



**PRACTICE ABSTRACT**

**Digitalisation: Needs and Impacts**

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# DIGITALISATION AND LOCAL ADMINISTRATIONS IN RHINELAND-PALATINATE, GERMANY

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**Betzdorf-Gebhardshain**, where the Rhineland-Palatinate Living Lab (LL) is located, is confronted with typical challenges for many rural areas in Germany: rural exodus, lacking job opportunities, adequate provision of services and more.

**Local administrations** are central actors in overcoming these challenges and grasp the potential opportunities of digitalisation. With the law establishing the [Online Access Act](#) in Germany, they are called to offer their services digitally via administrative portals by the end of 2022.

Besides the **external challenge** posed by this legal act, local administrations must also face **internal challenges**, such as mobilising resources (budget, skills) or designing effective solutions (adaptability, interoperability).

The focal question is **how can local administrations cope with the internal and external challenges of digitalisation, and what are the main impacts on the local actors involved in this process?**

DESIRA analysed **the main needs and impacts** of digitalisation identified by the LL Rhineland-Palatinate. Main positive effects of digitalisation are **faster services, higher convenience, and more interactions and flexibility**, which are already experienced by end users. Thus, accessibility to digital services can make **local administration more effective**.

Negative effects refer to the **reduction of personal contacts with local administrators and higher risks of discords**, as well as to the **unequal distribution of the advantages** of digital tools and services across all target groups due to age, affinity, socio-economic status and digital connectivity.

<p><b>Living Lab</b></p> <p>Rhineland-Palatinate</p>
<p><b>Key Digital Technologies</b></p> <p>Smartphone apps, websites, online collaborative tools, social media, broadband &amp; mobile connectivity</p>
<p><b>Keywords:</b></p> <p>e-governance, e-services, information flows in rural areas</p>
<p><b>More info:</b> <a href="#">Fraunhofer IESE</a>; <a href="#">Digital Villages</a>; <a href="#">Smart Rural Areas</a></p>



## Context and main needs related to the Living Lab's focal question

The municipality of Betzdorf-Gebhardshain is an area characterised by a **decreasing population** between 2008-2018, especially for the age group <20 years (-15.0% compared to -6.3% observed in the region). **Manufacturing and services** are the major employment and economic sectors (98,8% of GDP).

In terms of digital infrastructure, [statistical data](#) shows that the City of Betzdorf provides broadband connectivity 50 Mbit/s to 100%, and 200Mbit/s to 80% of households. The city itself has six towers with 5G mobile data network and free Wi-Fi spots in public spaces. In Gebhardshain, this situation is slightly different: 93% of the households have 50 Mbit/s, 47% have 200 Mbit/s.



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In terms of digitalisation of the local administration, the municipality has been active during the last years. Since 2015, it has piloted the project '[Digital Villages](#)' (*Digitale Dörfer*) for the development of digital services in rural areas. Some of the project outputs were the creation of a web platform '[DorfNews](#)' (*village news*) and a smartphone app '[DorfFunk](#)' (*village radio*). These tools provide regional news, information on events and interactive messaging. In 2019, the platforms were extended with the '[LösBar](#)' (*solvable*) app, a digital tool enabling interactions between the local administration and citizens.

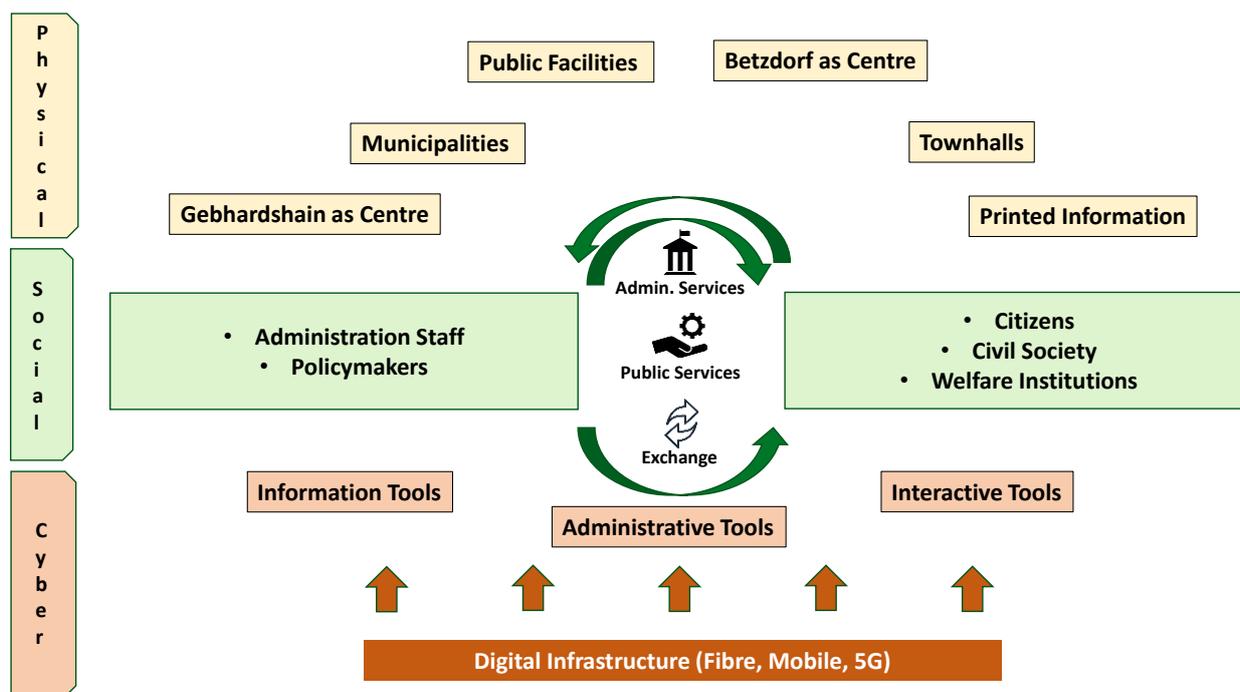
Based on SWOT analysis, the following needs are identified in relation to the Living Lab's focal question.

- The local administration needs adequate provision of human (staff) and material (technology) resources to face the requirements of digitalisation.
- The administration staff needs organisational development and human resource development need to be improved (e.g. training through seminars).
- Citizens and civil society must be motivated and be given the opportunity to participate in decision-making concerning the digital transformation.
- Citizens need an easy start with digital tools because not everyone can use them intuitively. An ongoing offer of educational measures should be provided to empower citizens to make use of digital tools.
- Fears must be faced, i.e. prejudices against digital technologies by indicating the potentials of digital technologies need to be reduced, especially for young and elderly citizens.
- Positive user experience of digital services must be ensured, in particular the demands of users from all backgrounds so that the services are attractive and convenient to use.



## The Socio-Cyber-Physical System (SCPS) in Betzdorf-Gebhardshain

To understand the implications of digital transformation in Betzdorf-Gebhardshain from the perspectives of the local administration as well as citizens and civil society, the Living Lab mapped and visualised the **entities, relationships, and activities** in three specific domains: social, cyber, and physical. The dark green arrows represent interactions between social entities. Note, that in the cyber domain this process is predominantly unidirectional (e.g. information flows mainly in one way so far).



Among the listed **social entities**, the so-called ‘registered associations’ (*Eingetragener Verein*) are the dominating organisational form through which civil society realises a vast amount of sports, cultural life and other leisure activities, as well as the representation of particular interests. **Physical entities** include the places and facilities where the aforementioned social entities meet and interact. A great number of interactions occur through the physical domain (official journal of Betzdorf-Gebhardshain, official letters, posters and public notices). **Cyber entities** hold a vast ensemble of digital media and services based on the digital infrastructure (local fibre-optic network, mobile, 5G).

- **Information tools** include mainly websites offered by various institutions for informational and representative purposes (e.g. municipalities’ official websites).
- **Administrative tools** mainly refer to the digital and networked applications used by the administration staff internally to do their work and realise services.
- **Interactive tools** allow for an exchange between the local administration, policy-makers, citizens and other interest groups. These tools are neither restricted to one-way information flows, nor are they used exclusively for internal purposes. An example is ‘DorfFunk’ ([www.dorf.app](http://www.dorf.app)), a smartphone app intended to foster communication between citizens and put them in contact with the local administration to bring suggestions forward. ‘LösBar’ is a web tool used by the local administration to handle these suggestions and give official feedback.

These entities interact and perform activities like **administrative services** (e.g. demanding and transferring registration certificates or permits for public events), **public services** (e.g. managing public transports, schools, events), and **exchanges of information on a general level**.



## The impacts of digitalisation in Betzdorf-Gebhardshain

What has been digitalised?	Main impacts (i.e. effects/consequences)		Sustainable Development Goals
<b>Local administrative services</b> via information tools (websites or internally used working tools like e-clouds, databases, e-mails).	Direct	• Media breaks (processes are only partially digitised, e.g. signatures and identification must be provided analogously)	SDG 11: Sustainable Cities and Communities
		• The provision of administrative services has become faster	
		• Services are more convenient (independent of time/place)	
	Indirect	• More and easier accessible information has been created	
		• Unequal distribution of advantages among different target groups	
		• Reduction of personal contact to the administration ("faces")	
<b>Public services</b> , such as public transports, via information and interactive tools.	Direct	• Reduced paper consumption for ordinary administration	SDG 16: Peace, Justice and Strong Institutions
		• Faster provision of services	
	Indirect	• Services are more convenient (independent of time/place)	
		• Unequal distribution of advantages among different target groups	
<b>General exchanges</b> between public and private entities, through the project "Digital Villages" with its interactive tools like DorfFunk and LösBar plays a crucial role.	Direct	• Reduction of personal contact to the administration ("faces")	
		• Digital interaction increases likelihood of discords	
		• Multiple digital channels yield inconsistent information	
		• Acceleration of information flows	
	Indirect	• More inputs are exchanged (suggestions, reported damages)	
		• Exchange is more convenient (independent of time/place)	
		• Transparency of administrative action	
		• Collaboration of public and private actors	

■ Positive ■ Negative

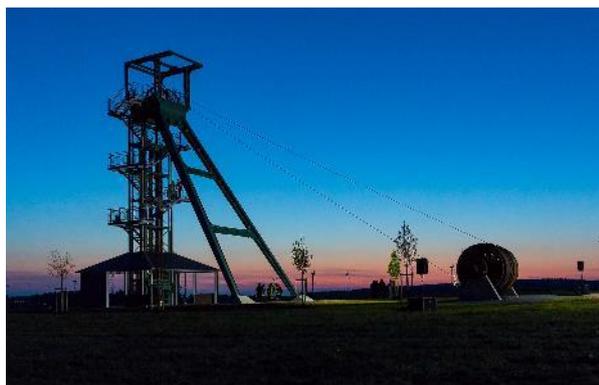
The identified positive and negative impacts brought by digitalisation can be explained by:

- **Design of digital technologies:** positive effects emerged thanks to the participatory development of digital tools; attention to the user-friendliness for target groups; and the level of simplification presented at the front-end to cover the complex architecture behind the digital tools.
- **Access:** positive effects can be achieved by means of a good digital infrastructure (quality and quantity of connectivity); educational and capacity building activities; information policy and marketing have proven to be important aspects of local digitalisation.
- **System complexity:** negative or modest impacts might emerge from the availability of multiple overlapping tools. The platform Digital Villages acts as 'modular service kit' and allows for context sensitive selection of tools. COVID-19 restrictions accelerated the digitalisation of communication (among citizens), administrative services, and economy (e-commerce) in Betzdorf-Gebhardshain.



## Main conclusions and recommendations

Digitalisation was assessed as having two sides: on the one hand, new communication channels offer benefits to almost all social groups. These were identified as winners because they facilitate exchanges and information flows.



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On the other hand, not everybody can participate and ends up being marginalised. The main reason is that these groups do not have access to digital products or do not yet have the means to make use of them in a positive way, as for example occurs with the print media.

Interestingly, some groups of people appear repeatedly: people with disabilities, for example, were mentioned as both winners and losers of

digitalisation. In a way, they can benefit from flexibly accessible and easy to use services. Contrarily, they might not be able to participate in the case digital solutions are not designed according to their needs (e.g. in terms of accessibility). Elderly people are not participating in digitalisation in the same way as younger people do. However, the elderly people were seen as winners, losers and opponents of digitalisation. As an explanation, some participants stressed that participation in digitalisation is not a matter of *age* but rather a matter of *willingness* to learn and adopt a new tool.

Finally, the following aspects are of key importance in the ongoing process of the digital transformation in Betzdorf-Gebhardshain:

1. **Inclusion of all relevant social entities.** For example, all generations must be addressed – the elderly as well as teenagers. This means, for example, integrating schools and adult education institutions.
2. **The advantages of digital technologies need to be adequately explained** to overcome resistance or scepticism in local administrations and beyond. Furthermore, it is important that any administrative service provided digitally in the local administration should also be provided in an analogous way. This ensures trustworthiness, until everyone is used to it.
3. **Digitalisation should be designed based on transparency and participatory principles.** The most affected target groups should be effectively consulted when a public service or activities become digitalised. On the other hand, transparency also involves data trustworthiness in a data usage sense. Citizens need to understand the purpose for which their data is processed digitally, why data security is guaranteed and why the processing systems are therefore credible.