



# dRural

## D1.2 Governance model

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Orchestrating the regional Service Ecosystems

WP1 D1.2

Authors: Yasin Sahhar (UT); Bart Nieuwenhuis (UT); Ariane von Raesfeld (UT)

Reviewers: Luca Ruggeri (BDL), Stina Heikkila (BDL), Damiano Avellino (BDL)



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### Abstract

This whitepaper draftst a governance model, or what we refer to in this whitepaper as ‘orchestration model’. This model can be deployed as guidance to how the different regional ecosystems can be orchestrated, which are in line with EU’s aspirations and community-based platforms. The model takes a hybrid form that consists of dominating and consensus-based practices. Specifically, the model contains mechanisms including practices that help to expand the initial ecosystem, broker and mediate

(\*) PU = Public; PP = Restricted to other programme participants (including the Commission Services); RE = Restricted to a group specified by the consortium (including the Commission Services); CO = Confidential, only for members of the consortium (including the Commission Services)

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among different stakeholders, and how value creation as a whole can be mobilised in and throughout the network. This accounts for the timeframe of the projects as well as beyond to safeguard sustainability throughout the ecosystem and platform. A clear call to decision-making action is presented.

### Disclaimer

The opinions expressed and arguments employed in this document do not necessarily reflect the official view from the European Union and other dRural consortium partners. Responsibility with the views and data expressed therein lies entirely with the authors.

v	Date	Beneficiary	Author	
1.0	11/06/2021	University of Twente	Yasin Sahhar (UT) – y.sahhar@utwente.nl Bart Nieuwenhuis (UT) – l.j.m.nieuwenhuis@utwente.nl Ariane von Raesfeld (UT) – a.m.vonraesfeldmeijer@utwente.nl	First draftversion
1.1	18/06/2021	University of Twente	Yasin Sahhar (UT) – y.sahhar@utwente.nl Bart Nieuwenhuis (UT) – l.j.m.nieuwenhuis@utwente.nl Ariane von Raesfeld (UT) – a.m.vonraesfeldmeijer@utwente.nl	Review discussion with Stina and Damiano from BDL
1.2	21/06/2021	University of Twente	Yasin Sahhar (UT) – y.sahhar@utwente.nl Bart Nieuwenhuis (UT) – l.j.m.nieuwenhuis@utwente.nl Ariane von Raesfeld (UT) – a.m.vonraesfeldmeijer@utwente.nl	Internal discussion revision
2.0	28/06/2021	University of Twente	Yasin Sahhar (UT) – y.sahhar@utwente.nl Bart Nieuwenhuis (UT) – l.j.m.nieuwenhuis@utwente.nl Ariane von Raesfeld (UT) – a.m.vonraesfeldmeijer@utwente.nl	Final version

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# 1. A brief overview

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## 1.1. Reader's guide

Whitepapers inform readers about complex concepts or challenges and provide solid arguments to enhance our understanding of such concepts. In this vein, this whitepaper focuses on building a governance model to orchestrate regional service ecosystems within dRural. In doing so, we develop the governance model around the principles of a user community driven platform. Furthermore, we build further on Deliverable 1.1 that employs a 'service lens' and discusses in detail what thinking in terms of service entails, what service ecosystems are and how we can create insights into them according to the methodology we have developed. We consider the previous whitepaper as key background information to ensure a proper understanding of the orchestration mechanisms that will be laid out here.

The structure of this whitepaper is as follows. This section lays out the reader's guide and the goals of the whitepaper. The second section discusses the orchestration of service ecosystems. Section three lays out the key principles and section four presents the orchestration model in the context of dRural. Section five discusses preconditions of implementation. Finally, concluding remarks are discussed and the whitepaper closes with a glossary of key terms and references.

## 1.2. Goals of the whitepaper

The goal of this whitepaper is to draft a governance model, or what we refer to in this whitepaper as 'orchestration model', that can be deployed as guidance to how the different regional ecosystems can be orchestrated. Specifically, the model contains principles and mechanisms including practices that help to expand the initial ecosystem, broker and mediate among different stakeholders, and how value creation as a whole can be mobilised in and throughout the network. Beside giving guidance, it also triggers discussion and decision-making on behalf of the entire project.





## 2. Orchestrating service ecosystems

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### 2.1. Why even bother?

In dRural, the goal is to craft a (digital) solution consisting of services for rural communities that creates potential in terms of economic growth and quality of life. The starting point of this is to understand regional ecosystems that taps into the different stakeholders, their needs and current and potential value. These elements as key for and feed into how actors co-create value throughout the ecosystem through the integration of resources. A platform can act as a vehicle to accommodate such value creation. However, it is not solely the existence of a platform that is the key to success. For platforms to reach its full potential and develop and manage it properly, network orchestration is required (Perks, Kowalkowski, Witell, & Gustafsson, 2017). This allows to deal with ecosystems' complexity and more specific, for actors, of complete different nature and with different goals, to collaborate in an effective manner and create value. Therefore, in the context of dRural, we pay careful attention to how ecosystems (that includes networks) should be orchestrated. Hence the reason for creating an orchestration model (i.e. governance model).

### 2.2. Theoretical foundation for orchestrating ecosystems

#### 2.2.1. The enabling value platform

Being a key concept in the context of dRural, a platform is defined dynamic configuration of tangible and intangible resources that act as foundations for value-creating systems (Parolini, 1999) upon which network members co-create value through a set of specific practices (Perks et al., 2017). Such 'value platforms' can facilitate value co-creation by enabling innovative offerings (through novel and smart combinations of products and services), processes, and other types of knowledge not previously available to the network (Perks et al., 2017). Moreover, network members can come together in a more integrated and synchronized manner (Gawer, 2009; Palo & Tähtinen, 2011).

As a result, as Blasco-Arcas et al. (2020) clearly mentions, the key functions of a platform is to connect actors within a service ecosystem (such as service providers, citizens, and other partners), foster joint actions, engagement, value co-creation (Brodie, Fehrer, Jaakkola, & Conduit, 2019) and innovation (Gawer & Cusumano, 2014). Platforms are therefore positioned at the very heart of service ecosystems, a key intermediary to organize value co-creation activities (Eloranta & Turunen, 2016) in a more integrated and synchronized way (Gawer, 2009).

#### 2.2.2. Key definitions in orchestration

To reach its ultimate objective of effective collaboration and value co-creation, a value platform entails dynamic configurations of (tangible and intangible) resources that act as a foundation upon which network members co-create value through a set of specific practices (Perks et al., 2017). The process of assembling and managing an inter-organizational network to achieve a collective goal is referred to as network orchestration (Paquin & Howard-Grenville, 2013). In this process, the orchestrator is the actor responsible for doing so, is by in general accepted by the other network members to do so (Müller-Seitz, 2012; Müller-Seitz & Sydow, 2012).

The set of practices within network orchestration are referred to as 'mechanisms'. Orchestration mechanisms are the overarching assemblies of practices that produce an effect on the development of the (value) platform (Perks et al., 2017). Orchestration practices, in turn, are more or less the routinised



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(Nicolini, 2009; Reckwitz, 2002) (single or set of) activities that an actor, in the role of orchestrator, purposively conducts to build and manage the multi-stakeholder network (Dhanaraj & Parkhe, 2006; Perks et al., 2017; Reypens, Lievens, & Blazevic, 2019).

### 2.2.3. Towards hybrid orchestration

Orchestration modes are oftentimes categorised into one of a more dominating nature versus one based on consensus. In the former, a core actor (or a group of core actors) sets the collaborative agenda, recruits partners, and typically relies on formal contracts to steer relationships (Kazadi, Lievens, & Mahr, 2016; Reypens et al., 2019). In the latter, partners collectively negotiate the agenda, membership is often voluntary, and trust predominantly governs relations (Reypens et al., 2019; Roloff, 2008). However, in large networks with a high number and variety of stakeholders as the one of dRural, simply choosing one orchestration mode might not work because of the complexity in network relationships and that interactions are difficult to observe, a concept that is conceptualised as network opacity (Fonti, Maoret, & Whitbred, 2015; Reypens et al., 2019)

In response and based on the idea that different kinds of orchestration can exist simultaneously, hybrid orchestration was introduced (Reypens et al., 2019), an orchestration mode that combines both dominating and consensus-based orchestration mechanisms. In essence, it combines the best of both through switching back and forth based on the situation. For example, in instances when dealing with a plenitude of stakeholders, especially in early development phases, dominating orchestration is generally more effective. On the other hand, the orchestrator's legitimacy can be undermined by the stakeholders' diversity because in such instances, the orchestrator may be less knowledgeable than the network members.

### 2.2.4. Phases of development

The development of platforms consists of three general phases: 1) platform initiating, 2) platform transitioning and 3) platform strengthening (Tian, Vanderstraeten, Matthyssens, & Shen, 2021). Phase 1 is about connecting among partners, especially the ones that are directly involved with the platform, referred to as lead actors. In dRural's context, this concerns the different workpackages (WPs) and regional partners. Furthermore, key decisions should be taken on the governance structures and model for future phases. In phase 2, these actors start to scale and refine the business models. In phase 3, lead actors strengthen the platform by ensuring a sustainable successful collaboration throughout all platform actors. Phase 4, one that we introduce, is about platform sustaining in the long-run. These phases are adopted since they help us to create a platform from the bottom up and expand it over time in a successful and sustainable manner.





## 3. Principles in the orchestration model

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With the rise of the platform economy, plenty of platforms have been developed. While these platforms were once regarded as “democratic” platforms made for the people and driven by the people, are currently having increasing power over the people (Mannan & Schneider, 2020). This causes serious concerns, such as the abuse of (market) power, profit-driven revenue models that are out of proportion and corporate governance failures (Mannan & Schneider, 2020). Besides these observations, it is important that the dRural platform fits with the EU’s (H2020) aspirations such as sustainable and environmental development. With this in mind, the following principles form the starting point in the orchestration model while at the same time are key conditions to the dRural platform.

### 3.1. The platform is immanently user-driven

To overcome the aforementioned concerns, the dRural platform should be positioned around the diversity of its users across the micro, meso and macro levels (e.g. citizens, patients, farmers, service providers, municipalities and other actors that will be later on defined in the project) and therefore is immanently user-driven. Through this, the lead firm is accountable to its community of stakeholders while still permitting to realise a viable business model (Mannan & Schneider, 2020). Furthermore, the core of an user-driven platform is that the infrastructure is flexible and services are unique for the end-users. It is through this that a platform can be sustainable in the longrun.

### 3.2. Users always are involved in decision making

The dRural platform should represent its entire user-base. Traditionally, the lead firm is the only responsible actor for the development and governance of the platform. It is this firm that has all power and possibilities how to develop the platform in the short and long term. However, in a community and cooperative platform such as dRural, the internationally dispersed user-base is intensively involved in the decision making regarding the development of the platform. This safeguard that the platform will be centred around the users and prevent conflicting (commercial) interests.

### 3.3. The User Board as a sustainable controlling mechanism

To distribute power and decision making across the ecosystem and making sure that the platform functions by and for the users, legal structures such as the federation model are proposed (Mannan & Schneider, 2020). Such a structure offers the advantage that the power lies across the ecosystem and specifically among the users in a low-cost and sustainable fashion. The what we call “User Board”, which is a participation council, is for example involved in the decision of user-onboarding, infrastructure and interface design, content moderation, data management policies, group governance and revenue streams (e.g. Mannan and Schneider (2020)). This allows economies of scale and scope while maintaining a great degree of local diversity and uniqueness.



# 4. Application within dRural

## 4.1. The orchestration model illustrated

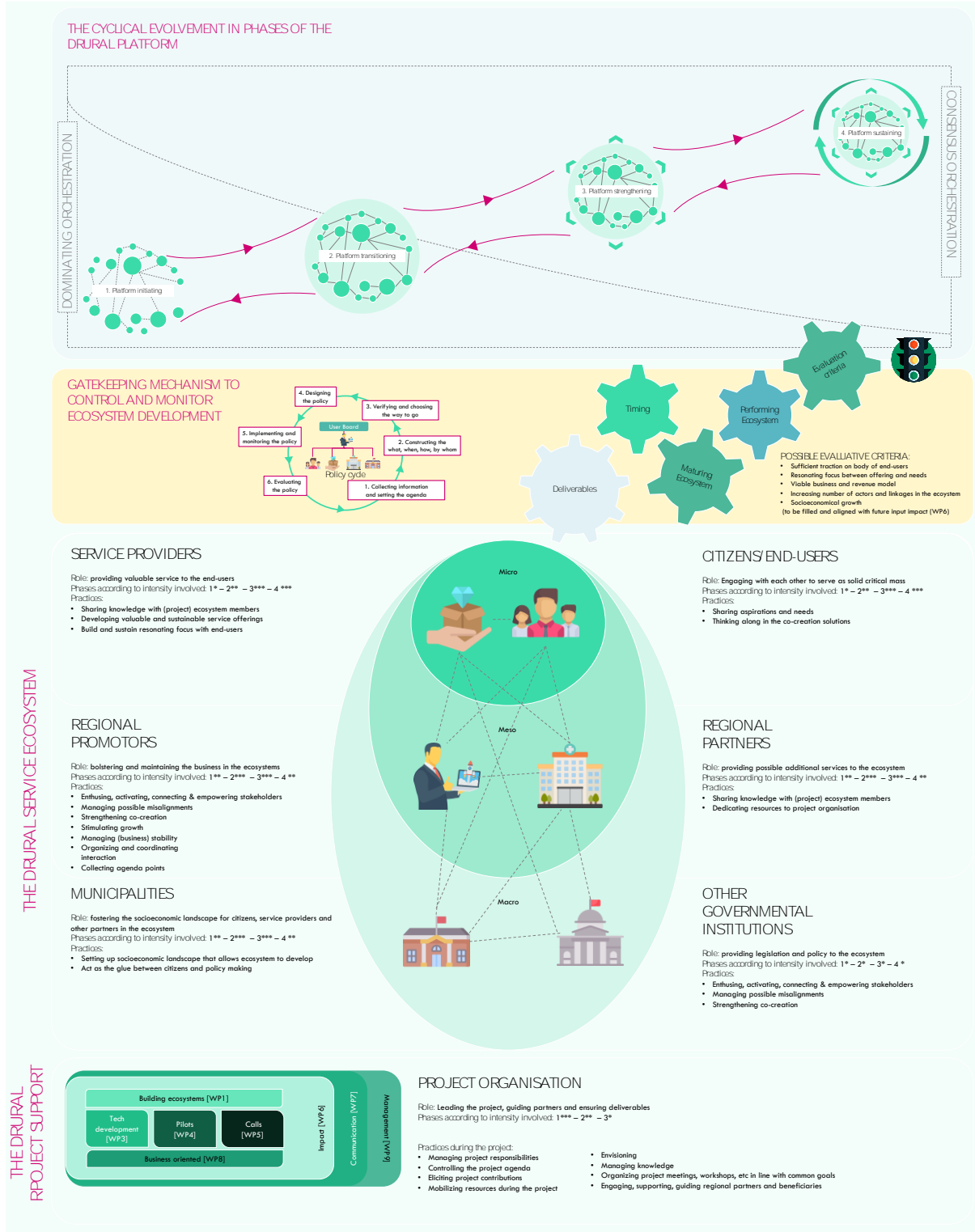


Figure 1: An orchestration model for each region in Rural



## 4.2. Discussing key elements in the orchestration model

Figure 1 illustrates the orchestration/governance model for dRural. The model is built in four building blocks.

- The upper block shows how the platform evolves in four phases over time: from platform initiating, to transitioning, strengthening and finally sustaining. Although phases suggest a consecutive flow, we underscore that the evolvement of such platform is iterative and cyclical. Across these phases, we show how dominating and consensus orchestration is dispersed over time. In the beginning, more dominating is necessary to steer the platform, whereas later on consensus orchestration is necessary to safeguard a user-centric platform.
- The second building block is the gatekeeping mechanisms to control and monitor ecosystem development. This consists of the policy cycle and a key elements for the mechanism.
- The third block forms the core of the governance model, namely the dRural Service Ecosystem. This layer consists of the different actors that are laid out according to the different levels in the ecosystem (see Deliverable 1.1 for more details on Service Ecosystems). For each actors, their role, involvement in each phase (ranging from low – moderate – high) and practices are presented.
- The fourth and final building block is the dRural project support that consists of the nine workpackages that lead the project, guide partners and ensure deliverables. Next, we discuss each block in further detail.

### 4.2.1. The cyclical evolvement in phases of the dRural platform

As discussed in the theory section, a platform evolves over time throughout different phases. Usually, these range from platform initiating, to transitioning and strengthening. However, we add a fourth phase that is important to ensure success in the long-run. Hence, we introduce the phase of platform sustaining, in which actors actively contribute to the ecosystem and sustain its life in the longrun. The different phases are depicted as organic cyclical process. It is not a step-by-step approach to reach eventual platform sustainment. Rather, one phase can take longer than the other and if necessary the platform can move back and forth. The core idea of these phases is that it helps to guide the platform over time. Across these phases, we present the spread of dominating and consensus orchestration. At the outset, dominating orchestration is more present to ensure a structured start while consensus orchestration takes over to further build and maintain a community-driven platform.

### 4.2.2. The gatekeeping mechanism to control and monitor ecosystem development

This mechanism serves as a safeguarding and gatekeeping tool for the ecosystem development. Two elements are involved.

First, the policy cycle that consists of six steps:

- 1) Collecting information and setting the agenda. We propose that this should be done on a monthly basis;
- 2) constructing the what, when, how, by whom, which is basically the content of the policy;
- 3) verifying and choosing the way to go;
- 4) designing the policy;
- 5) implementing and monitoring the policy;
- 6) evaluating the policy.

In this process, the local promoter is in charge and therefore labelled as the hub actor. However, the local promoter can count on the help of the citizens/end-users, service providers, regional partners and municipalities. More importantly, the local promoter is obliged to involve these actors to create a



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more consensus throughout the ecosystem on the agenda, the policy and the process throughout. Above all is the User Board, which consists of several citizens, patients and service providers. They are always involved in decision making. In order for proposals to be passed, a democratic procedure where the majority of the User Board is necessary to let them pass. These proposals can consist of for example infrastructure and interface developments, the strategy of content, data management policies, platform governance and revenue streams.

The second element is a five gear mechanism that consists of deliverables, timing, a maturing and performing ecosystem and finally evaluation criteria. All these gears serve as conditions for monitoring the progress of the ecosystem development. Specifically for the evaluation criteria, several are proposed that should be later on complemented by deliverables of workpackage 6 (responsible for impact).

The traffic light symbolises the gatekeeping/control function and 'decides' whether and how the ecosystem can further evolve. This is directly connected to the function of the User Board.

### 4.2.3. The dRural Service Ecosystem

The third and most important building block is the ecosystem itself, which consists of different actors that are one way or the other connected with each other. Furthermore, each actor has its role, the intensity of involvement throughout the four phases of the ecosystem and the practices that are conducted by each of them. As can be further read in Deliverable 1.1, the service ecosystem consists of three different layers, ranging from micro to meso to macro. In general, the intensity of involvement shifts further to the service providers and users over time, in which the local promoter has a key role in bolstering the ecosystem. Worth noting is that the regional partners may take on different roles. A municipality can fulfil the municipality role, but also act as a regional partner and service provider.

### 4.2.4. The dRural project organisation

Finally, the dRural project organisation is responsible for leading the project, guiding members and safeguarding that work is done and delivered. The project organisation has more intense role in the beginning of the project and hands it over to other actors throughout the project. This is in interest of all actors to create a viable and sustainable ecosystem and platform, not just during the project, but also afterwards.



## 5. Conditions for implementation

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Our task in this whitepaper was to develop an orchestration model. With this, we have set a framework to help dRural to evolve over time. Still, we may ask ourselves: What is next? What are conditions to take into account? What decisions should be made in this phase of the project? We carefully contemplate on these questions.

### 5.1. Ensure openness, stimulate transparency and equilibrate opportunities

Throughout the regional ecosystems and on the platform, we underscore the importance of openness, transparency and equal opportunities.

First, with openness, we refer to the IT infrastructure, which should allow members to participate to the development of the platform and service providers to create offerings (e.g. applications) that fit with the platform infrastructure. This is a key ingredient for sustainable success, as a platform demands “prosuming” capabilities and possibilities for the carriers of the platform (i.e. service providers and users). Questions to involve are: How is openness in the IT infrastructure ensured?

Second, we advocate for transparency in terms of data collection and storage and privacy regulations. All users of the platform should have insight in and control over what will be done with their data. The platform should be fully in line with GDPR regulations. Questions are: Where and how will data be stored? What will be done with the data? How to incorporate a data management structure that is user safe and friendly?

Finally, we point towards the importance of equal opportunities throughout the value chain and ensure value chain neutrality. This means that for example one IT infrastructure provider cannot be service provider and client while simultaneously excluding other parties. This would cause conflict of interests and an abuse of power. Instead, using Apple as example, one should provide the IT infrastructure and invite other service providers to offer their services on that infrastructure. Even though this is our aim, the Apple case also shows the danger of abuse of power of a party that controls who will be part of the platform and who is not.

### 5.2. Create legal structures that safeguard healthy and sustainable ownership

In order to ensure a healthy and sustainable ownership, legal structures should be created. These structures give guidance to who has what kind of responsibilities and capabilities and draw borders in terms of ownership. Possible legal structures are federations or cooperations.

Questions to involve are: What legal structure should be in place? How does the legal structure supports a healthy and sustainable dissemination of ownership? Who will be the owner of what aspects (IP, software, physical materials, applications, etcetera) of the platform? What kind of authorities are linked to these ownerships? How will the ownership look like in the longrun? Within a clear structure, roles and responsibilities further crystallize and might answer questions like who will be responsible for maintenance and support?



### 5.3. Tune with regional idiosyncracies

We have set the framework for the governance model. However, each region contains cultural, socioeconomical and legal differences, which should be taken into account. In this, the legal structure should be a result of involving all regional actors in negotiation. The local municipalites can give guidance and prevent any conflict of interests throughout the value chain in the longrun.

### 5.4. Call to projectwide action

With regard to these conditions, a projectwide discussion and decision making at the latest of the 1<sup>st</sup> of December 2021. All project members will be invited, including project management in the lead, to discuss these issues. A possible moment would be the next (physical) consortium meeting taking place in Q3.





## 6. Concluding remarks

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The goal of this whitepaper was to present a governance/orchestration model for dRural that guides the actors in the regional ecosystem. This includes how actors collaborate and how value co-creation can be mobilised. Our conclusion is that a form of hybrid orchestration is useful because it offers mechanisms that help to organise the ecosystem in a more direct fashion but also mechanisms that use the power of the crowds (i.e., all actors in the ecosystem). The former is typically used when strict guidelines are necessary. The latter used the expertise and knowledge of individual actors to increase the collective power.

Within the orchestration model, we underline the importance of the evolution phases of the platform and the gatekeeping mechanisms that safeguards progress in a structured and reliable manner. Furthermore, the centrepiece is the ecosystem itself that shows how actors are connected, what their roles are, to what extent they are involved and what practices they conduct.

Finally, the project organisation supports the building and development of the ecosystem by specific expertise of each workpackage. The governance model is built as such that it is not solely about the project, but even more importantly, after the project in the long run. For this reason, we have included platform sustaining and actors' involvement to ensure a solid and sustainable platform. We would like to emphasise that the platform should be community-driven and built around its users. Some issues remain unanswered at this stage and a discussion is needed with regard to these questions, which are a must to consider carefully to ensure the success of the platform.



## 7. Glossary of terms

Term	Description
<b>Service ecosystem</b>	A relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange” (Vargo & Lusch, 2016, pp. 10-11).
<b>Service</b>	The process of using one’s resources for the benefit of another actor (Vargo & Lusch, 2004, 2016; Vargo, Lusch, & Koskela-Huotari, 2018). Products and services are part of the overall concept of service and therefore should not be confused with each other.
<b>Value-in-use</b>	The value that emerges through the integration and usage of resources (Grönroos & Gummerus, 2014).
<b>Value</b>	The underlying concept of making people better off.
<b>Micro level</b>	The level covering individuals and their dyadic relationships (e.g., patient – doctor).
<b>Meso level</b>	The level covering the market and industry (thus including service providers) and communities (e.g., medical institutions).
<b>Macro level</b>	The level covering on areas or regions in society (e.g., local/regional governmental institutions).
<b>Platform</b>	A dynamic configuration of tangible and intangible resources that act as foundations for value-creating systems (Parolini, 1999), upon which network members co-create value through a set of specific activities (Perks et al., 2017)
<b>Orchestration practice</b>	More or less the routinised (Nicolini, 2009; Reckwitz, 2002) (single or set of) activities that an actor, in the role of orchestrator, purposively conducts to build and manage the multi-stakeholder network (Dhanaraj & Parkhe, 2006; Perks et al., 2017; Reypens et al., 2019).
<b>Dominating orchestration</b>	An orchestration type in which a core actor (or a group of core actors) sets the collaborative agenda, recruits partners, and typically relies on formal contracts to steer relationships (Kazadi et al., 2016; Reypens et al., 2019).
<b>Consensus-based orchestration</b>	An orchestration type in which partners collectively negotiate the agenda, membership is often voluntary, and trust predominantly governs relations (Reypens et al., 2019; Roloff, 2008).
<b>Orchestrator or hub/lead firm</b>	The actor responsible and in the lead for orchestrating the network members in the ecosystem and is accepted by all members in doing so (Müller-Seitz, 2012; Müller-Seitz & Sydow, 2012).

*Note: some of these elements are adapted from the glossary of terms in our Deliverable 1.1*



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## D1.2: Governance model

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