

Summary of Agile Pilot

Company name	Genius Smart Group Ltd.
Company location	Dombóvár, Hungary
Domain	Digital services and communication, Energy efficiency
Municipality	Gerjen, Hungary
Project period	October 2025 - June 2026 (9 months)
Solution	<p>Within the PilotInnCities programme, Genius Smart Group tested a digital water consumption monitoring and decision-support solution for municipalities.</p> <p>The pilot focused on converting traditional mechanical water meters into a digital monitoring system capable of automatically collecting, analysing and visualising consumption data. The solution combines IP cameras, AI-supported OCR technology, backend data processing, alert mechanisms and a municipal dashboard to support operational decision-making.</p> <p>The system enables municipalities to:</p> <ul style="list-style-type: none"> • monitor water consumption remotely, • identify abnormal consumption patterns, • detect potential leaks and technical failures, • receive automated alerts, • support evidence-based operational decisions through data visualisation and reporting. <p>Unlike traditional smart metering systems, the solution can utilise existing meter infrastructure, reducing the need for costly meter replacement programmes.</p>
Stakeholders	<p>Key stakeholders involved:</p> <ul style="list-style-type: none"> • Genius Smart Group Ltd. (solution provider) • Municipality of Gerjen • HROD / PilotInnCities consortium • Municipal facility operators • Local institutions connected to monitored consumption points • Technology and development partners supporting implementation.
Lessons learned	<p>Several important lessons emerged during implementation:</p> <ul style="list-style-type: none"> • Technology alone is insufficient; successful municipal deployment requires clearly defined operational responsibilities and response procedures. • Early assessment of measurement locations is critical, including power supply, internet connectivity and physical access conditions. • Long-term financial savings are difficult to prove during a short pilot period. • The greatest short-term value comes from anomaly detection and increased visibility of resource consumption. • Smart City deployments require strong alignment between technological innovation, municipal administration and funding requirements.
KPI 1 Installation of the Monitoring System	<p>Measurement: Deployment of the monitoring solution across municipal measurement points.</p> <p>Expected target value: At least 5 monitoring points.</p> <p>Achieved value: System successfully deployed and operational (exact number not specified in the report template).</p> <p>Summary and analysis of the results achieved in relation to the indicator: The pilot demonstrated that existing municipal water meters can be integrated into a digital monitoring framework. Consumption data became accessible through a structured digital decision-support system, replacing previously manual and fragmented monitoring practices.</p> <p>Comments / factors influencing the results: The number of deployable monitoring points depended on local infrastructure conditions such as power supply, IP connectivity, LoRaWAN availability and physical meter accessibility.</p>

<p>KPI 2 A comprehensive review of opportunities for reducing consumption</p>	<p>Measurement: Reduction of water consumption and operational losses.</p> <p>Expected target value: 10% reduction.</p> <p>Achieved value: Not assessed as a strict quantitative KPI due to the short pilot duration.</p> <p>Summary and analysis of the results achieved in relation to the indicator: Rather than focusing solely on measurable savings, the pilot evaluated consumption trends, anomaly detection and intervention opportunities. The results confirmed that operational improvements and early detection capabilities can generate value even before significant measurable savings become visible.</p> <p>Comments / factors influencing the results: A longer observation period would be required to verify annual consumption reductions and financial savings with statistical confidence.</p>
<p>KPI 3 Detection of Anomalies and Operational Alerts</p>	<p>Measurement: Identification of abnormal consumption events and generation of alerts.</p> <p>Expected target value: At least one documented anomaly or test event.</p> <p>Achieved value: Five anomalies identified:</p> <ul style="list-style-type: none"> • 3 consumption anomalies, • 2 water extraction anomalies, • 1 technical malfunction. <p>Summary and analysis of the results achieved in relation to the indicator: The system successfully detected irregular consumption patterns and technical issues within 24 hours of occurrence. This validated the core functionality of the monitoring and alerting framework and demonstrated its potential to reduce losses through earlier intervention.</p> <p>Comments / factors influencing the results: Automated alerts and rapid identification of anomalies significantly improved operational visibility compared to traditional manual meter reading practices.</p>
<p>KPI 4 User Satisfaction and Acceptance</p>	<p>Measurement: Feedback from municipal stakeholders.</p> <p>Expected target value: Positive evaluation from the pilot municipality.</p> <p>Achieved value: Target achieved.</p> <p>Summary and analysis of the results achieved in relation to the indicator: Following the pilot, the Mayor of Gerjen expressed satisfaction with the system and requested a proposal for expanding the solution to all municipal properties. Interest was also expressed in extending monitoring beyond water consumption to electricity consumption.</p>
<p>KPI 5 Decision-Support Dashboard</p>	<p>Measurement: Delivery and operation of a municipal decision-support interface.</p> <p>Expected target value: One functioning dashboard.</p> <p>Achieved value: Target achieved.</p> <p>Summary and analysis of the results achieved in relation to the indicator: The dashboard enabled visualisation of consumption trends, anomaly alerts and comparisons between facilities, supporting data-driven operational decisions. The system moved beyond simple data display and provided practical management support.</p>
<p>Evaluation of the business model focusing on its viability and</p>	<p>Business model</p> <p>Genius Smart Group offers a data-driven utility management service rather than simply selling hardware. The business model combines:</p> <ul style="list-style-type: none"> • data collection,

<p>potential for growth</p>	<ul style="list-style-type: none"> • consumption analysis, • anomaly detection, • dashboard services, • expert interpretation and consulting. <p>Revenue streams may include setup fees, subscription fees, consulting services and performance-based savings contracts.</p> <p>Validated strengths</p> <ul style="list-style-type: none"> • Can utilise existing meter infrastructure • Suitable for small municipalities • Fast and modular deployment • Expandable beyond water management into energy and gas monitoring • Addresses concrete operational challenges • Combines software and expert interpretation into a comprehensive service <p>Identified barriers and weaknesses</p> <ul style="list-style-type: none"> • Strong dependence on local infrastructure conditions • Dependence on OCR accuracy • Reliance on third-party AI services • Limited municipal operational capacity in some cases • Long-term savings require extended monitoring periods to demonstrate <p>Implemented / planned modifications</p> <p>Based on pilot experience, future development priorities include:</p> <ul style="list-style-type: none"> • improved site assessment methodology, • enhanced executive reporting functions, • more accurate anomaly evaluation, • expansion to electricity and gas consumption monitoring, • creation of modular service packages for different customer segments. <p>Areas requiring external support</p> <ul style="list-style-type: none"> • Technical development and system stabilisation • OCR accuracy improvement • Licensing model development • Marketing and sales materials • Municipal and Smart City network building • Legal and data-management support
<p>Impacts</p>	<p>The pilot successfully demonstrated that municipal utility management can be significantly improved through low-cost digitalisation of existing infrastructure.</p> <p>Key impacts include:</p> <ul style="list-style-type: none"> • creation of a functioning digital monitoring framework, • successful anomaly detection and alert generation, • improved operational visibility, • validation of a scalable municipal utility management model, • strengthened cooperation between municipality and technology provider, • demonstrated demand for broader deployment.
<p>Suggestions for future actions, especially focusing on sustainability and replication</p>	<ul style="list-style-type: none"> • Expand deployment across all municipal properties in Gerjen. • Extend monitoring to electricity and gas consumption. • Develop standardised municipal implementation packages. • Improve AI-supported OCR performance. • Build reference cases and sales materials for wider adoption. • Integrate the solution into broader Smart City programmes.
<p>Next steps</p>	<p>Priority target groups:</p> <ul style="list-style-type: none"> • Small municipalities,

	<ul style="list-style-type: none"> • Schools and educational facilities, • Sports facilities, • Elderly care institutions, • Municipal property managers, • Multi-site companies, • Hotels, • Industrial users. <p>Scaling strategy: The company plans to develop the pilot into a scalable municipal and institutional service package, targeting both public and private sector clients. International expansion is envisaged primarily within the Danube Region, where many municipalities face similar challenges related to ageing infrastructure and manual utility monitoring.</p>
<p>Provider's Reflection</p>	<p>One of the strongest messages emerging from the pilot is that Smart City projects are as much organisational challenges as technological ones. The company highlighted the need to align three different operational cultures:</p> <ul style="list-style-type: none"> • the fast-paced logic of innovative businesses, • the compliance-focused approach of funding programmes, • the administrative and consensus-driven nature of municipal decision-making. <p>The pilot demonstrated that stakeholder coordination, expectation management and governance structures are as important as the technology itself.</p>
<p>Municipality's Reflection</p>	<p>The Municipality of Gerjen considers the EnerGenius pilot a successful and valuable initiative that demonstrated the practical benefits of data-driven utility management. The system improved the municipality's ability to monitor water consumption, detect anomalies and support more efficient operation of municipal facilities. The pilot also confirmed the potential for expanding the solution to additional utility services, including electricity and gas monitoring. The agile pilot approach proved particularly effective, enabling continuous feedback, rapid adjustments and the delivery of tangible value already during the testing phase. The municipality is open to further development and wider deployment of the solution as part of its long-term Smart City strategy.</p>
<p>Expert's Reflection</p>	<p>One of the important lessons of agile piloting – and a particularly defining one in Gerjen – is that the commitment and goal-orientation of key stakeholders are not only a resource for an initiative but can readily generate conflict, until a working relationship founded on reciprocity takes shape among the partners. In Gerjen, this was the central concern of the mentoring role. Because of these partnership difficulties, the project was slow to get off the ground; once they had been overcome, however, the collaboration multiplied the effectiveness of the available resources, so that the technical, engineering, institutional and community challenges came to serve the shared process of experimentation and learning. The joint work thereby gave rise to innovative, new value.</p>