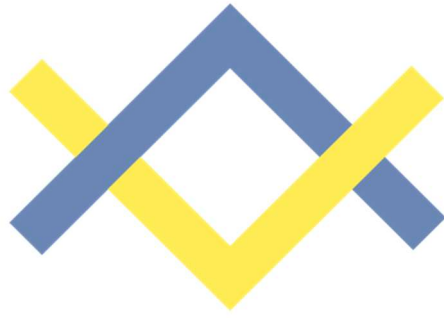




The HuT

A resilient Glückstadt for everyone:
shaping a stronger, brighter future
together

‘The HuT for Me and You’
Narrative

DEMONSTRATOR 5
Glückstadt
(Germany)

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May 2026



This project has received funding from the European Union’s Horizon Europe research and innovation programme under grant agreement N° 101073957

The Human-Tech Nexus: in a few words

In the small coastal city of Glückstadt, nestled along the Elbe River in northern Germany, a new project is unfolding - one with the ambitious goal of building resilience against the extreme climate events that threaten this vulnerable region. The *Human-Tech Nexus* (The HuT) is a Horizon Europe project, funded by the European Union, designed to integrate disaster risk reduction strategies for extreme climate events. With a focus on early warnings, long-term adaptation, and strengthening resilience, the project spans four years, concluding in 2026.

At the heart of the project is a diverse consortium of scientists from various disciplines, collaborating across European Union countries. One key player is the *Climate Service Center Germany (GERICS)*, an independent scientific unit at the Helmholtz Center Hereon. In The HuT, GERICS is specifically focused on the coastal cities of Schleswig-Holstein, working closely with local stakeholders to address the urgent climate challenges facing the region.

Glückstadt, a Coastal City in the Crosshairs

Glückstadt, known for its rich history and scenic beauty, is also at the mercy of increasingly erratic weather patterns. The city lies on the front lines of climate change, grappling with extreme precipitation events, storm surges, the potential for flooding and also increasing heatwaves. As part of The HuT, Glückstadt serves as a pilot city to demonstrate and implement cutting-edge climate adaptation strategies, making it a crucial case study in the broader effort to safeguard coastal communities across Europe.

Glückstadt's Mayor: A City's Leadership Amidst Climate Change



The mayor of Glückstadt, an advocate for the city's preparedness, knows the importance of proactive climate action. He believes that the city's residents must be prepared for extreme weather events without succumbing to panic. "We need to make preparations for blackouts, create cooling centers, and ensure citizens know what to do in case of an emergency," he asserts. Flood protection is a key concern, with several measures already planned or in progress, but there are challenges, particularly in communication with residents. "We need better dialogue between the administration and the people," he admits.

Storm surges are another major threat, but they fall under state jurisdiction, not the cities. "We can only prevent flooding from within the city," says the mayor, emphasizing the importance of partnerships with the Dike and Drainage Association. However, not all challenges are so easily addressed - particularly the need for more shaded areas and air-conditioned public spaces in a city with limited resources. "The balance between climate adaptation and heritage preservation is a tough one," he concludes. "We must start a dialogue with the heritage department to find a solution."

Civil Engineer: Tackling Flooding Through Smart Technology

A civil engineer working in the local wastewater association offers a technical perspective. He explains that flooding primarily occurs in heavily sealed areas, such as parking lots in front of supermarkets and DIY stores. Fortunately, the association has a sophisticated digital and analog monitoring system in place to manage water flow and flood risks. However, the real challenge lies in the heavy rainfall events that cause rapid overflow. Flood maps are already available at the state level, and plans are in place to publish "heavy rainfall maps" that will help with early preparation.

Dike Engineer: Safeguarding Against Inland Flooding

For the engineer working with the Dike and Main Stem Association, the threat of heavy rainfall and potential dike breaches is the primary concern. "Inland dikes are in good condition thanks to regular monitoring," he says. "But when heavy rain falls, the risk of flooding increases, especially when the ground is already saturated." Despite the increased digital monitoring, dike wardens remain essential in forecasting and responding to potential risks. The collaboration between city authorities and the Dike and Drainage Association has resulted in significant investments in infrastructure, including rainwater retention basins. "This approach will continue to be prioritized in urban planning," he explains.



Sustainability Agent: Innovating for the Future

A sustainability agent in Glückstadt offers a holistic view of the city's environmental challenges. One of the major issues facing the city is its outdated drainage system, which sends all wastewater through a single pipe to the treatment plant. During heavy rainfall, this system overflows, sending untreated wastewater into the Elbe. While renovation of the drainage system alone won't solve the problem, retention basins in the right locations could help prevent overflow. "The cost of a two-channel system is unaffordable," the agent states, advocating for smarter solutions. Additionally, the agent highlights a gap in insurance coverage - damage from storm surges is often not insured, and only a few insurers offer such coverage in the region.

Homeowner on the Dike: The Reality of Climate Risks

For homeowners living on the dike, the threat of climate extremes feels very personal. One resident recounts how nutria, an invasive species, have been undermining the dike's stability, further compounding the risk of erosion. "We also have to contend with the occasional tornado along the Elbe," she says, recalling an incident when a poplar tree fell into her garden, causing €20,000 in damage. Unfortunately, her insurance did not cover the costs. For her, the risks are very real, and the question of protection and compensation looms large.

90-Year-Old Resident: Overcoming the Digital Divide

For elderly residents like Ms. Meier, 90, climate preparedness can feel like a foreign concept. "I have no access to the digital world, no TV, and no internet," she says. "How am I supposed to know about an approaching storm tide? How do I know what to do?" For older citizens like Ms. Meier, the lack of access to modern communication channels leaves them vulnerable during extreme events. Finding solutions to bridge this digital divide is essential to ensuring no one is left behind.

Strengthening Resilience

The overarching goal of *The HuT* is clear - Glückstadt must become more resilient in the face of extreme climate events. This involves not only improving physical infrastructure but also building a culture of preparedness and cooperation among citizens, local authorities, and scientific experts.

Capacity Building for Climate Adaptation

The city administration has acknowledged the limitations in staff capacity when it comes to addressing climate-related issues. "Storm surges, floods, heavy precipitation, and droughts require specialized knowledge, but our team is small," the mayor confides. With *The HuT* project's support, Glückstadt seeks to enhance its capacity for climate adaptation, focusing on areas such as urban planning, communication, and policy development.



Building Stronger Stakeholder Engagement

A crucial component of the project is developing stronger stakeholder engagement. By creating new formats for dialogue, such as the infrastructure of a *Glückstadt Climate Council* bringing together the local administration and art association, matching companies, political leaders, civil protection, climate engaged citizens. The goal is to establish a platform for collaborative problem-solving and sustainable climate action.

Engaging the Community

To raise awareness and foster engagement, *The HuT* held a talk during the city's *KulturMärz 2024* event. The talk was followed by an interactive session, where residents of Glückstadt could learn about the project and discuss their concerns and ideas. The session, organized in collaboration with the *Soroptimist International-Club Glückstadt*, provided a space for meaningful dialogue and action.

