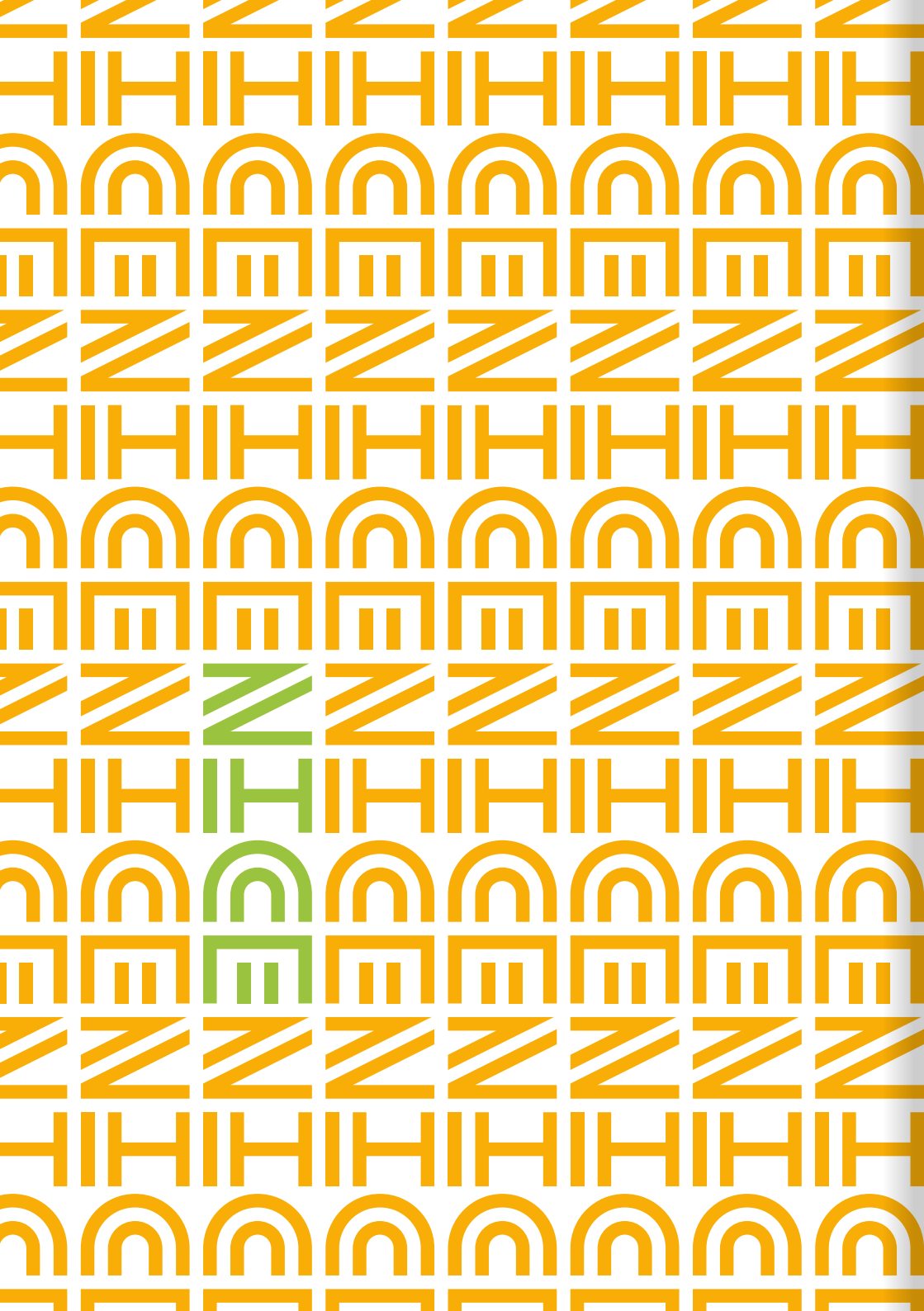




Connecting digitalisation with a multifunctional resource centre in Jihlava, Czech Republic

The pilot combined digital innovation, stakeholder engagement, and tangible environmental impact, providing practical insights for scaling circular practices.





04 Perex

06 The pilot idea

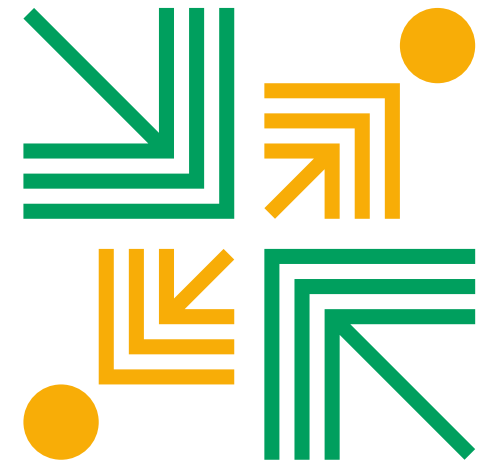
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PEREX



The Jihlava pilot project demonstrated how digital innovation can transform local reuse practices while promoting sustainable lifestyles in medium-sized cities. Led by the NiCE project partner ENVIROS in cooperation with the non-profit Silo Jihlava, the pilot project introduced a pioneering AI-based tool to

improve the management of items in the local reuse centre, Útulek věcí. By automating the tracking of incoming and outgoing donations, the pilot increased efficiency, accuracy, and reliability of material flow statistics. Beyond technological advancement, the project strengthened collaboration between municipal authorities, local NGOs, and national networks, offering a replicable model for other cities. Overall, the pilot combined digital innovation, stakeholder engagement, and tangible environmental impact, providing practical insights for scaling circular practices.

Picture 1: Interior of reuse centre; Source: Útulek věcí

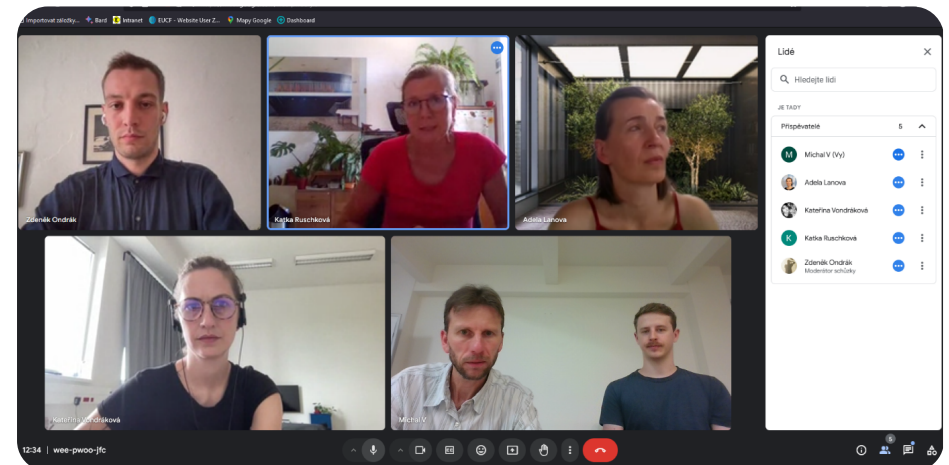
THE PILOT IDEA



The Jihlava pilot aimed to expand the reach and effectiveness of local reuse activities by strategically integrating digital tools into the operations of the reuse centre.

The project spanned several months and involved multiple stakeholders, including municipal representatives, local NGOs, reuse practitioners, and national networks such as the Federation of Reuse Centres and Furniture Banks (Reuse Federation).

The initial challenge was to identify which activities would benefit most from digitalization. **The pilot team observed existing operations, including day-to-day item management, organization of Reuse Days, workshops, and public awareness events, concluding that automating item management would have the greatest tangible impact.**



Picture 2: Project meeting; Source: Pavel Růžička



Picture 3: Study visit in Würzburg; Source: Pavel Růžička

The project also fostered transnational collaboration with the city of Würzburg, enabling shared learning in sustainable urban resource management, circular services accessibility, and e-commerce integration. **Regular online meetings, structured tandem reviews, and study visits created a safe space for experimentation, reflection, and knowledge sharing.**

This international cooperation strengthened both cities' capacity to implement innovative circular economy initiatives effectively.



How it started

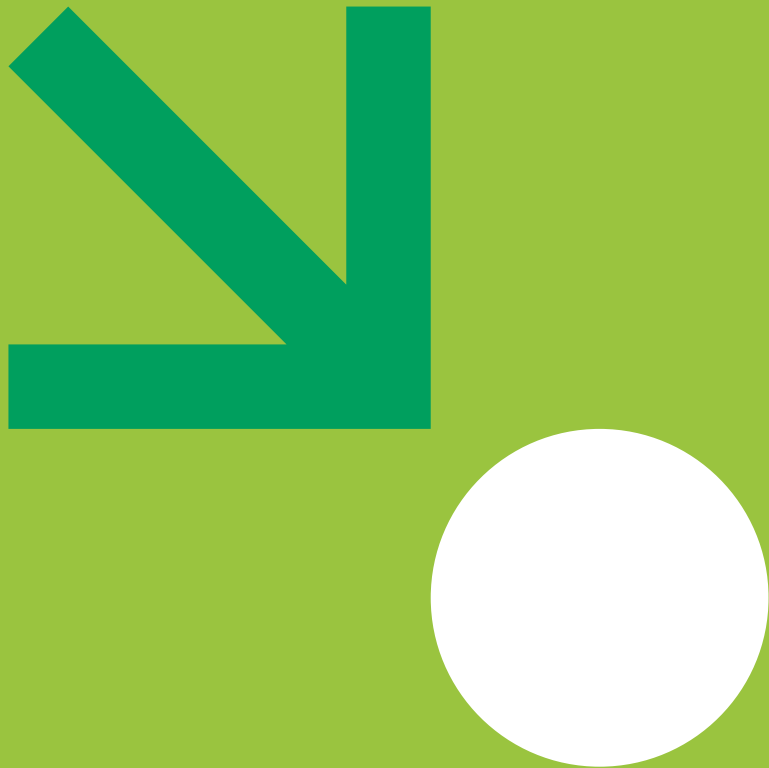
Before the pilot, the Jihlava reuse centre relied on manual record-keeping, using paper logs or basic spreadsheets to track donations. Útulek věci had been serving the community for a couple of years, offering a space where residents could donate and collect second-hand items, while raising awareness about sustainability and resource efficiency. While effective, manual processes limited the centre's ability to scale operations, measure impact, and generate reliable data for reporting.

Preparatory activities included in-depth assessments of workflows, consultations with staff, and exchanges with the national reuse network. These assessments identified bottlenecks, mapped material flows, and explored opportunities for digital support. Experiences from other cities, especially Würzburg, were studied to understand how digital tools and e-commerce could enhance reuse operations effectively. These preparatory steps laid a solid foundation for a structured pilot project that would improve efficiency while maintaining a strong community focus.

Picture 4: Paper record procedure for incoming items, Source: Útulek věci



Implementation PHASE



The pilot's central innovation was the Reuse Recognizer, an AI-powered tool developed with the Reuse Federation to simplify tracking of incoming and outgoing items at the reuse centre. Staff and volunteers received training to use the tool, and multiple testing phases refined image quality guidelines and automated processes for capturing item details.



In daily practice, the Reuse Recognizer helps staff quickly identify and log items as they arrive or leave the centre. Each item is photographed, automatically recognized by the system, and assigned relevant details such as type, condition, and estimated weight. This reduces the need for manual data entry, speeds up operations, and provides accurate statistics for monitoring material flows. Staff can also easily generate reports and track inventory, allowing them to focus more on engaging with visitors and organizing reuse events.



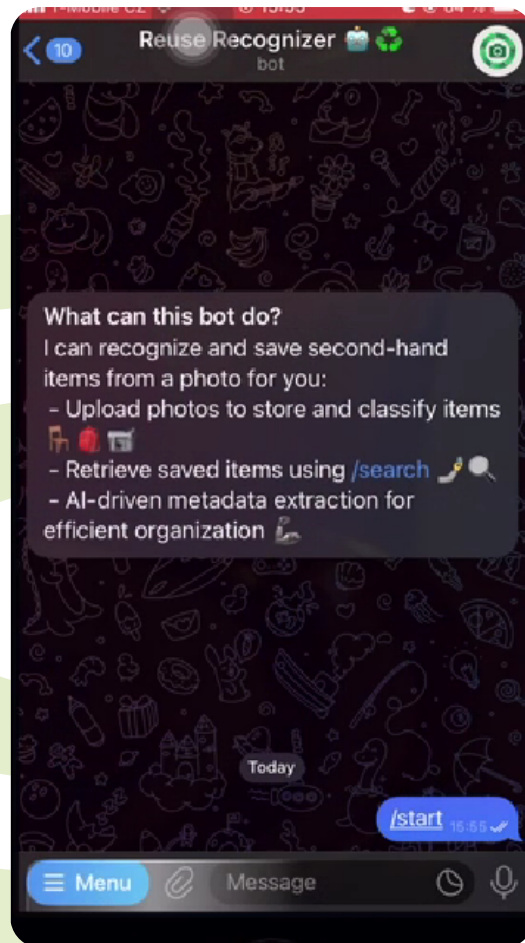
During operations, the Reuse Recognizer managed up to 250 kilograms of incoming items per opening period.



Reuse Days, workshops, and community events remained central, ensuring that technology complemented citizen engagement. The pilot also included transnational cooperation: Jihlava learned from Würzburg's delivery logistics integration and city-centre circular services, while Würzburg drew experience from Jihlava's digital tool and operational practices to inspire the future development of their circular offers. The team integrated AI-based recognition with reporting and analytics, providing reliable statistics to monitor environmental and social outcomes. Clear communication and coordination among municipal authorities, NGOs, and national networks ensured that all stakeholders aligned on objectives and methodology.

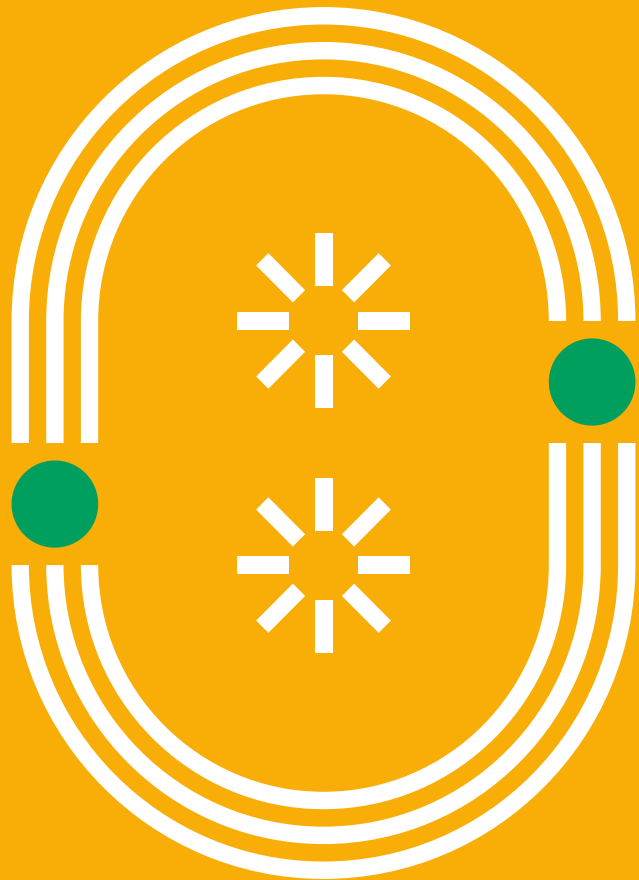
Picture 5: Reuse Day in Jihlava; Source: Pavel Růžička

During the pilot, the Reuse Recognizer was also tested for supporting Extended Producer Responsibility (EPR) for furniture. It proved capable of recognizing and classifying items, providing structured data that can be used for reporting and compliance purposes. This unexpected application shows the tool's potential beyond local reuse management and opens possibilities for wider national or EU-level use.



Picture 6: Reuse Recognizer; Source: Útulek věcí
Picture 7,8: Reuse Day in Jihlava; Source: Pavel Růžička

Outcomes and learnings



The Jihlava pilot demonstrated that digital innovation can significantly enhance efficiency and professionalize reuse operations.

The Reuse Recognizer improved accuracy in weight estimation, streamlined record-keeping, and provided reliable statistics for monitoring environmental and social benefits.

Staff reduced their administrative workload, focusing more on high-value activities like organizing community events, engaging citizens, and improving reuse practices.

The project also strengthened local collaboration, fostering trust, knowledge exchange, and shared commitment to circular economy objectives. By increasing visibility of reuse practices, the pilot provided a replicable model for other medium-sized cities aiming to scale up circular lifestyles.

Key lessons include the importance of user-friendly design and intuitive workflows, especially given varied digital literacy levels among staff. Handling bulk inflows of small items remains a challenge, highlighting the need for batch data entry methods. Maintaining strong stakeholder collaboration requires ongoing facilitation, trust-building, and clear communication. Challenges identified included limited editing options within the tool, slower AI processing, and difficulty handling numerous small items individually.

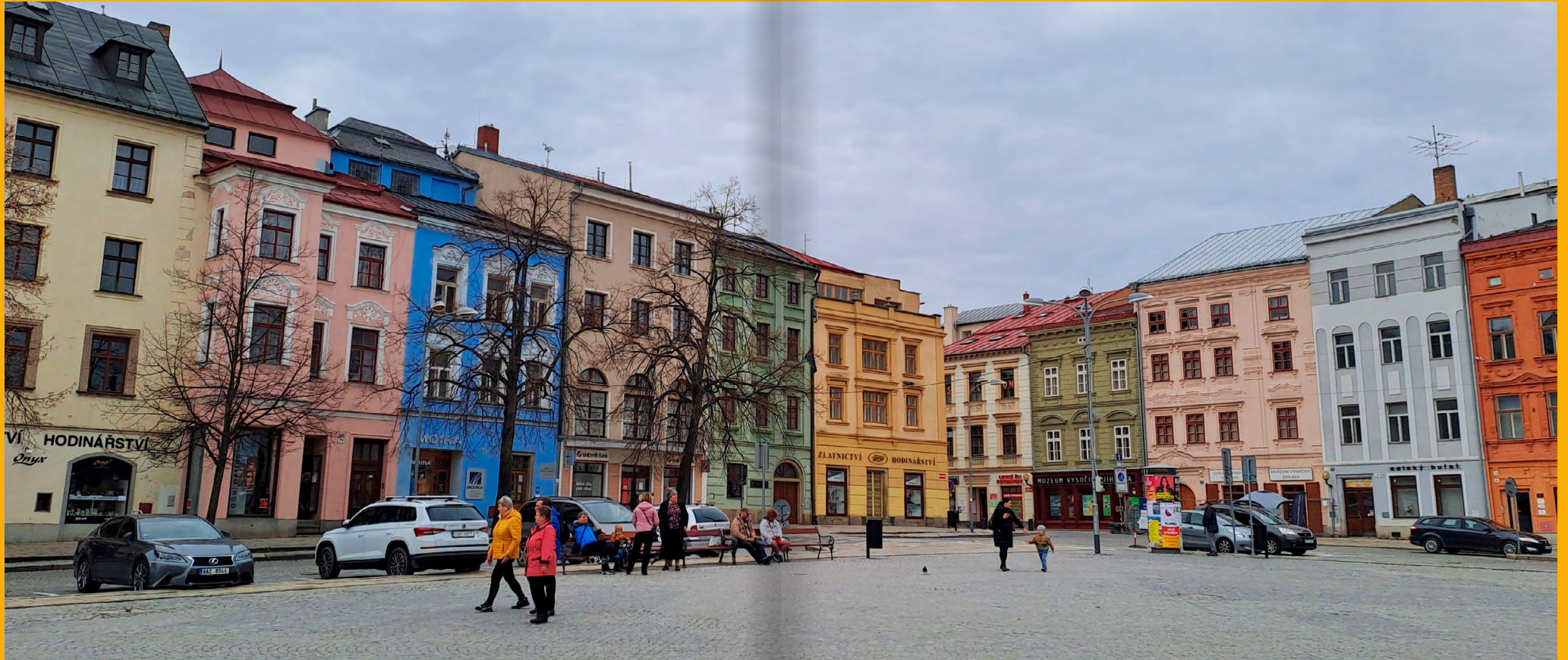
Recommendations for future improvements include:

- **batch data entry for frequent,**
- **low-value items,**
- **editable fields for descriptions and classifications,**
- **and streamlined AI processing to reduce administrative workload.**

Overall, the Jihlava pilot illustrated that combining digital innovation, strategic planning, and stakeholder engagement can professionalize reuse centre operations, increase efficiency, and inspire broader adoption of circular practices. By integrating technology with community engagement and transnational learning, the project delivered tangible outcomes and a scalable model for other cities to advance their circular economy initiatives.

Picture 9,10: Reuse Day in Jihlava; Source: Pavel Růžička





Picture 11,12: Jihlava city; Source: Pavel Růžička

Further Information



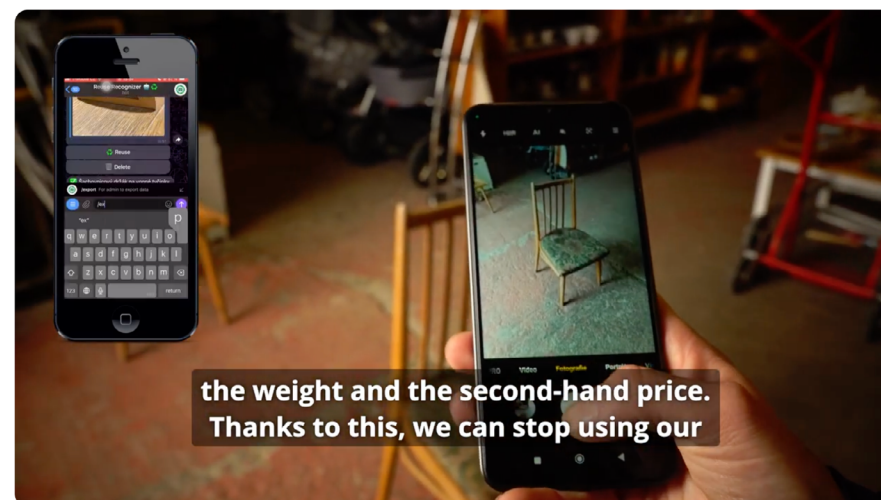
NiCE Project Websites

Interreg: <https://www.interreg-central.eu/projects/nice/>

NiCE Online Seminar: <https://www.youtube.com/watch?v=YrAmjWh1jE&t=3390s>

Knowledge Platform: <https://circularlifestyle.eu/>

Pilot video: <https://www.youtube.com/watch?v=tJ-cJr6P7cl>



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