



13th International School on Digital Government

# OPENGOV2026 IDEATHON

## OikosWatch: An Open-Data Observatory to Diagnose, Monitor & Assess Heraklion's Housing Crisis

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# Housing crisis diagnosis



*Heraklion shows the classic profile of a tourism-displacement crisis, not a pure supply shortage.*

## 70%+

Regional home prices have risen over 70% since 2017 (Bank of Greece), well above the national average.

## STR > lease

A large share of rental stock has shifted to short-term letting, since owners earn materially more from STR than long-term leases.

## No single answer

Ownership and vacancy status are fragmented across the Cadastre, tax registry (E9), and municipal records — no authority can say how many usable vacant units exist, and where.

## Seasonal displacement

Professionals relocating for work (doctors, teachers) in touristic areas struggle to find housing, often forced out when owners shift to STR for the season.

# Open data gathering & OikosWatch



## OikosWatch

A live tool monitoring the ratio of short-term to long-term rental listings across Heraklion's neighbourhoods, alongside vacancy and registration data — giving authorities a continuously updated picture of housing use.

**Rather than commissioning new surveys, this proposal integrates existing open and semi-open datasets into a single live layer.**

### National / EU sources

Provide context and identify the main trends behind the crisis: price growth, overburden rates, STR regulation.

### Local / Heraklion sources

Provide the direct, granular evidence needed to act: municipal-level prices, vacancy, and STR data.

*All sources are open data, with one exception: the Hellenic Cadastre, whose parcel-level records require credentialed access.*

# Data sources at a glance

| Source                                        | What it provides                                        | Frequency             | Link                                                                                       |
|-----------------------------------------------|---------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------|
| Hellenic Cadastre — Unified Property Register | KAEK-based ownership & parcel data                      | Rolling (~92% mapped) | <a href="http://gov.gr/.../ktematologio-ae">gov.gr/.../ktematologio-ae</a>                 |
| ELSTAT                                        | Regional housing cost, tenure status, overburden rate   | Annual                | <a href="http://statistics.gr/en/2021-census">statistics.gr/en/2021-census</a>             |
| Bank of Greece                                | Regional property price index                           | Quarterly             | <a href="http://opendata.bankofgreece.gr">opendata.bankofgreece.gr</a>                     |
| Eurostat                                      | Housing cost overburden rate, EU-comparative            | Annual                | <a href="http://ec.europa.eu/eurostat/.../tessi164">ec.europa.eu/eurostat/.../tessi164</a> |
| Spitogatos Property Index                     | Live long-term rent/sale asking prices by neighbourhood | Continuous            | <a href="http://spitogatos.gr/en/property-index">spitogatos.gr/en/property-index</a>       |
| AirROI / AirDNA                               | STR listing counts, occupancy, compliance               | Monthly               | <a href="http://airroi.com/atlas/map">airroi.com/atlas/map</a>                             |
| Inside Airbnb                                 | STR listing counts, occupancy, compliance               | Monthly               | <a href="http://insideairbnb.com/crete">insideairbnb.com/crete</a>                         |

# Impact assessment



*The measures this proposal maps, using the same open-data layer.*

## STR-to-Long-Term Ratio

Active STR ÷ active long-term listings, by municipality.  
The leading, monthly-updatable signal that conversion is happening.

SOURCE: Spitogatos, AirROI, Inside Airbnb

## Cadastre registration rate

Share of properties formally registered (KAEK). Tracks how much housing stock is legally addressable.

SOURCE: Hellenic Cadastre (credentialed)

## Vacancy rate (proxy)

Share of dwellings vacant, 2021 ELSTAT census. Anchors the starting point; static until 2031.

SOURCE: ELSTAT

## Rent affordability index

Median rent ÷ median local income. The lagging indicator that matters most to residents.

SOURCE: Spitogatos + ELSTAT

# The role of AI



1

## Listing classification (NLP)

Automatically distinguishes short-term from long-term listings across scraped platforms, enabling the STR-to-Long-Term Ratio to be calculated continuously and at scale.

2

## Anomaly & speculation detection

Flags systematic speculative behaviour — properties cycling with tourist seasons, or clusters linked to the same owner — helping the Municipality prioritise where to intervene.

3

## Predictive targeting

Estimates the likelihood an STR owner accepts a conversion incentive, directing limited public resources (guarantees, tax exemptions) where uptake is most likely.

# Policy recommendations

5.1

## Reuse over new construction

Registration rate and vacancy proxy identify which buildings — private or public — are registered but unused, turning “reuse first” into an actionable list.

5.2

## Public investment alone isn't enough

A persistently high STR-to-Long-Term Ratio despite incentives signals private capital offsetting public investment — regulatory limits on investors are needed too.

5.3

## Regulation is a political choice

Cross-reading the ratio with affordability distinguishes real progress from cosmetic conversion. Florence pairs an STR freeze with a 3-year conversion tax incentive.

5.4

## Targeted, not prioritised, measures

Neighbourhood-level data supports differentiated action: STR limits, reuse incentives, or housing set-asides, matched to each area's specific need.

*Thank you!*

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