



PROMOTING URBAN DIGITAL TWIN FOR SUSTAINABLE URBAN POLICIES: INTERNATIONAL PERSPECTIVE

PRELIMINARY INSIGHTS FROM THE SUBNATIONAL GOVERNMENT SURVEY

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01 About this project: what OECD will deliver

OECD Research Focus

1. Current UDT initiatives and use cases across OECD
2. Benefits and measurable impacts
3. Governance, standards & interoperability
4. Data ownership, privacy & security
5. Interoperability and scaling adoption
6. AI applications in urban digital twins

OECD Survey on Urban Digital Twin

**Survey for
National
Governments**

**Survey for
Subnational
Governments**

01

OECD Report on Urban Digital Twins

Global assessment of use cases, challenges and opportunities across OECD and partner countries

02

OECD Toolkit for Governments

Practical guidance on developing and scaling urban digital twins

03

International peer-learning events

Deep-dive seminar (Geospatial Lab), Smart City Roundtable

02

Details OECD Survey on Urban Digital Twin

1. Urban digital twin configuration

2. Institutional & governance choices

3. Data & platform architecture

4. Interoperability & scaling capacity

Preliminary key
insights in the
following slides



03

Governance is largely local, with limited institutional coordination

What is the geographic scope of your UDT?

Entire city 61%

District/ neighbourhood 23%

Entire country 3%

How does your city/region report or communicate information to the national government regarding your UDT? (Select all that apply)

Reporting linked to national programmes, grants or funding 38%

No direct reporting to the national government 18%

How is horizontal coordination across government/local departments ensured in the governance of the UDT in your city/region? (Select all that apply)

Informal coordination between departments 35%

No dedicated mechanism 32%

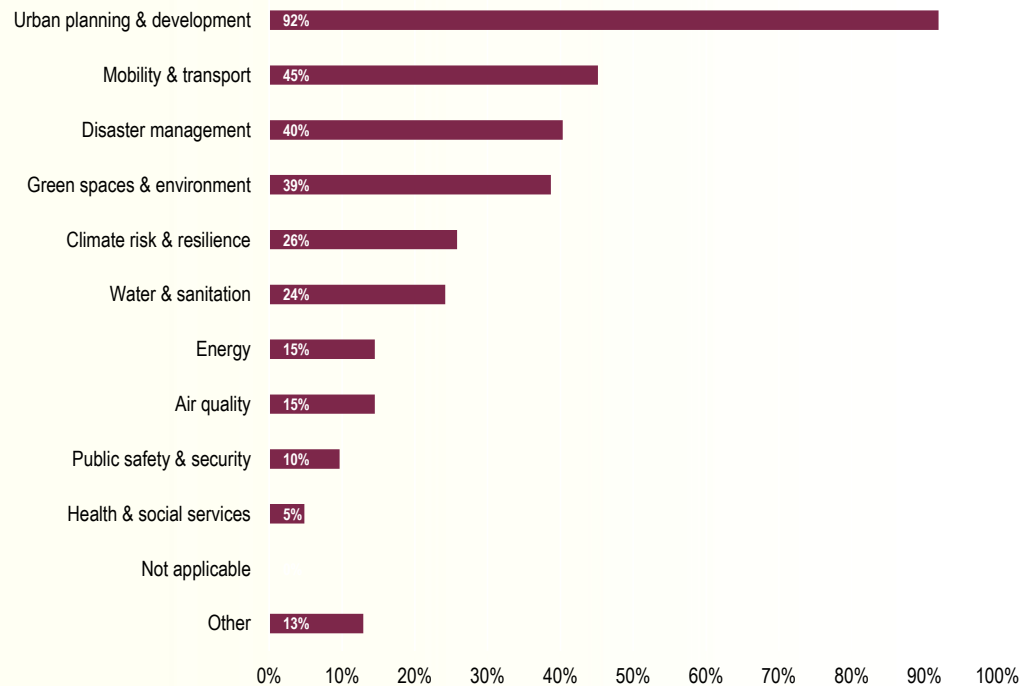
Formal cross-departmental governance body or working group 15%

(n=62)

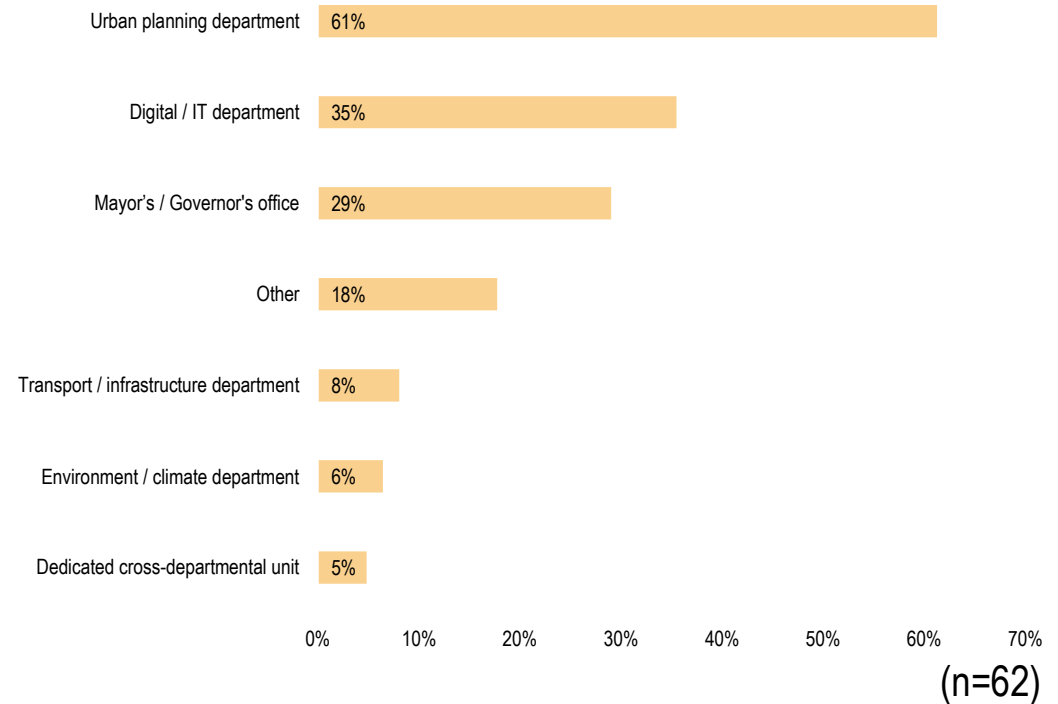
04

Urban planning dominates the use of urban digital twin

Which application domains are covered by your UDT?
(Select all that apply)



Which city/region department or office holds primary strategic responsibility of the UDT initiative?



05

Most UDTs are still static digital models

Which of these options best describes the technical maturity of your UDT?

Static Digital Model

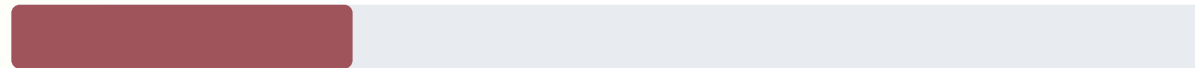
3D/2D visualisation with limited analytics; mostly static data



48%

Analytical Digital Twin

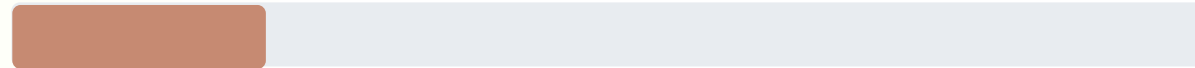
Multiple datasets integrated; dashboards and analytics



21%

Predictive Digital Twin

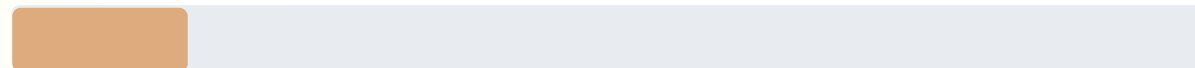
Predictive modelling, forecasting or simulation of urban systems



15%

Prescriptive Digital Twin

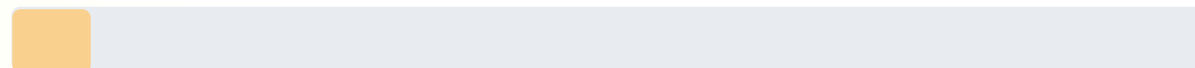
Advanced simulations and scenario planning supporting policy



10%

Autonomous Digital Twin

Real-time AI integration and automated decision support

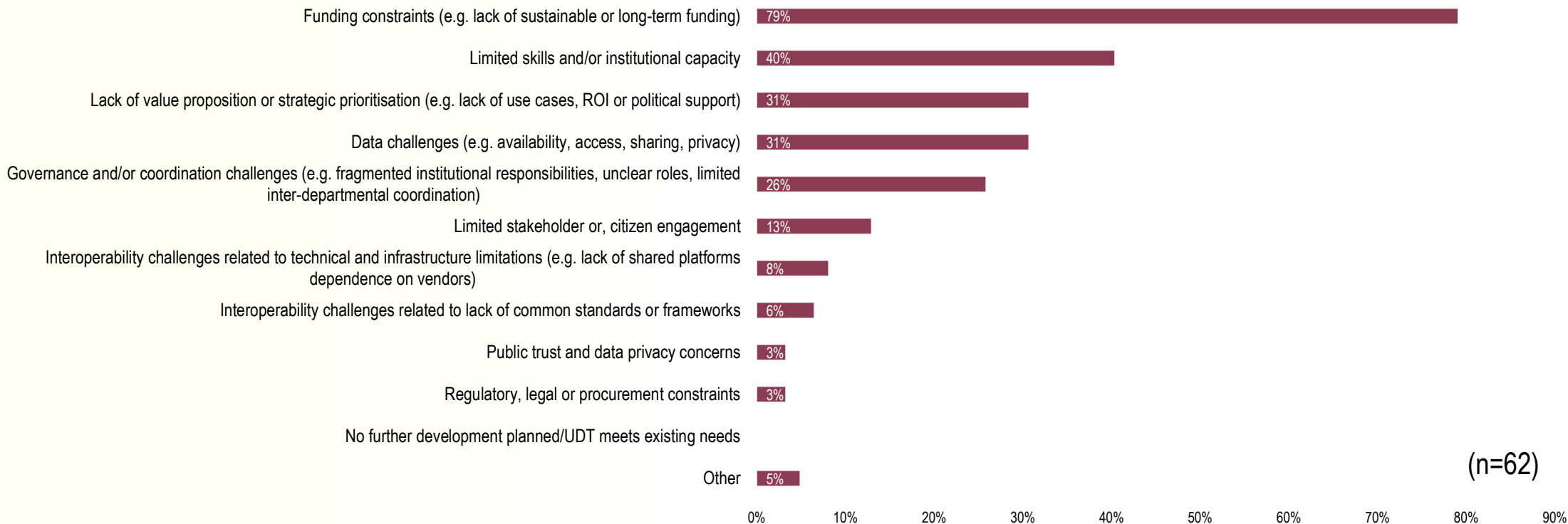


2% (n=62)

06

The biggest challenge is not technology: it is sustainable funding

What are the main barriers to further developing your UDT? (Select top 3 options)



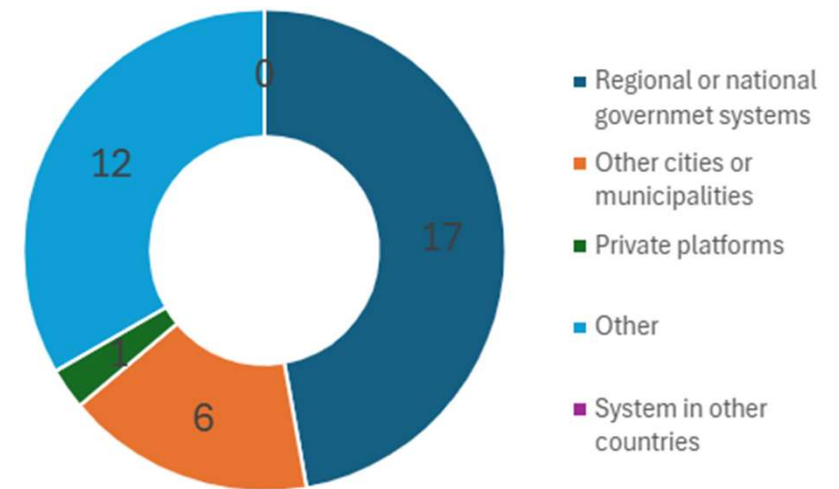
07 Interoperability remains a major scaling challenge

What are the primary types of data used in the UDT of your city/region? (Select all that apply)

Geospatial data (e.g. 2D/3D city models, cadastral data, land use, topography)	94%
Urban/regional planning and regulatory data (e.g. zoning plans, land-use plans)	56%
Earth Observation data (e.g. satellite imagery, aerial imagery, LiDAR, Mobile Mapping Systems – MMS)	45%
Administrative data (e.g. building permits, land registry, tax records, business registry, customs data)	31%
Mobility and transport data (e.g. public transport data: traffic flows, GPS data, mobility services)	23%

(n=62)

Is your UDT interoperable with other UDTs? If yes, to what extent?



(n=number of cities)

08

Current and upcoming activities

**Urban Digital Twin
Kick-off meeting**

Feb 2026

**Urban Digital
Twin Seminar
(Geospatial Lab)**

September 2026

**Roundtable
on Smart
City**

2 Dec 2026



**Launch of
report**
January
2027

OECD Survey on Urban Digital Twin

Thank you!



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<https://www.oecd.org/en/about/programmes/the-oecd-laboratory-for-geospatial-analysis.html>

