SMARCO

SMARt COmmunities Skills Development in Europe

Work with e-Services Available to Citizens

Dr. Paraskevi Tsoutsa, Assist. Prof.
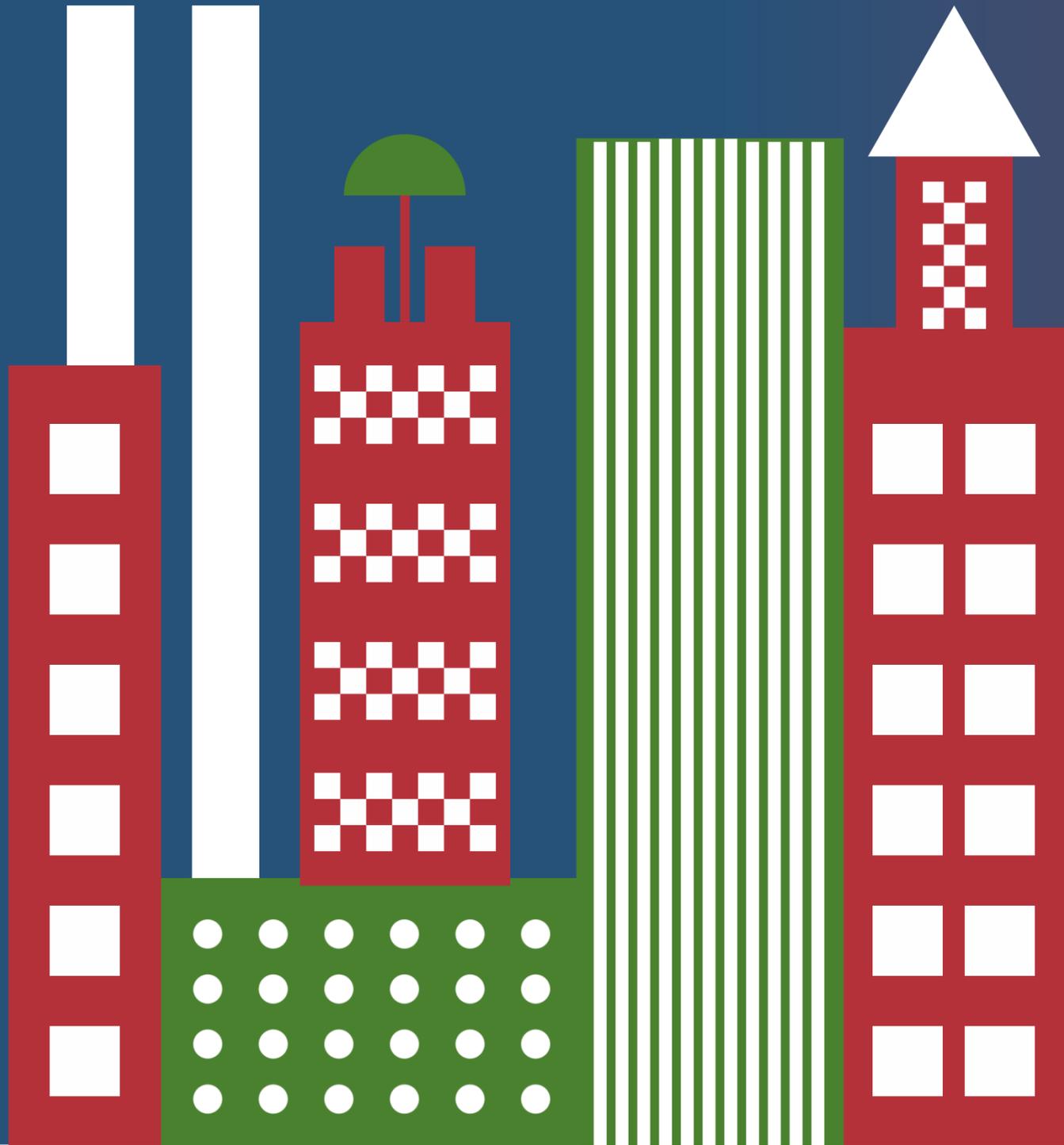
Work with e-Services Available to Citizens

Unit 3 – Supporting Citizens and Promoting Digital Inclusion

Co-funded by
the European Union

smarco

Module Aim & Objectives

- This module explores the ecosystem of e-services in smart cities and digital public administrations.

- It focuses on the use and management of digital platforms that improve citizen access to information and public services.

- Learners examine how e-services are designed, secured, and evaluated for efficiency, transparency, and inclusiveness, developing the skills to promote sustainable, citizen-centred digital transformation.

smarco

Contents

- Unit 1 – Understanding e-Services

- Unit 2 – Governance and Management of e-Services

- Unit 3 – Supporting Citizens and Promoting Digital Inclusion

Unit 3 Aim & Objectives

- This unit aims to help learners **support and empower citizens** in accessing and using e-services effectively.

- It focuses on **digital inclusion, accessibility, participation, and trust**, highlighting the human dimension of smart digital transformation.

Unit 3 Learning Outcomes

By the end of this unit, learners will be able to:

- **Recognize** the principles of digital inclusion, accessibility, and citizen-centred service design.

- **Identify and address** barriers that limit citizens' access, skills, and trust in e-services.

- **Apply** participatory and communication strategies to engage and support diverse citizen groups.

- **Evaluate** real-world best practices to promote inclusive, transparent, and citizen-driven digital transformation.

Unit 3 Content

1 👥 Citizen-centred services

2 ♿ Digital Inclusion and Accessibility

3 🚧 Barriers to Digital Participation in e-Services

4 🤝 Participation through Digital e-Service Platforms

5 🔐 Literacy & Outreach

6 🌍 Benchmarking & Best Practices

Citizen-Centred Services

Citizen Support: Why It Matters

Citizens are not passive users — they are active participants in service co-creation.

Inclusive e-services strengthen transparency, equity, and civic trust.

Digital transformation succeeds when citizens' needs and capabilities shape the system.

Without adequate support, e-services risk exclusion, low adoption, and reduced public value.

From Service Delivery to Co-Creation

- Traditional model: top-down *service delivery.*
- Modern model: *citizen co-creation* and participation.
- Co-production improves quality, efficiency, and user satisfaction.
- Supported by open data, digital platforms, and participatory design.
- Co-creation improves design quality, usability, and legitimacy of e-services.
- Enabled through digital participation platforms, open data, and feedback tools.

smarco

Citizen Experience in Smart Cities

- Citizens interact with digital government through multiple touchpoints (portals, apps, kiosks).

- User experience (UX) affects **trust and adoption.**

- Accessibility and ease of use are **core to digital inclusion.**

- Example: One-stop citizen portals (e.g., Estonia, Finland).

- Every interaction with an e-service shapes trust, satisfaction, and continued use.

- Poor UX directly leads to digital exclusion.
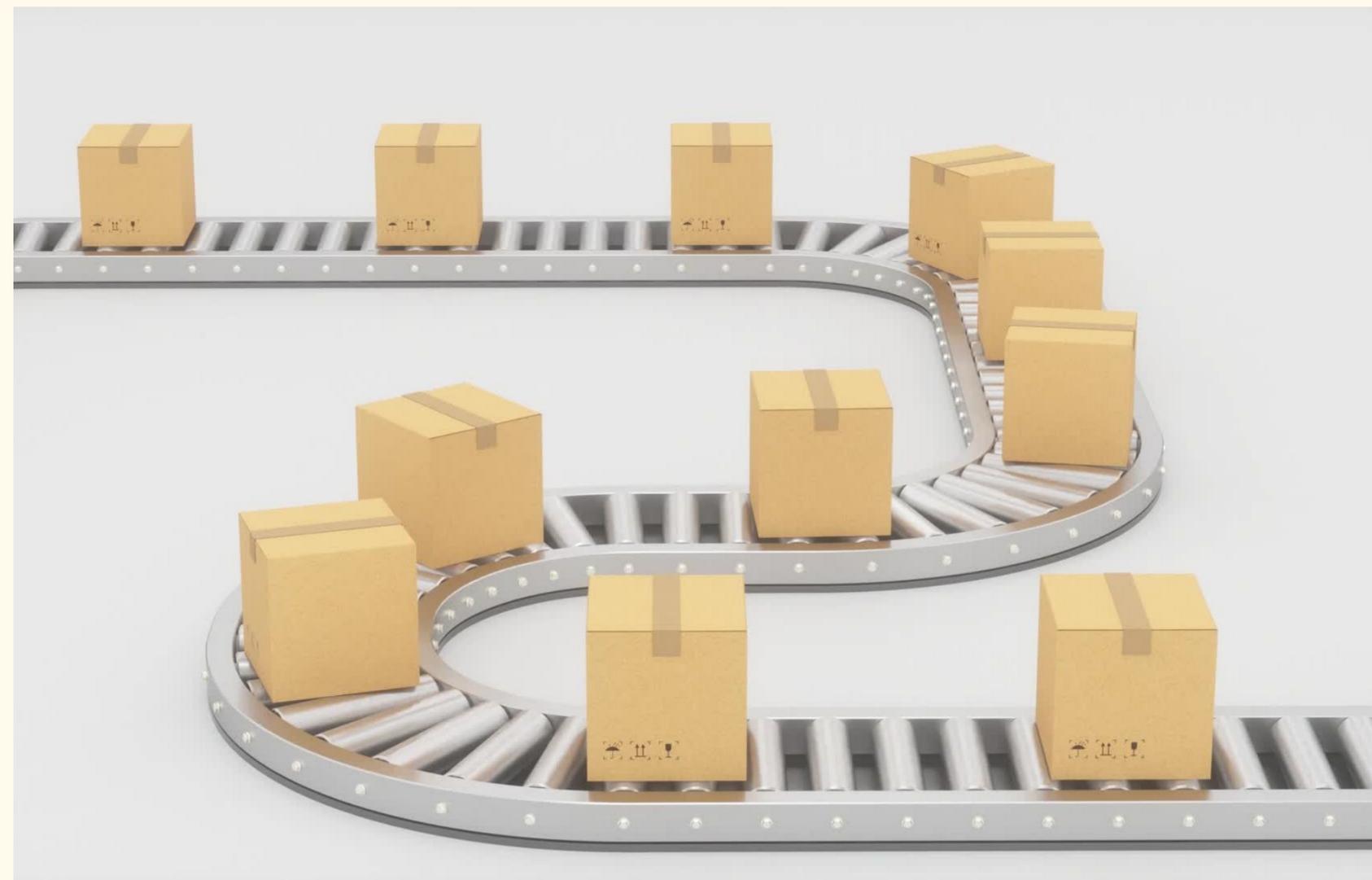
Principles of Citizen-Centred Service Delivery

Universal Accessibility

Design e-services to be usable by all citizens, including those with disabilities and limited digital skills.

Inclusive and participatory design

Incorporate feedback from diverse user groups to create services that reflect varied cultural and social needs.

Responsive and adaptive e-services

Implement adaptive systems that respond quickly to citizen feedback and changing needs for continuous improvement.

Citizen empowerment and feedback loops

Provide tools and resources that enable citizens to actively participate in service co-creation and decision-making.

Digital Inclusion and Accessibility

Understanding Digital Inclusion

- Digital inclusion ensures equal opportunities to access and use online services.

- Core dimensions: Access, Skills, Motivation, Affordability, Trust.

- It's both a technological and social challenge.

- Connected to the UN's Sustainable Development Goal 9 (digital access for all).

smarco

Policy Frameworks for Inclusion

- EU Digital Decade Policy Programme 2030 aims for universal connectivity and enhanced digital skills across member states.

- OECD's Inclusive Digital Transformation Framework promotes equitable access, digital literacy, and inclusive governance.

- National digital strategies (e.g., Greece, Portugal, Denmark) tailor inclusion efforts to local contexts and challenges.

- Public-private partnerships are vital to expanding infrastructure, affordability, and training initiatives.

- Policies emphasize both technological access and social empowerment to bridge digital divides effectively.

Accessibility Standards for Inclusive e-Services

- Accessibility standards set clear guidelines to make digital services usable for all citizens, including those with disabilities. Key standards include WCAG 2.1, which defines criteria for perceivable, operable, understandable, and robust web content, and EN 301 549, the European standard for ICT accessibility.

- Design principles such as 'Design for All' emphasize usability, readability, and adaptable interfaces that accommodate diverse user needs and preferences.

- Incorporating accessibility testing throughout the e-service development cycle ensures compliance and identifies barriers early.

- A notable example is the UK GOV.UK portal, which integrates accessibility frameworks to provide equitable access, demonstrating best practices in inclusive digital service design.

- Accessibility compliance ensures **equal access to digital public services**, not just legal conformity.
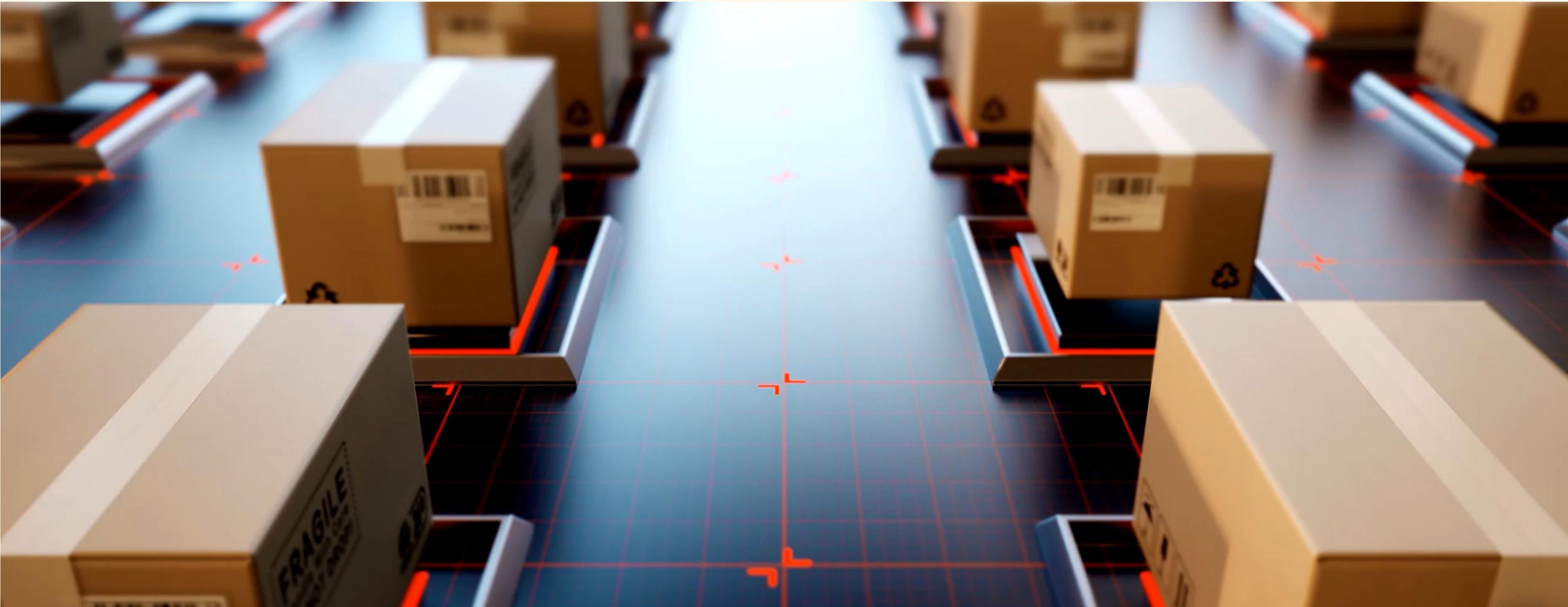
Barriers to Citizen Participation in e-Services

Socio-economic & Demographic

- **First-level divide:** lack of access and devices.
- **Second-level divide:** lack of skills and confidence.
- **Third-level divide:** inequality in benefits and participation.
- Gaps widen across **age, income, education, geography.**
- Socioeconomic and Demographic Barriers
  - Older adults, rural populations, low-income and minority groups.
  - Language and literacy limitations.
  - Accessibility gaps for persons with disabilities.
  - Importance of *targeted outreach programs.*

smarco

Trust, Privacy, and Security as Adoption Barriers

- **Citizens** hesitate when they **don't trust how data is used.**
- Cybersecurity incidents and misinformation reduce adoption.
- Transparent governance and clear communication **increase confidence.**
- Example: GDPR as a trust-building mechanism.

19

Participation through Digital e-Service Platforms

smarco

Participatory Approaches: What They Are & Why They Work

- Citizen-centred and participatory approaches place the needs, experiences, and voices of citizens at the core of digital service design and governance. These methods move beyond traditional top-down models by actively involving users through co-design workshops, focus groups, and digital consultations. Such engagement ensures that e-services reflect real-life needs, increase accessibility, and are more inclusive.

- Participatory tools like living labs and online platforms enable iterative testing and feedback, fostering innovation and continuous improvement. This collaborative process builds trust, transparency, and a sense of ownership among citizens, ultimately leading to higher adoption rates and more effective public services.

- Participation transforms citizens from **service users into co-designers of e-services**.

Methods of Citizen Participation

01 **Participatory Techniques for Engagement**

- Co-design workshops enable citizens to shape service features and usability.

- Focus groups gather targeted feedback from specific user demographics.

- Digital consultations use online surveys and forums for broader input.

- Living labs provide real-world environments to test and refine services.

- Participatory budgeting allows citizens to influence local spending priorities.

02 **Benefits and Outcomes**

- Increases transparency and accountability in public service design.

- Builds trust by involving users directly in decision processes.

- Improves service relevance and accessibility through user insights.

- Encourages civic empowerment and stronger community bonds.

- Fosters innovation by incorporating diverse perspectives and ideas.

Civic Tech Tools Enabling e-Service Participation

- Civic tech tools enhance citizen participation in digital governance. Platforms like Decidim (Barcelona), CitizenLab (Belgium), and Consul (Madrid) enable citizens to contribute ideas, vote, and collaborate with policymakers.

- These tools use open-data APIs for transparency and co-innovation. Gamification and mobile apps boost engagement by making participation accessible and enjoyable.

- Helsinki's "Participatory City" initiative showcases how digital platforms foster inclusive governance and community involvement.

- These platforms act as **interfaces between citizens and digital governance.**

smarco

Literacy & Outreach

Building Digital Literacy

- **DigComp 2.2**: 5 competence areas (information, communication, content creation, safety, problem-solving).

- Essential for citizens, educators, and public employees.

- Digital literacy = confidence, critical thinking, and online safety.

- Skills programs reduce exclusion and build resilience.

Communication and Outreach Strategies

- Utilize multichannel communication including websites, SMS alerts, social media, and in-person events to reach broad audiences.

- Design plain-language interfaces and provide multilingual resources to ensure accessibility for non-native speakers and those with limited literacy.

- Conduct awareness campaigns highlighting new digital services, data protection rights, and benefits of e-service use.

- Establish citizen helpdesks and one-stop digital assistance points to offer personalized support and troubleshooting.

- Partner with community organizations and libraries to extend outreach and provide training tailored to local needs.
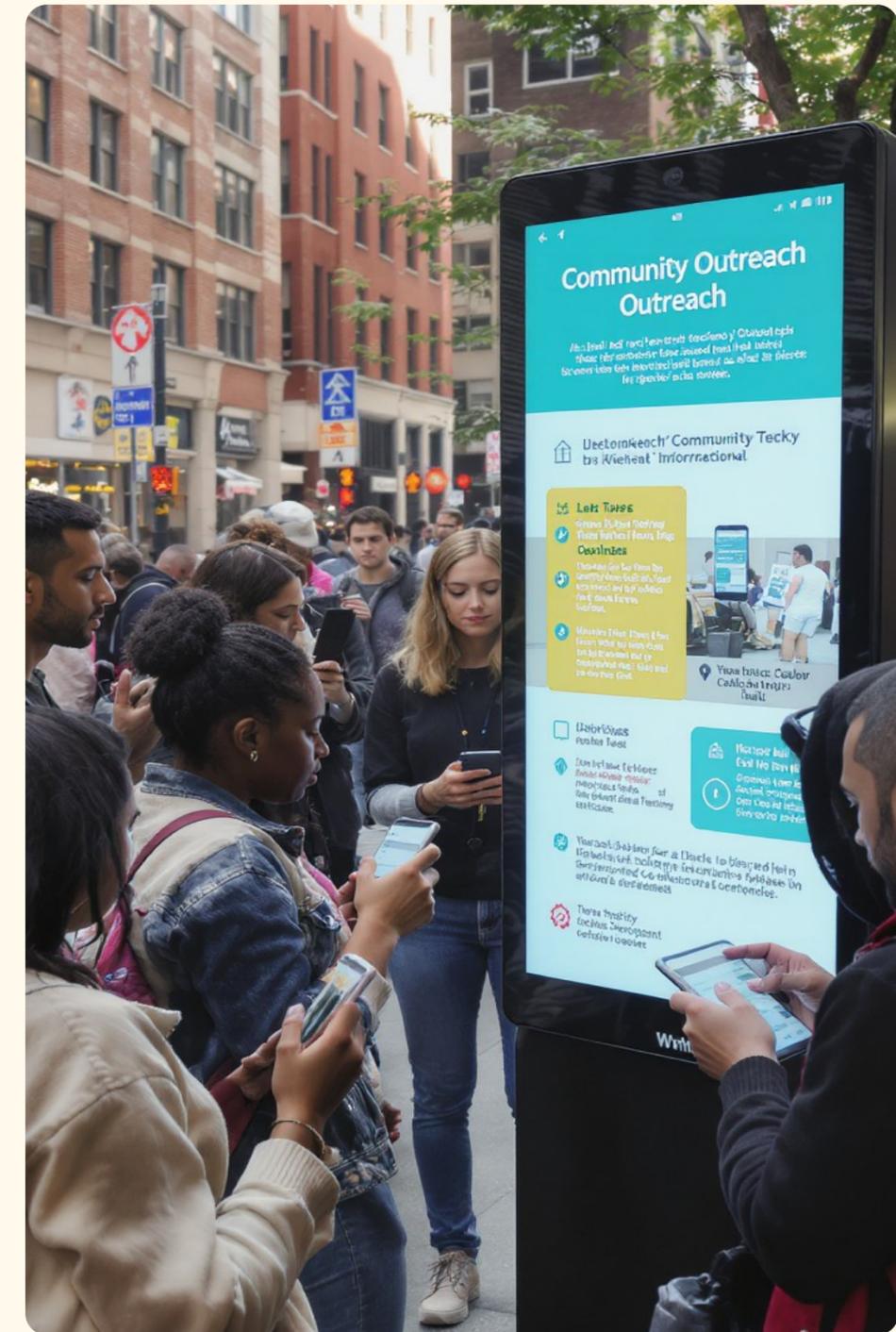
Building Trust in Digital Services

- Trust built through **security, transparency, and consistency.**
- Ethical data use and explainable AI build confidence.
- "Trust-by-design" approach in public technology.
- Example: Estonia's *Blockchain-based e-Governance verification.*
- Trust determines **whether citizens choose digital services over traditional channels.**

27

Benchmarking & Best Practices

smarco

Benchmarking e-Services: Purpose & How It Helps

- Benchmarking e-services involves systematically comparing digital public services across cities or regions to evaluate their effectiveness, accessibility, and user satisfaction. This process helps identify what works well and highlights areas for improvement by analyzing metrics such as service availability, user engagement, data security, and inclusiveness.

- Leading smart cities like Tallinn, Barcelona, and Vienna utilize benchmarking to adopt innovative practices like the "Once-Only" data principle, open data portals, and inclusive mobility apps. By benchmarking, public administrations can learn from peers, promote transparency, and drive citizen-centred digital transformation that ensures equitable access for all users.

Bencharking Focus Areas & Frameworks

Purpose of Benchmarking

Benchmarking helps cities evaluate their e-service delivery by comparing performance against best practices and standards to identify strengths and areas for improvement.

Key Focus Areas

Core areas include accessibility, citizen participation, interoperability of systems, trust in digital platforms, and fostering innovation in service design.

Frameworks and Tools

Widely used frameworks include the Digital Economy and Society Index (DESI), OECD Smart City Indicators, and the UN E-Government Survey, guiding cities in structured assessment.

Benefits for Cities and Citizens

Benchmarking drives transparency, promotes inclusive digital services, enhances user trust, and supports continuous innovation to meet evolving citizen needs.

Case Study: What Leading Cities Do Wel
Tallinn: Digital Governance and the "Once-Only" Principle

- Tallinn's e-Estonia platform exemplifies the "Once-Only" principle, where citizens provide data once for use across all public services. This is enabled by the X-Road data exchange, a secure infrastructure connecting public and private databases.

- The universal digital identity (e-ID) allows access to over 99% of services online, from healthcare to voting. This system boosts convenience, trust, and transparency while reducing administrative burdens and enhancing inclusiveness.

Tallinn: Digital Governance and the "Once-Only" Principle

e-Estonia platform connects all public services via the X-Road data exchange.

Citizens only provide data once; information reused securely across services.

Universal digital identity (e-ID) enables access to over 99% of public services online.

High citizen trust through transparency and data protection policies.

Barcelona: Open Data and Citizen Co-Creation

- Barcelona leads in using open data to boost citizen engagement and co-creation. Its open data portal offers free access to datasets on mobility, environment, and infrastructure, enabling innovation.

- The city promotes participation through "Decidim Barcelona," a platform for citizen input on policies and urban planning. Residents propose ideas, vote, and track projects.

- This approach enhances transparency, trust, and inclusiveness, making governance more democratic and responsive while improving service quality.

Barcelona: Open Data and Citizen Co-Creation

Open Data BCN portal promotes citizen innovation and collaboration.

Use of living labs and participatory design workshops for service improvement.

Digital services focused on mobility, energy efficiency, and public engagement.

Strengthened inclusion through co-creation and accessibility standards.

Vienna: Smart Mobility and Social Inclusion

- WienMobil app integrates public transport, cycling, and shared mobility options.

- Interface designed for universal accessibility (elderly, disabled, tourists).

- Data-driven service ensures affordability and environmental sustainability.

- Demonstrates how inclusive design improves both usability and adoption

35

Vienna: Smart Mobility and Social Inclusion

- The WienMobil app integrates various transport modes including public transit, cycling, and shared mobility into a single platform for ease of use.

- The app interface is designed with universal accessibility in mind, catering to elderly users, people with disabilities, and tourists by providing clear navigation and multiple language options.

- Data-driven insights help optimize routes and pricing, ensuring affordable, efficient, and environmentally sustainable transport choices.

- Social inclusion is prioritized by making mobility options accessible to all socio-economic groups, reducing barriers to urban mobility and participation.

- Vienna's approach highlights the role of inclusive design in increasing both usability and adoption of smart city services.

Seoul: Smart City Platform and Citizen Engagement

- Seoul's Smart City Platform integrates advanced technologies such as AI and IoT to improve key urban functions including safety, traffic management, and environmental monitoring.

- The city's "Smart Seoul Citizens" program focuses on building digital literacy by offering training in community centers, targeting diverse groups to reduce the digital divide.

- A pioneering pilot project involves a metaverse governance space, enabling citizens to interact virtually with municipal staff and participate in decision-making processes.

- Seoul emphasizes transparency and citizen participation, ensuring that digital transformation initiatives remain inclusive and responsive to community needs.

Metaverse Seoul

- 'Metaverse Seoul' intends to create a virtual communication ecosystem for all areas of its municipal administration

- The Seoul Vision 2030 plan refers to a shared 3D virtual world in which all activities can take place using augmented and virtual reality equipment.

- These platforms have gained popularity in recent years as people have shifted their activities online, especially in the midst of the COVID-19 pandemic.

38

Lisbon: Digital Inclusion and Skills Empowerment

- Lisbon's Digital Inclusion Programme offers digital skills training in community tech centers, focusing on low-income groups, elderly, and marginalized citizens. Partnerships with NGOs and private companies help widen access and ensure cultural sensitivity.

- The program bridges generational and socio-economic gaps, linking skills development to citizen empowerment and greater participation in digital public services.

Comparative Insights: What Makes Them Work

- Shared principles: citizen-centred design, interoperability, data transparency, trust.

- Collaboration between governments, private sector, and communities is key.

- Strong digital literacy strategies support inclusion and confidence.

- No one-size-fits-all model: success depends on local needs and governance maturity.

Conclusions

- **Benchmarking reveals how inclusion and performance go hand in hand.**

- **Leading cities invest in trust, co-creation, and continuous innovation.**

- **Inclusive e-services are not just digital, they are social systems built around people.**

- **Prepares learners for real-world application and policy integration.**

- **Inclusive e-services are social systems, not just digital platforms.**

- **Citizen participation strengthens trust, legitimacy, and adoption.**

Unit 3 completed! – What's next?

- To consolidate your learning and reflect on the key concepts covered, please take a moment to complete this quiz.

- Your feedback and results will help you track your progress and support continuous improvement of the training experience.

- By completing this quiz, you will also become eligible to receive a certificate of successful training completion.

Click the [link](#) to begin the quiz!

smarco

References & Further Readings

- **European Commission.** (2022). *Digital Decade Policy Programme 2030.* Brussels: European Commission.

- **OECD.** (2023). *Inclusive Digital Transformation in Cities: Building Equitable Smart Communities.* Paris: OECD Publishing.

- **Helsper, E. J.** (2021). *The Digital Disconnect: The Social Causes and Consequences of Digital Inequalities.* Cambridge: Polity Press.

- **Vuorikari, R., Kluzer, S., & Punie, Y.** (2022). *DigComp 2.2: The Digital Competence Framework for Citizens.* Luxembourg: Publications Office of the European Union.

- **Bannister, F., & Connolly, R.** (2020). *Trust and Transparency in E-Government: Building Citizen Confidence. Information Polity, 25*(1), 67–84.

- **OECD.** (2020). *Innovative Citizen Participation and New Democratic Institutions: Catching the Deliberative Wave.* Paris: OECD Publishing.

- **e-Estonia.** (2023). *The Digital Society: How Estonia Built a Digital Nation.* Retrieved from https://e-estonia.com

- **Ajuntament de Barcelona.** (2023). *Open Data BCN Portal and Decidim Platform.* Retrieved from https://opendata.bcn.cat

- **City of Vienna.** (2022). *Smart City Wien Framework Strategy.* Retrieved from https://smartcity.wien.gv.at

- **UN-Habitat.** (2022). *People-Centred Smart Cities Playbook.* Nairobi: UN-Habitat.

SMARCO

SMARt COmmunities Skills Development in Europe

🌐 www.smarco.eu

✉ info@smarco.eu

We are social! Follow us on:

📷 @smarcoproject

in @smarcoproject

▶ @smarcoproject

smarco