

Summary of Agile Pilot

Company name	Glassiteca s.r.o.
Company location	Liberec
Domain	Blue-green infrastructure
Municipality	Statutory City of Liberec, Czech Republic
Project period	1 July 2025 – 31 March 2026
Solution	<p>The pilot tested an innovative material Glassticine (Porous Glass Plasticine – PGP), a lightweight, non-toxic, porous glass-ceramic material produced by upcycling waste glass.</p> <p>The solution serves as:</p> <ul style="list-style-type: none"> • a substrate for growing vegetation (green walls and urban elements) • a water-retaining structure enabling evaporation and plant transpiration • a tool for urban microclimate cooling and humidity increase <p>A demonstrator with integrated smart irrigation system and sensors was installed in public space and indoor environments to validate real-world performance.</p> <p>The pilot combined:</p> <ul style="list-style-type: none"> • material innovation • blue-green infrastructure application • circular economy principles (waste glass reuse)
Stakeholders	<ul style="list-style-type: none"> • Glassiteca s.r.o. • City of Liberec • Technical University of Liberec (technology originator) • General public (users and respondents)
Lessons learned	<ul style="list-style-type: none"> • Real-world testing is essential: Transition from laboratory to uncontrolled urban environments is critical for validating material performance. • Local production is key for scalability: Transporting heavy glass waste is inefficient; future models must rely on localized production or sublicensing. • Design and aesthetics are crucial: In public space applications, visual appeal is as important as technical performance. • Agile piloting proved highly valuable: It enabled testing in real conditions and iterative adjustments (e.g. irrigation settings). • Administrative processes can be improved: There is a need for simplification, faster contracting and clearer procedures to avoid delays and reduce burden on providers.
KPI 1 Microclimate impact (temperature reduction &	<p>Status: Achieved</p> <ul style="list-style-type: none"> • Measurable increase in local humidity and cooling effect confirmed • Up to 2–3°C potential temperature reduction (under suitable conditions) • Demonstrated significant local humidity increase (~6 percentage points) in proximity to installation

humidity increase)	<ul style="list-style-type: none"> ● Effect strongly influenced by environmental conditions (e.g. indoor air conditioning) <p>The material proved to function as an effective passive microclimate regulator.</p>
KPI 2 Public perception	<p>Status: Achieved</p> <ul style="list-style-type: none"> ● 155 valid survey responses collected ● 95.5% of respondents rated the concept as excellent ● 98% positive perception of green vertical applications ● Strong appreciation for: <ul style="list-style-type: none"> ○ sustainability ○ design and aesthetics ○ innovative use of waste materials <p>Public feedback confirmed strong acceptance and interest in broader deployment.</p>
KPI 3 Material durability	<p>Status: Achieved</p> <ul style="list-style-type: none"> ● No critical damage observed during testing ● Material proved: <ul style="list-style-type: none"> ○ mechanically stable ○ UV resistant ○ non-flammable and chemically inert ● Only minor “soft” damage (e.g. plant removal) occurred
Evaluation of the business model focusing on its viability and potential for growth	<p>Pre-pilot model</p> <ul style="list-style-type: none"> ● Focus on R&D and material development ● Partial B2B and B2C sales ● No strong focus on municipalities or Smart City applications <p>Strengths validated</p> <ul style="list-style-type: none"> ● Unique patented material with strong circular economy value ● High demand from municipalities for climate adaptation solutions ● Low maintenance compared to traditional green infrastructure <p>Identified barriers</p> <ul style="list-style-type: none"> ● Limited production capacity ● High logistics costs (glass waste transport) ● Lack of certification for construction sector use <p>Strategic shifts</p> <ul style="list-style-type: none"> ● Transition from material supplier → provider of complete solutions ● Development of new product lines (acoustic panels, hydroponics, design elements) ● Shift toward B2G (municipalities) and developers ● Introduction of licensing/sublicensing model for local production
Impacts	<p>Impact on the municipality</p> <ul style="list-style-type: none"> ● Demonstrated practical tool for urban cooling and greening ● Increased public awareness of climate adaptation and circular economy ● Identified barriers to implementation in public procurement <p>Impact on Glassiteca</p> <ul style="list-style-type: none"> ● Validation of material in real conditions ● Strong reference installation ● Increased visibility and public interest

	<ul style="list-style-type: none"> ● Strategic repositioning toward scalable business model
Suggestions for future actions, especially focusing on sustainability and replication	<ul style="list-style-type: none"> ● Continue pilot installations in additional urban locations ● Develop industrial-scale production capacity ● Support certification for construction use ● Expand partnerships (municipalities, universities, developers) ● Involve citizens in selecting installation sites ● Promote local production model to reduce environmental footprint
Next steps	<ul style="list-style-type: none"> ● Development of large-format panels for building facades ● Preparation of full business strategy and scaling plan ● Expansion toward international markets via licensing ● Participation in Smart City and circular economy events (e.g. URBIS, GLASSTEC) ● Securing funding (grants, investors, EIC Accelerator)
Provider's Reflection	<p>The pilot confirmed the importance of testing in real urban environments and provided valuable data for further development.</p> <p>The company highlighted:</p> <ul style="list-style-type: none"> ● strong benefits of agile piloting ● need for improved administrative processes and faster contracting ● value of real-life reference installations for future business development
Municipality's Reflection	<p>The City of Liberec evaluated the pilot very positively:</p> <ul style="list-style-type: none"> ● The solution contributed to greening and revitalization of public space ● Demonstrated practical ways to mitigate urban heat ● Raised awareness about sustainability and reuse of materials ● Agile piloting was seen as a low-risk and effective innovation tool <p>The city expressed interest in further use and replication.</p>
Expert's Reflection	<p>The expert evaluation concluded that:</p> <ul style="list-style-type: none"> ● The pilot successfully met its objectives and KPIs ● Delivered quantifiable environmental results ● Demonstrated strong public acceptance ● Identified key business and scaling challenges <p>Despite administrative delays, the pilot proved valuable and confirmed the high potential of the solution for urban sustainability and climate adaptation.</p>