the relevant administration and Hermes.

### Occasional participants

The district offices are heard regarding any safety issues and can prohibit the implementation of the test. They are giving positive backing to the project.



The police, which are also the road traffic authority in Hamburg, are also occasionally involved. The various police departments are to register and report accidents. An event to launch and provide information for these and other stakeholders about the project is held, at which the delivery robot is presented.

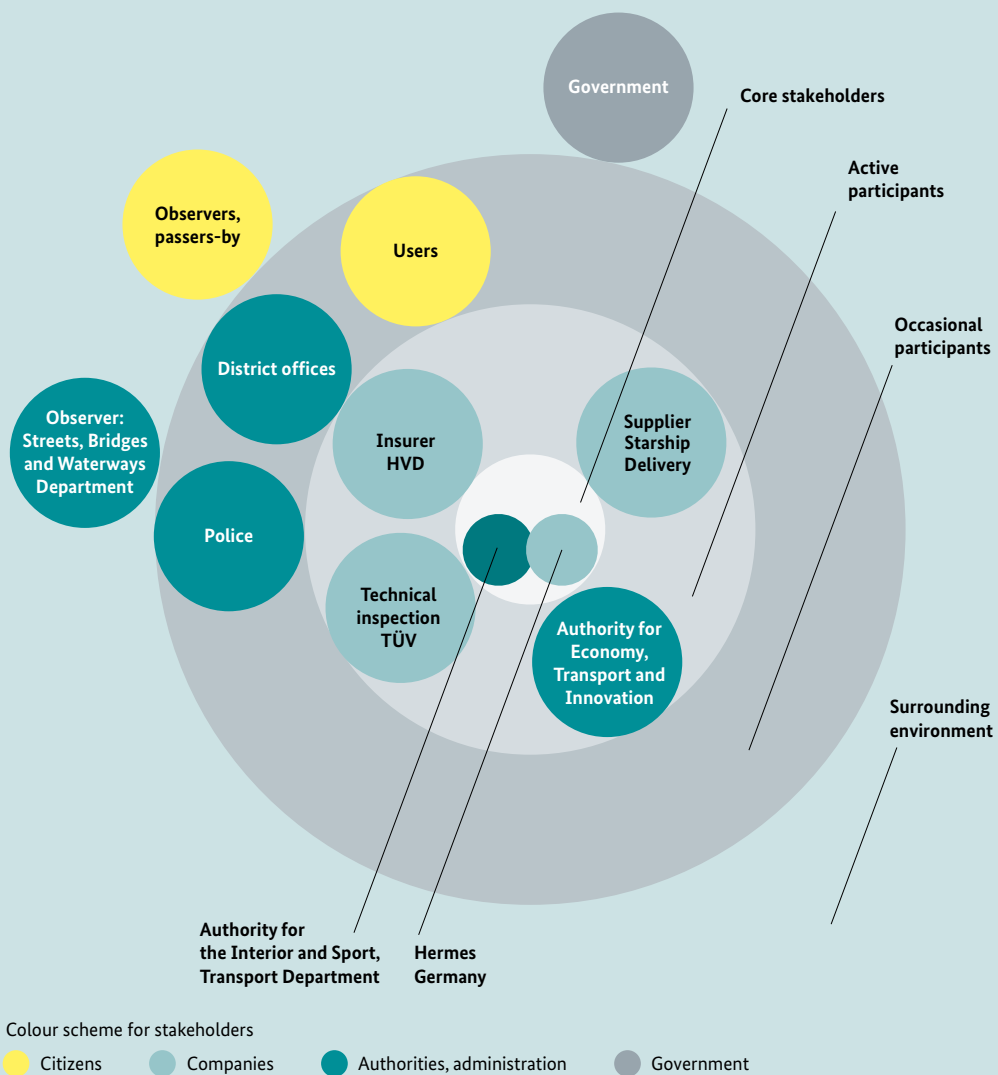


### Surrounding environment

The Streets, Bridges and Waterways Department is observing the tests. It also attends the information meeting.

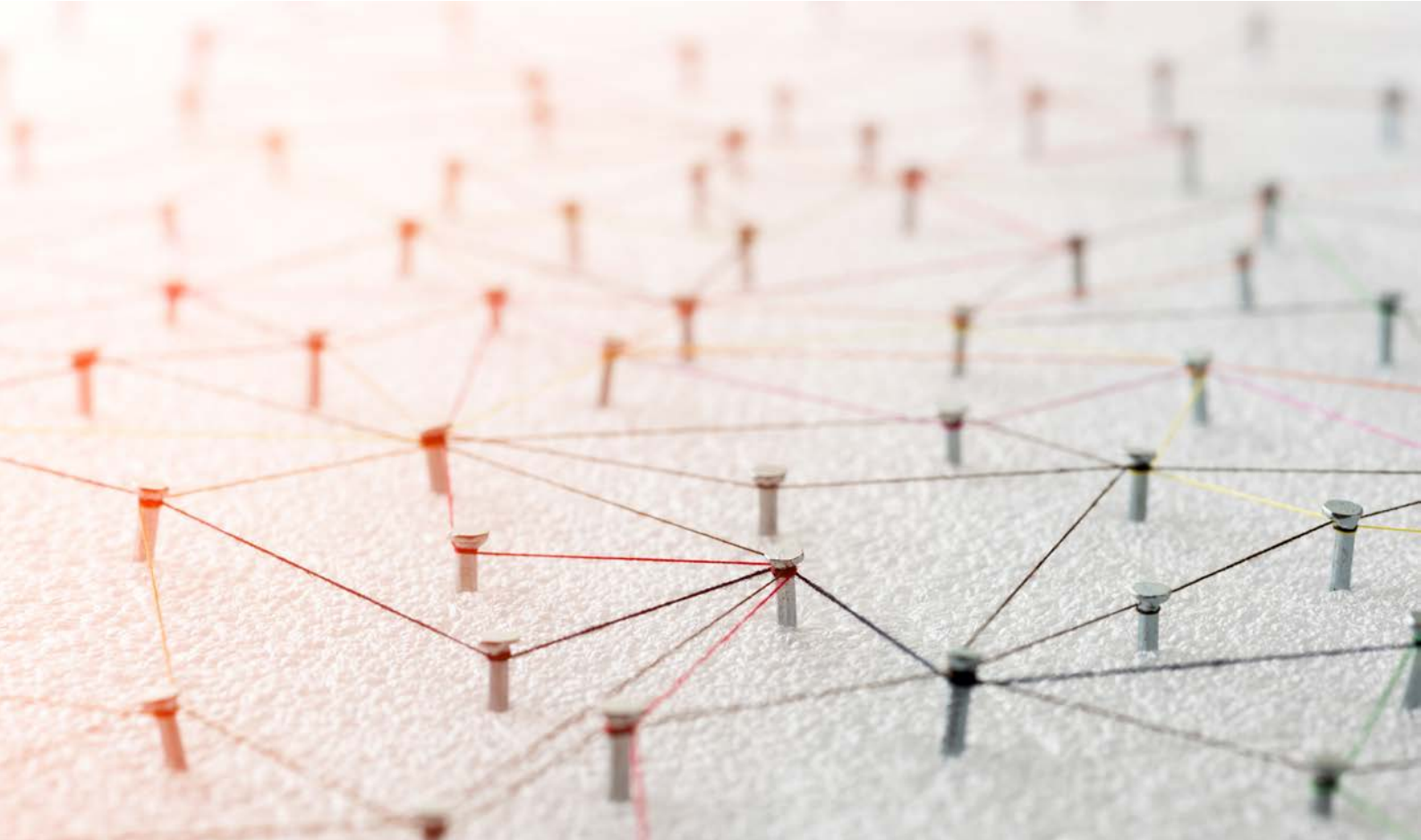
Beyond the city of Hamburg, other policy bodies are interested in the regulatory sand-box. The approach taken and results achieved are discussed for example in the Joint Conference of the Transport and Road Construction Directors-General.

Also, all the passers-by who encounter the delivery robot are part of the surrounding environment.



Further information:

[www.reallabore-bmwi.de](http://www.reallabore-bmwi.de) and <https://newsroom.hermesworld.com/>



## Designing and using networks

People working alone add things – people who work together multiply them. The following

questions indicate how networks can be developed and designed.

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“Do networks already exist which can be persuaded to participate?”

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“How can the relevant participants be brought together in a network?”

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“How is the cooperation in the network to be arranged?”

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“Can network structures from other regions or projects be transferred to the regulatory sandbox?”

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It is very helpful to identify **established networks** for the development and implementation of a regulatory sandbox. Existing networks can cut out a long search for partners, which can otherwise result in delays. Also, networks offer the trust of other partners and understanding of their intentions. And they have insights into administrative portfolios and contacts. Since regulatory sandboxes will generally tend to be limited in geographical terms, regional networks may be particularly useful. If there is no comprehensive network available, it may make sense to build on existing contacts and gradually add further stakeholders to form a network.


**Cooperation in the network** should be clearly defined and moderated. Depending on the number of stakeholders and the size of the network, it may make sense to set up a cen-

tral coordination body and designate a **central contact as a regulatory sandbox manager**. The manager will channel the communications in the network and provide the partners with the information they need. Also, he or she will be a point of contact for the public agencies. A **cooperation agreement** between the stakeholders can establish the parameters of the cooperation and ensure that the support the network needs is in place. In addition to this, principles guiding action and rules and hierarchies for decision-making can be clarified and stipulated amongst the partners.

### › What's happening in the field?

In the Rhine-Neckar metropolitan area, a wide-ranging and unique network of urban and rural districts, companies and chambers of commerce from Baden-Württemberg, Hesse and Rhineland-Palatinate was formed many years before the launch of the **eGovernment regulatory sandbox**. On the basis of the second state treaty between the three Länder, Metropolregion Rhein-Neckar GmbH was founded in 2006 – four years before the launch of the “Cooperative eGovernment in federal structures” model project; the company is the network’s central coordinating body and has permanent staffing. The model project is steered by a high-level steering group at state secretary level.

Contact: Hr. Marco Brunzel, [marco.brunzel@m-r-n.com](mailto:marco.brunzel@m-r-n.com)

 Further information: [www.m-r-n.com](http://www.m-r-n.com)

### › What's happening in the field?


Before the **Teleclinic in Baden-Württemberg** model project, Teleclinic, the platform operator, had already spent 2 1/2 years building up a network of insurance companies, the specialist publishers Deutscher Apotheker Verlag, the Baden-Württemberg doctors' chamber and pharmacy supervision agency, and doctors and pharmacies. By anchoring the project amongst the doctors, obtaining expertise about the needs of patients, doctors and health insurance funds, and gathering the legal and technical expertise, Teleclinic created the preconditions for a joint implementation of the tele-medical model project with the Baden-Württemberg doctors' chamber.

 Further information: [www.reallabore-bmwi.de](http://www.reallabore-bmwi.de)

### › Information box

#### **GO! – the Economic Affairs Ministry's start-up campaign**

The GO! start-up campaign, launched in November 2018 by the Economic Affairs Ministry with business organisations, aims to help people who want to start out in business to set up their own company. It also aims to strengthen the culture of entrepreneurship in Germany, since the entrepreneurs' ideas, products and services are the future of the Social Market Economy.

 Further information: [www.bmwi.de/GO](http://www.bmwi.de/GO)

DEINE  
GESCHÄFTSIDE  
UMSETZEN?

GO!  
GRÜNDUNGS  
OFFENSIVE







## Planning time and resources

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“Within what periods should the regulatory sandbox be prepared, planned and implemented?”

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“What resources need to be allocated to the individual steps?”

---

The planning and preparation, legal analysis and, finally, the design and implementation take time and resources on the part of all the participants.

Before setting up the regulatory sandbox, the core stakeholders should work together to

draft a **realistic timetable** for the individual steps. Working from this, they then need to estimate the **need for resources** and – coordinating amongst themselves – provide those resources. These examples provide some initial ideas for how to estimate the necessary time and resources.

### › What's happening in the field?

The project to run a roughly seven-month test of an **autonomous delivery robot** in Hamburg entailed several people-months of work in Hamburg's authorities, e.g. for the undertaking of the approval procedure and the project administration, for the wider policy agenda-setting, and for the drafting and submission of a proposal for a decision to the Joint Conference of the Transport and Road Construction Directors-General. In particular, the authorities needed to devote a lot of time and staff to the project because the categorisation of the delivery robot under the German Road Traffic Regulations was unclear. For Hermes, the participating logistics firm, the total project costs amounted to around €100,000 – not least for the financing of work by the TÜV inspectors to examine the robot.



Further information:

[www.reallabore-bmwi.de](http://www.reallabore-bmwi.de) and <https://newsroom.hermesworld.com/>

### › What's happening in the field?

The implementation of the **SINTEG Ordinance** entails expected one-off compliance costs of €60,000 and ongoing compliance costs of €69,000 for the Economic Affairs Ministry and in particular the Federal Network Agency as the authority responsible for the notification and application procedures. Most of the costs arise in the procedures introduced to offset disadvantages; these procedures are intended to encourage the participation of stakeholders who would otherwise not be interested.

The draft SINTEG Ordinance estimates that the participating companies will have administrative expenses for the notification and application procedures amounting to a one-off amount of around €102,500 and to approximately €167,500 during the course of the programme.

As part of the conditions attached to the project funding in the announcement of the SINTEG Funding Programme, companies must send regular progress reports to the project managers. The project managers use capacities to evaluate these.

Further expenditure and effort are required for the bidding procedures to select service providers for the evaluation. The service providers then provide the capacities for the evaluation.



Further information: [www.sinteg.de](http://www.sinteg.de)



## Looking into possible funding

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“Are there ways to use public funding?”

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It makes sense **for companies and research establishments** to examine whether and to what extent they can obtain public funding to finance the regulatory sandbox. Depending on the thematic and funding priority and the regional focus, all sorts of bodies are of relevance here at the various administrative levels in Germany and the EU.

From the point of view of the **public-sector stakeholders**, it may be politically desirable and necessary to provide financial support for the implementation of the regulatory sandbox. What state aid aspects need to be observed can be found in the “Observing state aid rules” section of the next chapter.

### › Information box

**“Living labs for the energy transition” are intended to accelerate the transfer of technology and innovation.**

In the 7th Energy Research Programme, the Federal Government has expanded its funding for applied energy research to include “living labs for the energy transition”, providing €100 million a year for this in 2019–2022. In the living labs, project partners are taking a holistic approach to testing new technologies and business models in real-life conditions on an industrial scale in key areas of the energy transition. The topics covered are announced in invitations for bids.


 Further information: [www.energieforschung.de](http://www.energieforschung.de)

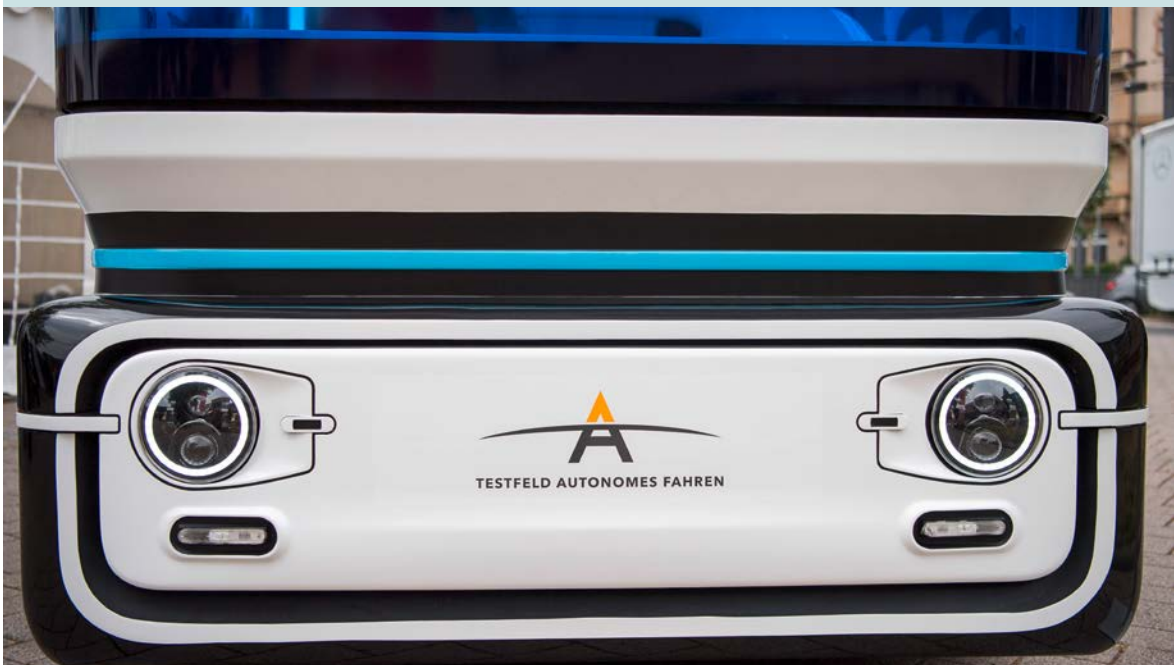




## › What's happening in the field?

The financial support from the Transport Ministry of Baden-Württemberg amounting to €2.5 million was an essential precondition for the implementation of the **Autonomous Driving Testbed in Baden-Württemberg**, which is permitting new solutions for individual and local public transport to be trialled. The Ministry for Science, Research and Art provided a further €2.5 million for research on the testbed.

 Further information: [www.taf-bw.de](http://www.taf-bw.de)



## › Information box



### Federal advice on funding for research and innovation

The Federal Government's funding advisory service is the first point of contact for matters relating to the funding of research and innovation. Interested parties will find information about the Federation's research structure, the funding programmes and other contact points, and about the latest funding priorities and initiatives. Companies engaged in research can contact the guidance and assistance service for companies offered as part of the Federation's funding advisory service.

 Free hotline: +49 800 2623-008  
 Email: [beratung@foerderinfo.bund.de](mailto:beratung@foerderinfo.bund.de)  
 Internet: [www.foerderinfo.bund.de](http://www.foerderinfo.bund.de)

## 2.2 Legal aspects



## Identifying legal obstacles

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“What legal areas and what specific legal provisions are of importance for the implementation of the regulatory sandbox?”

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“What rules and regulations impede or block the introduction of the technology or the business model?”

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When considering the legal aspects, the first question is whether an innovation can be implemented or deployed on the market within the existing legal framework. If this is

not the case, it is necessary to work out what **specific legal barriers** stand in the way of it.

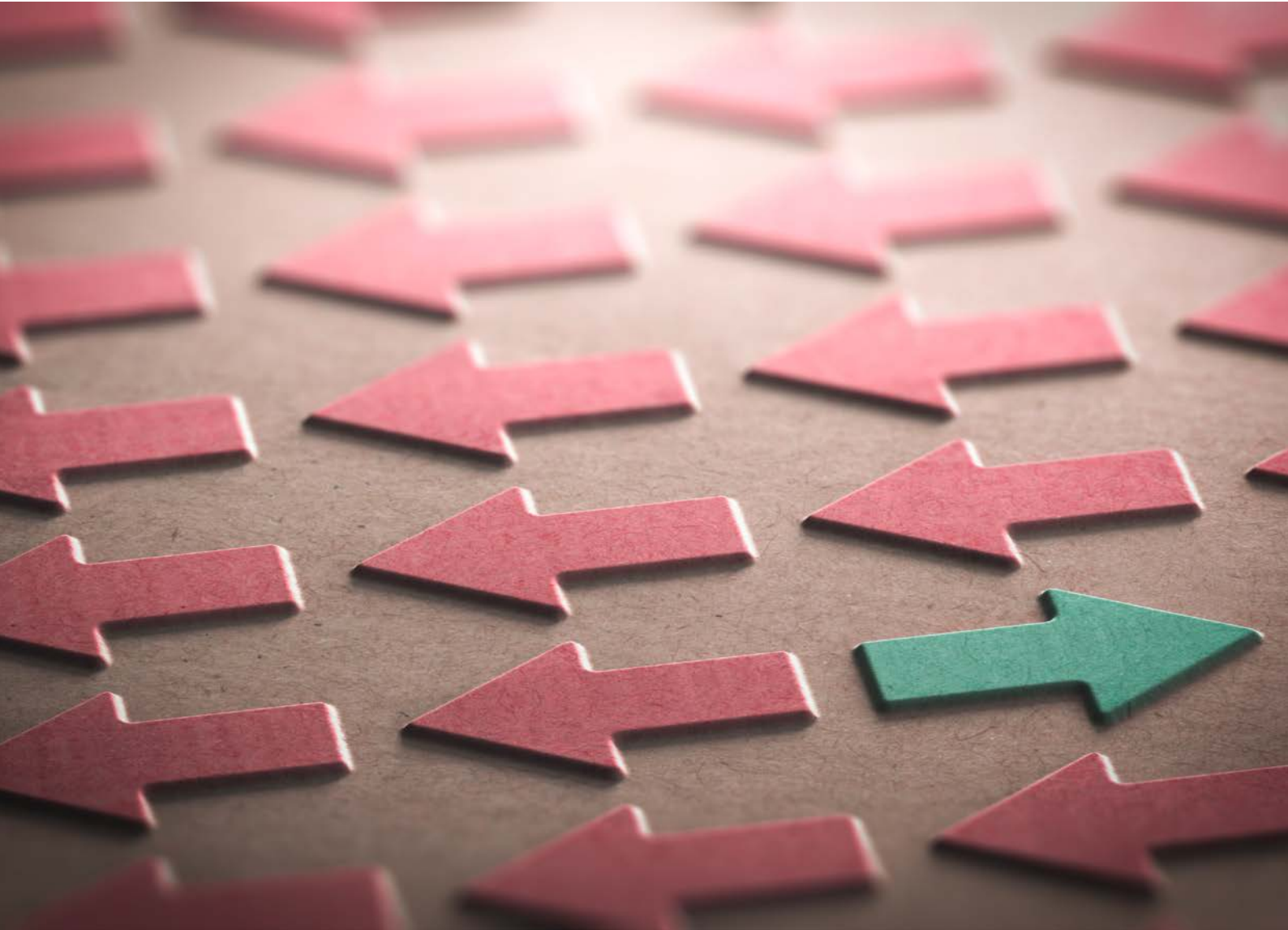
**The innovative power of the new technologies will radically change almost every industry.** We need to see this as an opportunity, rather than fending it off. Regulatory sandboxes are a correct and very important step towards testing these new technologies. A strong Germany needs new technology companies!

**Frank Thelen**

Freigeist Capital; founder, investor, author







## Identifying potential exemptions

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“What experimentation clauses or other possibilities for exemptions exist?”

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Experimentation clauses and other exemptions open up the possibility to overcome specific legal obstacles and carry out a trial. They thus provide the legal basis for a regulatory sandbox.

Experimentation clauses can be applied at various levels of legislation and on the basis of various regulatory techniques. They allow fresh approaches to be taken, without the legislature being fully able to predict the outcome.



Depending on their purpose, experimentation clauses vary widely in the way they are set up and designed. They might take the form of an exemption from a prohibition, an exception from an approval requirement, an exemption from requirements to provide documentation or deploy certain equipment, or a catch-all clause. Chapter 3 shows different types of experimentation clauses in practice and indicates what clauses can be appropriate for testing innovative technologies.

There will also be cases in which an exemption is not possible under the existing rules. Consideration should then be given to whether

the relevant legislature has sufficient desire to shape the rules – or can be encouraged to do so – in order to foster the **creation of a new experimentation clause**. However, even if successful, such a venture will take a considerable amount of time. Chapter 3 outlines the requirements to be met by such a clause.

Finally, if it seems likely that there is no way to open up the current rules, consideration should be given to whether it is possible to alter the originally planned research so that the regulatory sandbox can be realised without an exemption.

### › What's happening in the field?

The town of Lemgo is being turned into a smart city by the **Lemgo DIGITAL** project of Fraunhofer IOSB-INA. For some of the subprojects, an important role is played by the sensitive issue of data collection in the public arena. Here, the scientists are trying to offer the greatest possible degree of transparency. For example, regarding a research project using AI to influence traffic flows, the approval from the relevant body was obtained at an early stage, and the recordings were programmed to be in compliance with data protection rules. Also, the metering campaign was announced in the press and the relevant social media, and the public was fully informed about the aims of the project.



Further information: [www.lemgo-digital.de](http://www.lemgo-digital.de)

### › What's happening in the field?

The first main barrier to the implementation of the **Teleclinic Platform in Baden-Württemberg** is the prohibition of individual advice and treatment via printed and communication media in the “Model professional rules for doctors working in Germany”. In particular, this prohibits individual advice and treatment via telemedicine. Also, the dispensing of prescription medicines for use by humans is not permitted pursuant to Section 48 subsection 1 sentence 2 of the Medicinal Products Act if there has been no direct contact between the doctor and the patient before the prescription is issued.

However, according to Section 7 subsection 4 sentence 3 of the Professional Code of the Doctors' Chamber of Baden-Württemberg, the Chamber is allowed to permit model projects in which medical treatment is provided exclusively via a communications network and the doctor and patient have not previously had any direct physical contact. In order to open up the possibility of ePrescriptions, i.e. prescriptions made by doctors from remote surgeries, Teleclinic, the platform operator, committed to sending its ePrescriptions only to established pharmacies. On this basis, the pharmacies and supervisory agencies approved an exemption from Section 48 of the Medicinal Products Act for the telemedical treatment of private patients.



Further information: [www.reallabore-bmwi.de](http://www.reallabore-bmwi.de)



## Identifying the route to obtaining an exemption

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“What preconditions have to be met for the use of the exemption?”

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“Which authorities are responsible for issuing the exemption?”

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“Is there experience with the practical application of these rules elsewhere?”

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“What authority has already issued an exemption for other cases?”

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If an **exemption** or an experimentation clause is to be used, its **salient features** must be complied with. In many cases, the experimentation clause names the competent **authority**. This authority will be one of the core stakeholders in the implementation of the regulatory sandbox and the first point of contact when it comes to obtaining information about the application of the experimentation clause.

In principle, it is highly recommended to **learn from other projects** which have already deployed the exemption. This handbook, the

Regulatory Sandboxes Network, and [www.real-labore-bmwi.de](http://www.real-labore-bmwi.de) help with the identification of such projects.

Ideally, it will prove possible to find a similar regulatory sandbox which has already gathered (positive) experience with the **same authority which is responsible for approving the exemption**. In this case, “follow-up regulatory sandboxes” can benefit from the experience that the authority has already gained with issuing the approval for other cases.

### › What’s happening in the field?

The **DHL Paketkopter 3.0** project aimed in 2016 to transport medicine in just 8 minutes by drone from a modified parcel centre in Reit im Winkl to Winklmoosalm. It was necessary to establish a restricted flight zone to ensure a safe flight over public land. This was issued by the Federal Ministry for Transport and Digital Infrastructure pursuant to Section 17 subsection 1 of the Aviation Ordinance. The approval for the flight was issued by the Air Office of the government of Upper Bavaria. An important advantage derived from the fact that experience had been made with approval procedures from the company’s previous projects in Juist, an island in the North Sea, (DHL Paketkopter 2.0) and in Bonn (DHL Paketkopter 1.0).



Further information:

<https://www.dpdhl.com/de/presse/specials/dhl-paketkopter.html>



In the case of similar regulatory sandboxes, the policy on issuing approvals may vary if **different authorities are responsible for issuing the approval**. However, such cases also offer important insights into the regulatory requirements.

Some experimentation clauses entail an evaluation. In other words, their implementation must be evaluated. In many such cases, it is possible to obtain **evaluation reports, reports of previous tests, articles and comments about the law** regarding the preconditions for and application of experimentation clauses,

and these can offer helpful information. Once again, the competent authority will be the first point of contact.

The analysis of the existing legal situation and possible exemptions will require **time and expertise** from each core stakeholder and active participant. Existing expertise can reduce the effort and time taken. In many cases, it will make sense to obtain external legal expertise.

### › What's happening in the field?

When preparing the testing of an autonomous bus in **Bad Birnbach**, ioki, the company undertaking the tests, first needed to identify the contact persons in the relevant authorities responsible for the approval process. Since a large number of administrative units at local, regional and Länder level had to be involved, and there were no fixed procedures within the authorities regarding the vehicle to be tested, this process took up a lot of time. The project benefited from the fact that the local mayor, the relevant council office and the district development office were interested in implementing the regulatory sandbox from the outset.





## Covering liability risks

Tests and experiments can entail risks – and regulatory sandboxes are no exception to this. The following questions aim to provide ideas

about how to handle potential risks of causing damage.

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“What risks are there that damage may be caused to users, observers and third parties by the tests?”

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“Who would be liable for this damage?”

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“How can these risks be insured?”

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### › What's happening in the field?

In the “**ALEES –Autonomous Logistics Electric Entities for city distribution**” project in Mechelen, Belgium, in which consideration is being given to using electric automated vehicles to supply retailers and restaurants in city centres, the liability risks are borne by the manufacturer of the autonomous vehicle. At the same time, the risks are limited by the fact that a representative of the manufacturer is on the spot and travelling in the vehicle during the testing.

Contact: Hr. Maximilian Schellert, [verkehrslogistik@iml.fraunhofer.de](mailto:verkehrslogistik@iml.fraunhofer.de)

 Further information: <https://vil.be/en/project/alees>

It is very important for all the participants in the regulatory sandbox to sit down together at an early stage and consider and agree on how **liability risks** for the regulatory sandbox can be insured. Both participating companies and research establishments as well as the authorities issuing the approval may in principle bear liability.

In principle, **companies and research establishments** can take out **liability insurance**. The assessment of liability risks and the conclusion of appropriate insurance policies initially takes time and effort. It can be difficult to find an insurance company which is willing to take on a risk which is hard to calculate in view of the novel nature of the innovation. The first

point of contact should be insurers with whom the stakeholders already have a business relationship and a relationship of trust. It may be that – if necessary with an adjustment to the policy – existing insurance policies already cover the risks of the regulatory sandbox. The insurance premium can be a considerable cost factor. In some cases, it might be appropriate to negotiate an offsetting of the premiums by the insurer against other advantages from the insurer's participating in the regulatory sandbox. These would include advertising and an enhanced image, access to data and information about the innovation and its risks.

Finally, when it comes to finding an appropriate insurance company, it can be worthwhile

### › What's happening in the field?

In the **AutoNOMOS** regulatory sandbox, it was necessary to find an insurance company so that the autonomous vehicle could be tested on Berlin's public roads. This search proved to be very complex and time-consuming, since neither the car insurers nor the higher education institution wishing to carry out the tests had any knowledge of how to insure such a risk. It ultimately proved possible to find an insurance company and to take out car insurance with the usual coverage. The insurance premium was set formally at €50,000 per year, and paid for via the advertising on the vehicle.

identifying **similar regulatory sandboxes** and approaching the insurers involved in these.

The conclusion of a liability insurance policy will generally be in the interest of the participating companies and research establishments. However, it may also be **required by the administration**. For example, the obligation to document insurance provision can form part of the application procedure for an exemption or be made part of the supervisory and steering functions assumed by the administration.

In certain circumstances, the **administration** can be held liable, e.g. if an exemption was issued illegally and damage was suffered by a third party as a result. In principle, it is possible for the corresponding authority to agree with

the beneficiary of the exemption (or with third parties where these are manifestly involved in the experiment) on a **contractual release from liability** or for the release from liability to be made a precondition for implementation in the decision by the administration. Whether and to what extent an authority can actually demand such a release from liability must however – perhaps with the use of external legal expertise – be examined in each case.

### › What's happening in the field?

With regard to the approval (individual operating permit and exemption from the German Road Vehicles Registration and Licensing Regulations and the German Road Traffic Regulations) of the testing of an **autonomous delivery robot** on pavements in Hamburg, the administrative authority required the presentation of a liability insurance contract just as would be required for the operation of a road vehicle, and the presentation of a release from liability. This states that the holder of the approval is liable for all the damage which arises directly or indirectly from the use of the exemption, and which releases the authority from all third-party claims for damages.



Further information:

[www.reallabore-bmwi.de](http://www.reallabore-bmwi.de) and <https://newsroom.hermesworld.com/>





## Observing state aid rules

Whenever public money is spent on regulatory sandboxes, the relevant state bodies need to give consideration to aspects of state aid law.

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“Is public money to be used to support the regulatory sandbox?”

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“Is the support compliant with state aid rules?”

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**State aids** within the meaning of the state aid rules of the European Union include all financial grants and debt relief, low-interest loans, guarantees, tax breaks and the provision of real estate, goods and services at special conditions.

The instrument of the regulatory sandbox as a framework for testing innovation and regulation **poses no problems in terms of state aids** as long as there is no financial support for the participating companies. Depending on the public goals being pursued in the regulatory sandbox, however, it may be the case that public money is to be provided. In this case, there are various ways of reviewing compliance with state aid rules:

- Determining that the funding is provided at normal market conditions
- Determining that the funding is covered by the General Block Exemption Regulation (GBER)

- Arriving at an informal common understanding with the European Commission
- Notification

Within the Federal Government, the Federal Ministry for Economic Affairs and Energy is responsible for general questions of European state aid policy. The ministry provides assistance with the first notification of state aids and engages in notification procedures and other procedures in the context of state aid controls. Further information about state aid rules and controls can be found (in German) on the website of the Economic Affairs Ministry (<https://www.bmwi.de/Redaktion/DE/Artikel/Europa/beihilfenkontrollpolitik.html>).

### › What's happening in the field?

The SINTEG Ordinance established a regulatory derogation permitting the participants in the **SINTEG** Programme (Smart Energy Showcases – Digital Agenda for the Energy Transition) to be reimbursed for additional charges and fees relating to the project. This largely offsets economic disadvantages and makes it possible to operate projects to test innovations in a manner which otherwise would not have been feasible. Before setting up the programme, the Economic Affairs Ministry conducted an informal state aids review with the European Commission. Beyond this, it was in the interest of the public sector not to illegally distort competition between stakeholders “inside” and outside SINTEG.



Further information: [www.sinteg.de](http://www.sinteg.de)

## 2.3 Design and implementation





## Choosing the right duration and place

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“How much time will be needed to attain the goals of the regulatory sandbox?”

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“Which rural district, town/city or region is best suited to answering the questions posed by the researchers in the regulatory sandbox?”

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“What area does the regulatory sandbox need to cover?”

---

The appropriate **duration** and the right **place** for the regulatory sandbox depend primarily on the (research) goals being pursued by the core stakeholders. A time limit may derive from

the use of a specific experimentation clause with corresponding requirements (e.g. maximum duration of the use of the experimentation clause).

Population structure, settlement density and infrastructure can be important factors determining the appropriate site. Whether a suitable network is available can also be of relevance, as can the question of whether certain funding is available at Länder or municipal level. Another factor determining the decision can be that successful regulatory sandboxes have already been implemented in a certain region, so that companies and research establishments can

benefit from positive experience made with the relevant licensing authorities.

In some cases, it makes sense to start with a small regulatory sandbox and then to expand this in terms of time and/or space if certain criteria are achieved – such as positive user feedback or adequate safety (no accidents or failures).

### › What's happening in the field?

There were good reasons for the choice of the 25 km railway track between Schwarzenberg and Annaberg in the Erzgebirge region as the infrastructure for the **Deutsche Bahn Living Lab**: since there is no regular rail service on this track apart from a few tourist trains, it offers a unique opportunity to test software and hardware solutions for the operation of rolling stock and infrastructure on a reasonably sized section of track. Also, the site benefits from the fact that it has experienced staff who have already been involved in other technical developments.

Contact: Hr. Raik R. Hoffmann, [raik.r.hoffmann@deutschebahn.com](mailto:raik.r.hoffmann@deutschebahn.com)

 Further information: [www.deutschebahn.com/livinglab](http://www.deutschebahn.com/livinglab)

### › What's happening in the field?

The authorisation to **test the delivery robot** on Hamburg's streets was restricted to an area of 3 km around the Hermes parcel shops in the suburbs of Volksdorf, Harvestehude and Ottensen. The duration of the test was from 9 September 2016 until 31 March 2017. The daily delivery times were restricted to between 9 a.m. and 5 p.m. The vehicle was only allowed to be deployed on the public streets from sunrise to sunset, and not in hours of twilight, darkness or poor visibility or weather (fog, heavy rain).

 Further information: [www.reallabore-bmwi.de](http://www.reallabore-bmwi.de) and <https://newsroom.hermesworld.com/>





## Clarifying who is responsible for supervision and evaluation

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“What need is there for supervision and steering of the regulatory sandbox?  
Who will perform these tasks?”

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“Who will evaluate the regulatory sandbox?”

---

“What is the response to be to (critical) developments in the regulatory sandbox?”

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The first thing is to arrive at a common understanding of who is responsible for **supervising and steering** the regulatory sandbox. Generally, a key role will be played here by the administrative bodies which decide on the legal framework for the regulatory sandbox.

**Evaluation**, i.e. the systematic collation and evaluation of the relevant data, information, findings and effects of the regulatory sandbox, is a key basis for supervision and steering. It should provide appropriate, transparent and objective information about the extent to which the goals of the regulatory sandbox have been achieved, and it should provide the partners with the information they are seeking. In some cases, the relevant experimentation clause will require a scientific evaluation.

In many cases – particularly in larger-scale and more complex projects – it is useful to commission an independent contractor with the


**evaluation work** in order to benefit from its methodological skills and experience. External evaluation can also facilitate the identification of strategic behaviour by companies in regulatory sandbox projects, and thus improve the external validity of the findings from the point of view of the “learning legislature”.

If **critical events** should occur, certain procedures and responsibilities should be determined in advance, e.g. for a halt to or a fine-tuning of the regulatory sandbox.

The **effort and cost** of the evaluation and supervision depend on the scale of the regulatory sandbox, i.e. the area and time involved and the number of projects carried out within this scope, as well as the intended gain in information.

### › What’s happening in the field?

Scientific backing for the **Teleclinic in Baden-Württemberg** project is prescribed by the relevant experimentation clauses in the rules governing the medical profession established by the Doctors’ Chamber. The main task of the scientific backing is to establish whether the new remote service offers the patients the same quality and expertise as they would receive in a doctor’s surgery or a hospital.

 Further information: [www.reallabore-bmwi.de](http://www.reallabore-bmwi.de)

Advances in technology confront the state with great challenges in terms of regulation. Regulatory sandboxes are a particularly suitable tool for developing an innovation-friendly policy environment. **They deliver the empirical basis for smart regulation.**

**Prof. Dr. Monika Schnitzer**

Ludwig Maximilians University, Munich, until April 2019:  
Commission of experts on research and innovation



#### › What's happening in the field?

In the case of the project to test a **delivery robot** on the streets of Hamburg, the Interior Authority made it clear that it would halt the project if there were a traffic accident. There is a consensus on this with all the participants. Also, the Interior Authority collected complaints and other indications of problems which might be of relevance for changes in the test parameters and for similar projects in future.



Further information:

[www.reallabore-bmwi.de](http://www.reallabore-bmwi.de) and <https://newsroom.hermesworld.com/>



## Defining indicators and data sources for evaluation

“What indicators are suitable metrics for the attainment of the goals of the regulatory sandbox, particularly with regard to the desires of the various partners to obtain specific information?”

“What data are already available or can be used?”

“What data are to be collected for the evaluation?”

“What reporting requirements derive from this for the stakeholders in the regulatory sandbox?”

“What methods are appropriate?”



A central starting point for the evaluation is the **goals** for the regulatory sandbox which have been **jointly stipulated in advance** (cf. “Preparation and planning” section). In order to measure the degree to which these goals are attained, there is a need for adequate **indicators**.

Here, it is necessary to work with the various stakeholders to clarify which **data** from the regulatory sandbox already exist, can be provided by stakeholders, or need to be collected in addition. In this context, the competent authorities – e.g. by imposing conditions and additional rules – can require the participating companies or research establishments to **make reports**, e.g. on the number of complaints, safety-related incidents, damages, saved emissions and resources due to reduced traffic, or other information of relevance to the public administration.

When agreements are made on the forwarding of data and on reporting requirements, consideration should be given to the **effort** taken to produce the reports and the effort needed to process and evaluate them. Such agreements should therefore focus on the desired information and the key data for this. The agreements can be made in the form of cooperation agreements.

Similarly, **methods** to collate, process and analyse the data and prepare the findings should be laid down. At the same time, it is of course necessary to observe **data protection rules**.

### › What’s happening in the field?

In the context of the testing of a **delivery robot** on the streets of Hamburg, Hamburg’s police force was tasked with forwarding information about complaints and other comments from the public as well as potential accidents to the Interior Authority, which was responsible for the supervision of the regulatory sandbox. To this end, training courses were prepared for the relevant police departments, and they were proved with a copy of the exemption for the robot.

Hermes, the operator, and Starship, its supplier, provided information (technical specifications, required space on the streets, confirmation of insurance policy, liability release) when they applied for the exemption, and subsequently provided regular information about progress and experience as the project progressed.



Further information:

[www.reallabore-bmwi.de](http://www.reallabore-bmwi.de) and <https://newsroom.hermesworld.com/>



## Making targeted use of the findings

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“How are the findings used?”

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“How is it ensured that the legislature can learn from the regulatory sandbox?”

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It is necessary at an early stage to define and stipulate the **transfer of findings**, who inside and outside the regulatory sandbox receives

what results at what intervals, and what use is made of the findings.

Experiments are the gold standard for innovation and learning in the digital economy. **Regulatory sandboxes therefore offer a great opportunity for businesses and policymakers to learn and shape the future together.**

**Prof. Dr. Axel Ockenfels**

Professor of Economics at Cologne University



It is important for administrations to ensure that **data are passed on to the competent legislative bodies** so that the findings can actually contribute towards the development of the respective regulations. In the case of regu-

latory sandboxes where a major role is played by public acceptance, it is particularly necessary to clearly define responsibilities for and approaches to public relations work.

### › What's happening in the field?

On the basis of the findings of the **delivery robot tests**, Hamburg's Interior Authority submitted a proposal for decision on the preconditions for licensing autonomous delivery robots in public transport to the Joint Conference of the Transport and Road Construction Directors-General. This was accepted and forwarded to the Federal Ministry for Transport and Digital Infrastructure. The Ministry then asked the Federal Highway Research Institute to identify legal barriers to the operation of unaccompanied delivery robots.



Further information:

[www.reallabore-bmwi.de](http://www.reallabore-bmwi.de) and <https://newsroom.hermesworld.com/>



## › What's happening in the field?

In order to ascertain the opportunities and risks of the deployment of “gigaliners” (extra-long lorries), the Federal Government, with the Transport Ministry taking the lead, carried out a field test from 2012-2016. On the basis of the findings of the comprehensive scientific research by the Federal Highway Research Institute which accompanied the field test, the Transport Ministry ultimately decided to move gigaliners into regular operation on certain routes from the start of 2017.

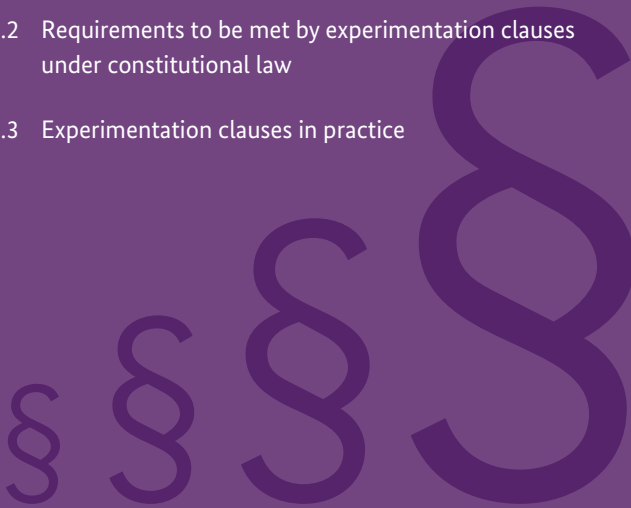
 Further information: [https://www.bast.de/BAST\\_2017/DE/Verkehrstechnik/Fachthemen/v1-lang-lkw/v1-lang-lkw-einsatz.html?nn=1817946](https://www.bast.de/BAST_2017/DE/Verkehrstechnik/Fachthemen/v1-lang-lkw/v1-lang-lkw-einsatz.html?nn=1817946)





# MAKING REGULATORY SANDBOXES POSSIBLE

- 3.1 Experimentation clauses: definition and distinctions
- 3.2 Requirements to be met by experimentation clauses under constitutional law
- 3.3 Experimentation clauses in practice



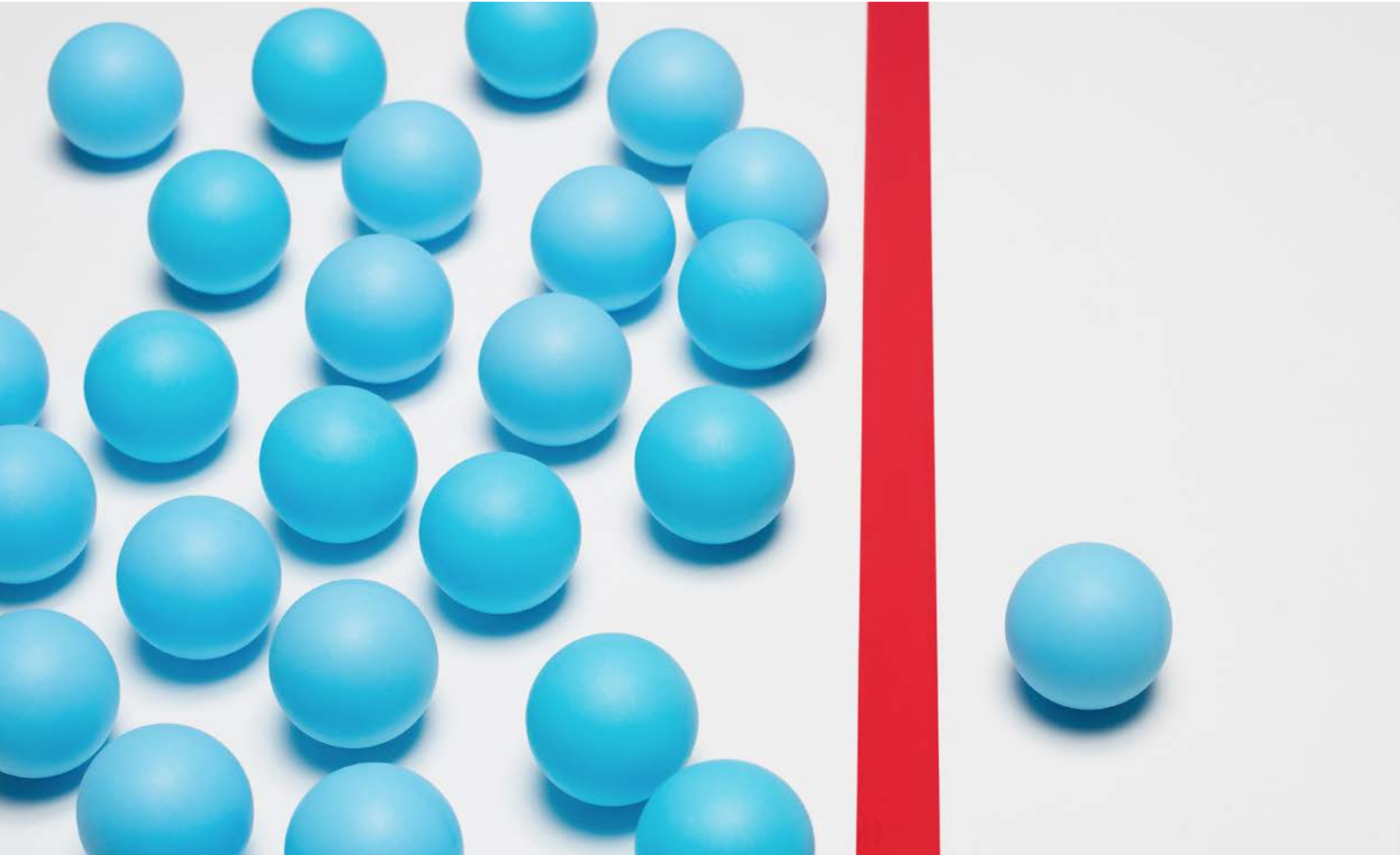
In many cases, regulatory sandboxes need regulatory leeway. Experimentation clauses are a key legal tool to create this leeway.

This chapter starts by explaining what an experimentation clause is and the differences between types of experimentation clause. It also describes the constitutional requirements which arise when new experimentation clauses are adopted.

Finally, it focuses on the specific experimentation clauses needed for the testing of innovative technologies. Examples are provided for four of these clauses to show the experience made so far by the relevant licensing bodies – and what room for improvement might exist.

The descriptions are based on the findings of the study entitled “Potential and requirements of regulatory experimental spaces (regulatory sandboxes)”. They offer a first general overview but are not exhaustive and cannot replace specific legal advice. In the context of the Economic Affairs Ministry’s Regulatory Sandboxes Strategy, the findings – partly on the basis of a framework agreement to bring external legal expertise on board – are being successively developed, fleshed out and made available to the public.

## 3.1 Experimentation clauses: definition and distinctions



Experimentation clauses are a technical statutory instrument permitting derogations from the general legal framework. They thus allow fresh approaches to be taken, without it being possible to predict the outcome. And they offer the opportunity to learn about laws and their effects.

### Design

Various forms of experimentation clauses exist, e.g.:

- recommendations for action by a public body
- the granting of powers to a public body
- exemptions for private or public-sector stakeholders.

In the case of a **recommendation for action** by a public body, the legislature requires itself or another public body to implement a specific test. The provision is worded as a recommendation, urgently calling on the respective public body to implement the test. At the same time, there is no enforceable entitlement or entitled party able to enforce the carrying out of the test. Experimentation clauses in the form of recommendations for a public body to act can be found in, for example, certain provisions of administrative law.

Where **powers to act** are granted, the legislature gives the relevant licensing body the pos-

sibility to carry out tests and possibly also to draw on corresponding funding. This is a statutory power which the addressee can, but does not have to, use. Experimentation clauses in the form of powers to act exist without reference to other regulations and establish direct powers for the authority.

Most experimentation clauses, however, take the form of **exemptions** which permit public or private-sector stakeholders to carry out a test by creating scope for a derogation from a rule or the non-application of that rule. It can therefore make sense to design an experimentation clause as an exemption if existing rules render tests more difficult or impossible.

There are four types of exemption:

- **Exemption from a prohibition:** An exemption from a prohibition authorises the authorities to deviate from the generally stipulated rules and regulations.
- **Exemption from a required authorisation:** In the case of an exemption from a required authorisation, the legislature dispenses with

the need for an authorisation, with the approach which is usually required, or with other required documentation, so that the test can take place. The exemption from the required authorisation facilitates and encourages the carrying out of tests by cutting down on or cutting out the red tape usually imposed in such cases.

- **Dispensing with requirements to provide documentation or use certain equipment:** This refers to experimentation clauses in which the legislature dispenses with documentation and equipment requirements or other customary content requirements so that a test can be carried out.
- **Catch-all clauses:** Experimentation clauses can be designed as a catch-all clause to permit a derogation from the (federal or Länder) rules on procedure and competence; these do not cover specific cases but offer scope for more detailed exemptions allowing certain tests to be carried out.

## Do we in Germany/Europe want to take our future into our own hands, or waste time debating it whilst others build tomorrow's world and determine the rules of digitisation?

This is what regulatory sandboxes are about: they are new policy tools to help us actively shape the future.

**Valerie Mocker**

Director of Development & European Digital Policy –  
Nesta





## Time-limit

If an exemption is made, a time-limit will generally be imposed on the experimentation clause or the envisaged test. The legislature can choose between different ways to impose a time-limit:

- **Experimentation clauses with a predefined timeframe or “expiry date”:** Citing of a specific date until which a regulation adopted on the basis of the experimentation clause is valid.
- **Imposition of an abstract time-limit on the test phase:** Citing of a maximum permissible number of months or years which a test may or should last.
- **Experimentation clauses which impose general time-limits on the test period:** No citing of a specific expiry date or a fixed period of time, merely the general stipulation that a time-limit should or must be imposed (possibly by a specific authority).

The appropriate **duration** of a time-limit derives from the nature of the test, the goals (of the research) and the necessary administrative procedures.

It is important that the selected duration offers sufficient time for representative and valid testing. At the same time, the timeframe should not be inappropriately long, and thus de facto allow the test to become excessively long or even permanent, contradicting the intentions of the regulatory sandbox.

Some experimentation clauses also permit **subsequent extension of the time-limit**. An option to extend the project can be useful in the case of experimentation clauses with short time-limits in particular, in order to increase the degree of flexibility in the initial test phase.

**Boosting the transfer of knowledge and technology plays a central role in ensuring the future of the German economy.** Interdisciplinary and transdisciplinary work in regulatory sandboxes offers an opportunity for start-ups and spin-offs from research establishments in particular to test out research findings in commercial applications.

**Susanne Dehmel**

Member of the Board of Recht & Sicherheit, Bitkom e.V.



## 3.2 Requirements to be met by experimentation clauses under constitutional law



Pursuant to Article 20(3) of the Basic Law (Germany's constitution), the legislature is bound by the constitutional order, and the executive and the judiciary are bound by law and justice. This means that the various requirements imposed by the Basic Law must also be met by experimentation clauses.

In terms of constitutional law, this particularly means that the design and application of experimentation clauses must comply with the **proviso of legality**, the **principle of precision** and the **principle of equality**.

## The proviso of legality

According to the proviso of legality, the executive is prohibited from acting without a legal basis. Experimentation clauses generally offer the administration scope to exercise discretion or even judgement. This is particularly important for regulatory sandboxes, since these serve to test untried innovations and thus enable the legislature (and others) to learn. It should be noted that the more important the matter is, the higher the requirements are that will need to be imposed on the regulatory density of an experimentation clause.

## The principle of precision

The principle of precision derives from the principle of the state based on the rule of law contained in Art. 20(3) Basic Law, and serves to ensure the predictability of actions by the state, an effective limitation on the powers of the administration, and the enabling of effective controls by the courts. At the same time, experimentation clauses allow fresh approaches and untrodden paths to be taken, without the legislature being fully able to predict the outcome, so that it is necessary for experimentation clauses to be sufficiently open.

## The principle of equality

According to the general principle of equality set out in Art. 3(1) Basic Law, the basic right to equality is violated *“if a group of parties addressed by a regulation are treated differently from other parties addressed by the regulation even though no differences exist between the two groups of a type and weight that could jus-*

*tify this unequal treatment”*<sup>1</sup> In the other direction, the principle of equality does not prevent essentially unequal things from being treated unequally in line with the existing inequality. This means that the principle of equality is violated if *“reasonable grounds which derive from the nature of the matter or otherwise make objective sense cannot be found to justify the distinction in law”, i.e. if “the provision has to be categorised as arbitrary”*.<sup>2</sup>

The grounds of experimentation can be taken as **objective grounds for differentiation** for at least temporary unequal treatment as long as the principle of proportionality is observed. The objective grounds for the unequal treatment may be found in the argument that *“a limited experiment aims to gather insights for a prospective legal provision”*.<sup>3</sup> Viewed in this way, experimentation clauses do not violate the general principle of equality set out in Art. 3(1) Basic Law. In the case of experimentation clauses which affect fundamental rights, it is always necessary to examine whether the fundamental right weighs more heavily than the aims of obtaining information to be pursued in the test.

Special attention needs to be paid to the principles underpinning the **steering and control of the regulatory sandbox**. This is particularly important when it comes to a non-discriminatory and transparent selection of the participants in a test, similar to a public procurement procedure. For example, if more people would like to participate in a regulatory sandbox than is possible, due to the restricted number of participants, then the experiment is a scarce resource, and its distribution must be based on a selection determined in line with Art. 3(1) Basic Law.

1 Cf. *Sachs*, Grundgesetz, Art. 3, figure 13 with further references.

2 Fundamental points in Federal Constitutional Court, NJW 1951, 877, 878, 879, quoted from beck-online.

3 Cf. *Hummel*, Recht der behördlichen Regelungsexperimente, pp 120, 121 with reference to Häberle, ZfP 1974, p. 111.

## 3.3 Experimentation clauses in practice



The study entitled “Potential and requirements of regulatory experimental spaces (regulatory sandboxes)” investigated what experimentation clauses are basically possible under German law for the testing of innovative technologies. It produced the following list of clauses, without this list being exhaustive:

- **Rules of the Air Regulations Section 21b subsection 3 (“Ordinance on Drones”)**
- **Carriage of Passengers Act Section 2 subsection 7**
- **Trade Regulation Act (Federation) Section 13**
- **eGovernment Act of Saxony Section 20**
- Building Code of Schleswig-Holstein Section 81
- Energy Industry Act Section 119
- Coordinating Committee for the Joint Task “Improving the Regional Economic Structure”, Federal Ministry for Economic Affairs and Energy, item 4.6
- Media Act of North Rhine-Westphalia Section 10b
- Media Act of North Rhine-Westphalia Section 30



- Media Act of Bavaria Article 30
- Media Act of Saxony-Anhalt Section 20
- Road Traffic Act Section 6
- Road Traffic Regulations Section 45 subsection 1 sentence 2 number 6
- Road Vehicles Registration and Licensing Regulations Section 19 subsection 6
- Road Vehicles Registration and Licensing Regulations Section 22a subsection 3 number 1
- Road Vehicles Registration and Licensing Regulations Section 57c subsection 3 number 3
- eGovernment Act of Bavaria Article 19(1)
- eGovernment Act of Schleswig-Holstein Section 9
- Surveying and Land Register Act of North Rhine-Westphalia Section 30
- Trust Services Act Section 11 subsection 3

By way of example, the study also took the first four experimentation clauses cited in bold type above and used anecdotal evidence to find out

what specific experience the relevant licensing authorities have already gained with implementing the clauses. The findings do not claim to be exhaustive or generally valid. Rather, statements by individual experts highlight the specific challenges in practice, whether the results were reviewed, and whether changes to the experimentation clauses were desired or undertaken.

Also, the Annex contains the texts of the identified experimental clauses and cites the authorities responsible for issuing the exemptions.

**Rules of the Air Regulations (“Ordinance on Drones”) Section 21b subsection 3**

The experimentation clauses in Section 21b subsection 3 of the Rules of the Air Regulations permit exemptions from the prohibition on the operation of drones pursuant to Section 21b subsection 1 of the Rules of the Air Regulations:

.....  
*“In justified cases, the competent authority can permit exemptions from the prohibitions of operation pursuant to subsection 1 sentence 1 number 1 to 9 if the preconditions of Section 21a subsection 3 sentence 1 are met. Section 20 subsection 5 and Section 21a subsection 5 and 6 shall be applied mutatis mutandis.”*  
 .....

**The Economic Affairs Ministry’s Regulatory Sandboxes Initiative offers an outstanding opportunity to present best practices, pinpoint impediments, and persuade people to adapt.** With regard to the deployment of drones, the integration of drones into industrial processes relating to automation and digitisation are exciting topics for the regulatory sandboxes.

**Benjamin Federmann**  
 CEO & Co-Founder doks. innovation GmbH






## › What's happening in the field?

### Automated transport of laboratory samples by drone

In order to transport laboratory samples more securely, quickly and automatically from the production sites to the central laboratory, thyssenkrupp Steel Europe AG would like to permanently deploy a flying robot system provided by doks.innovation GmbH. The transportation across the company site involves flight across two public roads which cross the site. Under the current air traffic rules, an operating permit pursuant to Section 21a subsection 1 number 1 and 5 and an exemption from Section 21b subsection 1 number 1, 3 and 5 is required for the operation of the planned flights unless the operation is managed or supervised by a body pursuant to Section 21a subsection 2. In order to assess the operational risk, it is necessary to undertake a SORA-GER safety analysis in accordance with Notices to Airmen NfL-1-1163/17. The pilot project being carried out in this context forms the basis for subsequent serial deployment.

 Further information: <https://www.thyssenkrupp-steel.com/de/newsroom/pressemitteilungen/pressemitteilung-110848.html>

A survey of various aviation authorities showed that the administration is making vigorous use of the exemption – going well beyond test projects in a narrow definition. In fact, the issuing of exemptions has become the norm. In order to make work easier for the administration, some Länder (e.g. Bavaria) have even adopted general administrative acts within the meaning of Section 35 sentence 2 of the Administrative Procedure Act, stipulating general exemptions from some prohibitions in Section 21b subsection 1 of the Rules of the Air Regulations. Other Länder use their application forms to point to the possibility of an exemption from prohibitions on operating drones in the form of a general permit. In cases not covered by this general administrative act (e.g. drones weighing more than 25 kg), there is the possibility to obtain an individual permit.

So that the experimentation clause in Section 21b subsection 3 of the Rules of the Air Regulations can serve as a basis for the implementation of a regulatory sandbox, it is necessary to document the purpose of the project and to

meet various other preconditions. These preconditions include documentation of adequate liability insurance in accordance with Section 37 of the Civil Aviation Act.

Commercial drone operators often complain that the various Länder authorities give differing responses to requests for authorisations, resulting in a lack of transparency for many potential users. The industry is therefore still reluctant to submit applications to operate drones because companies fear that the Länder authorities will deny the applications. In order to establish as uniform as possible an approach to granting authorisations of drones, in October 2017 the Federal Ministry of Transport and Digital Infrastructure published “Common principles of the Federation and the Länder for the issuing of permits and granting of exemptions to operate unmanned aerial vehicles in accordance with Section 21a and 21b of the Rules of the Air Regulations”.

## › What’s happening in the field?

### **Medifly Hamburg – commercial transport by drone**

Is it possible to deliver medical samples between hospitals in an urban area by drone – safely and reliably? The regulatory sandbox “Medifly Hamburg” is to find the answer to this; tissue will be transported between the Armed Forces Hospital in Wandsbek and the Catholic St Mary’s Hospital in Hohenfelde. The project is to commence before the end of 2019 and is being backed by the Hamburg Authority for Economy, Transport and Innovation. The consortium, consisting of a research institution, software companies and a drone operator, is being coordinated by the Centre of Applied Aeronautical Research (ZAL). Hamburg’s aviation authority and the relevant air traffic control office are also involved.

Contact: Fr. Franziska Biermann, [franziska.biermann@bwvi.hamburg.de](mailto:franziska.biermann@bwvi.hamburg.de)

› **What’s happening in the field?**

**Mail Challenge – drone-based postal service at Boeing Global Services**

Boeing Global Services in Neu-Isenburg will in future use drones for a fully automated postal service between two sites. A challenge is posed by the proximity to Frankfurt Airport and the operation of flights out of line-of-sight in an urban area. In addition to approvals by German Air Traffic Control in Langen and at the tower of Frankfurt Airport, there was also a need for exemptions from the Hesse aviation authority pursuant to Section 21b of the Rules of the Air Regulations in order to permit fully automated drone flights.

The experimentation clause currently in force will in any case be replaced by a uniform EU rule in the foreseeable future: on 7 June 2019, the Implementing Regulation 2019/947 on the rules and procedures for the operation of unmanned aircraft was published in the Official Journal of the EU. Germany will have to adapt its current legislation to the new Regulation by 1 July 2020.

**Carriage of Passengers Act Section 2 subsection 7**

The aim of experimentation clause in Section 2 subsection 7 of the Carriage of Passengers Act is to permit the testing in practice of new types or means of transport in exceptional cases for a period of up to four years.

.....  
*“In order to allow for the practical testing of new modes or means of transport, the licensing authority may, upon request on a case-by-case basis, authorise exemptions from the provisions of this Act or from provisions adopted on the basis of this Act for a maximum period of four years, insofar as they do not conflict with public transport interests”.*  
 .....

A survey of several municipalities showed that intensive use is also being made of this experimentation clause. It was said that the experimentation clause is most useful, particularly in the highly regulated field of passenger transport. With regard to potential improvements, representatives of the authorities said that, beyond this experimentation clause, the overall Carriage of Passengers Act is not sufficiently oriented to the implementation of test procedures. In particular, the necessary holding of the hearing procedure in accordance with Section 14 of the Act has led to delays and difficulties. In one discussion, the limited duration of four years was considered disadvantageous. For example, following the conclusion of the test, the competent authority always has to decide “whether the project will be cancelled or adopted”.

Before Section 2 subsection 7 of the Carriage of Passengers Act came into being, various forms of non-timetabled passenger transport – e.g. the model of a flexible on-call bus – had already been authorised under Section 2 subsection 6 of the Act. This clause permits exemptions which “do not fulfil all the characteristics of a type or form of transport”. According to the practitioners, the establishment of the experimentation clause in Section 7 subsection 7 of the Act has made it much easier to issue authorisations.



› **What’s happening in the field?**

**Trying out mobility services**

**New mobility concepts** are being developed and tested in many places around Germany at present. In pooling/ridesharing services, several passengers share a vehicle. In most cases, the experimentation clause of the Carriage of Passengers Act (Section 2 subsection 7) is used to permit the practical testing for a maximum of four years. Well-known projects using the experimentation clause include:

- **CleverShuttle:** Clever Shuttle, in which Deutsche Bahn AG holds a majority stake, has been testing ridesharing in several large German cities since 2014, using battery-driven and hydrogen-fuelled electric vehicles.
- **BerlKönig in Berlin:** The ridesharing service of the local public transport company Berliner Verkehrsbetriebe (BVG) and ViaVan has been offering shared rides since September 2018. Most of the vehicle fleet is fully electric, with the 150 vehicles in operation in June 2019 set to grow to 300.
- **MOIA in Hanover (in commercial operation since August 2018) and Hamburg (since April 2019):** MOIA, a subsidiary of Volkswagen, currently has 100 vehicles offering a ridesharing service in Hamburg (set to rise to 500 vehicles) and 75 vehicles in Hanover. All of the vehicles in Hamburg are fully electric MOIA+6, and the fleet in Hanover is gradually being switched to fully electric vehicles.

 **For further information:**  
[www.clevershuttle.de](http://www.clevershuttle.de)  
[www.berlkoenig.de](http://www.berlkoenig.de)  
[www.moia.io/de](http://www.moia.io/de)

**Section 13 Trade Regulation Act**

The Section 13 experimentation clause in the Trade Regulation Act authorises the Länder governments to permit certain exemptions when it comes to testing simplifications, particularly in the field of start-ups and take-overs of companies:

.....  
*“The governments of the Länder shall be authorised to issue ordinances to test out simplifications, particularly to facilitate start-ups and take-overs of companies,*

*for a period of up to five years, permitting exemptions from rules on the exercise of occupations pursuant to this Act and the related ordinances, to the extent that the rules on the exercise of occupations are not based on binding rules of European Community law and the impact of the exemptions is restricted to the area of the respective Land.”*

.....

On the basis of this exemption clause, the Berlin Senate’s economic administration adopted

an ordinance suspending the ban on auctions on Sundays and public holidays, which was limited to five years and expired in 2012. The focus was on the ban on auctions in the ordinance, which was still in force at the time. However, since the ban expired in 2009, the need for an exemption disappeared.

Looking beyond Berlin, a sample survey of authorities failed to find any Land which had so far made use of Section 13 of the Trade Regulation Act. The authorities noted that the experimentation clause was of little practical relevance because its preconditions were very narrowly defined. For example, the exceptions from the rules on exercising an occupation must be “to test out simplifications”. Also, the rules must not be based on binding EU legislation. Furthermore, the impact of the ordinance must be restricted to the territory of the relevant Land. Various representatives of administrations were of the view that these preconditions made it much more difficult to use Section 13 of the Trade Regulation Act. Furthermore, a few relevant rules on the exercise of occupations, such as the Shop Opening Hours Act and legislation on catering establishments, were transferred to the legislative responsibility of the Länder in the federalism reform (Art. 74 no. 11 Basic Law), further diminishing the practical significance of Section 13 of the Trade Regulation Act.

### **Section 20 of the eGovernment Act of Saxony**

The experimentation clause in Section 20 of the eGovernment Act of Saxony authorises the relevant supreme state authority to permit materially or spatially limited exemptions from the application of various rules of Saxony on administrative procedures and costs for a period of up to five years in order to introduce and develop eGovernment:

.....  
*(1) The relevant supreme state authority shall be authorised to permit materially or spatially limited exemptions from the application of various rules of Saxony on administrative procedures and costs for a period of up to five years in order to introduce and develop eGovernment, in agreement with the Information Technology Commissioner of the Free State of Saxony and following approval from the State Ministry of the Interior and in the case of number 3 in agreement with State Ministry of Finance [...].*  
 .....

.....  
*(2) The same applies to other provisions on competence and procedure.*  
 .....

No use has been made so far of the experimentation clause established in 2014 in Saxony (cf. Report on the evaluation of the Saxon eGovernment Act of 12 April 2017, printed paper 6/9859, p. 56). The evaluation pursuant to Section 21 of the Saxon eGovernment Act found in particular that the original cumulative requirement of a material and spatial limitation of the exemptions posed an impediment to the use of the possibilities for statutory experimentation (cf. Report on the evaluation of the Saxon eGovernment Act, loc. cit.).

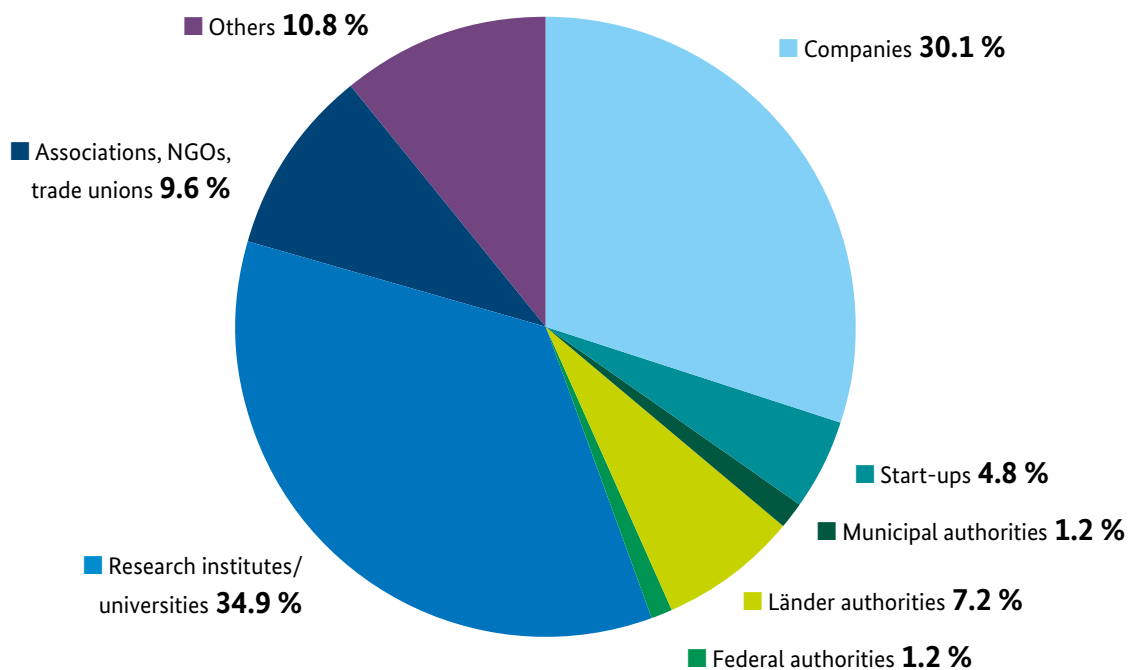
The Act on the Further Development of eGovernment in the Free State of Saxony, promulgated on 21 June 2019, has simplified the preconditions for the testing of eGovernment solutions in Saxony’s eGovernment Act. The cumulative requirement of material and spatial limitation has been replaced by an alternative requirement (material or spatial limitation) (cf. Section 20 subsection 1 of Saxony’s eGovernment Act). The period of the test has been extended from three to five years (Section 20 subsection 1) and extended to cover other procedural rules (Section 20 subsection 2).

# Annex

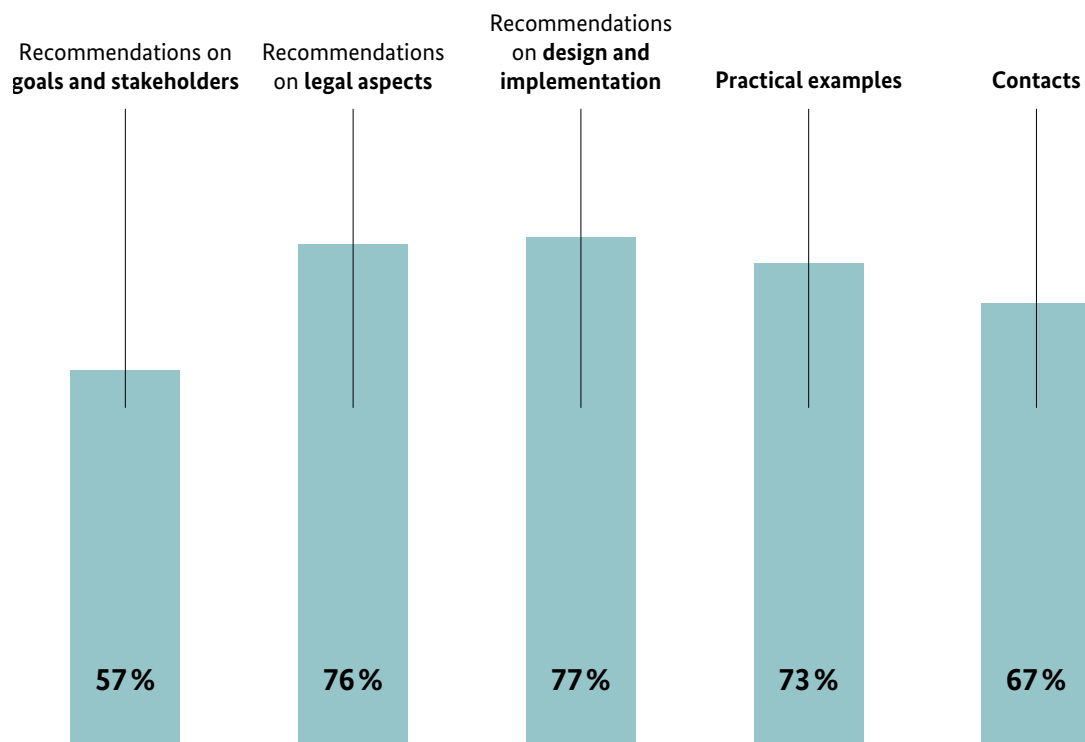
## Findings of the online consultation in the Regulatory Sandboxes Network

- Consultation held from 19 February to 29 March 2019
- A total of 83 participants from various institutions
- Handbook for Regulatory Sandboxes: Participants primarily desire information on legal issues, the design and implementation of regulatory sandboxes, and practical examples
- Participants reported on 27 practical examples; main focus: energy, innovative mobility and logistics, digital technologies
- Draft guidelines generally regarded as helpful, more than 100 comments and suggestions for additions

**Figure: Participants in the online consultation (n=83)**



### “What elements should the forthcoming handbook contain?”



### “What elements should the forthcoming handbook contain?” (Selected responses)

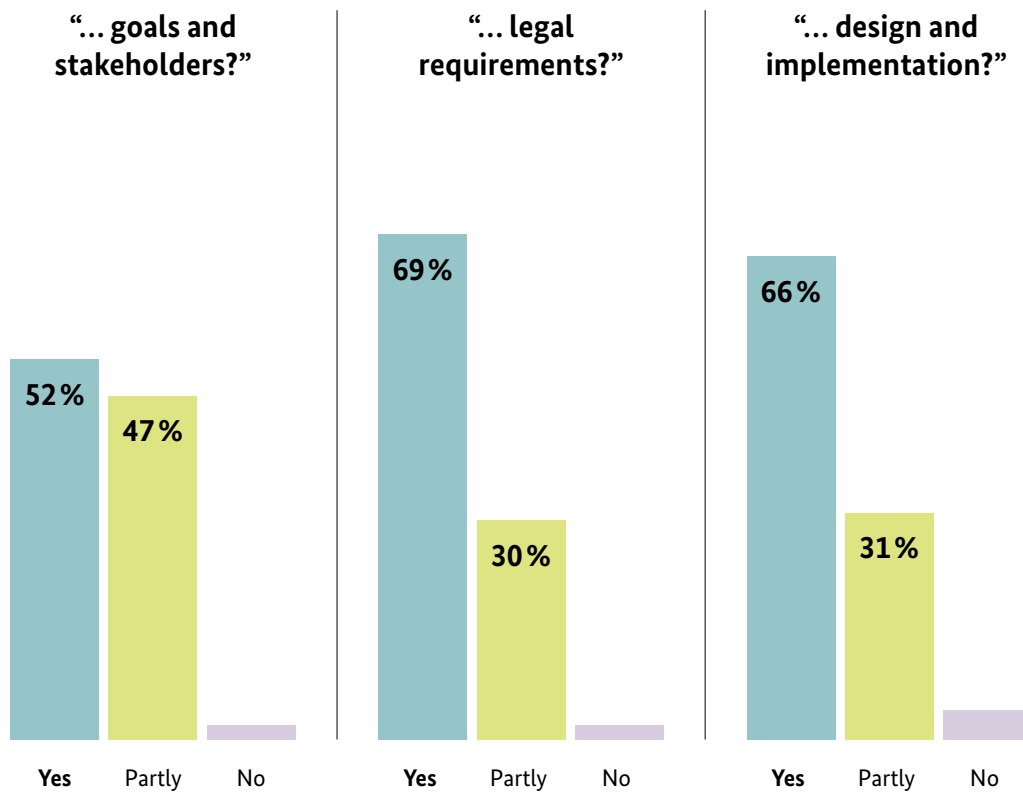
- “Collection of examples of successful regulatory sandboxes”
- “What sort of timeframe should one envisage?”
- “Support services/potential funding”
- “Possibilities to promote young scientists”
- “Possible evaluation formats and methods”
- “Graphic representations”
- “Illustrate financing/funding for practical examples”
- “Possibilities for funding”
- “Fact sheets and summaries”
- “Avoid re-wording R&D procedures”
- “Coupling with socioeconomic databases, couple with potential modelling”
- “Map of ongoing regulatory sandboxes and their subject matter”
- “Approach and concept of transdisciplinary research”
- “Make the point that the cited definition of regulatory sandboxes is one specific definition, and that there are other formats for regulatory sandboxes.”
- “Recommendations for public relations work”
- “Recommendations for action for the licensing authorities”



**A total of 27 practical examples of (planned) regulatory sandboxes and similar projects in the following areas:**

- Energy transition
- Electric mobility, autonomous vehicles on roads, autonomous vessels on waterways
- Product development
- Blockchain, Internet of Things
- Logistics
- Smart cities, use of housing
- Promoting innovation
- eGovernment
- Financial sector

**“From your point of view as a practitioner, do the guidelines cover the main aspects in the fields of ...”**



Note: the draft version of the guidelines from the consultations can be viewed (in German) here: [https://www.bmwi.de/Redaktion/DE/Downloads/P-R/reallabore-leitfaden.pdf?\\_\\_blob=publicationFile&v=5](https://www.bmwi.de/Redaktion/DE/Downloads/P-R/reallabore-leitfaden.pdf?__blob=publicationFile&v=5)

### “Where do you see – not least in the light of your experience – a need for additions or corrections to the guidelines?” (Selected answers)

- “Giving consideration to support from general public, involvement of public is crucial”
- “Early involvement of users”
- “State clearly what a regulatory sandbox is”
- “The guidelines are already very good and comprehensive. Examples add clarity.”
- “Definition of a central contact/moderator”
- “Overwhelming approval”
- “Inclusion of the participating stakeholders in the definition of research questions”
- “Stipulation of principles to guide action”
- “Formulation of neuralgic aspects of innovation”
- “The requirement to define objectives clearly needs to be included.”
- “Inclusion of possible European activities and insights from other (European) countries”/
- “Improve the design to make it easier to navigate”
- “Universities and higher education institutions in particular should be included as stakeholders”
- “An on-the-spot analysis should be undertaken at the outset”
- “Size and timeframe would be helpful”
- “Timetable/schedule”
- “Architecture of regulatory sandbox”
- “How can the concept for a regulatory sandbox be adjusted when no exemptions are available?”
- “Licensing authorities must be encouraged to actually make use of the scope that they know they have available.”
- “Reference to industrial property rights”
- “Lack of metrics for assessing the attainment of the corporate objectives”
- “Observe data protection rules”

Note: the draft version of the guidelines from the consultations can be viewed (in German) here: [https://www.bmwi.de/Redaktion/DE/Downloads/P-R/reallabore-leitfaden.pdf?\\_\\_blob=publicationFile&v=5](https://www.bmwi.de/Redaktion/DE/Downloads/P-R/reallabore-leitfaden.pdf?__blob=publicationFile&v=5)

## Overview of identified experimental clauses which relate to technological innovations

Note: The following translations into English of German laws are provided for information purposes only and are not legally binding.

Act/Ordinance / By-law	Article/ Section	Current wording	Agency responsible for issuing approval
<b>Construction law</b>			
Building Code of Schleswig-Holstein	Section 81	<p>(1) Section 52a of the Administration Act of Schleswig-Holstein shall not apply to the cases of Section 64 subsection 1, 2 and 4, Section 66, Section 68 subsection 3, Section 71, Section 73 subsection 2, Section 74, Section 76 subsection 3 and 10, Section 77 subsection 1 sentence 2 and subsection 4, and Section 80 subsection 2.</p> <p>(2) In individual cases, the supreme building control authority can permit temporary exceptions from subsection 1 in order to test the design and handling of an electronic application procedure.</p>	Supreme building control authority (Schleswig-Holstein)
<b>Energy law</b>			
Energy Industry Act	Section 119	<p>(1) The Federal Government shall be authorised to provide rules in the form of ordinances without the approval of the Bundesrat for participants in the “Smart Energy Showcases – Digital Agenda for the Energy Transition” research and development programme funded by the Federal Government which derogate from the provisions cited in subsection 2 number 1 to 3 or reimburse payments in the context of these provisions. The rules may be introduced in the following cases:</p> <ol style="list-style-type: none"> <li>1. in the case of measures to ensure the security or reliability of the electricity supply system pursuant to Section 13 subsection 1 and 2, Section 14 subsection 1 sentence 1 of this Act and Section 14 of the Renewable Energy Sources Act,</li> <li>2. in the case of measures which avoid grid-related or market-related measures by the system operator pursuant to Section 13 subsection 1 and 2 and Section 14 subsection 1 sentence 1 of this Act and Section 14 of the Renewable Energy Sources Act, or</li> <li>3. with regard to periods in which the value of the hourly contracts for the price zone for Germany is zero or negative in the day-ahead or intra-day auction on the spot market of the electricity exchange within the meaning of Section 3 number 43a of the Renewable Energy Sources Act.</li> </ol> <p>(2) The Ordinance can make rules which deviate from the provisions cited in numbers 1 to 3 or rules to reimburse payments in the context of this Ordinance</p> <ol style="list-style-type: none"> <li>1. on the reimbursement of grid use fees or the determination of grid use fees in a different way by the system operator in the case of an end-user to the extent that this refers to the application of Section 17 subsection 2 and Section 19 subsection 2 sentence 1 and 2 of the Electricity Grid Fee Ordinance,</li> </ol>	Federal Government

Act/Ordinance / By-law	Article/ Section	Current wording	Agency responsible for issuing approval
		<p>2. for installations to store electricity or to convert electrical energy into another form of energy to provide for an exemption from the obligation to pay or for a reimbursement</p> <ol style="list-style-type: none"> <li>a) of the grid fees pursuant to Section 17 subsection 1 and Section 19 subsection 2 sentence 15 and subsection 4 of the Electricity Grid Fee Ordinance,</li> <li>b) of a surcharge on grid fee pursuant to Section 17f subsection 5 sentence 1 and</li> <li>c) of the charge pursuant to Section 18 subsection 1 sentence 2 of the Ordinance on Interruptible Loads,</li> </ol> <p>3. for the purchase of interruptible loads even without the establishment of a joint internet platform by all distribution system operators pursuant to Section 14 subsection 1 in conjunction with Section 13 subsection 6.</p> <p>(3) Rules pursuant to subsection 2 may only be made if</p> <ol style="list-style-type: none"> <li>1. they contribute to the gathering of experience and learning effects in line with the aims of the funding programme pursuant to subsection 4,</li> <li>2. it is ensured that, when these derogating rules are applied, <ol style="list-style-type: none"> <li>a) resulting financial changes are restricted to the offsetting of economic disadvantages to the participants pursuant to subsection 1 which would have been incurred if the law had been applied without this derogating rule,</li> <li>b) when economic advantages and disadvantages are offset, any economic advantages and resulting profits are paid to the operator of the system to which the installation is connected in order to reduce that system operator's grid fee, and</li> </ol> </li> <li>3. these rules are restricted to the participants in the funding programme and expire on 30 June 2022 at the latest.</li> </ol> <p>(4) The objectives of the funding programme within the meaning of subsection 3 number 1 shall be</p> <ol style="list-style-type: none"> <li>1. an efficient and secure grid operation in the case of high shares of renewable energy,</li> <li>2. the harnessing of potential for greater efficiency and flexibility on the market and the grid,</li> <li>3. efficient and secure interaction amongst all players in the smart energy system,</li> <li>4. more efficient use of the existing grid structure and</li> <li>5. a reduction in the need for grid expansion at the level of distribution grids.</li> </ol> <p>(5) In the Ordinance the Federal Government may transfer the notification, supervision and monitoring of the exemptions or reimbursements resulting from derogating rules in the context of the "Smart Energy Showcases – Digital Agenda for the Energy Transition" research and development programme and the tasks related to subsection 3 number 2 to the Federal Network Agency or system operators.</p>	

Act/Ordinance / By-law	Article/ Section	Current wording	Agency responsible for issuing approval
<b>Regional policy</b>			
Coordinating Committee for the Joint Task “Improving the Regional Economic Structure”, Federal Ministry for Economic Affairs and Energy	Item 4.6	<p>(1) In order to enhance the attractiveness and competitiveness of the regional economic structure, the Länder can deploy funding from the Joint Task “Improving the Regional Economic Structure” at a level of up to 10% of the ratio for the Land, up to an overall annual ceiling of €10 million, for measures which are not envisaged in the coordination framework.</p> <p>(2) This experimental clause shall not cover the funding of commercial investment.</p> <p>(3) The funding of projects must be limited in time to a maximum of three years. It can be extended once by a maximum of three years. In the case of an extension, the funding rate must be designed degressively, by being cut by at least 10 percentage points from the funding rate applying to the original project.</p> <p>(4) Before funding can be approved, agreement to this must be obtained from the subcommittee.</p> <p>(5) The Länder shall submit a written annual report about the use of the funding to the subcommittee.</p>	Länder
<b>Commercial law</b>			
Trade Regulation Act (Federation)	Section 13	The governments of the Länder shall be authorised to issue ordinances to test out simplifications, particularly to facilitate start-ups and take-overs of companies, for a period of up to five years, permitting exemptions from rules on the exercise of occupations pursuant to this Act and the related ordinances, to the extent that the rules on the exercise of occupations are not based on binding rules of European Community law and the impact of the exemptions is restricted to the area of the respective Land.	Länder governments
<b>Media law</b>			
Media Act of North Rhine-Westphalia	Section 10b	<p>(1) The implementation of temporary pilot trials is permissible for the purpose of the introduction and development of digital terrestrial transmission technologies. The duration should not normally exceed three years. These pilot trials serve the preparation of decisions on the future use of digital terrestrial transmission technologies.</p> <p>(2) The Minister-President shall announce the transmission capacities available for the purpose of the trial and shall work to ensure that the participants agree on an objective allocation. If agreement is reached, the Minister-President shall allocate the transmission capacities and shall inform the relevant committee of the Landtag about this.</p>	Minister-President



Act/Ordinance / By-law	Article/ Section	Current wording	Agency responsible for issuing approval
		(3) If no agreement is reached between the participants within one month of the announcement, the Minister-President shall allocate the capacities, taking account of the purpose of the trial and the comments from the participants. Here, consideration must be given to the aspects cited in Section 10 subsection 2 and Section 10a and a balanced distribution of the transmission capacities between public-law and private providers.	
Media Act of North Rhine- Westphalia	Section 30	(1) In addition to pilot trials pursuant to Section 10b, the implementation of model and field tests with new technologies, channels and comparable telemedia shall be admissible. Model and field tests must be restricted to a duration of up to 6 months. An extension by up to three months shall be admissible. The provisions of this act shall apply <i>mutatis mutandis</i> to model and field tests. With the exception of Sections 4 subsection 1, 5, 6, 31, 33 to 3e, 35, 38, 42 to 51 and 118 to 126, the Media Supervisory Authority can derogate from statutory provisions if this is necessary to attain the goal of the project or trial. The Media Supervisory Authority shall regulate further details in its by-laws.  (2) The Media Supervisory Authority should require the organisers and providers to present a progress report at appropriate intervals on the ongoing model and field tests and to undertake an evaluation after the conclusion of each model or field test.	Media Supervisory Authority of North Rhine-Westphalia
Media Act of Bavaria	Article 30	(1) The implementation of temporary pilot projects and field tests with new technologies, channels and telemedia shall be admissible.  (2) The Media Supervisory Authority can allocate transmission capacities to be used for this purpose.  (3) In derogation of Article 25(1) it can conclude agreements with the implementing office of the pilot project or the field test or with the providers of channels, services similar to broadcasting, and other telemedia for the purpose of implementing the pilot project or the field test.  (4) In the context of pilot projects or field tests, Article 4 sentence 2, Article 5(1) to (4), Articles 6 to 9, 16 to 18, 20, 24(1), Article 25(8), Articles 28 and 29(1) sentence 1, (2) and (3) of this Act shall apply to broadcasting channels, and the provisions of the Interstate Agreement on Broadcasting and the Telemedia Act shall apply to telemedia <i>mutatis mutandis</i> .	Media Supervisory Authority of Bavaria
Media Act of Saxony-Anhalt	Article 20	(1) The Media Supervisory Authority of Saxony-Anhalt can, in line with its budget, fund pilot projects which should not normally exceed a duration of two years. A duration of four years must not be exceeded. Projects within the meaning of sentence 1 shall serve the testing of new transmission technologies, new broadcasting services and new telemedia. Following the completion of the project, the Media Supervisory Authority of Saxony-Anhalt must produce, evaluate and publish a final report. Any exceeding of the duration pursuant to sentence 1 must be justified in the final report.	Media Supervisory Authority of Saxony-Anhalt

Act/Ordinance / By-law	Article/ Section	Current wording	Agency responsible for issuing approval
		<p>(2) Anyone wishing to provide and disseminate broadcasting channels or new broadcasting services in the context of projects pursuant to subsection 1 shall require a licence. This must be limited to the duration of the project. Sections 3, 4, 7, 11 to 17, 24 to 27, 32 to 39 and 55 to 62 shall apply <i>mutatis mutandis</i> to the issuing of the licence, the control of broadcasting channels and of new broadcasting services and to the attribution and assignment of transmission capacities in projects pursuant to subsection 1. The public announcement of the project in accordance with Section 13 subsection 2 shall also cite the specific rules which are to apply to the project and the area covered by the dissemination. A private broadcasting provider wishing to participate in a project with a broadcasting channel for which a licence has been issued pursuant to this Act shall not require any licence in the context of the project for this broadcasting channel. Sentence 5 shall apply <i>mutatis mutandis</i> for the dissemination of broadcasting channels and new broadcasting services in the context of a cross-Länder project in which the Media Supervisory Authority of Saxony-Anhalt is involved as long as the broadcasting channels, new broadcasting services and new telemedia which are the subject of the project pursuant to subsection 1 are provided in a Land participating in the project in a manner which is compliant with broadcasting law.</p> <p>(3) Subsection 2 shall not apply to public-law broadcasters which provide broadcasting channels on the basis of another act of Saxony-Anhalt and which provide or disseminate a broadcasting channel, a new broadcasting service or telemedia alone or together with other public-law broadcasters in the context of projects pursuant to subsection 1.</p> <p>(4) The Media Supervisory Authority of Saxony-Anhalt shall, in line with its budget, issue contracts for media research and publish the findings.</p>	
<b>Transport law</b>			
Rules of the Air Regulations	Section 21b subsection 3	(3) In justified cases, the competent authority can permit exemptions from the prohibitions of operation pursuant to subsection 1 sentence 1 number 1 to 9 if the preconditions of Section 21a subsection 3 sentence 1 are met. Section 20 subsection 5 and Section 21a subsection 5 and 6 shall be applied <i>mutatis mutandis</i> .	Aviation authorities of the Länder
Carriage of Passengers Act	Section 2 subsection 7	In order to allow for the practical testing of new modes or means of transport, the licensing authority may, upon request on a case-by-case basis, authorise exemptions from the provisions of this Act or from provisions adopted on the basis of this Act for a maximum period of four years, insofar as they do not conflict with public transport interests.	Licensing authority pursuant to the Carriage of Passengers Act

Act/Ordinance / By-law	Article/ Section	Current wording	Agency responsible for issuing approval
Road Traffic Act	Section 6	<p>(1) The Federal Ministry of Transport and Digital Infrastructure shall be authorised to issue ordinances with the approval of the Bundesrat on</p> <p>[...]</p> <p>No. 16 the restriction of road traffic to investigate accidents, road user behaviour, traffic flows and to test planned rules and measures for traffic safety or control;</p> <p>[...]</p> <p>(6) The Federal Ministry of Transport and Digital Infrastructure shall be authorised to issue ordinances with the approval of the Bundesrat to authorise the Länder governments to regulate by ordinance exceptions from the ordinances enacted on the basis of Section 6 subsection 1 number 2 letter c, d, k, m, r, s, t and v for the duration of three years to test an approval procedure using information and communications technology.</p>	<p>Federal Ministry of Transport and Digital Infrastructure, Bundesrat (subsection 1)</p> <p>also the Länder governments (section 6)</p>
Road Traffic Regulations	Section 45 subsection 1 sentence 2 number 6	<p>(1) The road traffic authorities can restrict or prohibit the use of certain roads or sections of roads on the grounds of traffic safety or control and divert the traffic. They shall have the same right</p> <p>[...]</p> <p>6. to investigate accidents, road user behaviour, traffic flows and to test planned measures for traffic safety or control.</p>	Road traffic authorities
Road Traffic Registration Regulations	Section 19 subsection 6	<p>(6) If parts are altered within the meaning of subsection 2 on vehicles from vehicle manufacturers which possess a type approval, the type approval shall remain effective as long as the vehicles are used exclusively for testing; to this extent, no notification to the licensing authority shall be required. Sentence 1 shall apply only if the licensing authority has confirmed in the vehicle registration document that the vehicle has been notified to it as a test vehicle.</p>	Licensing authority
Road Traffic Registration Regulations	Section 22a subsection 3 number 1	<p>[...] (3) Subsections 1 and 2 shall not be applied to</p> <p>1. devices which are used for testing in road traffic if the driver of the vehicle carries a corresponding official confirmation and provides this to responsible persons on demand for scrutiny, [...]</p>	No authority shall need to act, this shall be an automatic exemption from the statutory obligation
Road Traffic Registration Regulations	Section 57c subsection 3 no. 3	<p>(3) The following do not need to be equipped with a speed limiter:</p> <p>[...]</p> <p>3. vehicles which are used for scientific tests on the road for testing within the meaning of Section 19 subsection 6, [...]</p>	No authority shall need to act, this shall be an automatic exemption from the statutory obligation

Act/Ordinance / By-law	Article/ Section	Current wording	Agency responsible for issuing approval
<b>Administrative law</b>			
eGovernment Act of Bavaria	Article 19(1)	(1) In order to introduce and develop electronic administrative infrastructure, the state government can issue ordinances to provide for materially and spatially limited derogations from the following provisions:  1. Provisions on competence and form pursuant to Articles 3, 3a, 27a, 33, 34, 37(2) to (5), Articles 41, 57, 64 and 69(2) Bavarian Administrative Procedures Act,  2. Article 5(4) to (7), Articles 6 and 15(2) of the Bavarian Act on the Administrative Service of Documents and Enforcement and  3. other provisions on competence and procedure in state law to the extent to which this is necessary to test new electronic procedures which substitute written procedures, transmitting and promulgating documents or declarations, presenting documents, collecting, processing, using or forwarding data, or for the testing of the services offered by central.	State government
eGovernment Act of Saxony	Article 20	(1) The relevant supreme state authority shall be authorised to permit materially or spatially limited exemptions from the application of various rules of Saxony on administrative procedures and costs for a period of up to five years in order to introduce and develop eGovernment, in agreement with the Information Technology Commissioner of the Free State of Saxony and following approval from the State Ministry of the Interior and in the case of number 3 in agreement with State Ministry of Finance [...].  (2) The same shall apply to other provisions on competence and procedure.	Respective supreme state authority
eGovernment Act of Schleswig- Holstein	Section 9	For the purpose of introducing and developing eGovernment, the Ministry for the Interior and Federal Affairs, in consensus with the supreme Land authority responsible for matters of interministerial information and communications technology and the supreme Land authority responsible for the subject matter, shall be authorised to issue ordinances permitting exceptions from the application of the following provisions of the Land Administration Act for a period of up to three years:  1. Section 31 Local jurisdiction;  2. Section 52a Electronic communications;  3. Section 89 Deadlines;  4. Section 91 Authentication of documents;  5. Section 92 Authentication of signatures;  6. Section 150 subsection 4 and 5 Electronic service of documents;  7. Section 329 Local promulgation and announcement	Ministry for the Interior and Federal Affairs

Act/Ordinance / By-law	Article/ Section	Current wording	Agency responsible for issuing approval
Surveying and Land Register Act of North Rhine-West- phalia	Section 30	For the testing of new procedures to develop surveying and the property register, the ministry responsible for official surveying can on a case-by-case basis permit temporary exceptions from provisions of the Act or the ordinances issued for its implementation.	Ministry of the Interior of North Rhine-Westphalia
Trust Services Act	Section 11 sub- section 3	(3) Innovative identification methods which are not yet recognised by an order in the official journal can be provisionally recognised by the Federal Network Agency in consensus with the Federal Office for Information Security and following hearing of the Federal Commissioner for Data Protection and Freedom of Information for a period of up to two years as long as a conformity assessment body has confirmed the equivalent security of the identification method within the meaning of Article 24(1)(2)(d) of Regulation (EU) No 910/2014. The Federal Network Agency shall publish the provisionally recognised identification methods on its website. The Federal Network Agency and the Federal Office for Information Security shall supervise the suitability of the provisionally recognised identification methods during the entire period of the provisional recognition. If the supervision identifies security-relevant risks in the provisionally recognised identification method, the supervisory body can in consensus with the Federal Office for Information Security instruct the qualified trust service provider to take additional measures to remedy these risks where this makes sense in terms of security. If additional measures cannot ensure sufficient security of the provisionally recognised identification method, the supervisory body shall prohibit the qualified trust service provider from using this identification method.	Federal Network Agency, Federal Office for Informa- tion Security, after hearing the Federal Commissioner for Data Protection and Freedom of Information



