

Interreg



Co-funded by
the European Union

Alpine Space

SmartCommUnity

HANDBOOK | **GAMIFICATION AND CIVIC ENGAGEMENT TOOLS**

FOR SMART COMMUNITIES AND RURAL AREAS

The INTERREG Alpine Space SmartCommUnity project | APRIL 2023

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Standortagentur Tirol GmbH

Regionalverband Südlicher Oberrhein

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Gamification and civic engagement tools and initiatives

State of the Art and Handbook



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Abstract

The potential of gamified civic engagement tools for rural areas and Smart communities

Rural and mountain areas suffer from depopulation and economic decline due to a lack of (public) services and digital infrastructure and skills. Digitalisation represents a major opportunity for these regions to increase their attractiveness as places to work and live, compared to urban centres. The INTERREG alpine space project SmartCommUnity (2022-2025) **aims to create a transnational community to change both the practices and perceptions of smart rural areas.** In close cooperation with the European Strategy for the Alpine Region (EUSALP), the project partners will facilitate capacity building of rural areas, promote existing digital tools and solutions and develop innovative and interactive digital tools to foster the "smart transition" of Alpine areas, taking into account community and sustainability aspects. Within the projects, partners are willing **to develop a digital platform that meet the need of creating Smart communities that could exchange practice and engage towards Smart village pathway, adopting innovative tools embracing the functions of both civic engagement tool and gamification approach.**

Through this state of the art, we will study the impact of civic engagement tools and gamification on the involvement of communities addressing the issues they are facing. The study will first present a definitional part on what is meant by civic engagement and what are the main limits. To complete the discussion, we will review different examples of civic engagement tools. We will then explore **the role of gamification in citizens' engagement processes, before highlighting examples** (from the project partners and elsewhere) **of games and civic engagement tools dedicated for the empowerment of rural communities.** From these resources have been identified potential paths that should be explored within the SmartCommUnity project, whether it could positively enable the involvement of smart communities in alpine territories. Finally, **a dedicated checklist has been designed to any rural actors that would benefit from a better understanding and development of the gamification approach within rural communities participatory process.**

Introduction and Report main objectives

This report aims at building the framework of this activity WPIT “Innovation Tools for SmartCommUnity”. In this document, we will compile a state-of-the-art of some civic engagement frameworks relevant to the Smart Village participatory approach within Smart communities, that could particularly embrace gamification approaches.

It will present the state of the art of civic engagement tools initiatives currently operating, their target audience and the functionality they implement, combined with an analysis of literature and scientific articles review, in order to identify whether this approach is suitable, relevant and is adding positive value to the Smart community engagement purpose, that is reached within the SmartCommUnity project and beyond, within the Smart village development and dissemination.

This state of the art is completed with an academic paper “*Survey on Civic engagement tools*” (SCCH GmbH, 2023).



1. What do we mean with “civic engagement” ?

1.1. Definition : Civic engagement versus community engagement

According to the definition of the APA, civic engagement corresponds to **“individual and collective actions designed to identify and address issues of public concern”¹**. It can “encompass a wide range of actions and behaviors that improve communities and help solve problems²”. The activities of civic engagement can reach different topics and issues such as “ family life, the economy, education, health, the environment, and politics. It should be noted that these forms of participation are often interrelated³”. This wide definition highlights the fact that civic engagement can take many forms, such as voluntarism in a social organization, electoral participation, participation in social movements, activism, etc.

Civic engagement covering different purposes

A wide range of publications presents categories of civic engagement. Robert Longley⁴, a former US urban planning professional, has offered in an article of october 2022 relative to the US election a classification of three different ways to conduct civil engagement :

- **Electoral participation** : according to the author, electoral participation goes beyond the simple act of voting and includes other activities such as donating time and effort to candidate's campaign, contributions to electoral campaigns, serving as poll workers, etc
- **Volunteerism** : refers to be involved in an organization such as food distribution, helping groups, helping neighborhood, etc.
- **Activism and advocacy** : refers to the engagement to bring some topics, issues on the political agenda and raise public awareness : petitioning, demonstrations, boycotts, alter the media, etc.

¹ . <https://www.apa.org/education-career/undergrad/civic-engagement>

² <https://circle.tufts.edu/understanding-youth-civic-engagement/what-it>

³ <https://www.thoughtco.com/what-is-civic-engagement-definition-and-examples-5072704>

⁴ <https://www.thoughtco.com/what-is-civic-engagement-definition-and-examples-5072704>



Civic engagement versus community engagement

Based on our research, we found that the term civic engagement was not the only term used to describe the participation by a group of citizens. In some part of the world, the term “community engagement” is used especially “in Australia, but is also fairly popular in South Africa, the United Kingdom, Canada and the USA⁵”. In other countries such as France, the use of the term community is very rare, often bearing a negative connotation and associated with communitarianism. Although the term “civic” instead of “community” can be less popular for the new generation, the use of “civic engagement” has remained stable, and while it is not as popular in as many demographics as “community engagement,” it looks like it is here to stay for the time being⁶”. In this document, we will keep the term “civic engagement” to correspond with the terms used in all the countries of the SmartCommUnity project.

1.2. Level of civic engagement and scale

Differences between the level of empowerment of communities: Sherry Arnstein's framework

To qualify the various levels of civic engagement, one of the references still widely used is the Arstein scale (see figure below). Sherry Arstein, a US sociologist, highlighted in 1969, the fact that remains relevant today: “**citizen participation in democratic processes, if it is to be considered “participation” in any genuine or practical sense, requires the redistribution of power.** In Arnstein’s formulation, citizen participation is citizen power. Without an authentic reallocation of power—in the form of money or decision-making authority, for example—participation merely “allows the powerholders to claim that all sides were considered, but makes it possible for only some of those sides to benefit. It maintains the status quo⁷.”

She describes different levels of empowerment through a framework based on a metaphoric “ladder”, with each ascending rung referring to an increase of power, from “manipulation of the citizens” to “citizen control”. In addition to **the eight levels of participation**, Arnstein includes a

⁵ <https://granicus.com/blog/community-engagement-vs-civic-engagement-vs-public-involvement/>

⁶ <https://pccetf.org/civic-engagement-vs-community-engagement/>

⁷ <https://organizingengagement.org/models/ladder-of-citizen-participation/>



descriptive continuum of participatory power that moves from non participation (no power) to degrees of tokenism (counterfeit power) to degrees of citizen participation (actual power).

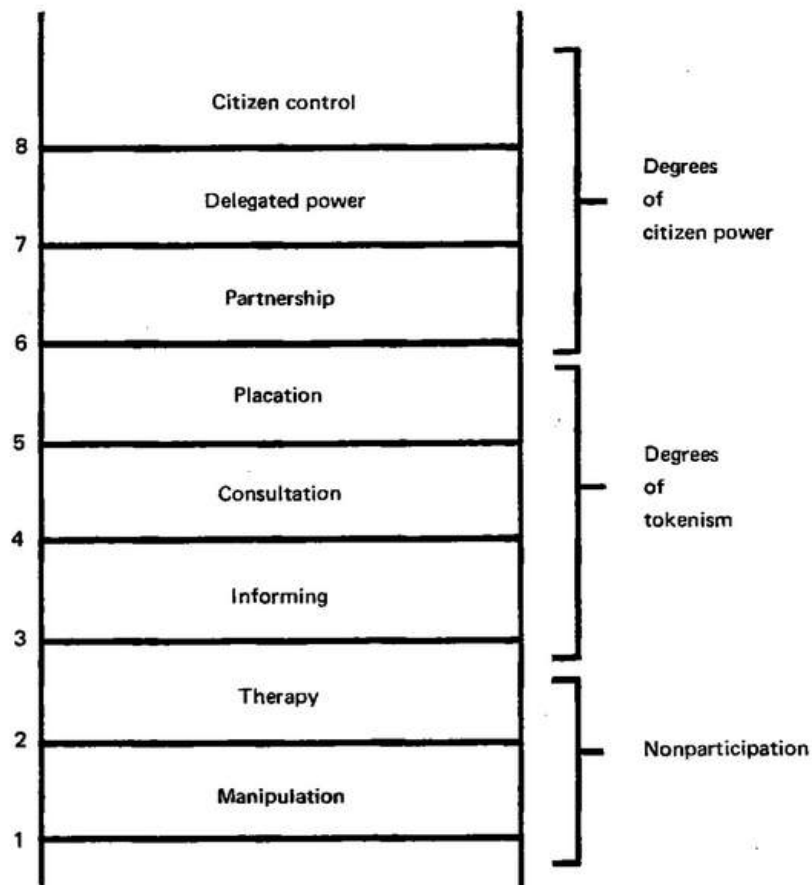


Figure 1 - The Arstein’s scale of participation levels

from the original 1969 illustration of Sherry Arnstein’s Ladder of Citizen Participation

(Journal of the American Planning Association)

Although this model, as any model, is subject to criticism, presenting a theoretical framework that masks the realities and complexity of the dynamics at work in certain groups and communities, it allows us to embrace the differences in civic engagement.



More specifically, civic engagement tools are willing to address different kind of objectives and degrees of participation:

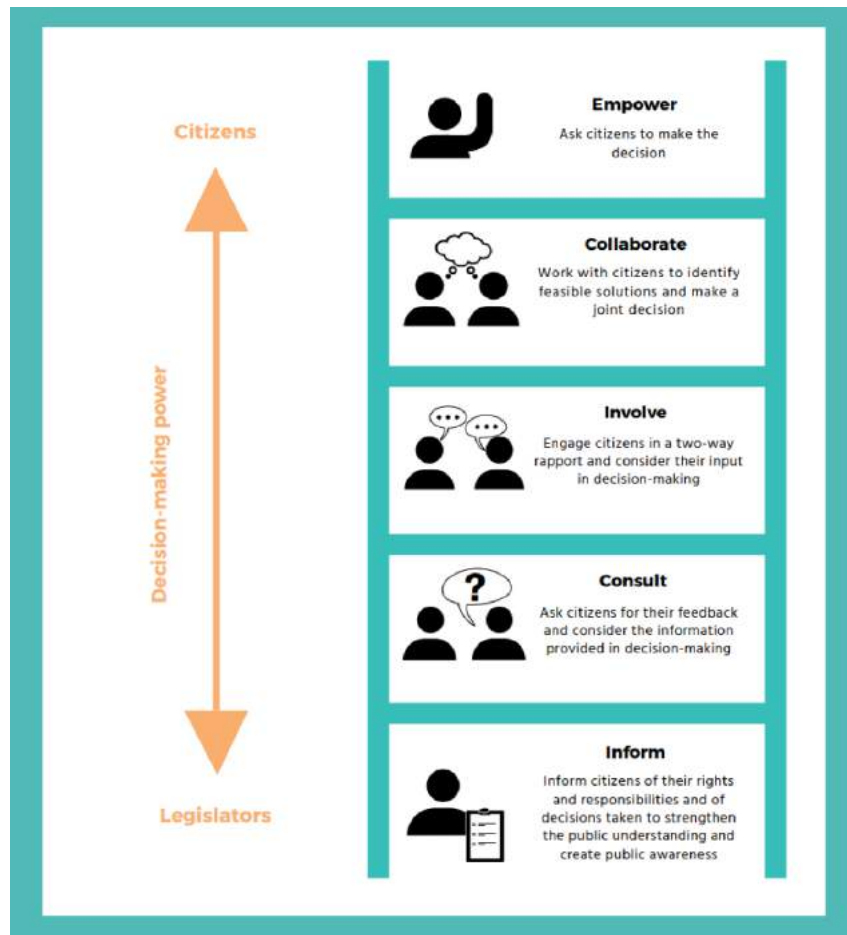


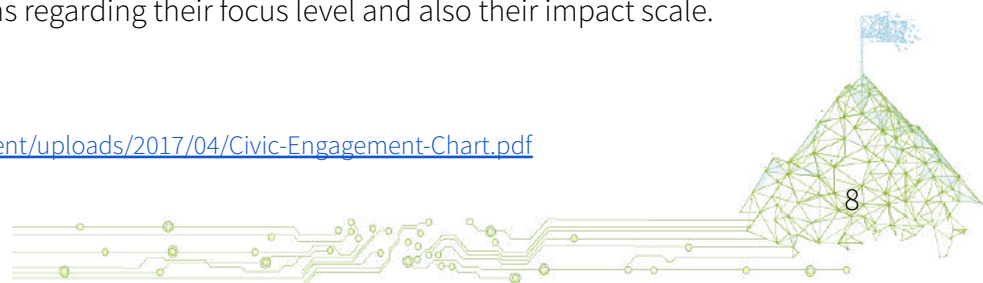
Figure 2 - Citizen Participation Ladder

From <https://partools.org/en/citizen-participation/citizen-participation-introduction/>

Different scales of civic engagement : national versus local, urban versus rural

In order to identify the different levels of civic engagement, we wanted to highlight **the differences between civic engagement from local and national levels, remarkably detailed by** the Philanthropy for Active Civic (FACE)⁸Engagement, a philanthropic laboratory in the US, that identifies different types of actions regarding their focus level and also their impact scale.

⁸ <http://www.pacefunders.org/wp-content/uploads/2017/04/Civic-Engagement-Chart.pdf>



What Does Civic Engagement Look Like?

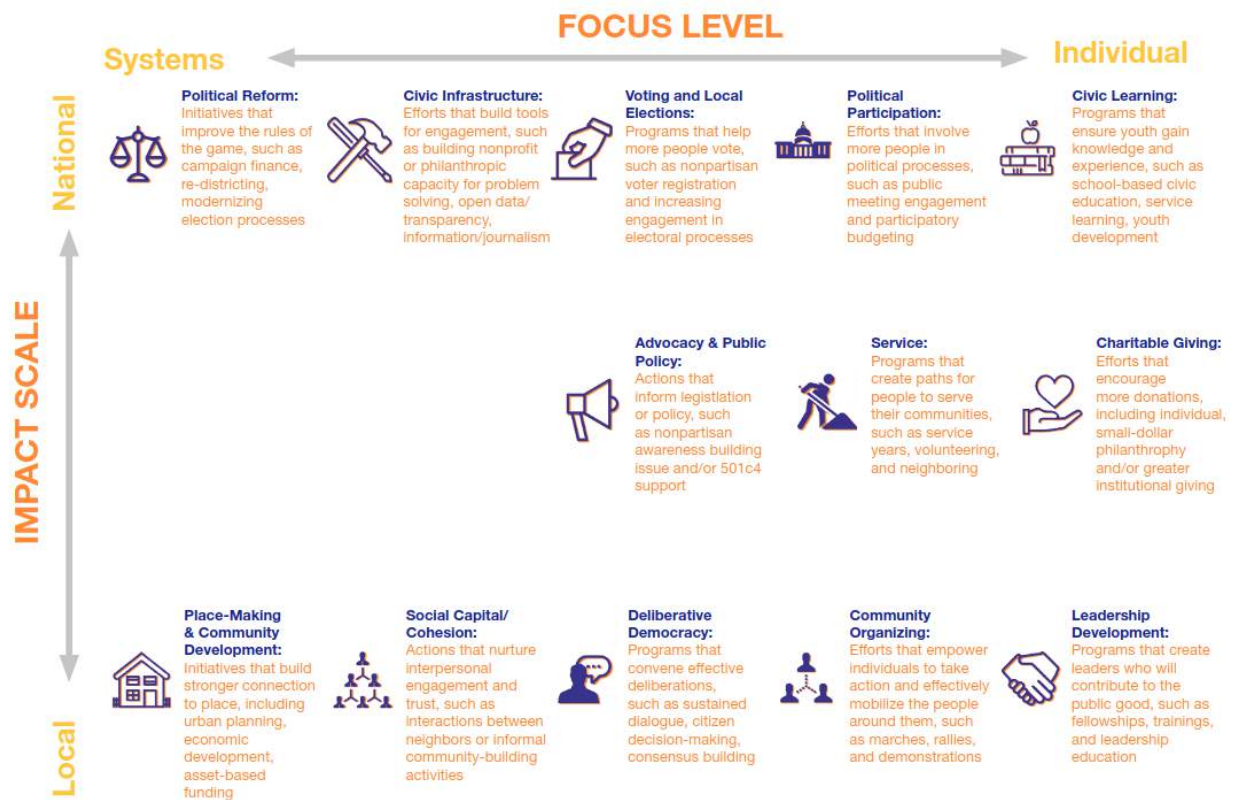


Figure 3 - Impact Scale and Focus Level of diverse civic engagement tools

from PACE's Civic Engagement Primer.

This classification helps us to have a better understanding of the diversity of processes that exists and to see all the forms that civic engagement can undertake. Also it highlights that **some have a strong impact on a local level, such as urban planning, building activities between neighbours**, programs that support deliberative democracy, community organising and leadership development.

Moreover, even though rural areas are facing particular issues somehow different of the ones of urban areas (access to health care, access to education, mobility, access to services, etc.), it seems that **civic engagement is more institutionalised and widespread in urban areas**, particularly in the context of urban planning, citizenry, political debate...



1.3. What are the main limits regarding civic engagement ?

A lack of representation and involvement of minorities, especially in rural and remote areas

One of the common criticisms often addressed to civic engagement, is **the lack of visibility and participation of minorities**, although they are sometimes the most affected by certain issues (digital exclusion, unemployment, access to healthcare or services...). **Participation processes are often "trusted" by categories with higher social capital, such as the more educated or retired, urban dwellers, etc⁹.**

The difficulties of the processes and the part/power left to citizens to organize themselves

When civic engagement is promoted or implemented by the state or institutions, one of the risks can reside in the legibility of the process. Indeed, as mentioned above, there are several levels of participation, as well as multiple forms in which it can be expressed. All of these layers are difficult for residents to understand. Moreover, the place of citizens in these processes is often not well defined (input, feedback, consultation, co-creation, debate...) and the final result of these processes is sometimes not well understood by the local community, creating a feeling of frustration. Moreover, some civic engagement processes fail in creating the conditions for debate and divergent opinions to be expressed, and somehow hardly succeed in the regulation or prevention of conflict situations. Nevertheless it remains clear that they are a necessary path towards a more democratic and participatory local policy making and engagement to action.

The impact of digitalisation in civic engagement

Talitha Dubow (2017) underlines that digitalisation within our societies has radically transformed the way we interact. “ **Not only do digital technologies provide a way to connect with others across the globe, innovation in this space also offers newly enhanced and expanded opportunities for citizens to directly participate in civil society action** and in democratic processes more broadly. Blogs, petition platforms, crowdfunding sites, e-voting and other online

⁹ <https://www.mediacites.fr/forum/national/2022/09/05/faut-il-en-finir-avec-la-democratie-participative/>



forums and tools offer new means for individuals to contribute to shaping political debate and drive ‘real-world’ change”.

The main benefits of digitalization of civic engagement approach can be identified as follow :

- Sharing and interpreting data
- Strengthening citizen voices
- Facilitating social cohesion and support
- Supporting direct citizen participation in democratic processes

However, the development of **digital civic engagement tools presents some drawbacks** that need to be addressed by local actors when engaging such processes:

- The increasing personalisation of our online experience, shaped by the ‘filter bubble’ or ‘echo chamber’, appears to be contributing to the increasing fragmentation of public discourse instead of strengthening our ‘imagined community’”
- Concerns regarding the use of data and the security online, especially for those who are suffering from a lack of digital skills
- The exclusion of those who are struggling with digital illiteracy ;
- The equality in the development of infrastructures to enable all villages, especially the mountainous ones, to have access to digital civic engagement tools.
- The difficulty for the civic sector to scale their activities : According to John S. and James L. Knight Foundation and the Rita Allen Foundation, despite the investment in this field, the sector has been struggling to sustain and scale their activities. “The field has struggled to translate prototypes, pilots and products into full-fledged organisations equipped with the capital and business models necessary to expand their operations and impact¹⁰”.

¹⁰ <https://knightfoundation.org/reports/scaling-civic-tech/>



1.4. Examples of civic engagement tools and actors

By civic engagement tools we mean tools that enable communities of inhabitants to organise themselves in order to solve the problems they are facing. We wanted to present here a non-exhaustive list of civic engagement family tools and actors providing them^{11 12}.

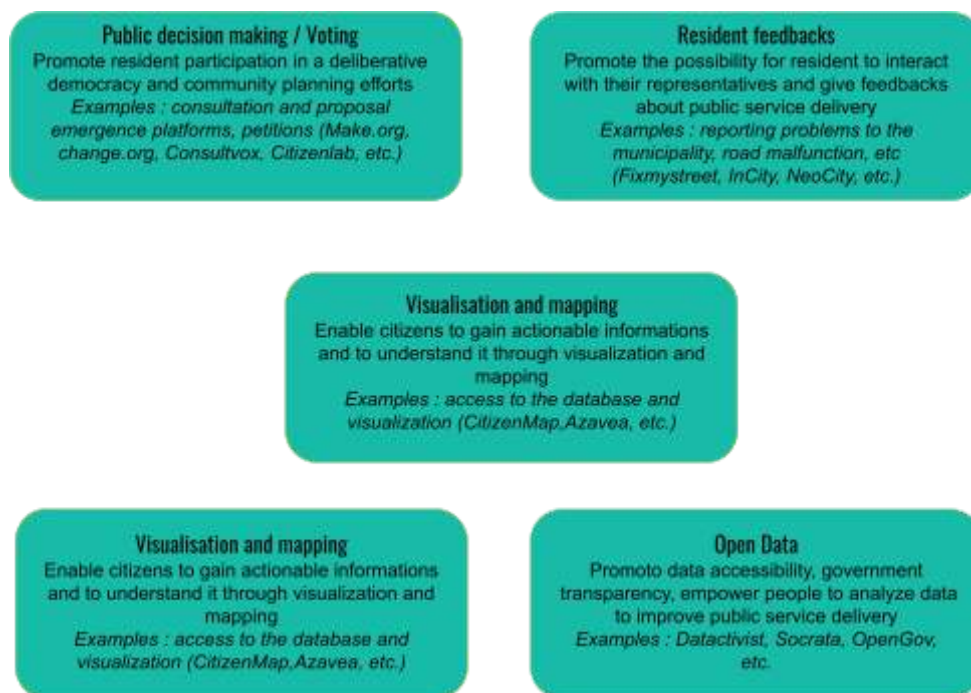


Figure 4 - Civic engagement family tools and actors

from Knight Fondation, *The Emergence of Civic Tech*, 2013

¹¹<https://www.banquedesterritoires.fr/sites/default/files/2019-02/Guide%20des%20outils%20num%C3%A9riques%20pour%20la%20participation%20citoyenne%20dans%20les%20collectivit%C3%A9s%20territoriales.pdf>

¹² <https://www.slideshare.net/knightfoundation/knight-civictech>



2. Role of Gamification in Civic engagement

2.1. From Gamification definition...

Gamification is defined by Marczewski (2013) as **a process that involves the creation of game metaphors and elements in non-game contexts, with the goal of increasing motivation and commitment on the part of players**. Gamification is especially useful with tasks that are not enjoyable, because it helps users engage with the content in a more interesting way than what would happen in the absence of gamification, or, as Aseriskis & Damasevicius (2014) put it, gamification can be used to **“enable attitude change and increase user motivation”**. Fuchset al. (2014, p. 9) cites McGonigal, who considers that gamification can also make user “approach social and political issues in the real world”, so this strategy has the potential not only **to capture the users’ attention and increase their motivation, but also to draw their attention to certain topics** and perhaps even problems that affect the real world. Yang (2015) draws attention to the fact that gamification is not about creating a “complete game” (p. 1), but about **redesigning systems through the integration of game elements**. Kiryakova, Angelova, and Yordanova (2014), give some examples of the **elements that are usually present in games and also play a key role in gamification, namely that:**

- All users are participants, both when gamification is used in the context of business and in the context of education;
- There are challenges or tasks that should be accomplished in order to achieve a goal;
- The players accumulate points as they accomplish tasks;
- There are levels that the players can pass;
- There is some type of reward for completing actions;
- Players are ranked according to their achievements.

Gamification can be used in many fields. For example, it can be used by companies to improve worker productivity and for training and development, it can also be used as a marketing strategy to



attract new customers, when companies use game features in their products and services and has been naturally used in Education to improve student engagement, learning and motivation.¹³

2.2. ... to Civic (engagement) games

“In 2002, game designer Ben Sawyer released the whitepaper *Serious Games: Improving Public Policy through Game-based Learning and Simulation* in which he argued that **organizations engaging the public in public policy could create better learning models and visualizations by looking to the commercial gaming industry for guidance** (Sawyer, 2002).”

From 2007, **Serious Games have shown their potential to address the need “for purposes other than mere entertainment”** (Susi et al., 2007, 1). A reward of its role finds incarnation the launch of Games for Impact that could “facilitate the creation and distribution of social impact games that serve as critical tools in humanitarian and educational efforts” (Games for Change, 2013a, n.p.). A full paper in 2013 thus explores **“the relationship between games and civic engagement, particularly in cases where games and gameplay are intended not only to inform players about civic causes and ideas, but also to enable real civic actions outside the game itself.”**

This promising developments for policy makers and public organizations agendas of Civic engagement games could be a positive response to the declining of the civic sphere that is observable in various countries from the past decades, described at the time by Robert Putnam who argued at the time that participation had steadily decreased not only in national politics, but also in local communities (Robert Putman, 2001).

“Macedo et al. (2005) argued that this is because “the design of our current political institutions and practices turns citizens off” from participating, and that new innovations are needed to reverse this trend. Similarly, urban planners and other public officials who regularly engage citizens are looking to increase participation by replacing passive community meetings with more participatory methods using new technologies (Gordon, Schirra & Hollander, 2011).”

¹³ From [Handbook of Digital Rural Game - Erasmus + Project](#)



Particularly within its Thesis, Schirra is trying to give an understanding, beyond the potential for games to impact civic life guiding game design, is interested in **what kinds of mechanics and stories work their way into these civic games, and what channels are provided to players to take civic action. What is the range of these activities, and how is the opportunity to take action presented to the player.** He will align the theoretical approach by binding Civic engagement and games, where the game inspires and provides the means to take direct, outward action in achieving a civic goal defined by the game.¹⁴

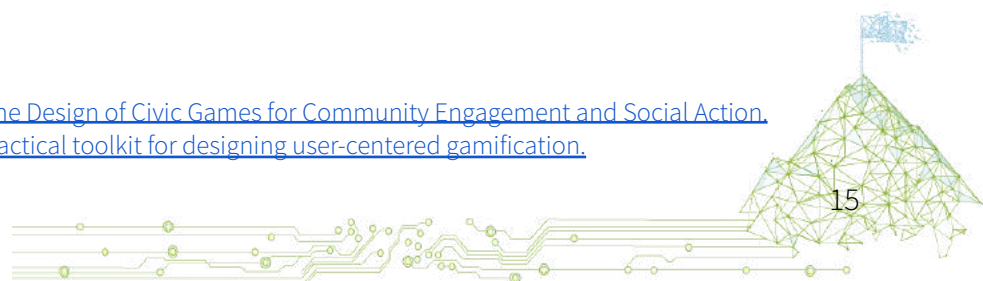
Game elements versus Game-thinking and Game design

“Game elements” (Deterding et al., 2011; Werbach & Hunter, 2015) and Zichermann and Cunningham’s “process of game-thinking and game mechanics to engage users and solve problems.” (Zichermann & Cunningham, 2011). In the following two subsections, we look at these two approaches, gamification elements and gameful design, where the latter includes theories from game design such as Schell’s “game mechanics” (Schell, 2019), game visualization (Bowman et al., 2012; Jenney & Petzold, 2017), and player typologies (R. Bartle, 1996). The definitions of gamification generally discuss the usage of game design elements in contexts outside of games. There are many game-specific elements, but some common core elements of games can be identified from the existing academic literature :¹⁵

“ People are drawn to participate because some psychological, social or emotional need is being met. And when the need isn’t met, they don’t participate. Jeff Howe in Crowdsourcing: Why the Power of the Crowd Is Driving the Future of Business, 2009.

¹⁴ Schirra, M. 2011, [Playing for Impact: The Design of Civic Games for Community Engagement and Social Action.](#)

¹⁵ Kallioja, T. 2017, [Gamification Kit: A practical toolkit for designing user-centered gamification.](#)



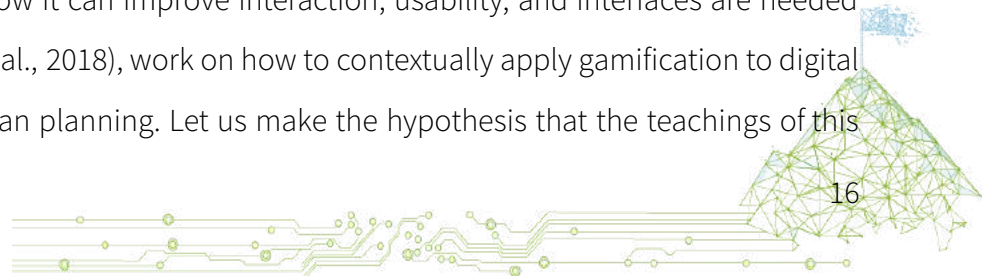
<p>GOAL FOCUSED CHALLENGES</p> 	<p>FEEDBACK</p> 	<p>REWARD</p> 
<p>Providing challenging goal elements tied to rewards with importance of providing clear goal-oriented tasks (collecting items, visiting different locations...); clearly defined win conditions that triggers a challenging activity engaging the player ; clear direction of what to do in the game, with a number of obstacles that the users' need to overcome to complete the activities the increase of difficulties as the game progresses to keep the users interested assorted with required actions per level.</p>	<p>Providing different progress units and achievement markers to let the users understand how they have progressed and how well they are doing, and to understand what needs to be done to reach the next milestone (for instance points levels and progress bars). Feedback can also be used as a reinforcement in the game, for example, a progress unit displaying a time restriction can speed up the players actions and social leaderboards can increase replay value of the game.</p>	<p>In order to maintain sufficient motivation to stay engaged in the game activities, rewards work as behaviour reinforcements and maintain the motivation of the users to engage in the game activities. Games can use many types of reward mechanisms, but Glover (2013) states three main reward categories: points, badges, (public or inner-game) leaderboards, prizes and achievements.</p> <p><small>Source : Design by Muhamed Atif and Freepik from Flaticon</small></p>

Figure 5 - The 3 key game design elements

from Kallioja, T. 2017, [Gamification Kit: A practical toolkit for designing user-centered gamification](#)

Beyond Game elements, the gamification design and thinking

A very good article focuses on how it can improve interaction, usability, and interfaces are needed (Schmidiger et al., 2017; Thiel et al., 2018), work on how to contextually apply gamification to digital applications in the matter of urban planning. Let us make the hypothesis that the teachings of this



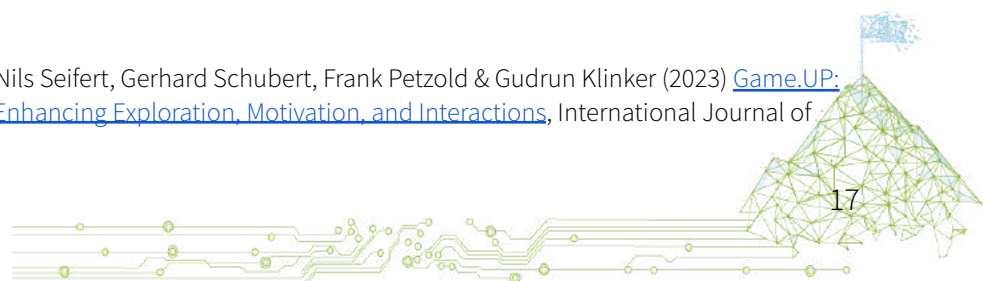
paper can relevantly add value to the research on gamification approach for rural planning and rural problem solving approach, as far as no further papers has been yet found with this particular scope.¹⁶

When reviewing the literature on gamification in urban planning and architecture, which is primarily application-based, it becomes clear that whilst game and gamification elements play a significant role within this context, reducing gamification to the use of game elements does not play the game. It is relevant for the authors to think wider and adopt **a broader context, beyond only gamification elements to gameful design.**

Although the concept is not new, universal definitions and context-specific application spaces for gamification are not yet fully established, literature is limited and scattered across domains game elements include “points,” “badges,” and “leaderboards” with a recent shift in research attempting to empirically analyse the effects of these and other game elements in increasing engagement and enhancing related outcomes in increasing participation and motivation as well as in benefiting psychological and behavioural outcomes.

Game design and thinking combine four key aspects that are esthetics, mechanical elements such as space, and storytelling such as the target audience are relevant when considering gamification that authors describe as suitable for urban planning public participation. Let us assume here that it would be relevant to adapt this game design approach to a more rural planning.

¹⁶ Sarah L. Muehlhaus, Chloe Eghtebas, Nils Seifert, Gerhard Schubert, Frank Petzold & Gudrun Klinker (2023) [Game.UP: Gamified Urban Planning Participation Enhancing Exploration, Motivation, and Interactions](#), International Journal of Human-Computer Interaction,



3. Civic engagement tools and games for enhancing rural communities engagement

3.1 - Findings of some Civic engagement games suitable for rural areas and Smart communities

In this paragraph, we are willing to discuss whether civic engagement tools and games have found any development for the need of rural development participatory approaches, territorial planning and engagement of rural communities within the Civic life, combining the adoption of Civic engagement tools, an active role of gamification of the tools that would have developed by and for rural communities. We will try to give meaningful examples from worldwide, but also from Europe. We will define as much as possible their goal, their target audience, the functionality they present, and if the Game is developed physically or digitally.

Our literature review shows that the adaptation of the game design sphere in the field of civic tech is in its infancy. However, we have seen the deployment of the essential mechanics and functionalities of the game approach in two main areas:

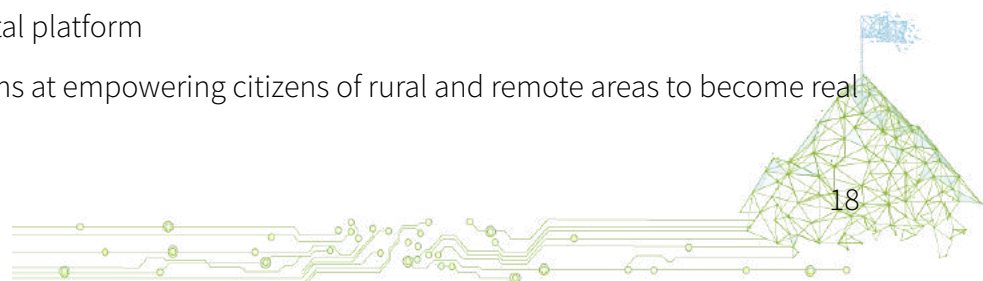
Empowering Rural communities and inhabitants:

Ruralities :



Type : Both Boardgame and digital platform

Short description: Ruralities aims at empowering citizens of rural and remote areas to become real



actors for the improvement of the social and physical living conditions in their localities. The board game that has become also Digital game has been realized by a co-creation and prototyping process, based on the good experiences and needs. The project's expected result is the creation of a complex pedagogical method and toolkit empowering citizens to actively participate in the development of local rural communities and supporting local authorities and organizations active in local development to obtain a larger outreach towards their communities.

Target: All publics.

[Learn more on Website](#)

India, Aadarsh Gaon - “Build your ideal village”



Type : Physical Game

Ambition : Helping disadvantaged communities to understand issues they are facing and improve empowerment.

Short description : Inspired by rural village life in North India, this cooperative board game provides a way for players to build an ideal community or ‘Aadarsh Gaon’ through social problem-solving. Players become active solvers and understand the goal of community organising.

Target : Underprivileged communities and individuals

[Learn more on Website](#)



Educating and re-skilling rural communities or Youth:

Digital Rural Game :



Type : Digital Game

Ambition : Aims to promote in low-skilled adults the acquisition of digital competences and other soft skills needed to eliminate the digital gap in rural areas in Europe. Support materials for adult educators so that they can train digital skills and other soft skills through an online game of low-skilled people in rural areas.

Short description : Each game starts by placing the main character in a particular setting where correct digital action choices are a prerequisite for progressing in the game. The player always has a story and must overcome a series of challenges called “decision scenarios”. Taking the position of the character, he answers questions, gradually becoming more competent. Using intuition, tips and hints to solve simple tasks, the player-learner interactively progresses through the different scenarios, becoming empowered as a user familiar with common online services access.

Target : Low-skilled adults and Youth in rural areas

[Learn more on Website](#)



United States - VoxPop :



Type : Digital Game

Ambition : “Bring civics & history to life through media-rich, collaborative, role-playing experiences”

Short description : By developing knowledge from Students taking a Role-Play, they develop their capacity to take part of Civic Role in defining future politics.

Target : Students

[Learn more on the Website](#)

Co-creating desirable futures or reinventing Urban Planning:

The main objectives of participatory games: helping local actors to project a desirable future, to co-construct scenarios, and to work on collective decision-making. Here are some examples:

2030 Glorieuses :



Type : Social Social simulation / Explore possible futures

Digital Plateform for Open Access to Gameboard and Physical Game Kit

Ambition : “To project ourselves in 2030 and to take back power over our future”



Short description : Explore the future and its imaginary worlds and make people want to take action to improve their future.

Target : All publics

[Learn more on Website](#)

Ruritania : Ruritage Horizon 2020 project game



Type : Physical Game

Ambition : Social simulation and serious gaming become a mainstream way of engaging decision-makers into the planning process. By distancing them strategically from their everyday reality and putting them in Ruritania, it gives players space to explore their values and assumptions. In the end, it provides a structured way of connecting the past to their desired future.

Short description : Ruritania, a fictitious rural area that is famous for its cultural heritage, found in a pilgrimage route and famous vineyards, as well as its outstanding natural heritage. Meanwhile, it faces twin problems of depopulation and migration. Located in a river valley, it's also prone to flooding. Members of the RURITAGE consortium became leaders of the region and had to figure out how to use these heritage objects to develop the area in a sustainable way. Participants were split into groups representing various stakeholders, with each group receiving a number of possible development projects to do, based on the best practices gathered in the RURITAGE project.

Target : Decision makers

[Learn More on the website](#)



3.2 - Overview of other examples of civic engagement tools or gamification within the project partners

To complete our review of civic engagement tools or games applied to rural communities, we collected among the SmartCommUnity Project Partners various examples of tools enhancing local communities facing their stakes and addressing their specific issues. The inserts below present a non-exhaustive list of those resources :

Das Dorf des Zukunft
The village of the future (Austria)

The Energy and Environment Agency of Lower Austria proposes on its website to live one day in the village of the future, a sustainable living space for its inhabitants through a change of practices and lifestyle (energy, mobility, housing). A series of good practices and examples already existing in Lower Austria complete this playful immersion, as well as the possibility of organizing a workshop to plan the village of the future.

<https://www.energie-noe.at/dorf-der-zukunft> (In German)

Project supported by the Interreg Alpine Space program "SmartVillages"



Digitale Dörfer
Digital villages (Germany)

In the Rhineland-Palatinate region the "Digitale Dörfer" platform and associated application offers digital solutions to connect rural communities; strengthen communities and open new opportunities for SMEs. The application allows to "have your digital village in your pocket" through many services (exchange of services, communication, research via Dorffunk; direct communication with municipalities via LösBar; package delivery system between neighbours via LieferBar, ..)

<https://www.digitale-dorfer.de/> (In German)

Project from the Ministry of the Interior and Sport (Rhineland-Palatinate region), Fraunhofer IESE and the Development Agency of Rhineland-Palatinate





La Fresque du Climat et les "fresques amies" (France) The Climate Fresk and other Fresk



Initiated in 2015, the Climate Freskis a three-hour collaborative workshop to understand the issues related to the mechanisms of climate change. Today, many other "friendly fresk" have been developed in connection with the problems of local communities (digital fresk, mountain fresk, mobility fresk, etc.).

<https://climatefresk.org/> (in English)

https://fresqueduclimat.org/wiki/index.php?title=Les_fresques_amies (in French)

Danes je nov dan (Slovenia) Today is a new day



This platform presents digital solutions and ingenious ideas that take active citizenship to the next level. This is a portfolio, a digital storage, and an open source library. Look around for inspiration, activist supplies, and online props for digital activism and critical thinking.

<https://danesjenovdan.si/en/tools> (in English)

Mosaic (Italy) Sherpa Sri, a spin-off of the University of Padua , and WeEurope



A digital application capable of facilitating decision-making processes and accompanying local stakeholders and municipalities towards the best solutions to complex problems, stimulating trust, creativity and reducing the overall complexity of the problem.

It offers an innovative way to effectively manage the relationship between citizens and the public authority.

<https://mosaicdesign.eu/home/> (in Italian)



However, our review of the literature and online resources, although largely incomplete, did not allow us to find any significant actors or networks on a European scale that engage in the application of the scientific work on the subject that we have detailed above. The only input that could be of direct interest to the SmartCommUnity project actors in the development of a participation platform using the game approach would be to draw on the game elements used in the identified games, such as :

- These games have worked with groups of inhabitants and actors in rural areas, areas that the project aims to reach.
- These games have worked to envisage a long-term scenario for the territory, and to co-construct the development scenarios.

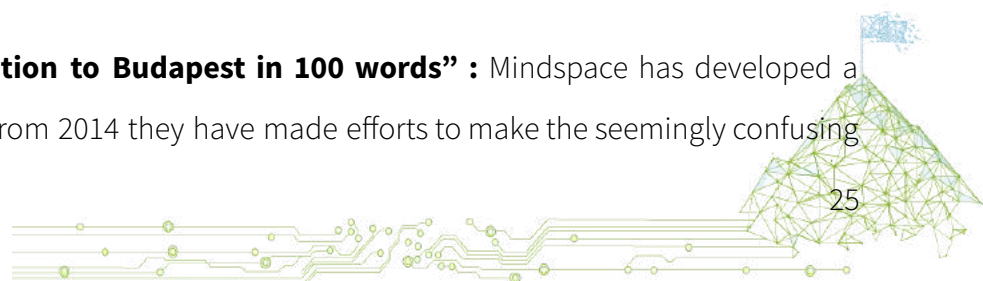
3.3 - Civic game design Companies and other actors

Same as previously, we would say that we lacked consistent datas to have a consistent overview of specialized actors that play in the field of Game design and overall, specialized in designing games suitable for both rural area challenges and engaging smart communities towards participation, cooperation and action. We found, however interesting to cite three of them, that developed very interesting games, and whose core mission and deployed activities is to develop, design, disseminate and support territories and rural actors in playing the games with the target audience and public.

Mindspace, Hungaria



“From smart city to gamification to Budapest in 100 words” : Mindspace has developed a game based on a problem that from 2014 they have made efforts to make the seemingly confusing



terms of smart city and gamification accessible through practical examples. They organized gamified conferences and urban games in not only Budapest. They started a website at smartcitybudapest.eu where they could collect Hungarian projects which fit in one way or another into the concept of smart cities. At the same time, the storytelling competition “Budapest in 100 words” was launched. [Learn more about Minspace activities, games and highlights](#)

Wotify, Spain



“Wotify as “What if I” - The core key question to learn from Past and co-design the collective Future”: Among displaying a wide range of innovative collaborative tools for co-creation, co-design and living labs... Wotify helps organizations on how to collaboratively develop initiatives, integrating mobile and tablet devices, or how to create a dynamic, participative space in my institution around digital content. Some of relevant projects:

- VanGoYourself: App for cultural “selfies” that recreates pictorial artworks from museums and collections, to share on social networks.
- Memory Game: A game creating memory card sets and quizzes with content from Europeana.

[Learn more about Wotify activities, games and highlights](#)



La Ville en jeu, France



La ville en jeux is a project that promotes educational games on the themes of architecture and the city. They allow players, both children and adults, to develop a "culture of the city" in order to better understand the urban environment. Learning, even the most complex ones, is done in a friendly atmosphere. Designed and used by city mediation professionals, these formidable educational tools are rarely accessible to the general public. It is a catalog of online games, a traveling exhibition-workshop, and professional events.

[Learn more about Ville en jeu activities, games and highlights](#)

3.4 - A check-List for building civic engagement games for rural areas and smart communities


Through the set of resources presented above, we have established a checklist of necessary questions to have in mind, in order to develop a civic engagement game for smart communities or rural areas. The purpose of this checklist is to better define the objectives, type, design and purpose of the game.



CHECK-LIST FOR BUILDING CIVIC ENGAGEMENT GAMES FOR RURAL AREAS AND SMART COMMUNITIES

<p>1 <i>What is the objective of the participation process?</i></p>	<input type="checkbox"/> INFORM <input type="checkbox"/> CONSULT <input type="checkbox"/> INVOLVE <input type="checkbox"/> COLLABORATE <input type="checkbox"/> EMPOWER	<p>7 <i>Does the Civic game include different levels and obstacles to the Problem resolution?</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>2 <i>What are the Local Top Priority Challenges to be addressed by the Game?</i></p>	<input type="checkbox"/> Smart People <input type="checkbox"/> Smart Governance <input type="checkbox"/> Smart environment <input type="checkbox"/> Smart economy <input type="checkbox"/> Smart living <input type="checkbox"/> Smart mobility	<p>8 <i>How do you plan to use the best out of Visualization techniques ?</i></p>	<input type="checkbox"/> Videos <input type="checkbox"/> Pictures <input type="checkbox"/> Sound <input type="checkbox"/> Sketches <input type="checkbox"/> Maps <input type="checkbox"/> ...
<p>3 <i>What is the Target audience for the Game?</i></p>	<input type="checkbox"/> Policy makers <input type="checkbox"/> Companies and businesses <input type="checkbox"/> Inhabitants <input type="checkbox"/> NGO actors and activists <input type="checkbox"/> Searchers <input type="checkbox"/> Young adults <input type="checkbox"/> Children and teenagers <input type="checkbox"/> Elder people <input type="checkbox"/> Disadvantaged people	<p>9 <i>Do the Clvic engagement gamification approach include a Scenario or Story-Telling features?</i></p>	<input type="checkbox"/> Yes Type : <input type="checkbox"/> No

CHECK-LIST FOR BUILDING CIVIC ENGAGEMENT GAMES FOR RURAL AREAS AND SMART COMMUNITIES

<p>4 <i>What is the Game type you plan to create?</i></p>	<p><input type="checkbox"/> Boardgame <input type="checkbox"/> Card game <input type="checkbox"/> Digital Game <input type="checkbox"/> Both boardgame and digital game <input type="checkbox"/> Outdoor game <input type="checkbox"/> Gamification of existing tool</p>	<p>10 <i>Does it encourage social interactions and role players?</i></p>	<p><input type="checkbox"/> Yes Type : Role cards, personas, virtual world / country / village.. <input type="checkbox"/> No</p>
<p>5 <i>Have you identified a clear goal-focused Challenge that can motivate the User play the Game?</i></p>	<p><input type="checkbox"/> Yes Type : <input type="checkbox"/> No</p>	<p>11 <i>What are the Rewards gained by the participants?</i></p>	<p><input type="checkbox"/> Points (social recognition) <input type="checkbox"/> Badges (expertise recognition) <input type="checkbox"/> Real-life awards (vouchers, discounts, local currency...) <input type="checkbox"/> Prize <input type="checkbox"/> Communication (Article, website...) <input type="checkbox"/> Leaderboard (public or inner-game)</p>
<p>6 <i>Do you introduced any FeedBack elements?</i></p>	<p><input type="checkbox"/> Yes Type : <input type="checkbox"/> No</p> 		

Conclusion

Civic engagement tools are promising, but struggle to reach all audiences in participatory processes

Civic engagement is a wide concept, well established by literature and authors. More specifically, civic engagement tools are willing to address different kinds of objectives and degrees of participation: information, consultation, involvement, collaboration and finally, empowerment. The core question at stake within the question of Civic engagement is the degree of power that leaders decide to place on the citizen. Even though civic engagement is common and widespread, the dissemination of tools, events or roadmap addressing more participatory processes in Citizenry often fail at targeting a large audience, including youth, people experiencing digital exclusion for instance.

The potential of game design and gamification approach to massify the engagement of communities within civic engagement

In order to massify the adoption of an effective, accurate and performing civic engagement process, an increasingly growing literature and articles are published to extol the virtues of the gamification approach and the game design codes in the developed tools and participation methods. It appears that some key elements of gamification would benefit sectors far beyond Education, the one that has been adopted for a long time as a key game changer to ease learning mechanisms among pupils and students. Some of the key aspects learned from the state of the art realized, even if this state of the art does not constitute an exhaustive academic paper, let us figure out that :

- Providing challenging goal elements tied to rewards;
- Providing different progress units and achievement
- markersuse many types of reward mechanisms such as points, badges, leaderboards, prizes and achievements

could stimulate the engagement of communities.

The perspective of some inspiring civic engagement games addressing rural areas and communities

After a dive of keyword research on the web, it looks like civic engagement tools and games have found some interesting development for the need of rural development participatory approaches, territorial planning and engagement of rural communities, combining the adoption of Civic engagement tools, the adoption of game elements, the experiment, design and development of dedicated board games or apps. A dozen of games are briefly analyzed and descriptive, and show a lot of potential to meet the need of developing stakeholders involvement and empowerment in designing a desirable future for rural areas.

Further development for a gamified civic engagement tool enabling smart communities engagement, networking and cooperation at a European level

The gamified approach seems well suited for the purpose of the civic engagement tool with gamified approach within SmartCommUnity project and with the objectives followed by rural actors:

- Creating common culture of smart communities challenges
- Co-designing viable solutions to face depopulation, lack of services, the brain drain...
- Facilitating local actors and every stakeholder to engage the process of building a Smart village
- Enabling cooperation between local smart communities and transnational smartcommunities
- Fostering Youth participation to the development of solutions that match their expectations and vision for a desirable future within rural areas

The platform would gain to be connected both to the EU developed Smart village related platforms such as SEROI ; Eco social-villages ; Smart rural 21, but also DESIRA 2022 on Long-Term vision for Rural Areas, [Rural Digital Europe](#), [EU Rural digitalisation Forum](#).

The field of gamification is deeply connected to social sciences. It could be difficult for small-scale projects, or projects that are not fully dedicated to developing games, to engage the design and development of a full new game. The only way to use the gamification approach within civic engagement tools would be whether to rely on some dedicated and specialized companies, or to adopt realistic, feasible and time-money efficient projects to realize one or two gamified elements within an existing platform.

Through this state of the art work, it is important to keep in mind the criteria that should guide the development of an innovative tool based on the previous SmartVillage platform. These criteria are as follows :

- **Interoperability** : to create a network and facilitate data transfer.
- **Durability** : to enable sustainability after the end of the project
- **Data collection**
- **Ergonomy and user-centered approach** : to allow a wider audience to access the platform and its content
- **Gamified elements** to foster user-engagement