



Module 02

LuminaCity

Design Thinking and Social Innovation for Cities

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www.luminacity.eu

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INTRODUCTION

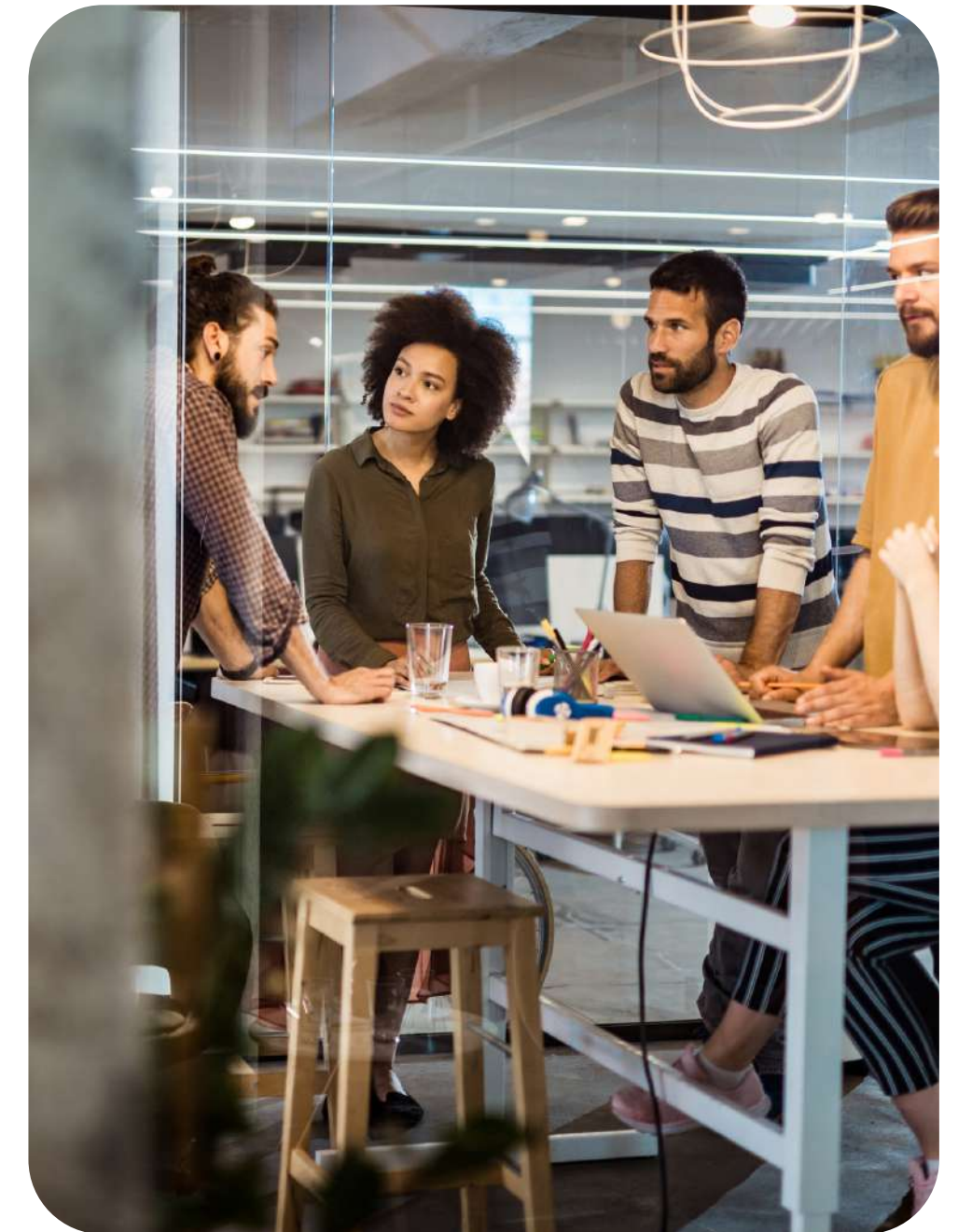
Cities today face increasingly complex social, environmental, and economic challenges that require innovative and collaborative approaches. Design Thinking provides a human-centred methodology for understanding citizens' needs, while social innovation encourages communities, governments, and organizations to co-create sustainable solutions. Together, these approaches help build more inclusive, resilient, and livable cities.

WHAT IS DESIGN THINKING?

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Design Thinking is not just a creative methodology; it is a structured, human-centred approach to innovation that integrates human needs, technological possibilities, and economic or systemic viability to solve complex problems.

- People First: It starts with deep empathy—putting yourself in the shoes of the people who live and work in the city.
- The Three Rules: A great urban solution must be Desirable (people want it), Feasible (technology can build it), and Viable (the city can afford it).
- Learn by Doing: It is a loop of trying, failing, learning, and improving. We create quick, cheap models (prototypes) to test ideas before spending a lot of money.



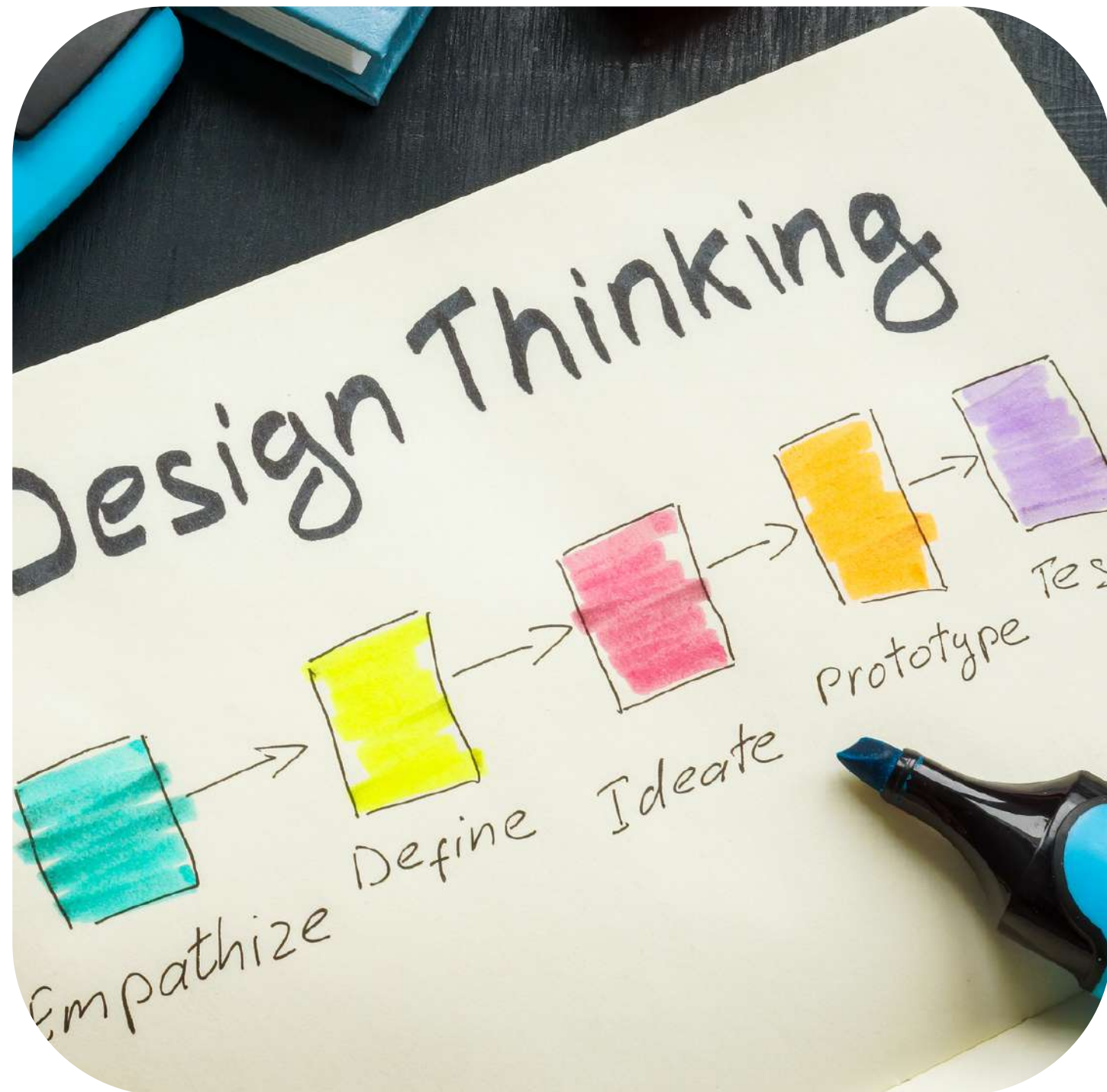
WHY CITIES NEED DESIGN THINKING

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Cities are growing faster than ever, and our old ways of planning can no longer keep up. Traditional top-down planning often misses the real, daily struggles of the people who actually use public spaces.

- Our Problems are Connected: Issues like traffic, pollution, and housing are linked. You cannot fix one without affecting the others.
- No More Expensive Mistakes: Building public projects without asking citizens leads to empty parks, unused bike lanes, and wasted public funds.
- Rebuilding Citizen Trust: When people help design their own neighborhoods, they take care of them, feel valued, and trust their local government more.

THE DESIGN THINKING PROCESS



To design better cities, we use a proven five-stage process. This is not a strict, one-way street; it is a flexible loop where we constantly go back and forth to learn more and make our ideas better.

- 1. Empathize (Learn): We talk to residents and observe daily life to understand what people really need and feel.
- 2. Define (Focus): We use what we learned to find the real, core problem we need to solve.
- 3. Ideate (Brainstorm): We think of as many creative solutions as possible. No idea is a bad idea at this stage.
- 4. Prototype (Build): We build quick, cheap, and simple models of our best ideas to make them real.
- 5. Test (Try): We put our prototypes in the real world and let citizens try them so we can get honest feedback.

EMPATHIZE: UNDERSTANDING PEOPLE

Empathy means understanding:

- People's experiences
- Needs
- Emotions
- Daily challenges

Methods

- Interviews
- Observation
- Community workshops
- Surveys

Goal

- Design with people—not just for people.





DEFINE THE URBAN CHALLENGE

City problems are usually too big and messy to solve all at once. To find a real solution, we must shrink the problem down into a clear, focused, and human-sized question.

- Don't Solve "Everything": We cannot fix "all of transit" or "all of pollution" in one day. We must pick one specific part of the problem to focus on.
- The "How Might We" (HMW) Question: We turn our problem into an open, positive question. For example: "How might we make the dark bus stop feel safer for late-shift workers?"
- Focus on People, Not Tools: A good problem definition does not say "we need an app." It says "we need to help people feel safe and informed."

IDEATION: GENERATING CREATIVE SOLUTIONS

Ideation is the stage where we open our minds and think of as many solutions as possible. We do not try to find the "perfect" answer right away. Instead, we encourage wild, creative, and diverse thinking to discover unexpected solutions for our neighborhoods.

- Go for Quantity: We want a high volume of ideas. The more suggestions we put on the table, the higher our chances of finding a truly unique and working solution.
- Defer Judgment: There are no bad ideas during brainstorming. If we start criticizing or saying "that's too expensive" too early, we kill creativity and silence quiet voices.
- Build on Existing Ideas: We use the phrase "Yes, and..." to connect different thoughts. We combine simple ideas from different people to create stronger, more complete solutions.



PROTOTYPE AND TEST

Prototyping and testing are the stages where we stop talking and start building. Instead of spending months arguing in meeting rooms, we build cheap, temporary versions of our ideas to see how they work in the real world.

- **Build to Learn:** We create simple, physical models using cheap materials like wood, paint, or cardboard. Building helps us spot hidden design flaws immediately.
- **Fail Fast, Fail Cheap:** If a temporary chalk bike lane fails or is confusing to drivers, we only lose a few hundred dollars. If we build a concrete bike lane that fails, we waste millions.
- **Co-Design with Users:** We don't just watch residents use the prototype; we ask them to help us change it. Testing is an ongoing conversation with the neighborhood.





WHAT IS SOCIAL INNOVATION?

social innovation develops new solutions that improve society.

It focuses on:

- Inclusion
- Sustainability
- Community well-being
- Equity

Examples:

- Community gardens
- Sharing economy
- Digital citizen services

URBAN CHALLENGES TODAY

Major challenges include:

- Affordable housing
- Pollution
- Climate resilience
- Aging populations
- Homelessness
- Waste management
- Public transportation
- Social exclusion





IDENTIFYING URBAN CHALLENGES

Cities identify problems through:

- Citizen feedback
- Open data
- Community meetings
- Digital platforms
- Environmental monitoring

Evidence-based decisions improve outcomes

HUMAN-CENTRED PROBLEM SOLVING

Human-Centred Problem Solving means that we build our cities around people, not around cars, concrete, or budgets. To create a successful neighborhood, we must focus on how physical spaces affect the everyday lives and feelings of the citizens.

Key questions:

- Who is affected?
- What do they need?
- What barriers do they face?
- How can we improve their experience?

People are at the centre of every solution.



STAKEHOLDER COLLABORATION

Successful innovation requires collaboration among:

- Citizens
- Local government
- Businesses
- NGOs
- Universities
- Startups

Working together creates better solutions.



DEVELOPING COMMUNITY SOLUTIONS

Developing community solutions means taking our best ideas and turning them into real, lasting projects. To make sure these projects succeed, we must design them side-by-side with the residents who will use them every day.

- Workshops, Not Meetings: We gather residents, local business owners, and city engineers in the same room. Together, we draw maps, write down plans, and debate ideas on equal ground.
- Balancing Passion and Reality: We filter our ideas using three simple tests: Do people love it? Can our technology build it? Can the city afford to keep it running?
- Creating Local Pride: When neighbors help build a community garden, paint a crosswalk, or plan a local library, they take care of it. Local ownership is the best security system for any city project.

DESIGNING A BICYCLE-FRIENDLY CITY

- Results of human-centred planning:
- Extensive cycling infrastructure
- Reduced traffic congestion
- Lower emissions
- Healthier citizens
- Improved quality of life



TOOLS FOR URBAN INNOVATION

Useful tools include:

- Journey Mapping
- Personas
- Service Blueprints
- Design Sprints
- GIS Mapping
- Digital Twins
- AI-assisted planning



MEASURING IMPACT

Successful projects measure:

Social impact

Environmental impact

Economic value

Citizen satisfaction

Accessibility

Equity

"What gets measured gets improved."



FUTURE CITIES

True urban innovation is about combining modern technology with basic human needs to create spaces where everyone can thrive.

- The Six Pillars of Future Cities:
- Smart & Citizen-Centred: Using digital data to make daily services (like transit and waste) simpler, faster, and friendlier for real people.
- Green & Sustainable: Protecting our environment with clean energy, walkable streets, and abundant neighborhood parks.
- Inclusive & Resilient: Building neighborhoods where every resident feels safe and welcome, and structures that can bounce back from climate or economic shocks.
- Tech Serves Humanity: Technology is just a tool. Our focus must always remain on how that tool improves the physical, mental, and emotional lives of the citizens.

CONCLUSION

Key Takeaways

- Design Thinking starts with empathy.
- Urban challenges require collaborative solutions.
- Social innovation improves quality of life.
- Citizens should participate in designing their cities.
- Small ideas can create significant urban transformation.

"The best cities are not only smart—they are designed with people, for people."





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