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***Semantic Interoperability Centre Europe***

# **Guideline for Producing Interoperability Assets**

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## PREFACE

### About SEMIC.EU

SEMIC.EU (Semantic Interoperability Centre Europe) is an EU-Project to support the data exchange for pan-European e-Government services. Its goal is to create a repository for interoperability assets that can be used by e-Government projects and their stakeholders. SEMIC.EU is offering the following services for the public sector in Europe:

- SEMIC.EU will provide access to interoperability assets which have been developed in previous governmental projects.
- A clearing process will safeguard certain rules and standards to assure the quality of published assets.
- Community features will be available on the platform, e. g. a forum to discuss best practices for the use of assets.
- SEMIC.EU will invite to seminars and workshops that are related to its activities.
- SEMIC.EU offers coaching services for the creation and/or reuse of interoperability assets.

More information on SEMIC.EU can be found at: <http://www.semic.eu>.

SEMIC.EU is an action of IDABC. Contracted technical service providers for the project are: Jinit[ (main contractor), Fraunhofer ISST, GEFEG, and France Telecom R&D.

### About IDABC

IDABC stands for Interoperable Delivery of European e-Government Services to public Administrations, Business and Citizens. It takes advantage of the opportunities offered by information and communication technologies to encourage and support the delivery of cross-border public sector services to citizens and enterprises in Europe and to improve efficiency and collaboration between European public administrations.

The programme also provides financing to projects addressing European policy requirements, thus improving cooperation between administrations across Europe. National public sector policy-makers are represented in the IDABC programme's management committee and in many expert groups. This makes of the programme a unique forum for the coordination of national e-Government policies.

<http://ec.europa.eu/idabc>

### Conventions

The type styles shown below are used in this document to emphasize parts of the text.

Times New Roman – 11 pt.: Standard body text

*Times New Roman – 11 pt. Italic:* Citations

The requirements level indicators are fully aligned to “RFC2119 - Key words for use in RFCs to Indicate Requirement Levels” and are used as follows:

- |               |   |
|---------------|---|
| <b>MUST</b>   | means, that this policy element or requirement is to be fulfilled unexceptionally.    |
| <b>SHOULD</b> | indicates an optional policy element / requirement which may be fulfilled if desired. |

## **1. PURPOSE OF THIS DOCUMENT**

This document is intended to guide the asset owner and the correlated development team through the process of creating a new asset on the SEMIC.EU platform. It introduces the required activities, considerations, and notations in order to ensure a smooth development process and quick traversal of all relevant platform processes. Furthermore, a set of “*special topics*”, whose contents is closely related to the development processes, explain certain aspects more detailed.

## 2. STRUCTURE OF THIS DOCUMENT

### 2.1. Creating a New Asset

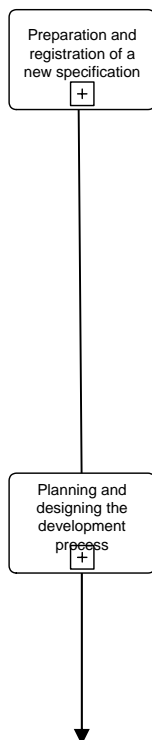
The following guidelines describe the steps of the creation of a new asset through its full life cycle until it reaches conformance<sup>1</sup> from the owner's / provider's / development team's point of view. The description emphasises the SEMIC.EU community participation and related processes.

### 2.2. Preparation and Registration of a New Specification

The first task that you have to consider is looking for similar assets. This is the main objective of SEMIC.EU that is to share already existing assets. If no assets are available, then you may want to consider looking for ongoing developments. The main idea here is to join forces with other who are developing similar assets and collaborate and work together. Following these steps, you need to clear legal issues, setup your development team and establishing of an organisational framework for the further development of your asset. Furthermore, a special focus lays on guidance on how you may register and plan your first release. Additionally, plans on how you may invite the SEMIC.EU community to participate in your assets development are presented as well.

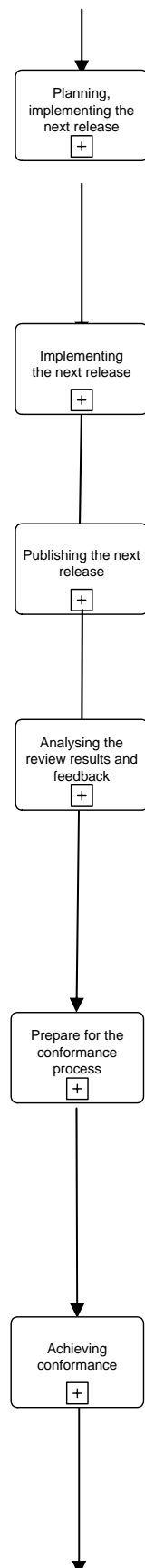
### 2.3. Planning and Designing the Development Process

This step involves the tasks of planning and designing the asset's overall structure together with planning the development process. Planning your asset's structure comprises determining requirements, determining artefact and representation types, and determining quality goals. Planning your development process comprises planning resources, planning releases, and, in particular, organizing the communication strategy for your interaction with the SEMIC.EU community and similar projects.



<sup>1</sup> "Vision of clearing process"





## 2.4.Planning the Next Release

Once the first two steps are concluded and you need to issue a new release of your asset, then this step will guide you through a number of planning activities for its completion. These planning activities are focussed on transforming the evaluated review results and the feedback given by the SEMIC.EU community and the SEMIC.EU team into the design for the next release of your asset.

## 2.5.Implementing the Next Release

Implementation of the next release, brings with it a series of considerations, including the testing of the new release, updating the documentation, documenting the changes, and checking legal issues before you can decide whether to publish it or not.

## 2.6.Publishing the Next Release

The activities you have to perform when publishing a new release comprise assembling and packaging the asset, updating the metadata, generating the new quality report, and uploading the release to the SEMIC.EU platform.

## 2.7.Analysing Feedback and the Results of Community Review

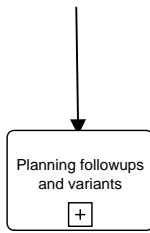
The idea behind new releases of an asset is to continuously improve the asset. As a result, for each release of your asset, it is crucial that you analyse the contributions of the SEMIC.EU community and the SEMIC.EU team to the development. You should seriously evaluate and consider these contributions that express the user's requirements and needs. You should decide carefully on reflecting these contributions in the further development of the asset.

## 2.8.Preparation for the Conformance Process

At this stage, your asset has reached the mature stage. Therefore your next step now is to request conformity. However, before you do that, you should consider whether all prerequisites have been fulfilled. This requires a careful analysis and evaluation of the conformance criteria that apply to your asset. Additionally, you are asked to design an argument, in which you may state your intentions about the reasons and success criteria for reaching conformance.

## 2.9.Achieving Conformance

When your request for conformance has been accepted by the SEMIC.EU advisory board, a conformance committee will be set up, to which you need to provide all relevant information. You have to implement change requests put forward by this committee. If and when the conformance committee awards conformity, you may perform the finalising steps to conclude your asset's development.



## **2.10. Planning Follow-Ups and Variants**

As the development of your conform asset is now completed, new requirements concerning such an asset require a follow-up or variant. What you should keep in mind when planning a new asset primarily consists of performing are:

- determining your new functions and features,
- developing a SWOT analysis to identify benefits and risks,
- assessing the possible impacts of your complete new development, and
- possibly redefining your quality goals and your additional requirements

for your new asset.





### 3. PREPARATION AND REGISTRATION OF A NEW SPECIFICATION

The steps described in this document are intended to guide potential developers through the process of creating and registering a completely new specification on the SEMIC.EU platform.

#### 3.1. Search for Similar / Same Assets on SEMIC.EU Platform

One of the primary goals of SEMIC.EU is to boost the extensive reuse of semantic interoperability specifications. As a result, it is highly advisable for developers of new specifications to be familiar with the SEMIC.EU platform for specifications that are of similar - or ideally of the same - nature and characteristics. Locating an existing specification of sufficiently similar characteristics may greatly speed up the development process and may have a beneficial impact on the funding required. Another side effect is that extensive reuse establishes a stable basis for real semantic interoperability and promotes a highly flexible, efficient, and modular development approach.

##### 3.1.1. How can you locate similar or same assets on the SEMIC.EU platform?

- The SEMIC.EU platform groups assets by their application domain . You can select the appropriate domain within the platform; all related assets are presented to you.
- The SEMIC.EU platform provides you with keyword search  capabilities. By typing in the related keyword(s), the platform compiles a list with all eligible assets.
- The SEMIC.EU platform provides a bulletin board (forum)  for you to communicate with other users. A search request  may be performed in the forum to locate similar or same activities.

All of the above activities produce a result on which the developer may proceed.

##### 3.1.2. What to do if you have found similar or same assets?

- In case you did not find any similar or same assets on the platform, you can still look for related projects, documents or members of the SEMIC.EU community to initiate a collaborative development.
- When you have identified similar or same assets on the platform, you should communicate directly with the owner or development team of the concerned asset in order to coordinate a possible cooperative development or reuse.
- When you have identified only a set of fairly similar/same assets, you should request a set of experiences and good practices from the original development team. This may provide important insight to the challenges of development and may speed up the development process.

#### 3.2. Select Development / Collaboration Strategy and Objectives

The new development of a specification is usually a challenging task. Since one of the specialties of developing interoperability specifications is the high level of teamwork and collaboration, it is highly advisable to consider a small set of organisational tasks before the actual development process is initiated.

##### 3.2.1. Should you make your semantic interoperability assets freely available?

- Since any information regarding the specification will be publicly available when using SEMIC.EU, no confidential or secret information may be used in the development.
- If you make your development open to the public, a community of interested users can participate in discussions and reviews of the semantic interoperability asset.
- An open specification reflects the interests of the addressed target group. You and your development team have to also consider this group's objectives and requests.

- As not every change to a semantic interoperability asset will be published immediately, the discussions and information flow between the developers and the asset community should continue permanently through the available communication channels in order to support the collaboration.

#### 3.2.2. Have any volunteers or known developers come forward to you and offered to help?

- If you have found volunteers, it is wise to compile a list of every potential volunteer contributor (volunteer list).
- You should also compile a list of potential developers, ideally showing the individual strengths and interests of each potential developer.
- A “call for supporters” may be placed prominently by you, using the SEMIC.EU domain-specific forums.

### 3.3. Assign an Asset Owner or an Asset Agent

#### 3.3.1. Who should be the asset owner?

- The asset owner is usually the initiator of the development process who came up with the fundamental development idea.
- When the development process is initiated by two or more governmental agencies, the agencies usually nominate the primary contact.

The asset owner may delegate some or all of the rights and responsibilities to a alternative person who manages the asset accordingly.

#### 3.3.2. Is an “asset agent” required for your asset or can you start without an agent?

- If the asset owner is an organisation or company, a specific contact has to be named to manage the asset and serve as the primary contact. This primary contact is the asset agent.
- If the asset owner is very busy or not able to manage the asset at all times, a proxy person should be named to manage the asset and serve as the primary contact when the asset owner is not available. In this case, the asset agent is that alternative person.
- If the asset owner is a skilled developer and wants to be the primary contact, the development team should communicate all decisions and work with a high degree of cooperation. In this case, the nomination of an asset agent is not required.

### 3.4. Select a Licence for the Asset

Selecting an appropriate licence is a step of fundamental importance for the development process as it outlines the legal and regulatory framework. The impact of each individual licence on the development process needs to be considered in advance and it is highly advisable to refer to the document “[\*Licensing framework for interoperability assets\*](#)”.

#### 3.4.1. Which licence class is appropriate for my asset?

- When your development strategy follows an approach to grant as many rights to developers and users as possible, the licence class “[\*Free to use, share, and modify by Non-Copyleft principle\*](#)” should be used.
- When your development approach is designed to grant many rights to developers and potential users but still seeks to protect the open-source character of the specification and prevent a transition into a proprietary specification, the licence class “[\*Free to use, share, and modify by Copyleft principle\*](#)” fits best.

- For closed developments undertaken by a governmental agency, usually a tailored, individual licence is provided by the agency itself. In such cases, you should use the licence class *“Traditional Licence”* as it seems most appropriate.

### 3.5. Select the Developer Team

Semantic interoperability specifications are usually developed in a team that cooperates with all affected partners. The concrete selection of an appropriate and adequate development team is of great importance since the resulting specification establishes the fundamental communication and data exchange rules for a potentially large user group.

#### 3.5.1. Which developers should you select?

- A good source of potential and motivated developers has already been compiled in the form of the volunteer list. You should scan this list in order to identify people who may be beneficial to the process.
- Developers to be selected by you need to know at least one of the targeted IT systems and should generally be domain experts.
- When you are developing with government agencies, it is highly advisable that the concrete hierarchy and chain of responsibilities is reflected accordingly in your selection of the developer team.

After the personnel-related tasks are complete, the team identifies the specific development strategy and development objectives.

### 3.6. Specify the Focus and Topics of the Asset

The concrete topic and specific focus of a potential semantic interoperability asset is a key feature of the development process. An unclear semantic interoperability asset might not be adequately reused, which basically disqualifies this specification from being a good interoperability enabler.

#### 3.6.1. What is the purpose of your semantic interoperability asset?

- Your concrete focus of the interoperability asset needs to be re-thought and discussed with the whole development team in order to produce a specification that is as focused on its purpose as possible.
- The development team and you also need to verify the domain and topic of the specification. Sometimes it is better to cover fewer application domains but to produce a clearer asset.
- The result of your above discussions together with your original intentions and ideas should be documented for later reference.

### 3.7. Design and Provide Suitable Meta-Information

Semantic interoperability specifications are designed to be used and re-used. In order to enable potential interested users to locate the specific specification, the developers need to describe it adequately. This is usually done by providing meta-information, which is read and can be processed by humans and machines (such as search engines, registries, etc.).

#### 3.7.1. What meta-information has to be provided by you and in which form?


- The development team and you should discuss the contents of key meta-information, such as asset abstract and your targeted application domain. It is important to realise that the information provided here determines how your assets will be found and reused by other members of the SEMIC.EU community.

- On the SEMIC.EU platform, all meta-information fields should be filled in completely by you (representing the asset owner). Your provision of suitable and well-designed meta-information makes the asset locatable and potentially attracts more users.
- You can provide more meta-information in a separate SEMIC.EU metadata file. This supports offline-processing and advanced integrity checks, which may turn out beneficial for your development process.

### 3.8. Register the Asset on the Platform

After the previous preparation and organisational tasks have been planned and performed, the asset may finally find its way onto the SEMIC.EU platform. Even if there is no content available right now, the semantic interoperability asset should still be registered to announce the activity on this topic to other interested parties. An early registration could help to initiate synergies with other activities or to find additional volunteers.


#### 3.8.1. How do you register your asset on the platform?

- The asset registration process can be started from the SEMIC.EU homepage, namely “*Register New Asset* ”. You may refer to the online help at any time for help concerning asset registration on the platform. You need to be a registered user with SEMIC.EU in order to start the asset registration process.
- It is important that you provide the previously developed and agreed meta-information and your concrete licence decision. Please remember, that you (or your asset owner) are the only persons, who may decide on the licence class and that this decision may not be delegated.
- Your team should provide and indicate the intended application domain, keywords, and the search tags. Those are put at the appropriate places by you or your asset agent. “*Link to the document “Vision of the clearing process”*”

### 3.9. Introduce and Communicate the Asset (Subject and Philosophy) to the Community






After the new asset is successfully registered on the SEMIC.EU platform, an important task is to communicate the existence and particular philosophy of that asset to potentially interested parties within the SEMIC.EU community. This may generate benefits within an active community such as external knowledge transfer, reaching early adaptors, and development of a potential source of good/best practices contributors.

#### 3.9.1. How can you inform the SEMIC.EU community about your publication of a new asset?

- A thread for your asset is automatically created with the asset’s registration.
- All people listed on the volunteer/call-for-supporters list should be contacted immediately by you to inform them about the current state of progress.
- The existence and fundamental ideas of your asset may be positioned in the SEMIC.EU forum , which can serve as an “asset bulletin board”. It is very advisable and usually quite beneficial to create and receive valuable comments in and from the forum discussion on your new asset.
- The SEMIC.EU team may place special “Calls for Comments” for your asset in a prominent place on the platform. This prominent must be specifically requested by you, the asset owner.

## 4. PLANNING AND DESIGNING THE DEVELOPMENT PROCESS

### 4.1. Deciding about the Required Artefacts

After the preparation phase and a successful registration  of the new interoperability specification in the form of an asset , the initial step is to plan and design the asset's overall structure. In accordance with the recommended structuring of an asset into functional areas, the developers have to decide about the areas to be equipped with artefacts . Defining the artefact set depends greatly upon the overall requirements of the asset, which is part of the asset itself. Furthermore, interrelations between artefacts as well as their representation types  and content types have to be determined. Apart from the typing and representation issues, the meta-information  structure of artefacts should also be outlined.

#### 4.1.1. Which levels of requirements should be covered by you?

- Usually so-called C-requirements (customer requirements) have to be covered, where “customers” include users of the targeted system. This is based on the information structures offered by your asset.
- In addition, D-Requirements (developer requirements) can be stated. These focus on technical requirements from your developer's perspective.




#### 4.1.2. Which kind of information modelling techniques and representations should you use?

- Depending on your concrete development focus, you and your development team should decide, which information modelling techniques are adequate to fulfil your particular goal of collaboration and interoperability. In general, it should be decided if both the functional area *Models* and the area *Syntactical specification* should be equipped.
- Depending on the degree of alignment to European standardization efforts, you need to select your targeted representation- and artefact types from the SEMIC.EU predefined artefact types and formats.

#### 4.1.3. How deep should you outline the meta- information structure?

- Apart from the standardised object identifier (OID) for your registered asset, only meta-information that can be determined at this early state should be defined by you.
- In general, your meta-information will be gradually defined during your whole asset development process. Nevertheless, meta-information like artefact-dependent types and formats should be defined by you as soon as possible in order to support a stable technological basis.

### 4.2. Determining Quality Goals

Delivering high-quality assets is one of the prerequisites for their successful usage in the European context. In order to emphasize the quality of assets , during the development phase and not only at the level of the conformance process , it is advisable to determine the principles for the quality goals  in the early state of planning and design, e.g. when to reach higher levels of quality goals and what kind of quality goals to focus on.

#### 4.2.1. Which are the principles for your quality goals?

- You should investigate which levels of quality are necessary and in which development stages.
- If you want to achieve early usability you may focus on enriching functionality first instead of focussing on high quality.

#### 4.2.2. Do you aim at achieving conformance for your asset?

- If you want to achieve conformance for your asset, you have to define high quality goals for your asset, at least in the early development stage.
- If conformance is not your primary goal, you should include a cost/benefit analysis concerning the implementation of quality.

### 4.3. Organisation of the Internal Development Process and Strategy

The core step in planning and designing the development process is the organisation of work packages within internal borders. The internal border for the development is given by all collaborating partners who contribute to the interoperability specification by developing artefacts. Suppliers of sub-components, e.g. third-party software vendors, have only a loose connection to this group. The main entities concerning this task consist of technical and human resources concluded from the overall asset requirements. The arrangements concerning organisation and internal processes should be included in the team handbook.

#### 4.3.1. What expertise do you and your development team need?

- You should have a basic understanding of the function and ideas of the SEMIC.EU clearing process (see document "*Vision of the Clearing process*")
- From the technical perspective, the artefact types and representation types determine the technical skills of the development team members.
- Expertise from corresponding solutions and processes from national initiatives as well as from international projects can provide valuable input for your project.

#### 4.3.2. What issues should you consider in the context of preliminary schedule planning?

- Usually sequential dependencies between artefacts should be reflected by you when scheduling the required expertise and resources.
- In order to support continuous coordination and collaboration among the European partners, you should take into account native-language issues related to meetings and working groups as early as possible.
- It is recommended that you introduce the use of work-process notations at the early stage of planning. These can be refined during the development process.

#### 4.3.3. What do you have to consider for the internal communication?

- When defining the mechanism for the internal communication within the project, you should consider that the project organisation is of collaborative nature instead of having a fixed structure.
- You should align the internal communication to established project management principles.
- You have to align the purpose of the assets with the business aim of your project.
- You have to define responsibility for the communication pattern

Related / Special Topics:

- Team Handbook

### 4.4. Release Planning

Initial release planning aims to give a rough estimate concerning the features to be provided by the release deadline or to select a rough delivery date based on a given set of features. Release planning



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contains a set of deadlines and depends mainly on the schedules for human resources. In the context of SEMIC.EU, asset development is based on open collaboration constrained by dates stemming from legislative proposals or decisions made by participating countries. These dates have to be taken into account during the steps of release planning.

**4.4.1. What issues should you consider in the context of the functionality planning with respect to releases?**

- You should define a priority order of the planned functionality in accordance with community expectations as well as those of the collaboration partners.
- Legislative decisions made by participants can be seen as the most influential factor. On the base of these decisions you should determine the set of features as well as timelines for their delivery dates.

**4.4.2. How should you classify or order features?**

- You should base the release planning for order features on two considerations: *profits or benefits* of the system and *risks* for a successful development process.
- It is recommended to sort features by benefits for the overall project goals. You should classify a feature as “critical” if the targeted application cannot function without it. If a feature is non-critical but contributes to one of the main goals, you should classify it as “significant”. A third categorization of features is “nice to have”, which can be applied as appropriate.

**4.5. Communication Strategy**

The purpose of a communication strategy is to provide the opportunity for collaborating partners and community members to influence the development of the interoperability specification. A communication strategy allows the development team to make sure that partners are informed and gives the latter the opportunity to provide supporting feedback.

**4.5.1. What key principles should you consider for a good communication strategy?**

- You should provide efficient two-way information for all collaborating partners and seek to establish the best-suited channel of communication.
- You and the development team should provide periodic reports that summarise events and communicate the progress of the development process. Apart from the principles of openness and transparency, a corporate design to develop consistent messages should be used.

**4.5.2. Which communication activities should you plan?**

- It is necessary for you to plan for the creation of a stakeholder group whose work will be supported by regular meetings.
- You and the development team need to work out a strategy for increasing the visibility of the project. It is recommended that you realise this strategy in a framework that includes internal events and regularly held meetings and could include the publication of key priorities as well as (poster) campaigns and road shows.

**4.6. External Knowledge Transfer**

Your projects and assets on SEMIC.EU will reach broader acceptance if they emphasize knowledge transfer from the earliest stages of development. To achieve this, the initial plan of the development process should provide planning slots for transferring substantial knowledge stemming from domain experience and technical solutions. Knowledge transfer to external projects will not only increase their

efficiency but also increase the opportunity to reuse components for their own interoperability specification as a service in return.

#### 4.6.1. Which transfer targets should you consider?

- In general, other SEMIC.EU projects are primary targets for knowledge transfer.
- If the project aims at broader visibility, it is strongly recommended that you assure the transfer of knowledge to external projects and initiatives to the greatest degree possible.
- If the project team is interested in outsourcing design and the implementation of possible applications, you should supply appropriate companies with necessary knowledge during the development phase.

## 5. PLANNING THE NEXT RELEASE

### 5.1. Gathering Ideas within the Internal Team

Planning the next release of an asset should always start with gathering new ideas and requirements from all internal stakeholders in order to refine the existing planning of the next development steps. This planning should consider all experiences gathered by developing the current release as well as new ideas that could be gathered in brainstorming sessions.

#### 5.1.1. How should you gather new ideas for the next release of your asset?

- Arrange internal brainstorming sessions, in which all internal stakeholders, namely the asset owner, the development team, content providers and internal users of the asset, should participate.
- You and each member of your development team should record experiences throughout the development process of your asset.
- You also need to record new ideas for further development whenever they arise, e.g. within internal meetings and in discussions with internal users of your asset.
- You should document the ideas in a comprehensive form.

### 5.2. Considering the Impacts of the Comments and Ideas

For each release of an asset of interest, an involving community, which includes the clearing process manager, is expected to participate in the development and maturing of the asset. Among the SEMIC.EU community's tasks is the pointing out of additional requirements, rating the general usability, assessing the quality, if necessary, demanding better quality, articulating the need for stronger quality goals, making change requests, proposing modifications, etc. The SEMIC.EU community's input together with the comments and ideas gathered within the internal team needs to be considered in the development of the next release of an asset. The following questions are meant to serve as a guideline to address the above issues.

#### 5.2.1. How should you handle redundant comments/ideas and comments of a related nature?

- You should compress and focus redundant comments in one new comment. The result is a consolidated comment list and is advisable to document this list in the team diary or protocols.

#### 5.2.2. What should you do with contradictory or conflicting comments/ideas?

- You and the development team should assess conflicting comments and mark any contradictory comments as either accepted or declined. Additionally, the team can elaborate on the concrete reason for a comment's rejection in order to maximise the transparency of the decision process.

#### 5.2.3. Do you have comments that are misleading or could be easily misunderstood?

- In order to avoid and resolve misunderstandings it is advisable that you communicate directly with the requester.

#### 5.2.4. How should you handle comments that concern new requirements, features, and functionality?

- If you and the development team accept the comment as a valid requirement, you should position the request on the requirement list. Any requests positioned on the requirement list by you are considered of high importance and are also likely to be implemented in any future release.

- If the development team and you accept the comment as a valid feature or functionality proposal, you should position this request on the feature/wish list. Requests on the feature list are likely to be implemented; however, the concrete implementation release is not yet specified at this point. The requests on the wish list are to be implemented as time and resources permit.
- If you and the development team reject the request, it may provide the concrete reason for the rejection. In any case, you have to mark the request as declined.

#### 5.2.5. How should you handle comments that concern existing requirements, features, and functionality?

- If you and the development team accept the comment as valid, you should position the request on the change list<sup>7</sup>. Requests positioned on the change list are considered of high importance and are also likely to be implemented in any close release. The potential benefit of the implementation may be documented.
- If you and the development team accept the comment as a valid feature or functionality change, you position this request on the change list.
- If you or your development team rejects the request, it may provide the concrete reason for the rejection. In any case, you should mark the request as declined.

#### 5.2.6. How should you handle comments that only concern quality aspects?

- The development team and you aggregate the quality-related comments and may compile the results into adjusted quality goals for the next or future releases.
- If a quality goal is considered as inadequate or inappropriate by the SEMIC.EU community, you and the development team assess the validity of this request and adjust the quality goal accordingly for the next or future releases.
- The concrete results of soft indicators<sup>7</sup> provided by the SEMIC.EU community are to be reflected by you accordingly within the current quality report.
- If the development team or you identify potential unfair or inappropriate quality expectations of the SEMIC.EU community, the SEMIC.EU clearing process manager may mediate between the involved parties.
- If the SEMIC.EU community identifies discrepancies between the quality progress<sup>7</sup> calculated by the developer team or you, the SEMIC.EU clearing process manager may be activated to mediate and reassess the quality progress.

#### 5.2.7. What should you do if any comments propose a different or improved structure of the asset's artefacts?

- The development team and you may accept the proposal. The potential benefit should be well documented, and the comment should be marked as accepted for informational and transparency purposes.
- If the development team and you do not accept the proposal, the concrete reason for the rejection may be provided accordingly and the request marked as declined. It is advisable to document the reasons for declining the proposal for future reference.

**5.2.8. Which priority should you assign to each accepted request?**

- Requests that concern existing requirements or features (documented in the change list) are most likely to be marked by you as having higher importance. Requests of higher priority are usually expected to be implemented in the next release. You need to update the current road map and release planning accordingly.
- Requests concerning proposals for future features (documented in the feature / wish list) you should mark as having medium or low priority. Requests of medium and low priority are usually not implemented immediately.

**5.3. Selecting Affected Artefacts and Deciding about Required Artefacts**

The requests that result from the evaluation of the [SEMIC.EU community](#) comments need to be mapped to the existing [artefacts](#) and the current [release](#) planning. It has to be determined, which requests apply to existing artefacts, which requests apply to artefacts that are planned, and which new artefacts apply to community requests. These requests may require new features or functionalities, which are not suitable for realization as enhancements of existing or planned artefacts.

In particular, proposals concerning conceptual rearrangements as partitioning and modularizing of existing artefacts, profiling of artefacts, etc. may lead to the asset's artefact structure being modified. As artefacts may depend on each other, e.g. design documents are based on requirements documents, these dependencies have to be taken into account. As a result of this step, the artefacts to be contained in the [asset's](#) next release are determined and those that have to be created, modified, or enhanced for the next release identified.

**5.3.1. What should you do with existing artefacts that are affected by SEMIC.EU comments concerning features and functionality?**

- You need to identify existing artefacts requiring change due to modification requests for requirements, features, and functionality.
- You should determine artefacts that should be enhanced due to requests for new requirements, features, and functionality.
- Also, you may identify artefacts that have become obsolete due to requests concerning features and functionality.

**5.3.2. How should you treat issues concerning community requests affecting new artefacts that are planned?**

- You should identify features and functionality to be realised in new artefacts, which are planned in the current release plan and are the result of community requests.
- You may determine artefacts that have become obsolete due to requests concerning features and functionality.

**5.3.3. How should you handle features and functionality that are to be realized in new artefacts not yet planned?**

- You could identify features and functionality better suited for realization in new, not-yet-planned artefacts.
- You may determine new artefacts to realize these features and functionality.

**5.3.4. What should you react, when existing artefacts are affected by SEMIC.EU comments concerning quality?**

- You need to designate existing artefacts that have to be reassessed due to requests for better quality7.
- You also need to identify existing artefacts requiring improvement based on accepted requests for enhanced quality.
- You have to designate existing artefacts affected by accepted requests concerning higher quality goals7.

**5.3.5. How could you handle existing artefacts that are affected by SEMIC.EU comments concerning conceptual proposals?**

- Artefacts, which are affected by accepted requests that are proposing conceptual modifications, resulting in the restructuring of the original artefacts, e.g. artefacts to be split up, should be identified by you.

**5.4. Redefining the Quality Goals**

The SEMIC.EU approach entails that quality goals7 are specified for each asset7 and its' containing artefacts7, making quality goals inbuilt in the asset and its artefacts. You, as the asset owner7, are responsible for determining the initial quality goals for your asset and likewise determining the quality progress7 from release7 to release. For details see “Quality Framework for Interoperability Assets”7.

The asset community7 and the clearing process manager7 could propose quality adjustments with their ratings in order to reflect the users’ needs and more stringent quality expectations. The quality goals originally planned for succeeding releases have to be redefined accordingly.

**5.4.1. When should you adjust quality goals planned for the next release due to community requests?**

- Aspects of currently planned quality efforts – for existing as well as for planned artefacts – may be deemed overly ambitious due to requests and ratings of the asset community. Then you should adjust those accordingly. For instance, the community might object to an artefact’s current documentation. This may result in the development team giving improvement of the documentation for the next release priority over tightening other quality goals.
- If quality goals – existing or planned – do not meet the community’s expectations you should consider to adjust them accordingly. If your opinion differs from the community’s expectations, you should justify your point of view.

**5.4.2. Which quality aspects have to be adjusted for the next release?**

- Existing quality goals may require change because of modifications and enhancements of an artefact have to be identified.
- New features and functions for an artefact may involve new quality criteria and related quality goals. Those needs to be defined by you and your development team.

**5.4.3. How do you treat quality goals for new artefacts?**

- You as the asset owner have to provide appropriate quality goals for new artefacts resulting from new requirements.

- You need to adjust, restructure, portion, join, or redefine the related quality goals accordingly for new artefacts resulting from restructuring, partitioning, or joining existing artefacts.
- You should make definitions for the quality goals of new artefacts planned in the current release planning that have not yet been articulated in detail.

### 5.5. Adjusting the Requirements, Features and Functions

Based on the asset's new artefact structure and the redefinition of the quality goals, the design of the artefacts needs to be planned. The development team has to align the enhancement of features and functionality planned in the current release plan with the community requests.

New requirements need to be added to a corresponding requirements artefact and either mapped to existing or transformed to new features and functions. All new features and functions have to be assigned to the appropriate artefacts. The result of this step is a detailed design suited for implementation.

#### 5.5.1. How should you integrate new requirements into the next release?

- You and your development team need to add new requirements to the corresponding requirements artefact of the asset. As a new requirement may enhance or modify an existing one, the latter has to be adjusted accordingly.
- You should transform new requirements, which are not yet applicable to existing features and functions to the affected and intended new features and functions. Developers have to add these new features and functions the change list.
- You need to consider requirements applying to existing or planned features and functions along with these features and functions.

#### 5.5.2. How should you integrate are new features and functions into the next release?

- You and your development team member need to identify new features and functions that logically belong to existing artefacts. These requirements, features, and functions are to be implemented as enhancements of those artefacts.
- You should determine new features and functions to be implemented in new artefacts. The choice of new artefacts is based on general modularization principles such as flexibility, reduction of complexity, maintenance aspects, separation of concerns, etc.
- If these features and functions do not correspond to explicit requirements, the requirements they implicitly reflect are to be derived and added by you to the corresponding requirements artefact of the asset.

#### 5.5.3. Which features and functions have to be modified by you due to a restructuring of the artefacts?

- The features and functions affected by a restructuring of an artefact have to be determined and modified by you accordingly to cope with the new structure.

### 5.6. Refining the Roadmap and Team Handbook

In a fundamental implementation plan, the organisational environment and constraints for the implementation are usually defined. The team handbook may consist of certain organisational plan, such as roadmap, i.e. the release planning and milestones, as well as the development team staffing.

Depending on the requirements changed in the course of the project, the schedule, staffing, and the work plan may have to be adjusted. Additional resources may be necessary due to an increased workload.

**5.6.1. Which impacts on the roadmap should you consider?**

- Due to the accepted community requests and based on their priority, you may have to adjust the work packages defined for the next release accordingly.
- Please check your implementation schedule and adjust it accordingly.

**5.6.2. Which impacts on the team handbook should you consider?**

- The structure of the work packages determined in the previous step and additional workload may require you to rearrange and / or even augment the development team.

Related / Special Topics:

- Team handbook

**5.7. User Community Building/Binding**

After planning the new [release](#), it is important for you and your development team to stay in touch with your [asset community](#). You should inform the interested users about the planned modifications to your [asset](#) and about important dates and milestones, such as expected release dates.

**5.7.1. What actions should you perform to stay in touch with the community or to gain new interested users and supporters?**

- The asset community, such the users that have subscribed to be informed about the progress of the asset, should be frequently informed by you about the current state of planning and development.
- Specific new features and functions planned by you and your development team may be introduced to the community via the [SEMIC.EU forum](#).
- You should inform the community about how their comments will be reflected in the next release. The developers should communicate why some comments have been accepted while others have been rejected to the community.
- Community members who contribute important comments may be contacted directly in order to show your appreciation about their participation.



## 6. IMPLEMENTING THE NEXT RELEASE

### 6.1. Implementing/Refining Desired Functionality

In this task, the enhancements and modifications resulting from the planning phase for the next release are implemented, with consideration given to the quality goals related to your asset and its contained artefacts.

The concrete real-world implementations are out of the scope of the SEMIC.EU clearing process.

### 6.2. Testing the Quality

According to SEMIC.EU's quality framework, the quality goals, which an asset and its artefacts have to meet, are part of the asset and its artefacts. Thus, testing the quality of an asset and its artefacts simply means that the quality goals defined for the asset and its artefacts need to be determined.

It is assumed that – at least in the long run – creating and developing an interoperability asset is supported by predefined artefact types and related, predefined measurable quality criteria and goals. Asset owners should perform the measurement of the quality via tools that provide quality indicators related to the quality criteria.

It is advisable to review the document “*Quality Framework for Interoperability Assets*”, since the quality related aspects of your asset may be of vital importance to the community and their subsequent acceptance of your asset.

#### 6.2.1. How should you test the quality of individual artefacts?

- For each artefact, you need to assess the quality by applying the related quality criteria, i.e., based on the quality indicators. This process may be supported by using all the available and possibly automated tools. Details on the concrete calculation of your assets quality are provided in the document “*Quality Calculation for Interoperability Assets*”.
- Afterwards, you should evaluate the resulting values to determine whether the quality goals defined for the artefact have been reached, i.e. whether the quality labels that define the quality goals are fulfilled.

#### 6.2.2. How can you assess the quality of an entire asset?

- The quality of the entire asset is calculated by aggregating the quality results from the artefacts via the quality calculation mechanism. Further details on the quality calculation are provided in the document “*Quality Calculation for Interoperability Assets*”.
- You can evaluate the resulting values to determine, whether the quality goals defined for the asset have been reached, i.e. whether the quality labels that define the quality goals are fulfilled.
- Finally, you can determine the quality progress, defined as part of the quality goals, based on the results of the quality assessment of your asset.

#### 6.2.3. How should the results of the quality assessment be reported?

- The concrete results of the quality assessment are compiled into the quality report. The quality report may be a part of the asset and may be reviewed by interested users or the clearing process manager.

### 6.3. Validating the Documentation

If the community requested to include comments concerning the documentation, and these comments have been accepted, corresponding modifications or improvements of the documentation are necessary. Due to the enhancements and modifications for the next release, asset owners should adjust and complete the documentation accordingly.

#### 6.3.1. What should you consider with regards to the documentation for the next release?

- If there are community requests concerning the arrangement, quality, and completeness of the documentation of the current release, you have to adjust and / or enhance this documentation accordingly to your individual requirements and needs.
- To make release planning traceable, you need to document the enhancements and modifications implemented for the next release. This applies to requirements, features, functions, restructuring of the artefacts, and the quality goals.

### 6.4. Documenting Changes

The changes made for this release have to be documented, including the impact the changes have for the parts already existing in the current release. This documentation should be kept separate from the documentation of the asset and its artefacts.

#### 6.4.1. Which documentation should you provide for changes?

- The first part of documenting the changes is the change list that has resulted from the current release plan together with the accepted community comments. You need to check this list against the implementation plan for the next release.
- The change documentation is focussed on indicating the changes and explaining their reasons. Therefore, please document the modifications and changes made in the implementation for the next release by adding the changes to the change log. This will also add to the transparency of the whole development process.

### 6.5. Checking the Legal Issues

Before publishing the next release, asset owners need to consider whether licensing, other legal regulations, and terms of use are still valid or needs to be adjusted. At this point, it is highly advisable for you to refresh your knowledge about licensing and legal notations by reviewing the document "Licensing framework for interoperability assets".

Any modification of these legal issues may result from external contributions to the asset, which may also have their very own terms of use. Community comments may propose modifications or changes of legal issues. The asset owner itself may also have additional and individual reasons to modify legal notations.

#### 6.5.1. What impacts might external contributions have on your next release?

- Authors have to reflect terms of use for external contributions to an asset in the terms of use for the asset itself. Including new external contributions in the next release may require adjusting the legal status to cope with additional terms of use.
- The validity and applicability of the negotiated contributor licence agreements may have to be checked prior to every major release.

#### 6.5.2. Which roles do community requests and asset owners take in regard to legal issues of your asset?

- Community requests may require modifications of legal notations, for instance because of possible Member State-specific regulations. You should reflect these requirements as far as possible.

- Significant changes in the asset may require modifications of the legal terms provided with your asset. You as the asset owner or your asset agent exclusively hold the right to change the legal terms of the whole asset.

Related / Special Topics:

- Licensing
- Terms of Use

## **6.6. Decisions on Publishing the Next Release**

After completing the implementation tasks above, it has to be decided whether the next release is suited for publication. As a base for this decision, asset owners should perform an internal review to assess whether enhancements and modifications of the asset are needed.

### **6.6.1. Which factors do you need to consider before deciding on publishing the next release?**

- A crucial factor for you is the actual progress of the implementation, i.e. the fulfilment of the implementation targets with respect to the planned changes.
- The second important factor you should consider is the degree of fulfilment of the current quality goals related to your roadmap[\[7\]](#), based on the results of testing the quality and the community review.
- Eligibility criteria, quality framework and licensing framework criteria

## 7. PUBLISHING THE NEXT RELEASE

This section summarizes all the activities to be performed whenever a new [release](#) of an [asset](#) has been assembled. As a precondition, it is assumed that the asset has already been registered on the [SEMIC.EU platform](#) and that all [artefacts](#) related to the asset are ready for publishing.

The procedure of assembling and publishing a new release of an asset requires that the asset publisher first create a local file tree for the new release that is then packed and uploaded to the SEMIC.EU platform. To do this, most of the steps described below do not require interaction with the SEMIC.EU platform. As some of the information that has to be either provided or updated by the asset owner is XML encoded, an XML editor or a dedicated tool for editing [metadata](#) files is needed for the publication of a new release of an asset.

### 7.1. Assembling the Asset

An [interoperability asset](#) contains various files. Most of these files are artefact-specific and therefore are assigned to the corresponding [artefacts](#). Additionally, the asset contains further files that provide important administrative information about the asset. The specification “*SEMIC.EU metadata for an interoperability asset*” specifies a directory structure for the asset’s content as well as common naming conventions for file names. Asset providers are strongly recommended to follow these guidelines, as this helps asset users to locate the content and enables the automated processing of the asset’s content.

#### 7.1.1. Have all preconditions to update your asset been met?

- If an earlier [release](#) of the asset has already been published, you should create a copy of all files within the asset in a new directory. Replace files that have been updated in conjunction with the new release. Verify that all files are in the correct directories.
- If no previous release has been published, you need to create a directory tree on your local computer. Copy all files that should be part of the asset into their respective locations within the directory tree.
- If no [metadata](#) file for the asset exists, create a new metadata file. Place the metadata file into a directory on your local computer that will be used as the local working platform for assembling the asset.
- You have to verify that all files are named according to the “*SEMIC.EU naming conventions*”.
- You have to verify that all language versions of the [license](#) text are printable and cannot be modified. Make sure that the respective files are contained within the asset’s directory tree.

#### 7.1.2. Are all required artefacts part of your asset?

- For all artefacts required for the release according to the [roadmap](#), check if they are contained in your interoperability asset’s local directory tree; you have to add them if they are missing.
- If artefacts that are not required for the current release exist within your directory tree, check if they should nevertheless be published.
- If artefacts that should not be published with the current release exist within your directory tree, you should remove them from the interoperability asset.

#### 7.1.3. Are all changes documented?

- Create a [change log](#) for your asset if one does not already exist.
- Update the change log if it is not complete.

**7.1.4. Have all required features been implemented?**

- Verify that all required features for the release have been implemented.
- If features have not been implemented or should not be implemented for this release, you have to update the roadmap accordingly and add a notice about this change to the change log.

Related / Special Topics:

- Licensing

**7.2. Updating the Metadata**

The metadata of an interoperability asset sums up all meta-information about the asset. As it provides all relevant information about an asset at a glance, it is targeted at potential asset users. Some parts of the metadata may be updated automatically by the SEMIC.EU platform or maintained by the clearing process manager. If the new release requires the corresponding metadata to be updated, most of the metadata needs to be updated manually by the asset owner.

**7.2.1. Have you updated all core meta-information related to the interoperability asset?**

- You should check and update the general information about the interoperability asset that is given within the metadata.
- Please update the information about the asset owner of the interoperability asset if it has changed.
- You have to update the information about the development team of the interoperability asset if it has changed.
- You may update the information about the licensing regulations of the interoperability asset if it has changed.
- You should update the information about the dependencies of the interoperability asset if it has changed.
- You need to create or update the meta-information about the artefacts that are contained within the asset's directory tree. Please make sure that all artefacts are registered in the metadata files.
- If any changes have been made in the metadata or if artefacts have been added, updated or removed, record these changes in the change log.

**7.2.2. Have you inserted or updated all quality goals as defined by the change request?**

- You should ensure that all quality goals and their related quality indicators requested by the community or the clearing process manager and accepted by the development team are part of the quality section of the metadata.
- Please record changes to quality goals or indicators in the change log.

**7.2.3. Is your metadata file valid?**

- If you extended the schema by yourself, ensure that the XSD schema used for the encoding of the metadata file is valid. Take care that all your extension files are available. (This action is typically required if additional quality criteria and labels that are not part of the standard SEMIC.EU quality management system have been added.)
- Ensure that the format of your metadata file is valid. You can do this by using standard XML tools that validate the XML encoding of the metadata against the XSD schema. If available, special development tools for interoperability assets could be used as well.

### 7.3. Generating a Quality Report

The quality report provides an overview of the defined quality goals for the interoperability asset and the current degree to which the quality goals have been fulfilled. The quality report is an XML-based document and described in depth in the specification named “*Basic Quality Report*”. For potential users of the asset, the overall quality progress level is an important decision criterion, as is the supported functionality to implement the specification of an interoperability asset. The quality report’s main purpose is to provide transparency about the strengths and weaknesses of an interoperability asset. It is important that the quality report is up-to-date and trustworthy. Therefore, the asset owner should devote adequate effort to elaborating the quality report. Hard quality indicators should be measured using compatible standard tools if provided by SEMIC.EU. Soft quality indicators should be appraised cautiously in order not to annoy the community by covering up the interoperability asset’s quality.

#### 7.3.1. Have you inserted or updated all quality goals as defined by the metadata files?

- Please ensure that all quality goals and the related quality indicators that have been documented in the metadata are part of the quality report.

#### 7.3.2. Have all quality indicators been measured?

- You need to measure the hard quality indicators using standard tools if available, e.g. as provided by SEMIC.EU. These indicators can be recalculated and validated by the asset community as well as by the clearing process manager. You have to make sure that these figures are as up-to-date and comprehensible as possible.
- Only soft quality indicators that require subjective ratings by the asset owner should be qualified by you and your development team. The values should be selected cautiously. If comprehensiveness is not intuitively given, an explanation should be added to the quality indicator.
- Soft quality indicators that have been rated by the community for the previous release of your asset should be taken over.
- Vitality indicators are not provided by you as they are dynamically calculated by the SEMIC.EU platform.

#### 7.3.3. Have you updated all quality labels?

- Based on the measured quality indicators, the values of the quality labels must be recalculated by you using the rules as documented in the specification “*SEMIC.EU Quality Calculation*”.
- Please register the quality labels that have been updated – including the specific author of the quality label update - in the change log.

#### 7.3.4. Have you updated the quality progress level?

- The quality progress level is derived from the quality goals using the specified rules. You have to update (recalculate) the progress level in the metadata files after a quality goal or a quality criterion has been changed or if one or more quality indicators have been updated.

### 7.4. Packaging and Uploading the Asset

After the metadata file has been updated and the contents of the asset have been assembled, the whole directory tree can be packaged into a single ZIP archive that is then uploaded to the SEMIC.EU

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platform. If uploading is successful, the asset is published and accessible to the SEMIC.EU users and community.

#### 7.4.1. How to start uploading your asset?

- You should log in at the SEMIC.EU platform and open the registration page of your asset.
- Add a new release to the asset at the SEMIC.EU platform.

#### 7.4.2. How do you create the package?

- You have to append an entry to the change log that indicates when and by whom the upload package will be created. Part of the entry must be the new release number as provided by the SEMIC.EU platform in the previous step.
- Create an archive for the whole directory tree using a standard ZIP tool.
- You need to name the ZIP file according to the SEMIC.EU naming conventions.

#### 7.4.3. What information you have to provide to upload the asset?

- Verify the general meta-information about your asset (e.g. title, owner, description, and purpose) on the SEMIC.EU platform. Update this information if any of the declarations need to be changed for the new release.
- You may verify the application domain to which your asset belongs.
- Upload your asset's ZIP file to the SEMIC.EU platform. For this procedure, both the license and the asset package itself have to be specified.
- Please specify or update links to other assets that are related to yours.

## 8. ANALYSING THE REVIEW RESULTS AND FEEDBACK

For each release of an asset, an active and participating community, which may also include the SEMIC.EU team, is expected to get involved in the development and maturity process of the asset.

This SEMIC.EU community is expected to contribute to the development of the asset by suggesting change requests, proposing modifications, and reviewing the asset as part of the maturity process. The SEMIC.EU community's input should be carefully considered in the development of the next release of an asset.

### 8.1. Gathering Feedback from the SEMIC.EU Team and Community

As there are several sources for retrieving feedback from the SEMIC.EU team and the SEMIC.EU community, the various contributions from these sources have to be gathered and assembled.

#### 8.1.1. From which sources can you get feedback concerning your asset?

- Forum articles that may address your asset.
- You may also extract contributions and recommendations from the community review.
- Contributions from community members, which are sent to you directly from the contributors.
- Contributions by the SEMIC.EU team directly communicated to you.
- The asset's updated quality report is also a valid source that provides the balloting results from the community review and possibly results of a reassessment of the asset's quality.
- In the case of an asset traversing the conformance process, required changes are indicated by the conformance committee. Those changes are directly communicated with you, in your function as asset owner, exclusively.
- Any other feedback internally or externally from customers and users of the services etc.

### 8.2. Evaluating and Consolidating the Feedback

Before the asset is evaluated, the assembled feedback by the SEMIC.EU community and possibly other sources is consolidated, i.e. redundancies and contradictions are ruled out or clarified, misunderstandings are resolved, and the comments are classified. Then your entire development team should be involved in deciding the fate of a comment, whether to accept or to reject it. Based on this decision, accepted comments will be considered in the development of the future releases.

#### 8.2.1. How should you and your development team handle comments that are redundant or of a related nature?

- Redundant comments are compressed and focussed into one new comment. The result is a consolidated comment list.

#### 8.2.2. What should your development team do with contradictory or conflicting comments?

- You and your development team assess conflicting comments and marks any contradictory comments as either accepted or rejected. If you intend to reject a comment, you should directly get in contact with the commenter. Additionally, for comments finally rejected the whole team can elaborate on the concrete reason for a comment's rejection in order to maximise the transparency of the decision process.



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**8.2.3. What should your development team do with misleading or easily misunderstood comments?**

- In order to avoid and resolve misunderstandings, it is advisable for you to communicate directly with the commenter.

**8.2.4. What types of comments can be identified?**

- New requirements.
- New features and functionality.
- Comments concerning existing requirements.
- Comments concerning existing features and functions.
- Comments concerning the quality of the asset.
- Comments concerning the quality goals for / of the asset.
- Comments proposing a different / improved structure of the asset's artefacts.
- Clarifications by users on the assets.

**8.2.5. How can you decide about the handling of a comment?**

- If you or your development team accepts the comment as a valid request, it is marked as accepted; the potential benefit should be documented.
- If you or your development team rejects the request, it may provide the concrete reason for the rejection. In any case, the request is marked as declined. You should get in direct contact with the commenter before finally rejecting a request.
- If you or your development team identifies unfair or inappropriate quality expectations of the SEMIC.EU community, the SEMIC.EU clearing process manager may mediate between the involved parties.
- If the SEMIC.EU community identifies discrepancies in your quality progress calculated by If your or your developer team, the SEMIC.EU clearing process manager may be activated to mediate and reassess the quality progress.

**8.3. Evaluating and Consolidating the Updated Quality Report**

An asset's quality report comprises the results of its quality assessment. This assessment and the resulting quality report, respectively, have to be provided by you, the asset owner, but it may be modified and possibly amended by the SEMIC.EU clearing process manager during the maturity process. These enhancements and modifications have to be considered for future releases of the asset.

**8.3.1. Which results of the updated quality report should you consider?**

- Possibly modified quality values resulting from a reassessment of the asset by the SEMIC.EU clearing process manager. This is required if this reassessment leads to different results than your quality assessment you performed individually and these differences cannot be resolved.
- The concrete results of soft indicators provided by the SEMIC.EU community during the community review that are included in the updated quality report.
- The results of the community balloting about your assets quality that is part of the maturity process.

#### 8.4. Creating the Change / Feature Requests

The accepted requests are added in the change list and prioritised. Unless the development of the asset is considered complete, these requests are merged with change requests already planned for the next release.

##### 8.4.1. How could you integrate accepted requests into the change list?

- The accepted requests that comply with change requests already in your change list are obviously not to be included in the list, e.g. a community request for a new functionality that is planned for the next release.
- Change requests, which are not already in your change list, are added to the list marked. It is highly advisable for you to mark all comments by their particular nature, for instance as a new requirement, a modification of existing requirement, or a new feature, etc.

##### 8.4.2. Which priority should you assign to each accepted request? What comments are more or less important than others?

- Requests or comments that concern existing requirements or features are most likely to be marked as having higher importance. Requests of higher priority are usually expected to be implemented in your next release. Your current road map and release planning have to be updated accordingly.
- Requests or comments concerning proposals for future features should usually be marked as having medium or low priority. Requests of medium and low priority are usually not implemented immediately and it is your decision if and when those are implemented in your asset.

#### 8.5. Decision on next Release / Development Step

Depending on your asset's development progress and critical SEMIC.EU community requests, you – in your function as the asset owner – have to decide whether to publish the next release as a minor release, major release, or requesting conformance.

##### 8.5.1. What kind of release or next development step should you choose?

- If the development of your asset is finalised and there are no more community requests that require further developments, you may plan requesting the initiation of the conformance process, if you desire to achieve the conformance level for your asset.
- If your current implementation efforts does not address functionalities or features at all, but rather organisational or structural aspects, such as spelling corrections or the arrangement of the documentation, you should choose the patch release. Please keep in mind, that you may only and exclusively apply patch releases to your conform assets.
- If a major release was planned originally for this release, and the implementation of the accepted and requested changes do not impose functionality and features changes of critical extend and do not contain any critical comments, you may well proceed requesting your asset as to be a major release. This will take your asset back to the registration phase.
- If your assets functionality and features have been improved rather insignificantly compared to the last major release or when you have merely corrected or adjusted only minor issues, publishing your asset in a minor release is advisable.
- If your asset has been originally planned as a major release, but the implementation of the accepted and requested changes are critical, you may consider adjusting your current roadmap by inserting one or more additional minor releases in order to implement all requested critical changes. Therefore, continuing your development by publishing your next release as a minor release should be considered by you and your development team. It is also highly advisable for you to intensify the discussion with the commenter and the asset community.

## 8.6. Communicate Analysis Results to the SEMIC.EU Community

In order to keep the SEMIC.EU community<sup>7</sup> informed at an early stage within the planning of the next development steps for your asset<sup>7</sup>, the analysis result should be communicated. So the community can comment even on the planning of the further development steps.

### 8.6.1. How should you communicate the analysis results to the SEMIC.EU community?

- You should communicate the consolidated list of comments to the community. These comments comprise comments and ideas from the community, comments and ideas from the internal teams, and possibly comments and ideas from other sources.
- In case of misunderstandings, contradictions and if you intend to reject a comment, you should get in direct contact with the commenter to gain a clarification about the comment.
- If you finally reject a comment, please communicate the reasons for that to the community.
- You should publish the change list and your decision on the next release.
- Possible communication channels are emailing to subscribers to the asset, the SEMIC.EU forum<sup>8</sup>, and direct communication.

## 9. PREPARING FOR THE CONFORMANCE PROCESS

A conform asset represents a semantic interoperability specification of outstanding quality and excellent functionality. In order to reach the conformance state, an asset has to pass through the [conformance process](#)<sup>7</sup>.

### 9.1.1. Is it really necessary for your asset to reach the conformance state?

- When you are certain and confident about your asset, and you are willing to put in some more effort (possibly requested by the [conformance committee](#)<sup>7</sup>), and you have received many positive votes and comments from the SEMIC.EU community, you should certainly consider to request conformity!
- When your asset is not of major public interest and is not intended to guarantee stability for a long operation time, you should reconsider, whether it is useful for you to start the conformance process. You should be aware that this process may be quite cost intensive for the SEMIC.EU team, since the evaluation of the asset requires efforts from external domain experts.
- When you are not willing or momentarily not able – because of time constraints or similar issues – to put the extra effort into the asset, the conformance state may not be advisable.

### 9.2. Analyse and Evaluate Conformance Criteria

The first step in preparing for the conformance process is to acquire the current set of [conformance criteria](#)<sup>7</sup>. In that set, concrete developmental, quality-related, and operational requirements are stated that qualify or disqualify an asset for reaching the conformance state.

#### 9.2.1. Where can you obtain the conformance criteria?

- You, in your function as the asset owner, must check whether your individual quality goals of your asset fully comply with the common quality criteria which have been specified for conform assets of SEMIC.EU.
- You, as asset owner can retrieve the individual domain-specific criteria, which your asset needs to completely fulfil, from the [clearing process manager](#)<sup>7</sup>. The clearing process manager communicates and shares the asset- and domain-specific criteria list of the assigned conformance committee with you.
- It may be advisable that you search the SEMIC.EU platform for any existing best practice reports or experiences of other asset owners who have already requested or even achieved the conform-asset state.

After the current list of conformance criteria has been obtained, you should start to compare your correlated parts of your asset with the specific requirements of the conformance criteria.

#### 9.2.2. How may you evaluate the conformance criteria?

- All the conformance criteria need to be applied to your asset. For each criterion, it is highly advisable to document the concrete degree of compliance to the particular criterion.
- The documented degree of compliance constitutes a list against which you can determine your asset's readiness for the conformance process. This may help you decide on whether to request the conformance state and when to initiate the conformance process.

As described above, the result of this step is a list that reflects your current state of readiness for the conformance process. This list is a vital indicator of where and how your asset needs to be modified to pass the conformance process. An exemplary indicator might be *“Is the asset already operating successfully in at least three real-world applications?”*

**9.2.3. Does your asset meet all of the required conformance criteria? (various scenarios)**

- Yes, your asset meets all criteria and addresses all required issues. If this is the case, you may proceed with the conformance process!
- If your asset meets most of the requirements, but some minor adjustments seem to be necessary. If the unmet criteria are of minor significance and can be rectified fairly quickly and easily, you may proceed with the conformance process. It is highly probable that the conformance committee will address exactly these aspects in their change request/s and you will be given time to adjust them.
- If your asset does not match a significant number of the conformance criteria. It is highly advisable not to initiate the conformance process yet, but to improve the asset accordingly. After the asset has been improved and has reached the maturity state, a new attempt to achieve conformance may be initiated.

When you have passed that vital step in the preparation process, it is time to compile a short list of arguments that states why you believe that your asset qualifies for the conformance state. Please keep in mind, that a conform asset is evaluated by a team of domain experts, which can result in a significant financial burden for the SEMIC.EU platform. This process, however, is completely free of charge for the development team.


Therefore, please keep in mind that this potential investment on the part of SEMIC.EU must be justified.

**9.2.4. What should you state in the conformance argument?**

- The conformance argument is essentially a small collection of arguments. It merely contains your thoughts as to why you believe your asset is ready for the conformance state and why the asset should be introduced and pass the conformance process.
- If possible, your argument should be backed up by additional positive votes and comments by the SEMIC.EU community. The SEMIC.EU community consists of many potential asset users, and their input is a vital source of first-hand usability information.
- It is highly advisable to include the experience reports from the applications that are already using your asset in real-world operation environment.

After the conformance statement is sent to the conformance committee and evaluated accordingly, the conformance may be requested by the asset owner or asset agent.

**9.2.5. How do you request conformance?**

- Requesting conformance is straightforward. Since you have finished all preparations as stated above you may inform the clearing process manager about your intention to request conformance. The SEMIC.EU team will deal with the organisational details from that point on.
- Please remember to check your [SEMIC.EU inbox](#)  frequently for any pre-process messages from the SEMIC.EU team or the conformance committee.

## 10. ACHIEVING CONFORMANCE

When your request for [conformance](#) has been accepted by the SEMIC.EU [advisory board](#), you need to provide all relevant information to the assigned [conformance committee](#) that has been set up by the SEMIC.EU advisory board.

Any change requests from this committee **MUST** be implemented. However, these changes are generally only minor changes regarding the functionality, as the previous [mature](#) version has already tackled the major changes, has been approved by the [asset community](#).

Furthermore, the specification should be implemented by three or more real-world applications in order to be accepted as a conform asset. This is due to the fact, that only a real-world operation undoubtedly proves your asset stability, sustainability and usefulness. If the conformance committee agrees on the final status of your [semantic interoperability asset](#), the packaging and development of the conform asset must be finalized.

### 10.1. Freeze Asset Development

A [semantic interoperability asset](#) contains [artefacts](#) for the technical part of the specification as well as user documentation, such as FAQs and optional development documentation. The package must be cleaned up, for instance removing obsolete and redundant content, before being evaluated by the [conformance committee](#) and the final repackaging.

#### 10.1.1. Did you include the requested patches?

- If the review of your semantic interoperability asset requested adjustments, apply all requested [patches](#) to the affected artefacts.

#### 10.1.2. Have you removed all development-related files?

- If your development artefacts, such as [change logs](#), change requests, and similar development-related files are part of the asset, remove all of them, as well as files that are solely related to the development process.
- If your developer-related artefacts, like the [team handbook](#), are part of the asset, remove all files related to the developer issues.

Your final semantic interoperability asset must contain a finalised technical section, in which the artefacts are stable in their development and are no longer subject to change. There may be an informational section in your asset, in which user manuals or FAQs, are located. Those may well be changed in order to improve the documentation for the user, however obviously without changing the technical specifications itself.

#### 10.1.3. Are all of your definitions of the specification documents up to date?

- Check if all required artefacts are included in a specification document as specified in the [meta-information](#) file.
- Check if all required artefacts included in a specification document are contained in the asset package.
- Check if all artefacts part of the technical section of the semantic interoperability asset are referenced in at least one of the specification documents.

**10.1.4. Have all your legal issues been provided and updated?**

- Verify that all your legal notices and licenses are up to date and no author or contributor is missing.
- If the specification contains technologies that could be the subject of a patent, it is highly advisable that you perform a thorough patent research to ensure that no patent is pending. If you are using patents in your asset, make sure that all patents may be lawfully used in your asset.

**10.1.5. Have you checked the actuality and validity of your references?**

- If external references in the artefacts no longer exist, you should substitute or remove the reference from the documents.
- If external references have no address of long-term validity and availability, such as a permanent URI or ISBN number, you may replace them with a long-term-available address or remove the reference from the documents.
- If references are missing, you should add a stable reference to the affected documents.

**10.1.6. Have you updated all quality information?**

- You should update the quality report to ensure its validity.
- You should also double-check that all quality requirements have met.

The finalised semantic interoperability asset must be sent to the members of the conformance committee for their review.

Related / Special Topics:

- Team handbook

**10.2. Implementing Conformance Committee Change Requests**

Even if the semantic interoperability asset is declared to be in conformance, the result of the conformance committee might include change requests.

**10.2.1. How can you handle the change requests?**

- If there is a change request from the conformance committee, you need to analyse the impact of the change request for the whole semantic interoperability asset.
- If the change request is an adjustment, you should apply the required patch to the affected artefacts.
- If the change request affects only the informational part of the semantic interoperability asset, you may implement the requested changes, even if they involve a major modification.
- If the change request has significant impacts on the technical part of specification, you should clarify whether the conformance process should or must be cancelled. In this situation, the Clearing Process Manager will support you and advice possible solutions.

**10.2.2. Have you met all quality goals or updated as defined in the change request?**

- You need to ensure that all quality goals and the related quality indicators that have been requested by the conformance committee are part of the quality section of the metadata.

- If the quality goals have changed, you need to update the quality report to ensure the validity.

#### 10.2.3. How could the conformance process be stopped and what happens then?

- If the conformance request is rejected, you should start a new major release for the asset community's approval. The feedback from the SEMIC.EU advisory board or the conformance committee might help to improve the semantic interoperability asset, so the conformance process could be requested again later on.
- If the conformance process was cancelled by your request, you should also request a new major release for the asset community's approval. The feedback from the SEMIC.EU advisory board or the conformance committee might help to improve the semantic interoperability asset, so the conformance process could be requested again at a later time.

### 10.3. Finalizing Meta-Information

The meta-information is important to help asset users locate and identify an appropriate semantic interoperability asset. Therefore, the meta-information should be up to date and adequately expressive to enable users to find the asset and select it. Furthermore, all history-related information collected at development time is no longer of interest for the asset owner, as the development is now finished and complete.

#### 10.3.1. Have you removed all history information from your asset and your artefacts?

- If your asset still contains history information like the change log, remove it from the assets meta-information.
- If the meta-information file contains history information like the change log, you should remove it completely.

#### 10.3.2. Have you removed all information related to open issues and your artefacts?

- If the asset contains any information about open tasks, such as a to-do list, remove it from the assets meta-information.
- If the meta-information file contains open task information like the to-do list, remove it completely.

#### 10.3.3. Are all of your metadata files valid?

- If meta-information has changed, update the meta-information file according to the result of the conformance process.
- If the classification of the semantic interoperability asset and the keywords associated with it are not up to date, you need to ensure that your asset can be found easily and correctly by selecting the right classification and keywords carefully.

### 10.4. Final Packaging of the Asset

Although the content of the asset package should be still stable, you should do a thorough final check. Be aware that the asset package will be downloaded by a significant number of asset users who expect a virtually error-free asset.



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**10.4.1. Have you performed all required tasks to assemble the asset?**

- It is advisable to perform a final check of all artefacts to assure that they are ready for final inclusion in the asset and the final publication.
- If you detect any superfluous files, like temporary files, you should remove those completely.
- As this is the final packaging of the asset, you should also perform a thorough final check of the steps required to assemble your final asset.

**10.4.2. How do you create your final package?**

- You should append an entry to the new change log that states when and by whom the upload package will be created. Part of the entry must be the new release number as provided by the SEMIC.EU platform in the conformance step.
- You must archive for the whole directory tree using a standard ZIP tool.
- You also must assign the name of the ZIP file in compliance with the current SEMIC.EU naming conventions.

**10.5. Uploading the Completed Asset**

After the metadata file has been finalised and the contents of the asset assembled, the whole directory tree can be packaged into a single ZIP archive, which is then uploaded to the SEMIC.EU platform. If uploading is successful, the asset is published to the asset community as a conformance release.

**10.5.1. What additional information do you require in order to upload and publish the asset?**

- You should verify the general meta-information about your asset (e.g. title, owner, description, and purpose) on the SEMIC.EU platform. It is advisable to perform a final check of this information to ascertain whether any of the declarations need to be changed for the conformance release.
- Verify the application domain your asset belongs to.
- Upload the asset's ZIP file to the SEMIC.EU platform. For this procedure, both the license class and the asset package itself needs to be specified.
- Additionally, you should check and update links to other assets that are related to your asset.

## 11. PLANNING FOLLOW-UPS AND VARIANTS

A follow-up or variant of a semantic interoperability asset may be created at every development stage: registered, mature, or conform. Since further development of a conform semantic interoperability asset may not continue when its development is frozen, a methodology needs to be provided in order to continue the development of conform assets.

In SEMIC.EU, this methodology is represented by either a follow-up or a variant asset. The two are closely related to each other, but they differ in certain important aspects (see 11.5.1 and 11.5.2). If you want to implement new functions and features in a conform asset or you disagree on the development goals for a certain asset, you may re-initiate their development. Before you start the development, though, this decision should be carefully considered.

### 11.1. Collecting New Functions/Features/Requirements

The most important aspects of semantic interoperability assets are their functionalities, features, and other requirements such as quality goals. Therefore, a competing asset development should only be initiated if there is a concrete and measureable benefit for the asset users and not just a provision of yet another alternative.

#### 11.1.1. On which assets is your new asset based?

- List the semantic interoperability assets to which this asset is a follow-up.
- List the semantic interoperability assets of which this asset is a variant.
- List the semantic interoperability assets to which this asset is related.

#### 11.1.2. Where can you find new, innovative, and / or additional ideas?

- You may study the communication channels, such as the forum and news.
- You may also directly ask other implementers for deficiencies and limitations of previous assets.
- Another way might be that you survey the asset users, community, and other interested parties.
- You may also analyse related work published as state of the art.
- Analysing articles about the topic itself as well as related topics could help you to find new ideas as well.
- By supporting the re-use of the asset by someone else.

#### 11.1.3. What should you consider as an improvement or concrete benefit?

- Your implementation of user-requested functionality or feature requests can be considered a benefit.
- Alignment to specific naming and design rules or the implementation of strict multilingualism of the assets can be considered improvements.
- Particularly in the SEMIC.EU context, the constant advancement of your particular quality goals is a clear improvement.

### 11.2. SWOT Analysis

Initiating a new development always involves a certain level of risk. Undertaking the risk of identifying and evaluating management tools is highly advisable at this stage. One such tool

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commonly used in the business environment is the so-called SWOT analysis. The objective of SWOT is the identification of:

- Strengths
- Weaknesses
- Opportunities
- Threats:

Based on this information, the potential of new implementations can be evaluated in regard to their particular opportunities and threats.

#### 11.2.1. What are some possible weaknesses, and how can you describe those?

- If the functionality to be implemented with the assets does not fit the requirements from the asset users, you should list the missing functionality and the argumentation, and prioritise them.
- If functions that are not required are found, you should list the missing functionality and the argumentation for including it.
- If the features to be implemented with the assets do not fit the requirements from the asset users, you should list the missing features and the argumentation, and prioritise them.
- If functions that are not required are found, you should list the missing features and the argumentation for including them.
- If the requirements on the specification, such as quality goals, do not fit, you should list the missing requirements and quality goals, and link them to a roadmap.

#### 11.2.2. What are some possible strengths of your asset?

- You need to identify and list the outstanding functionalities and their benefits, and prioritise them.
- Listing and prioritising the outstanding features and their benefits clearly states your assets strengths.
- List the outstanding requirements and quality goals.

An asset's strengths and weaknesses should be categorised and analysed afterwards. The application of typical in-world analysis, such as brainstorming, should be used to collect new ideas.

#### 11.2.3. What are some opportunities that your asset might exploit?

- Look for new functionalities and features to boost the analysed strengths.
- Look for new functionalities and features to minimize perceived weaknesses.
- Look for new, unique functionalities and features to complement the existing ones.
- Look for new, unique functionalities and features for a wider and more general application and/or domain of your asset.
- Look for ways to sharpen the focus of the application and/or domain of your asset.

#### 11.2.4. What are examples of threats to your asset?

- Another developer team has implemented or is working on similar or same functionalities / features as your development team is, which results in a concurrent instead of a cooperative approach.
- The initiation of your completely new development process is not adequately funded.

- For some reason, the SEMIC.EU community might reject or even boycott your new development and its innovations.
- You do not have an experienced development team at your disposal.

### 11.3. Defining Fundamental Requirements and Goals for the New Asset

You should support your asset by a clear vision and scope. The vision should be fixed by objectives. The relevant requirements and goals for the new asset should be highlighted and explained.

#### 11.3.1. How can you define the fundamental requirements and goals?

- It is highly advisable to review the guideline “*Planning and Designing the Development Process*” at this point and that you follow the ideas and approach presented there.

### 11.4. Impact Analysis

As already shown in the SWOT analysis section, the initiation of a new development process may be considered as a risk. The result of the SWOT analysis provides vital indicators about the potential of a new development. In the impact analysis, you should reconsider the benefit to which you aspire and the possible effects of a new development for your development team and you.

For instance, it may happen that your SWOT analysis indicates great opportunities of a new development, but while considering the impacts, you find out that your individual resource consumption is unacceptably high, although the benefit to the asset users may also be very high. In such a case, the impact analysis would reveal the true situation and – based on this information – you might consider teaming up with additional developers to address that issue.

#### 11.4.1. The SWOT analysis has already been done by you and your development team. What other information might an impact analysis provide you?

- The SWOT analysis generates results about the original assets. Although these might appear positive, you might not be willing or able to dedicate the necessary effort and resources. The impact analysis will reveal this, helping to determine the points at which you require additional resources.
- The combined results of the SWOT analysis (targeting the original assets) and the impact analysis (targeting at the new development) make the development process more predictable and transparent, greatly helping you and your team to plan and direct your efforts in an on-demand basis.

### 11.5. Decision on Variants / Follow-ups

When all facts have been compiled and assessed, the asset owner and his supporters may decide on the way the new asset is to be implemented.

#### 11.5.1. What is a variant?

- A variant is usually an extension, limitation, or adaption of an existing asset. It does not require developing a completely new asset and does not involve major changes.
- The variant usually exists alongside the original asset and does not aim at totally replacing it. Therefore, a variant may be used to sharpen the scope of an existing asset.
- A variant does not necessarily have to implement and provide all of the functionality of the original asset.

#### 11.5.2. What is a follow-up?

- A follow-up is usually aimed at completely replacing the original asset, thus initiating a completely new development process.
- Development of a follow-up is usually chosen when technology and the state of the art evolve, and new advancements need to be implemented.
- If the new asset will not replace the previous one, create a variant of the existing asset.
- A follow-up must implement and provide all of the functionality of the original asset.

## 12. LICENSING

An asset is a container for specifications in the form of artefacts. Since every artefact is licensed under special terms and conditions, a methodology is required to categorise the different licences. By doing this, an asset owner or agent and the asset developers may determine quickly whether a particular artefact can be integrated into a particular asset.

In SEMIC.EU, this methodology is provided by the implementation of the four different Licence Classes[7](#).

### 12.1.1. Where can you find information about licensing, patents, and, copyrights?

- Information about the above is compiled and provided for you free of charge in the document “Licensing framework for interoperability assets[7](#)” on the SEMIC.EU platform. It is highly advisable to read this document prior to any licensing activities.

### 12.1.2. Why do you need to select a “Licence Class”?

- The licence class indicates the particular licences you accept in your asset to other asset developers. Providing your licence class is of utmost importance because it qualifies or disqualifies artefacts from being included in your asset.
- The selection of the licence class is **MANDATORY**, and assets without an assigned licence class are not allowed on SEMIC.EU.

### 12.1.3. Where do you find information about a suitable “Licence Class” for your asset?

- The document “Licensing framework for interoperability assets[7](#)” on SEMIC.EU provides information about all licence classes and their specific details.

### 12.1.4. Where can you find a discussion about licence compatibility issues?

- The document “Licensing framework for interoperability assets[7](#)” on SEMIC.EU provides a comprehensive list of compatible licences. For your convenience, the recommended licences are already assigned to their particular licence class. Additionally, an open board is created in the SEMIC.EU forums[7](#), which specifically discusses licensing aspects, licensing best practices, experiences, and other legal notices.
- For particular specialties on certain licences it might be advisable to discuss those issues with your attorney.

### 12.1.5. Can you use artefacts, which do not belong to your Licence Class?

- No, an artefact licensed under a licence of another licence class may not be integrated into your asset. This is because certain limitations in the concrete licences specifically forbid the usage, integration, or mixture in or with another licence class.

### 12.1.6. Can you integrate a new licence, which is not referred in the Licensing Framework, into the SEMIC.EU platform?

- Please contact the Clearing Process Manager[7](#) for information about the integration of new licences into the SEMIC.EU licence classes.

**12.1.7. What are Contributor Licence Agreements?**

- The document “*[Licensing framework for interoperability assets](#)*” on SEMIC.EU provides detailed information about contributor licence agreements.

**12.1.8. Are Contributor Licence Agreements really necessary for your asset?**

- Generally, contributor licence agreements are not mandatory but greatly facilitate the development process by establishing a stable, foreseeable, and legally binding environment for asset owners and asset developers or contributors.
- It is highly advisable for you to use contributor licence agreements in order to avoid potential legal complications.

**12.1.9. Can you change your original selected Licence Class?**

- A modification of your original licence class of your asset is only possible under extraordinary circumstances and usually cannot be performed easily and automatically. It comprises an individual check of each and every artefact's licence and a potential adjustment of your Terms of Use.
- An artefact licensed under terms forbidding the migration into another licence may render a licence class change impossible. This artefact must be removed from your asset if the licence class is changed, which may also greatly affect your asset's quality and thus its maturity status.
- For further details of the possibility of a licence class change or other legal issues, you should contact the [Clearing Process Manager](#) or your attorney.

## 13. TEAM HANDBOOK

Since SEMIC.EU specifically targets the support for collaboration and coordination of pan-European asset development, it needs to be ensured that administrative information about SEMIC.EU projects and their team members is managed at a central location. The development team, which can be distributed over several partners, uses the team handbook as a crucial source and target for whole asset development.

The team handbook can be understood as a central point where all this information should be stated. The team handbook focuses on organisational constraints for the project as well as collective agreements between the collaborating partners.

### 13.1.1. What should your team handbook contain concerning planning and realization?

- The overall roadmap should include all your releases based on functionalities, features, quality goals, their expected output, and the forecasts.
- Your team handbook usually contains a team diary section, which consists of minutes of face-to-face meetings or online discussions, status reports, problem notifications, and the motivation of fundamental decisions.
- Furthermore, work assignments not considered during the initial planning should be entered in the team handbook together with role and staff assignments.

### 13.1.2. What organisational information should you cover in the team handbook?

- One essential part of the team handbook concerns general information about the asset. This includes your vision, a short description of your principle goals and targets, as well as anticipated success factors.
- In regard to the releases, your team handbook should define all participating roles and identify the people assigned to fulfil them.
- You should include the most recent contact and internal communication details about all involved team members and key volunteers/contributors.

### 13.1.3. How should you treat your risks in the team handbook?

- Generally, your team handbook should include instructions for risk management and a risk list with risk IDs, descriptions, and risk states.
- It is highly advisable risks should be divided into risk classes. Usually four classes are provided: tolerable, undesirable, critical, and fatal risks.
- Risk groups are related to the various aspects of your team management. In addition to scheduling risks like unexpectedly cancelled meetings and inadequate coordination and communication, risks stemming from deficient quality of components and lack of skills and resources should also be enlisted.



## 14. TERMS OF USE

The Terms of Use are usually provided as a document in which the asset owner states specific details of note regarding the asset. In general, the Terms of Use comprise the following:

- disclaimer
- user conduct and obligations (additional to those already specified in the licence)
- privacy policy
- user and asset owner liabilities
- process of copyright infringement
- reserved right to unannounced changes
- usage regulations of the asset

### 14.1.1. Is a document stating the Terms of Use for your asset always required?

- If your asset is provided under one of the recommended licenses<sup>7</sup> of SEMIC.EU, and you do not have extraordinary limitations on the asset audience, you usually do not need to specify additional Terms of Use. The most important legal and regulatory aspects are already covered by your licence in this case and no further statement is required.
- When you want to state certain lawful exclusions, obligations, or limitations that are not covered by the licence, such as “*Every piece of software using my asset in part or as a whole must be also available in Spanish*”, you should specify this in the Terms of Use.
- When a traditional licence<sup>7</sup> is used by your asset, the provision of additional Terms of Use may be necessary. It is generally advisable to check and discuss the Terms of Use to be provided with your attorney.

### 14.1.2. How are users to be informed about the existence of your specific Terms of Use?

- The existence of the Terms of Use needs to be indicated prominently by you. A common method is to provide a short information fragment referencing the specific Terms of Use at the beginning of each of the asset’s files.
- An **exemplary information** fragment might look like this: “*Use of this asset and any information distributed in conjunction with this asset is offered exclusively on your acceptance of the Terms of Use and all other notices provided with this asset. The Terms of Use are provided with this asset in the text file tos.txt. Your use of this asset in any or all parts indicates your acknowledgement of acceptance and agreement to all terms and notices specified. If you do not accept each and every term and notice specified, you may not use this asset in any way. It is advisable to print or keep a copy of the Terms of Use for future reference.*”
- It might also be advisable to provide the Terms of Use on the SEMIC.EU platform home page for your asset. By doing this, potential asset users can inform themselves prior to downloading the asset.

### 14.1.3. How can you provide specific Terms of Use?

- A single text file in the top-folder of each asset package is sufficient. This method is recommended and supported by the SEMIC.EU platform.
- It is also possible that you provide the specific Terms of Use as text at the beginning of each file contained in your asset.

- Keep in mind that the **appropriate provision** of your Terms of Use is **your responsibility**. Therefore, providing this information using one or more methods currently supported by the SEMIC.EU platform is strongly recommended.

#### 14.1.4. Can you change your Terms of Use?

- Generally, you in your functions as asset owner may modify and adjust your Terms of Use. However, any changes may have a significant impact on your assets legal status and should be considered carefully prior to any changes.
- It might be advisable to discuss any changes of your Terms of Use with your attorney.
- It is highly advisable to include a statement of your change policy in the Terms of Use. An **exemplary** change policy might be: *“I (the asset owner or agent) reserve the right, to change any terms or conditions of these Terms of Use. This may happen without notice being given to the asset users. All changes are effective immediately upon publication of the modified Terms of Use. Asset users agree to review the Terms of Use frequently. Subsequent use of this asset indicates the asset user’s acceptance of any changes to those Terms of Use. The Terms of Use may lawfully be changed without any liability to asset users. The most recent Terms of Use are always available and accessible on the asset’s home page on the SEMIC.EU platform. The most recent Terms of Use are dated: 21.09.2008”*