

Press release



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Etteln, July 22, 2025

Etteln – Germany's most digital village – is entering the digital future

Etteln is starting to develop Germany's first municipal data space. At the same time, a digital GP assistant, an automated flying drone to support the fire department, and the development of dynamic electricity prices are being introduced. Parliamentary State Secretary from the BMDS, Thomas Jarzombek, and CDU Secretary General Carsten Linnemann are enthusiastic following their visit to Etteln.

Etteln is now the most digital village in Germany and won the global IEEE Smart City Contest ahead of Hong Kong at the end of 2024. The world's largest professional association has thus confirmed that Etteln is at the cutting edge of digitalisation worldwide. Digitalisation in Etteln is based on **FIWARE technology**, which is now the world's leading, license-free (open-source) platform technology for the digitalisation of cities and municipalities, and is used by more than 500 cities worldwide. Over the years, a vibrant community has developed around FIWARE, supported by the FIWARE Foundation.

On 22 July 2025, Etteln announced that it would take the next step and implement the first data space in the municipal sector in Germany. A municipal data space can enable a municipality to link mobility data, environmental sensor data, energy consumption data, or citizen feedback from various (including external) sources to generate intelligent services (e.g., energy management, noise reduction, citizen participation, etc.) while maintaining data sovereignty and based on interoperable, secure structures.

At the core of this new **data space technology** are, among other things, the solutions from **Gaia-X**. Gaia-X was originally initiated at the end of 2019 by Peter Altmeyer, then Minister of Economic Affairs. The Gaia-X Association was subsequently founded in early 2021 by initially 11 French and 11 German companies and organisations. Today, Gaia-X, headquartered in Brussels, has over 260 global members and provides the foundational technology for creating

distributed and trustworthy digital data ecosystems.

The responsible Gaia-X committee named the project in Etteln, entitled **Community-X**, a Gaia-X lighthouse project at the beginning of July 2025, due to its potential. This project is led by the FIWARE Foundation, based in Berlin.

Thomas Jarzombek, Parliamentary State Secretary at the Federal Ministry for Digital and State Modernisation, was impressed by his visit to Etteln: *"The whole village is getting involved and has created a pioneer in terms of digitalisation in Germany. Etteln has understood that it is not just the infrastructure that is important, but that the real added value of digitalisation only comes from data and software. With the integrated data room, Etteln will realise the next stage of digitalisation and once again set an example for Germany."*

Carsten Linnemann, Secretary General of the CDU and Member of the German Bundestag: *"Just do it and trust the local people. This is practised in Etteln like in no other town. But the entire region is also in favour of taking the reins and creating innovative solutions. The newly founded airline, which will start scheduled flights between Paderborn and Munich from 1 September 2025, and the New Mobility Paderborn project are just two more examples of this."*

Christoph Rütter, District Administrator of the Paderborn district, adds: *"The Paderborn district is considered a high-performance IT location for both established companies and start-ups in North Rhine-Westphalia. Heinz Nixdorf, whose 100th birthday we are celebrating this year, laid the foundation for this development with Nixdorf Computer AG. It is an ideal environment for the emergence of digital beacons such as Etteln, which also involves the University of Paderborn and companies from the Paderborn district. Our great asset is our cohesion. We live in a region where volunteer work is deeply rooted and, together with companies, universities, and local authorities, makes a real future possible."*

Borchen's mayor, **Uwe Gockel**, adds: *"After the Borchen municipal administration took over the consortium leadership of the 'Digital Village Twin Etteln' project, we were happy to participate in the Community-X project. The goal is to develop trustworthy digital solutions that can be easily transferred to our other districts, but also to other municipalities."*

Ulrich Ahle, head of the local council in Etteln, concludes: *"The transformation into the most digital village in Germany began 10 years ago, and I am proud of the many volunteers, associations, and organisations that have contributed to this. Together, we have succeeded in transferring a traditionally high willingness to volunteer from the analogue to the digital world and in taking all generations with us on this journey. Together, we have significantly increased the attractiveness of our beautiful village in the Altenau region. What we need now are new building sites, which we hope will be created in the near future."*

Chandra Challagonda, CEO of the FIWARE Foundation, added: *"Community-X in Etteln is an excellent example of how local communities can drive global innovation through an open, sovereign, and interoperable digital infrastructure. FIWARE's open source standards and the FIWARE Data Space Connector, in conjunction with the Eclipse Data Connector (EDC), enable this village to not only become the most digital village in Germany, but also to create a replicable model for the future of trusted data spaces. It's not just about technology – it's about*

empowering citizens to drive sustainability and show that the foundations for AI-enabled, climate-friendly, and citizen-driven digital ecosystems can be laid everywhere."

Barbara Steffens, Head of the TK NRW regional office, concluded: *"The digital GP practice shows how it's done: rapid on-site help in the event of illness. In Etteln, we can use the digital practice to show how digitalisation helps to care for patients. Innovative technology and the human support provided by a GP assistant go hand in hand perfectly."*

The Community X partners are contributing in kind. The partnership is open to other participants and aims to use the solution in Etteln to create a reusable design for other municipalities in Germany and beyond. The following have been invited as project partners so far:

FIWARE Foundation	Supporting the community in the development of intelligent data models and open source (license-free) FIWARE platform technologies, including those for data space building blocks
Hypertegrity AG	Providing the FIWARE-based digitisation platform in Etteln
International Data Spaces Association	Provides the 'Data Space Protocol', which is currently on its way to becoming a global ISO standard
Fraunhofer Society	Is already realising a test field environment on behalf of the German Energy Agency as part of the 'Energy Use Case' for setting up the data institute in Etteln and elsewhere.
solutiT	Local software and consulting company from Etteln responsible for connecting devices to the digital twin.
Windcores	Currently operates the digitisation platform in Etteln.
Cofinity-X	Operates the Catena-X automotive data room
T-Systems	Operates one of the two German Gaia-X digital clearing houses
PFALZKOM GmbH	Operates the second German Gaia-X digital clearing house.
Borchen municipality	Provides municipal use cases
Open & Agile Smart Cities & Communities	International association of over 160 smart cities and municipalities that have committed to using uniform data standards.
SEAMWARE	Non-profit software company from Spain for the development of FIWARE data space components
Prometheus-X	Software company from France offering software building blocks for interoperable data spaces based on Gaia-X.
Gaia-X	International organisation based in Belgium for the creation of trustworthy digital ecosystems

The project is breaking new ground in financing external costs by relying on donations through crowdfunding.

Donors and financiers can access and use this platform: <https://www.gofundme.com/f/communityx-wh745>

A tax-deductible donation receipt will be issued to donors in Germany for contributions of €500 or above.



A trustworthy digital data space forms the basis for many intelligent applications in the

municipal environment, as well as in mobility, the energy industry, and healthcare.

Three such projects were also presented in and for Etteln on July 22:

- **DIHVA: Digital family doctor assistants**

In this innovative pilot project by Techniker Krankenkasse, the practice rooms of the former Etteln family doctor are used by a specially trained nurse who has a wide range of digital examination equipment at her disposal. The examination results are pre-analysed by artificial intelligence and presented to the doctor in the neighbouring town.

The doctor makes the diagnosis and discusses the examination results with the patient via video conference. The aim is to be able to handle 80% of cases in this way and to provide basic care locally, even in rural areas.

- **Automated flying firefighting drone**

In this joint project with the district of Paderborn, the district fire department headquarters launches an automated flying drone in the event of an emergency, and it flies automatically to the scene. As soon as the volunteer fire department has manned its vehicles, the firefighters receive a situation report from the scene while en route and can prepare accordingly.

- **Test field for energy data**

On behalf of the Future Energy Lab (FEL) of the German Energy Agency (dena), a consortium led by the Fraunhofer Gesellschaft is realising a test field environment as part of the 'Energy Use Case' for the development of the 'Data Institute'. Access to the consumption and generation systems of small installations is also being developed. The project is being funded by the Federal Ministry for Economic Affairs and Energy (BMWE).

History and status:

The district of Etteln in the municipality of Borchten began years ago to tap the potential of digitalisation for people living in a village. For 11 years, the village community has been working in a broad participatory process. This process was triggered by a conversation between the mayor at the time and the then CDU parliamentary group leader, who is now the head of the local council in the beautiful village of Altenaudorf. The mayor said at the time: "I often receive inquiries from outside the area about building plots, but we no longer have any available in Nord- and Kirchborchen. When I then point out the two plots still available in the district of Etteln, I often get the reply, 'I don't want to go there.'"

At the same time, the elementary school was threatened with closure because the minimum number of pupils was temporarily not being reached. The Etteln-aktiv association was founded with the aim of campaigning for the preservation of the elementary school. Today, the elementary school is secured as part of the Kirchborchen-Etteln elementary school association, and the association is one of the driving forces behind social and digital development in the village.

The "Anschwung Initiative", coordinated by the association between 2013 and 2015, began with village workshops in which the strengths and weaknesses of the village were identified. Several working groups addressed the weaknesses. Subsequently, the Integrated Municipal Development Concept (IKEK) for the entire municipality of Borchten was developed in 2017. The district of Etteln was able to build on the results of the Anschwung initiative and develop a series of project ideas, some of which involve digital technologies. As part of the "Digitalisation in Rural Areas" future forum, funding approval was announced at the end of 2018 through the EU's LEADER program for the purchase of an e-village car and the creation of a village app. The e-village car, called ettCAR, is connected to the internet, can be booked and opened via an app, and is available to residents free of charge.

In 2018, it became clear that the digital infrastructure had to be expanded before further digital applications could be implemented. That year, the municipality of Borchten decided, together with Deutsche Glasfaser, to provide the individual districts of the municipality with fibre optic connections for individual homes. Since Deutsche Glasfaser carried out the expansion on a self-financing basis, only households for which it was economically viable were provided with a direct fibre optic connection. In the district of Etteln, approximately 50 homeowners and agricultural businesses were not offered a connection. Back in 2017, the district of Paderborn began developing a project to close these so-called "white spots" with the help of 90 per cent funding from the federal and state governments. The municipality of Borchten was the only municipality in the district of Paderborn that decided not to join this project at the time. This meant that there was no solution for the houses on the outskirts of Etteln to participate in digital life with fast internet. However, here too, the Etteln village community found a solution, and with the help of village volunteers, quickly laid 30 kilometres of fibre optic cable, now providing a solution for digital participation through fast internet.

Once the digital infrastructure was in place, the next project in the digital transformation journey could be tackled: the digital village app. This project was also funded by the LEADER region. After two years, half of Etteln's population was already using this digital village square, which was rolled out to the other districts of Borchten in 2023.

At the beginning of 2022, an editorial team comprising all the chairpersons of Etteln's clubs and organisations developed the "Digital Village Twin 2030" digitisation strategy, which was adopted by the Borchten municipal council in June 2022.

Based on this strategy, six additional funding projects at the state, federal, and EU levels have been secured in addition to the LEADER project.

The core of this project portfolio has been the "Digital Village Twin Etteln (DiDoZ)" project. A consortium of seven partners, including the municipality of Borchten, solutiT from Etteln, and the Etteln-aktiv association, received a grant of 1.3 million euros from Agriculture Minister Özdemir in Berlin in 2023. As part of the project, a central digitisation platform developed by Hypertegrity AG from Büren was installed. In addition, a large number of sensors were installed to measure groundwater levels, river levels, precipitation, soil moisture, and other climate data. A wireless network (LoRaWAN) was set up in Etteln to transmit these measurements to the digitisation platform. Drones equipped with special cameras and radar sensors were also used to create a three-dimensional digital image of the village. This 'digital twin' of the village is connected to the digital platform so that, for example, sensor values from the real world can be displayed in the digital twin. The digital twin is also used to simulate construction measures and to implement an early flood warning system.

Last winter, intelligent Christmas lighting illuminated Kirchstraße in Etteln for the first time. It can also be controlled via the digital platform.

The sensor data, as well as lots of other info like event announcements and hiking trails, is now available to all residents and visitors via digital displays at the church, community center, and sports field.

The "Morgenmacher Campus Party" involves young people in shaping the digital future of the village and the entire community. To help people understand digitalisation, a demonstrator, built by LEGO model bricks, of the village has been constructed, which is now being equipped with technology by students in the technology course at Borchten Secondary School. Separate models are being built for the other districts of Borchten. All district models can be combined to form the municipality of Borchten.

The "Senior Computer Club" enables older people to gain access to digital media. The "Mobile Digital Assistance Case" is planned to expand the range of services. This will give older people and people with disabilities the opportunity to learn about digital products that make everyday life easier directly in their own environment. The assistance case will be presented by Borchten's digital mentors.

The demonstrator, built by LEGO bricks and the 'Mobile Digital Assistance Case' are financed by grants for small projects in the southern Paderborn region.

Etteln is not only a digital village, but also an energy village. It now generates 34 times its own electricity consumption from renewable energies. A central digital battery storage system stores energy from surrounding private solar installations during the day and feeds it back into the grid at 20,000 volts to stabilise the power supply when the sun is not shining.

WestfalenWIND Strom already offers its own electricity tariff exclusively for Etteln, which is always 30% below the basic supply tariff. Together with the Fraunhofer Society, Westfalen Weser, and WestfalenWIND Strom GmbH, Etteln is part of a test field for the Energy Use Case to establish the German government's data institute. This Use Case Energy, led by the German Energy Agency (dena), is dedicated to digital networking and data provision for the energy transition. Specifically, it deals with the generation and consumption data from sources such as PV systems, heat pumps, and electric cars, which are required by various players for the intelligent control of the energy system.

Many other project ideas are part of Etteln's digitisation strategy and are waiting to be implemented. All projects are designed to be sustainable once they have been implemented. The results and experiences will be shared with digitalisation experts from near and far in the form of documentation, presentations, and reference visits. The next tour of Etteln is planned for Friday, 19 September 2025, from 11:00 to 15:00 CET in Etteln.

With kind regards



Ulrich Ahle
Head of Etteln