



Business plan for a DIN SPEC project  
according to the PAS procedure on  
**"Framework for stress-testing resilience of  
industrial plants and sites (critical entities)  
exposed to cyber-physical attacks"**

Status:  
**for developing the DIN SPEC (PAS) after  
adoption on 27<sup>th</sup> April 2021**

Requests to participate in the project and/or comments on the  
business plan are to be **submitted by**  
**2021-04-22** to [christian.grunewald@din.de](mailto:christian.grunewald@din.de)<sup>1</sup>

Recipients of this business plan are requested to name **all patent rights**  
known to them to be relevant to the project and to make available  
all supporting documents.

Berlin, 2021-05-31 (Version 3)

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<sup>1</sup> Applications for participating in the project and comments on the business plan that are not received by the deadline do not need to be taken into consideration. Once constituted, the project workshop will decide whether or not to consider the comments received in good time.

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## 1. Status/version of the business plan

- **For public commenting (Version 1)**

This business plan is intended to inform the public of a new DIN SPEC project. Any interested party can take part in this project and/or comment on this business plan. Please send any requests to participate or comments by e-mail to [christian.grunewald@din.de](mailto:christian.grunewald@din.de).

Once this business plan is published, the Chairman of DIN's Executive Board decides whether or not the project is to be carried out.

If the project is accepted, all those who have applied for participation or have commented on the business plan by the deadline will be invited to the kick-off meeting of the project consortium.

- **For developing the DIN SPEC after adoption on 2021-04-27**

Changes to the previous version 1:

- Section 2: Table of participating organizations added

Changes to the previous version 2:

- Section 2: Addition of experts and participating organizations

## 2. Initiator and other consortium members

- Initiator:

Person/Organization	Short description
Prof. Aleksandar Jovanović Organization: Steinbeis Advanced Risk Technologies	Steinbeis Advanced Risk Technologies (R-Tech) ( <a href="http://www.risk-technologies.com">www.risk-technologies.com</a> ) is a private company, active in the area of risk technologies and risk management, providing related services, R&D and products. It was founded in 2007 and according to EU legislation it belongs to the group of "small and medium enterprises" (SMEs). It is an independent member of Steinbeis Advanced Risk Technology Group and an independent member of Steinbeis Group ( <a href="http://www.steinbeis.de">www.steinbeis.de</a> ), which was founded in 1971, offering, with its more than 1,100 Transfer Centers in more than 50 countries global services in technology and knowledge transfer. R-Tech actively supports the activities related to the European Technology Platform EuMaT (European Technology Platform for Advanced Engineering Materials and Technologies, <a href="http://www.eumat.eu-vri.eu">www.eumat.eu-vri.eu</a> ). Main application areas of R-Tech are in the assessment, analysis and management of technical risks, integrating these aspects with other aspects, such

Person/Organization	Short description
	as business, financial, organizational, IT and human behavior related ones.

- Other potential participants:

This DIN SPEC will be developed in a consortium (temporary body) that is open to any interested party. The participation of other experts would be helpful and is desired. It is recommended that

- Industry owners/operators of critical entities, industry associations
  - Regulatory Body and Public Authorities responsible for critical entities' security
  - European Commission Body and Agency active in area of critical entities
- take part in the development of this DIN SPEC.

- Organizations<sup>2</sup> that have registered for participation:

Prof. Aleksandar Jovanović	Steinbeis Advanced Risk Technologies, Germany
Dr. Somik Chakravarty	Steinbeis Advanced Risk Technologies, Germany
Giovanni Mazzeo	CINI - Consorzio Interuniversitario Nazionale per l'Informatica, Italy
Jack Boyd	DEPUY (IRELAND) UNLIMITED
Lorenzo Sutton Dr. Gabriele Giunta Guiseppe Cammarata	Engineering Ingegneria Informatica S.p.A, Italy
Mai Thi Nguyen	EU-VRi, European Risk and Resilience Institute
Goncalo Cadete	INOV INESC Inovação – Instituto de Novas Tecnologias, Portugal
Prof. Marko Gerbec	Jozef Stefan Institute, Slovenia
Dr. Souzanna Sofou	Satways Ltd., Greece
Dr. Piotr Sobonski	United Technologies Research Centre Ireland Ltd.
Dr. Christian Grunewald	DIN

- Organisations that have adopted this business plan (consortium members):

Person	Organization
Prof. Aleksandar Jovanović	Steinbeis Advanced Risk Technologies, Germany
Dr. Somik Chakravarty	
Andreas Erdrich	Bundesamt für Sicherheit in der Informationstechnik, Germany
Janek Pelzer	
Giovanni Mazzeo	CINI - Consorzio Interuniversitario Nazionale per l'Informatica, Italy
Jan Seitz	CovIQ GmbH, Germany
Jack Boyd	DePuy Synthes (Ireland) Unlimited
Lorenzo Sutton	Engineering Ingegneria Informatica S.p.A, Italy
Mai Thi Nguyen	EU-VRI, European Risk and Resilience Institute
Goncalo Cadete	INOV Instituto de Engenharia de Sistemas e Computadores Inovação, Portugal
Prof. Marko Gerbec	Jozef Stefan Institute, Slovenia
Dimitris Diagourtas	Satways Ltd., Greece
Dr. Souzanna Sofou	
Gennaro Bacile	Studio QSA snc, Italy
Dr. Piotr Sobonski	United Technologies Research Centre Ireland Ltd.

### 3. Objectives of the project

#### 3.1. General

The aim of the DIN SPEC 91461 is to provide the framework and the guideline for stress-testing industrial plants and sites (critical entities) against cyber-physical Attacks. The background for document is the work in the EU projects on DRS (Disaster Resilient Society), in particular the projects dealing with resilience of critical infrastructures (entities), its assessment and stress-testing (e.g. InfraStress, SmartResilience and the projects members of the ECSCI cluster (European Cluster for Securing Critical Infrastructures)).

#### 3.2. Planned scope

The planned DIN SPEC defines the baseline of the stress-testing resilience of industrial plants and sites (critical entities, acc. to the new EU directive), including references, definitions and scope. It establishes/specifies principles of the stress-testing, defines the stress-testing framework (e.g. roles and responsibilities), proposes resilience assessment and stress-testing methods and indicators, as well as the process (procedure) in which these are used. The emphasis of the procedure is on the virtual-testbed based testing of the systems relevant for the safety and security of the entities. These elements

provide a de-facto guideline for the resilience stress-testing, including also guidance for the stress-testing results acceptance and reporting and communication.

The informative annex(es) will provide examples of applications related to the industrial plants (oil and gas industry, pharmaceutical industry, ports, etc.).

The planned DIN SPEC is intended to be used by three main groups of stakeholders: the critical entities owners (the “blue team”), the testing teams (“red team”) and the supervising bodies (the “white team”, e.g. authorities, e.g. in the case of the Seveso-entities, the “competent authorities” defined by the directive). The document is expected to be used also by the stress-testing service providers (including the IT-security and resilience analysis specialist) as the cornerstone reference, similarly to the TIBER-EU guideline applied in the financial sector.

The planned document does not apply and is not intended to be used as a replacement for any applicable safety/security related regulation applicable, but rather to support this regulation and contribute by providing additional information and transparency. The planned document does not apply to machinery. The planned document does not define occupational safety and health.

### **3.3. Related activities**

The subject of the planned DIN SPEC is not at present the subject of a standard. However, there are committees, standards and/or other technical rules that deal with related subjects and thus need to be taken into account - and involved or incorporated, where necessary - in this project:

Committees:

- NAOrg (DIN Standards Committee for Organizational Processes)
- NIA (DIN Standards Committee Information Technology and selected IT Applications)
- FNFW (DIN Standards Committee Firefighting and Fire Protection)
- NQSZ (DIN Standards Committee Quality Management, Statistics and Certification)
- NASG (DIN Standards Committee Safety Design Principles)
- KoSi (Coordination Office for Civil Security)
- KITS (Coordination Office for IT Security)
- NOTE: AFNOR and/or UNI Committees possibly contacted, yet to be named

Specific committees :

- Security and Business Continuity (NA 175-00-05 GA)
- Risk management principles (NA 175-00-04 AA)
- Joint working committee NASG/NAM/DKE: General principles and terminology (NA 095-01-01 GA)

#### Regulations:

- EU Directive 2008/114/EC on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection
- EU Directive 2020/365 (proposal) on the resilience of critical entities, COM(2020) 829 final 2020/0365 (COD)
- EU Directive 2016/1148 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning measures for a high common level of security of network and information systems across the Union
- EU Directive 2016/1148 concerning measures for a high common level of security of network and information systems across the Union (NIS Directive) and proposal for a revised Directive on Security of Network and Information Systems (NIS 2 Directive)
- TIBER-EU FRAMEWORK – How to implement the European framework for Threat Intelligence-based Ethical Red Teaming, ECB (2018)

#### Standards:

- ISO 31000 Risk management
- ISO 31000 family of ISO standards, the proposed 31050 (emerging risks and resilience), 31073 (terminology) and the ISO 31000 Guidance Handbook (risk management)
- ISO 223xx family of standards (security and resilience)
- EN 61508 Functional safety of electrical/electronic/programmable electronic safety-related systems
- EN 61511 Functional safety - Safety instrumented systems for the process industry sector
- IEC 62443: Security for industrial control and automation systems
- CEN ISO TR 22100-4:2020 Safety of machinery - Relationship with ISO 12100 - Part 4: Guidance to machinery manufacturers for consideration of related IT-security (cyber security) aspects

## 4. Work programme

The aim of the project is to develop a DIN SPEC according to the PAS procedure (see [www.din.de/go/din-spec-en](http://www.din.de/go/din-spec-en)). The DIN SPEC shall be consistent with the body of German standards and shall not be in conflict with any DIN Standard.

The starting date was 2021-04-27 (kick-off meeting online). The project duration will be about 3 months.

At this kick-off meeting, the consortium for developing the DIN SPEC was constituted, further organizational issues were decided on and clarified, and, where possible, work on the subject matter was begun.

A draft for public commenting will not be published.

Further 3 web conferences will be held, during which the content of the DIN SPEC will be presented, discussed and approved. The content of the DIN SPEC can be drawn up by individual consortium members or in working groups.

Dates of further meetings and/or web conferences are to be agreed on within the consortium in consultation with DIN.

The DIN SPEC will be drawn up in English (language of meetings, minutes, etc.). The DIN SPEC will be written in English.

**NOTE** The calculation covers only one language version. Please keep in mind the fact that other language versions involve additional expenses; for this reason, they shall be agreed on separately. If another language version is desired, Beuth/DIN can provide a translation. Requests for translations are to be submitted after the DIN SPEC manuscript has been approved for publication.

## **5. Resource planning**

Each consortium member shall bear the expenses he/she incurs as a result of participation in the project.

If the DIN Executive Board approves the project, the initiator of the project will then conclude a contract with DIN.

Consortium membership and participation in the project meetings is free of charge, as the costs incurred by DIN throughout the performance of this project will be financed by funding from the research project "InfAStress" funded by the European Commission as per the funding announcement Horizon 2020 (funding reference no.: 833088)

## **6. Rules of cooperation in the DIN SPEC consortium**

This project is governed by the PAS procedural rules. All interested parties and consortium members are to inform themselves of these procedures by going to [www.din.de/go/din-spec-en](http://www.din.de/go/din-spec-en).

The consortium will be constituted during the course of the kick-off meeting. The kick-off meeting will not take place until the business plan has been published and approved by DIN's Management Board. The consortium shall comprise at least three members from different organizations<sup>2</sup>. It is not necessary that these members come from different areas and represent different stakeholders. By approving this business plan, the interested parties declare their willingness to participate in the consortium and will be formally

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<sup>2</sup> Organizations are participating legal entities that send the experts to the DIN SPEC consortium and are assigned to a corporate structure as defined by § 15 of the German Stock Corporation Act or § 271 paragraph 2 of the German Commercial Code.



named as consortium members, with the associated rights and duties. Participants at the kick-off meeting who do not approve the business plan are not given the status of a consortium member and are thus excluded from further decisions made during the kick-off meeting and from any other decisions regarding the project.

If an organization (e.g. an association) sends someone who is not an employee to the consortium, this person shall be authorized by the organization, who shall provide proof of this to DIN.

Each consortium member is entitled to vote and has one vote. If an organization sends several experts to the consortium, that organization has only one vote, regardless of how many consortium participants it sends. Transferring voting rights to other consortium members is not permitted. During voting procedures, decisions are passed by simple majority; abstentions never count.

As a rule, the consortium is closed once it is constituted. The current consortium members shall decide whether any additional members will be accepted or not.

During the kick-off meeting, the consortium members shall elect a consortium leader, who is responsible for content management and any decision-making and voting procedures. The leader is supported by the responsible DIN Project Manager, whereby DIN will always remain neutral regarding the content of the DIN SPEC. Furthermore, the DIN Project Manager shall ensure that DIN's rules of procedure, rules of presentation, and the principles governing the publication of DIN SPEC have been observed. Should a consortium leader no longer be able to carry out his/her duties, the DIN Project Manager shall initiate the election of a new leader.

The DIN Project Manager is responsible for organizing and leading the kick-off meeting, in consultation with the initiator. Further project meetings and/or web conferences shall be organized by the DIN Project Manager in consultation with the consortium leader.

If consortium members cannot be present when the DIN SPEC or its draft is approved, an alternative means of including them in the voting procedure shall be used (e.g. in writing, electronically).

All consortium members who voted for the publication of the DIN SPEC or its draft will be named as authors in the Foreword, including the organizations which they represent. All consortium members who voted against the publication of the DIN SPEC or its draft, or who have abstained, will not be named in the Foreword.

Any expansion of the consortium at a later date is decided on by the members making up the consortium at that time. It is particularly important to consider these aspects:

- a) expansion would be conducive to shortening the duration of the project or to avoiding or averting an impending delay in the planned duration of the project;
- b) the expansion would not result in the project taking longer to complete;
- c) the new consortium member would not address any new or complementary issues beyond the scope defined and approved in the business plan;
- d) the new consortium member would bring complementary expertise into the consortium in order to incorporate the latest scientific findings and state-of-the-art knowledge;
- e) the new consortium member would actively participate in the drafting of the manuscript by submitting concrete, not abstract, proposals and contributions;
- f) the new consortium member would ensure wider application of the DIN SPEC.

To allow the legal reproduction and distribution of results for the purposes of project work, the consortium members grant DIN rights of use on the basis of the copyright that will accrue to them for the results of their work on the DIN SPEC. The transfer of these utilization rights does not prevent the consortium members from using and further developing the knowledge, experience and findings they bring to the project.

Consortium members are requested to inform DIN of all patent rights known to them to be relevant to this DIN SPEC project.

Subsequent changes to the scope (Section 3.2) or to the resource planning (Section 5) require, in addition to a two-thirds majority of all votes cast, the approval of DIN.

## 7. Contacts

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## Annex: Project schedule (preliminary)

DIN SPEC project	2021											
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
<b>Initiation</b>												
1. Request and review												
2. Business plan drawn up												
3. Publication of business plan												
<b>Development phase</b>												
4. Kick-off meeting/consortium constituted												
5. DIN SPEC drawn up												
6. DIN SPEC approved by consortium												
<b>Publication</b>												
7. Review and release by DIN												
8. Publication of DIN SPEC												
<b>Milestones</b>												

**K** Kick-off  
**M** Project meeting  
**W** Web conference  
**A** Adoption of DIN SPEC