



OPENGOV
WEEK

Υποδομές ανοικτών χωρικών δεδομένων για διαφάνεια και ανάπτυξη

Βασίλειος Βεσκούκης, Καθ.ΕΜΠ

Μέλος ΔΣ Open Knowledge Greece

τ.Αντιπρόεδρος ΕΚΧΑ ΑΕ



Open Knowledge
Foundation

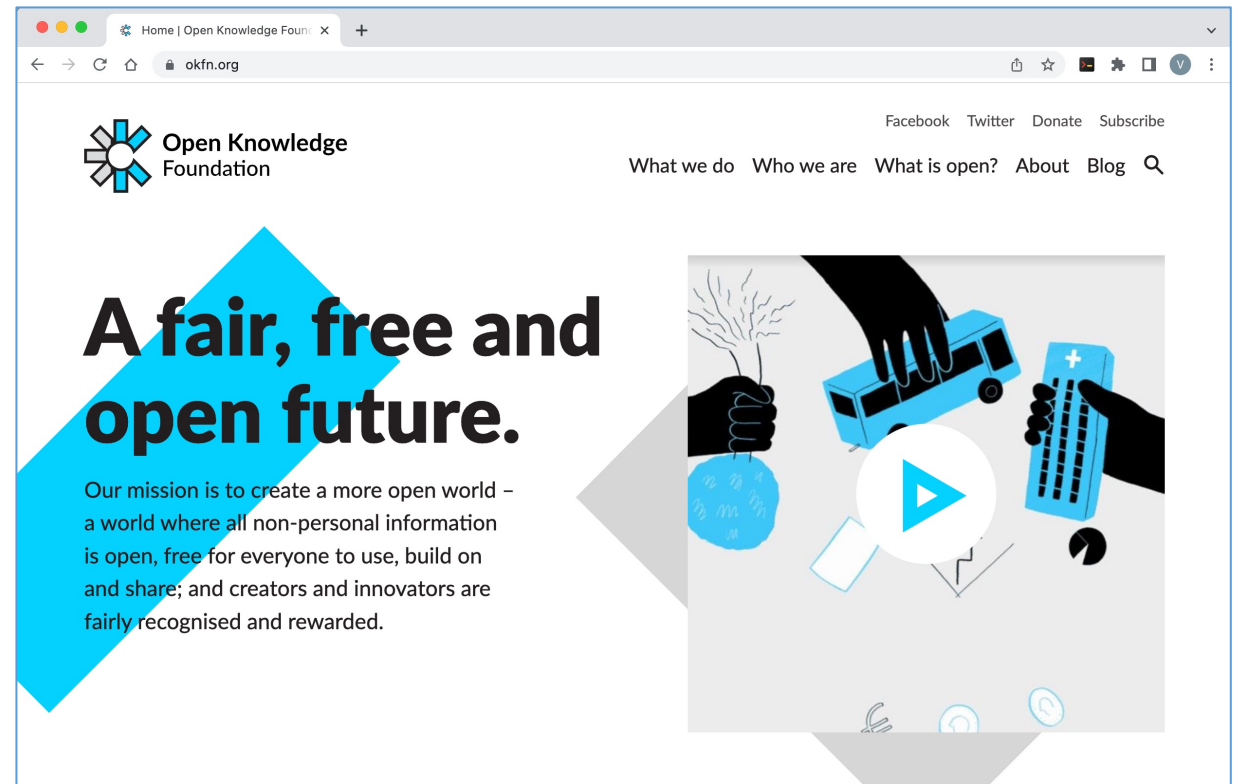


OPEN
KNOWLEDGE
GREECE

Open Knowledge Foundation <http://okfn.org>

The Open Knowledge Foundation (OKF) is a **nonprofit organization** that promotes **open knowledge**, including **open content** and **open data**.

It was founded on 24 May 2004, in Cambridge, UK.



Open Knowledge Foundation Network

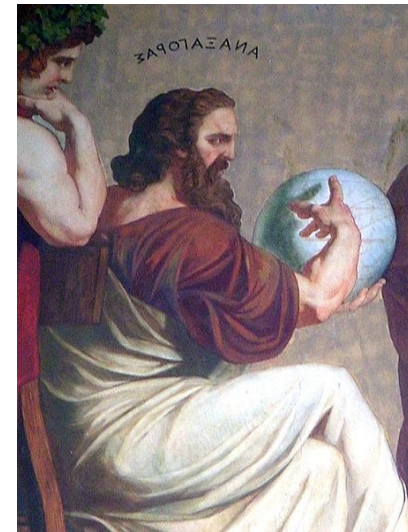


Ανοικτή Γνώση

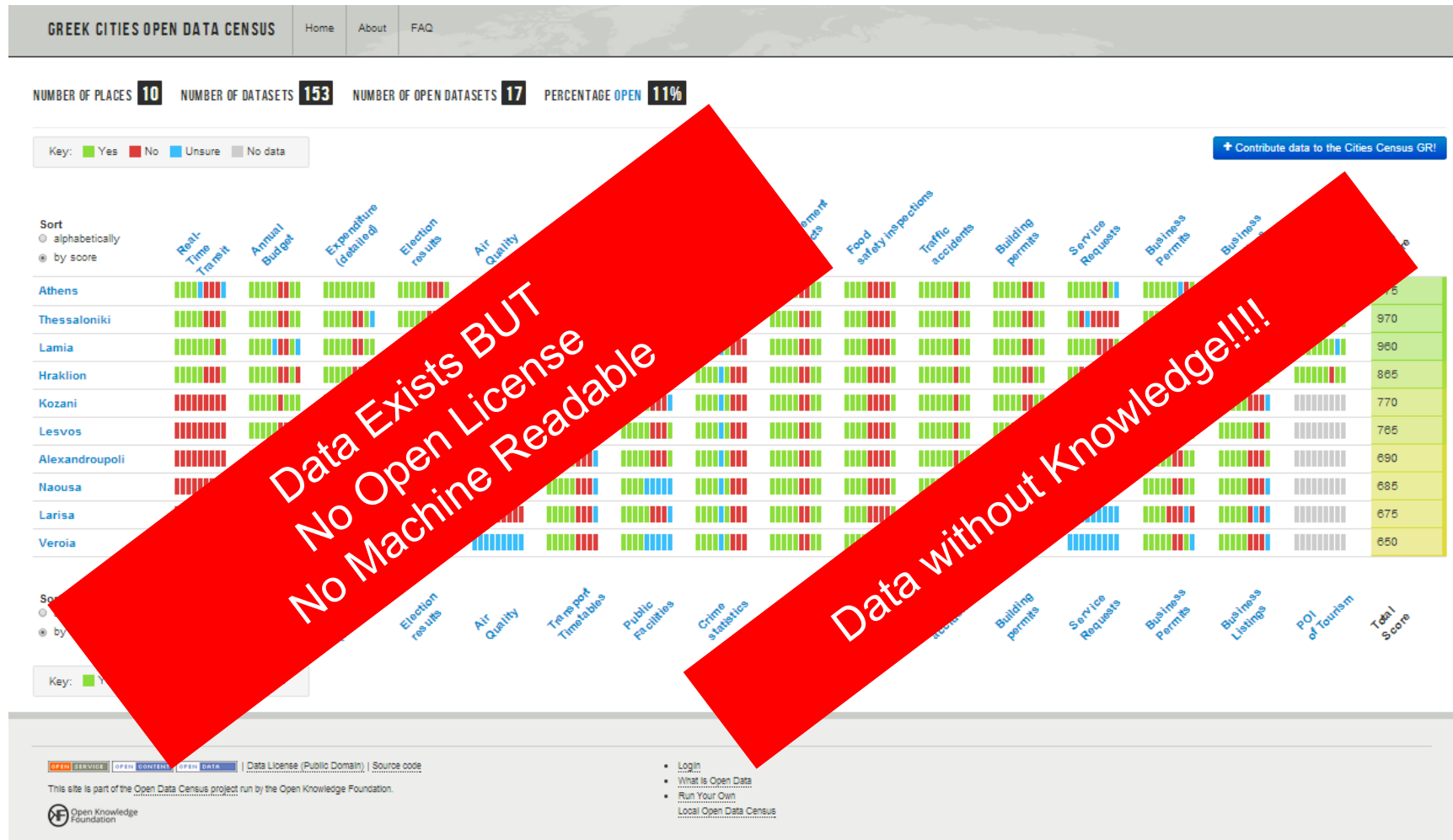
Open Knowledge

is what **Open Data** becomes when it is made **useful - accessible, understandable, meaningful,** and able to help someone **solve a real problem**

*εκτός από τον νου του κάθε ανθρώπου, υπάρχει και ο **Νους του κόσμου**, ο οποίος γνωρίζει τα επιμέρους στοιχεία και τα έθεσε στην αρχή της δημιουργίας του κόσμου*



Data Census in Greek Cities



Data Exists BUT
No Open License
No Machine Readable

Data without Knowledge!!!!

Ανοικτοί Προϋπολογισμοί

OpenBudgets.eu

OpenBudgets.eu is an EU-funded project, aiming to support journalists, civil society organisations, NGOs, citizens and public administrations, by providing an overview of public budget and spending data as well as related tools and stories, thus serving advocacy and fiscal transparency objectives.

Openness and transparency can act as a disincentive to corruption. The current lack of open budget and open transaction data makes it very hard for citizens and other stakeholders to get an overview on public spending. The comparison of budgets between administrative regions and other government levels proves even more difficult.

Tool: Key Performance Indicators (KPI)
What is the performance of my City in financial terms? How does my city finance compare to yours? How is this changing over time?
Key Performance Indicators (KPI) is a type of performance measurement, a set of quantifiable measures used to gauge an organization or company's performance over time.

On the case of Public Administration Organizations, KPIs can provide useful information about an organization's performance. Data in this format can be difficult to be fully understood by average people. KPIs are a compressed form of information. High volume of fiscal data can be summarized in a standardized way, offering a quick overview and understanding and can be used to compare effectiveness and performance. It is reflected by the published fiscal data.

We developed an application to manage and visualize KPIs. The application consists of a frontend for the visualization of KPIs and comparative analysis, an Administration Panel to build and define a KPI and a PHP API as a backend. The



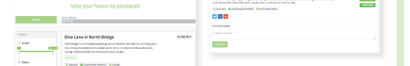
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Openness and transparency can act as a disincentive to corruption and also as a motivation to citizens' participation. Citizens and other stakeholders usually stay outside the budget and approval process, involved by citizens at lack of resources to discuss decisions and understanding of all stakeholders involved, thus strengthening the democratic process.

Tool: Participatory Budgeting Platform
This PB Platform is an open source tool for public administrations to allow citizens to express their budget preferences during the budget approval process. Citizens and other stakeholders usually stay outside the budget and approval process, involved by citizens at lack of resources to discuss decisions and understanding of all stakeholders involved, thus strengthening the democratic process.

The **Monitoring tool** helps citizens monitor budget transactions, compare budgeted figures vs. actual spending and give feedback to the administration process. It provides a platform for citizens to discuss decisions and understanding of all stakeholders involved, thus strengthening the democratic process. Public administrations can, among other tasks, create different proposals and categories, or add several tags to better identify proposals.



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Tool: Alignment
The power of Linked Data comes from the World Wide Web. Resources are linked to each other, with semantically defined relationships building large Knowledge Graphs. However, the links provided by an automated processes are not always valid or impossible to reuse algorithmically. This kind of work demands the experience and knowledge of domain experts, working collaboratively to produce high quality and valid links.

This was a case experience when trying to reach homogeneous results, based on fiscal datasets. To this end, we developed Alignment, an application for online collaborative, system-aided manual entity linking. The tool can be used to manually create links between two knowledge graphs or to automatically generate such links when given a number of entities to link. The procedure works through classification and fuzzy matching. The tool uses fuzzy, entity classification and fuzzy matching. The tool uses fuzzy, entity classification and fuzzy matching.

Follow the development of Alignment on our repo or try it.

Open Spending
OpenSpending is a solution that offers a set of components for working with fiscal data.

While OpenSpending is seen as a part of extension on the Open Budgeting and Spending platform, it also includes an API and other tools that allow the visualization of fiscal data in a variety of formats.

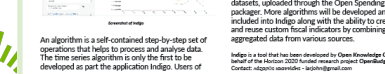
Key components include:
- ODS Package: an interactive data viewer that enables visualization of the budget data in a user-friendly way.
- ODS Viewer: a powerful application for the visualization of fiscal data in a variety of formats.
- ODS API: a REST API for querying fiscal data, used directly in the ODS viewer, and used for developing other components of the ODS components of the Open Spending platform.
- ODS Explorer: an app to search and discover datasets related to the Open Spending platform.



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Tool: Indigo
When budgets are discussed, the focus is often on adaptations and changes to the budget in many cases as reflections of indicators of changes in political priorities. Time series analysis helps such changes in budget and spending data to light.

Open Knowledge Greece, a chapter of the Open Knowledge Network based in Thessaloniki and partner in OpenBudgets.eu, has now developed an algorithm that does exactly that: time series analysis of budget data.



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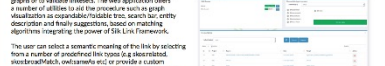
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Tool: LinkedPipes ETL
Behind the scenes of budget analysis, raw data needs to be handled, and to achieve transparency, data needs to be published on the web. Recently, standards for publishing various kinds of data on the web have been developed.

LinkedPipes ETL is a tool for handling and publishing web data according to the Linked Open Data principles. It focuses on recent web standards and ease of use for data wranglers.

This tool has been developed by Fraunhofer IGD and University of Thessaloniki, which is configured during the project, which is configured during the project, which is configured during the project.

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Tool: 'osite
Here is the EU municipalities a Software-as-a-Service solution that will allow to their citizens interact and exchange about the budget and activities of their towns, cities and countries.

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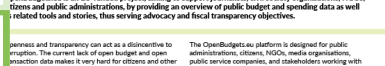
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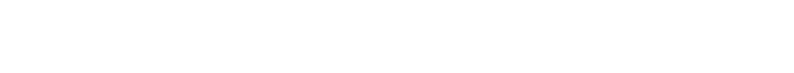


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OpenBudgets.eu

Financial Transparency Platform for the Public Sector

Οικοσύστημα Εφαρμογών υποστήριξης των οργανισμών τοπικής αυτοδιοίκησης για την υλοποίηση και σύνταξη ανοικτών και συμμετοχικών προϋπολογισμών, με ενιαία δομή και χαρακτηριστικά, σχεδιασμένη για όλους τους πολίτες, τα μέσα ενημέρωσης, μη κυβερνητικές οργανώσεις αλλά και τους ίδιους τους οργανισμούς.



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Συσχέτιση δαπανών - πληθυσμού

Δαπάνες ανά τύπο Οργανισμού (2011)

Επιλέξτε φορέα:

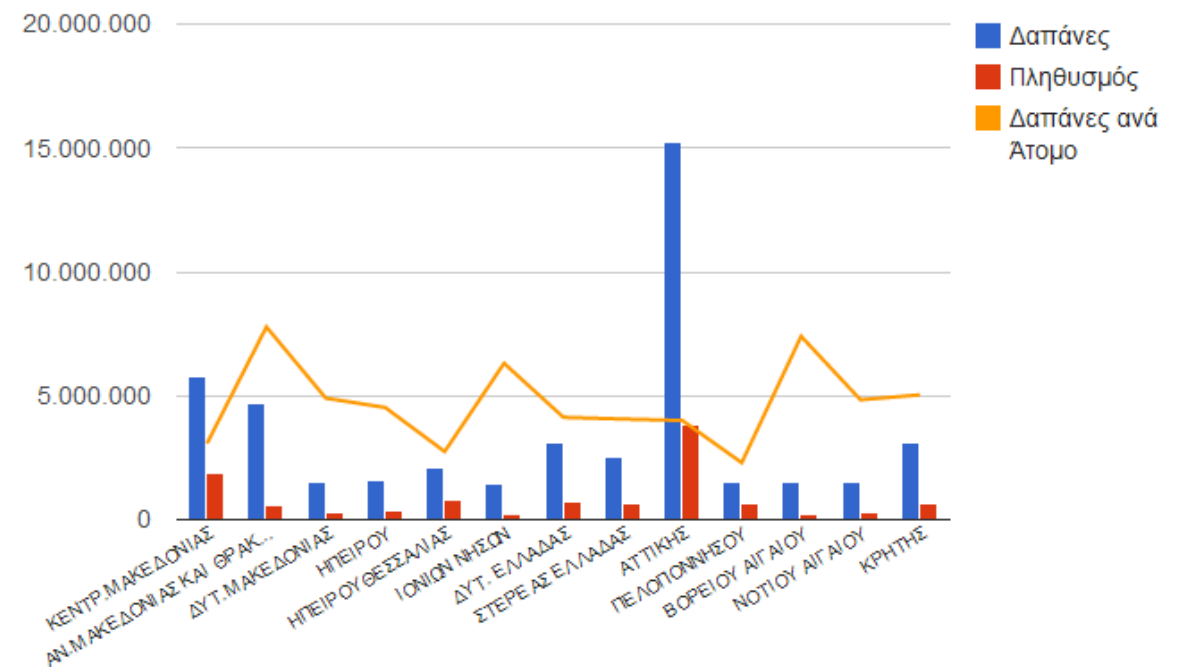
ΥΠΟΥΡΓΕΙΟ

Κάνοντας κλικ σε κάποιο Οργανισμό βλέπετε την ανάλυση των δαπανών ανά περιγραφή.
Με δεξί κλικ επιστρέφετε πίσω...



Συσχέτιση δαπανών με πληθυσμό

Αστυνομίας: Δαπάνες/Ατομο (ανά Περιφέρεια)



Θέλω να ξέρω...



| Εγγραφή | Είσοδος

Αρχική Ερωτήσεις Εφαρμογές Πληροφορίες Επικοινωνία

Καλώς ήρθατε στο "Θέλω να ξέρω"

Το θέλω να ξέρω είναι μία ιστοσελίδα ερωτήσεων και απαντήσεων που απευθύνεται σε απλούς πολίτες, προγραμματιστές, ερευνητές, πολιτικούς και δημοσιογράφους. Στόχος της είναι η προώθηση και απόκτηση της γνώσης μέσω των ανοιχτών δεδομένων στην Ελλάδα. Γνώση που αφορά τη διαφάνεια, την καλύτερη διακυβέρνηση, τον πολιτισμό και την καινοτομία. Με τη βοήθειά σας μπορούμε να δουλέψουμε και να αποκτήσουμε νέα πακέτα δεδομένων του δημόσιου τομέα που αφορούν όλους μας! Μη ξεχνάτε να δηλώνετε τα πακέτα δεδομένων στο μητρώο της ελληνικής πύλης ανοικτών δεδομένων opendatahub.gr

Ρώτα και μάθε

<http://want2know.okfn.gr/>



Τι ανοιχτά δεδομένα θες να ξέρεις

Ζήτα και βρες πακέτα ανοιχτών δεδομένων. Ψήφισε τα ανοιχτά δεδομένα που θα ήθελες να έχεις και απάντησε σε ερωτήματα των υπόλοιπων χρηστών...



Εφαρμογές που έχουν γίνει με ανοιχτά δεδομένα

Βρες και ψήφισε εφαρμογές που έχουν γίνει με ανοιχτά δεδομένα. Στείλε μας τη δική σου εφαρμογή για να προστεθεί στη λίστα...

Top 5 ερωτήσεις

3

Θέλω να ξέρω τις αντικειμενικές αξίες ανά περιοχή

Κατηγορία: **Οικονομία** | 📅 2013-06-10 | 💬 0 απαντήσεις | 👤 Από: Lemonis

Tweets

Follow @okfngr

- ePSiplatform** @epsiplatform 11 Oct
RT @creativecommons: What we mean when we say that publicly funded resources should be open. bit.ly/1fmSj11 #oer #opengov @tereseta
Retweeted by OKFN Greece
Expand
- ePSiplatform** @epsiplatform 11 Oct
We like it! RT @opengovpart: We have a brand new website! Let us know what you think of it! #opengov opengovpartnership.org
Retweeted by OKFN Greece
Expand
- Open Knowledge Fdn** @OKFN 11 Oct
Tweet to @okfngr

Ανοικτά χωρικά δεδομένα =
διαφάνεια και ανάπτυξη



Open Knowledge
Foundation



OPEN
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GREECE

Γεωχωρικά δεδομένα

Από τεχνική σκοπιά

- Δεδομένα σχετικά με τη θέση και το σχήμα γεωγραφικών οντοτήτων, καθώς και των συσχετίσεων μεταξύ τους...
- Συνήθως αποθηκεύονται ως συντεταγμένες και τοπολογίες...
- Ο,τιδήποτε μπορεί να αποδοθεί σε χάρτη

Προτυποποίηση

- Τύποι δεδομένων, παράσταση
- Εννοιολογία: Απόδοση σημασίας, ταξινόμηση, ιδιότητες

Πρότυπα / πλαίσια: INSPIRE, OGC, ISO

Γεωχωρικά δεδομένα

Κρίσιμα, υπάρχοντα, αλλά όχι διαθέσιμα datasets

- Διοικητικά όρια
- Χάρτες βάσης
- Κτηματολόγιο
- Δασικοί χάρτες
- Χρήσεις γης
- Πολεοδομικά
- Ορθοφωτοχάρτες
- Οδικό δίκτυο
- Ταχυδρομικοί κώδικες
- Μετεωρολογία / κλίμα
- Στατιστικά δεδομένα
- Τοπική αυτοδιοίκηση
- Δείκτες - analytics

Γεωχωρικά (μη) δεδομένα...

Ερώτημα

Για ποιο λόγο στη χώρα μας δεν έχει προχωρήσει, σε κάποιον έστω βαθμό, η υλοποίηση μιας **Εθνικής Υποδομής Γεωχωρικών Δεδομένων**, ακόμη και ως συμμόρφωση στην οδηγία INSPIRE, η οποία προσφέρει έτοιμες λύσεις;

Σημειώσεις:

- **Εθνική** → κυριαρχία, σημασία, προτεραιότητες
- **Υποδομή** → αρμοδιότητες, ρόλοι, κοινωνικός έλεγχος

Κατάσταση:

- **Βρισκόμαστε (μόνιμα) στην αρχή...**



NATIONAL CADASTER
AND MAPPING AGENCY S.A.



INSPIRE and SDI in Greece

INSPIRE portal still not available due to...

- **the complexity of the procedures introduced by the legislation**
- **the lack of collaboration and agreements among public stakeholders**
- **the ineffectiveness of the organizational scheme(s)**
- **the additional need for compiling the Implementation Acts**
- **the need for funding for planning and implementation**

From 1600 datasets initially planned, aiming to reach a more realistic target of 80 datasets by the end of 2016, still extremely optimistic...



NATIONAL CADASTER
AND MAPPING AGENCY S.A.



NATIONAL TECHNICAL
UNIVERSITY OF ATHENS

Υποδομή γεωχωρικών δεδομένων...

(SDI – Spatial Data Infrastructure)

Περιέχει κατ' ελάχιστον

- Σύστημα Αναφοράς Χωρικών Συντεταγμένων (CRS)
- Ορθοφωτοχάρτες αναφοράς

Προσφέρει «στέγη»

- Σε οποιοδήποτε σύνολο χωρικών δεδομένων
- Σε οποιαδήποτε υπηρεσία χωρικών δεδομένων
- Σε οποιοδήποτε Business Model / Added-Value service

Η ελληνική περίπτωση

Μεγάλο πλήθος παραγωγών χωρικών δεδομένων, καθένας με ισχυρή αίσθηση ιδιοκτησίας των δεδομένων του και "αιτιολογημένες επιφυλάξεις" σχετικά με τη διάθεσή τους.

Ευρεία κατανομή ευθυνών, αρμοδιοτήτων και ρόλων σε θεσμικό επίπεδο, πλουραλισμός αντιλήψεων και σε εννοιολογικό επίπεδο.

Έλλειψη διασφάλισης ποιότητας χωρικών δεδομένων.

Περιορισμένη συμμόρφωση με πρότυπα, πλήθος αυθαίρετων μορφότυπων.

Η ελληνική περίπτωση

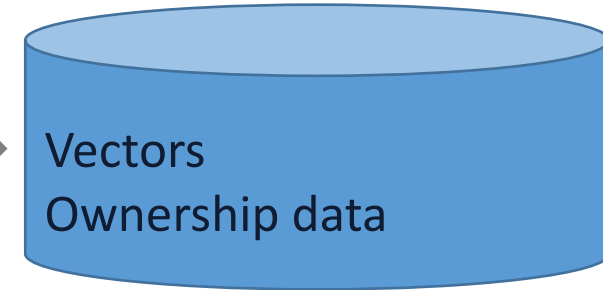
Έλλειψη νομικής κάλυψης και περιορισμού ευθύνης επί χωρικών δεδομένων για περιπτώσεις που αυτά χρησιμοποιούνται σε νομικές διαμάχες.

Ιδιαίτερα εκτενής, περίπλοκη και αντιφατική νομοθεσία η οποία μέχρι σήμερα δεν ενθαρρύνει στην πράξη την οργάνωση και διάθεση γεωχωρικών δεδομένων σε εθνική εμβέλεια.

SDI elements in Cadastral Development

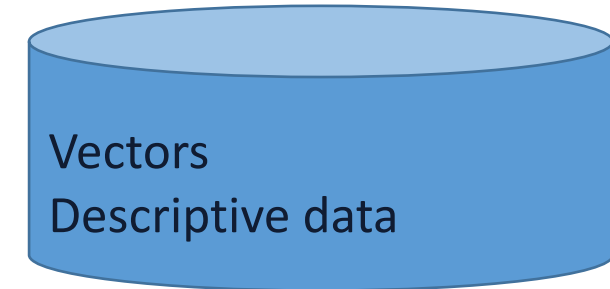
Cadastral development

Spatial ownership references
Legal ownership references
Local notary offices



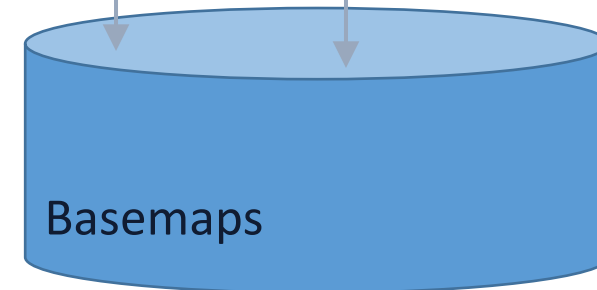
Field studies

Forest areas
Coastlines
Civil borders



Aerial photo campaigns

VLSO data (images)



SDI elements

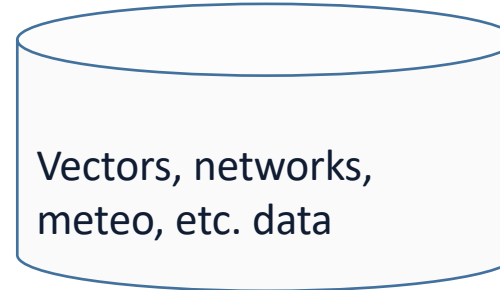
Local authorities

Borderlines, Pols, areas of interest, geo-tagged events



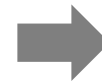
Other public entities

Borderlines, networks (power, transportation, etc), protected areas, agriculture data, meteo data



Similar/parallel projects

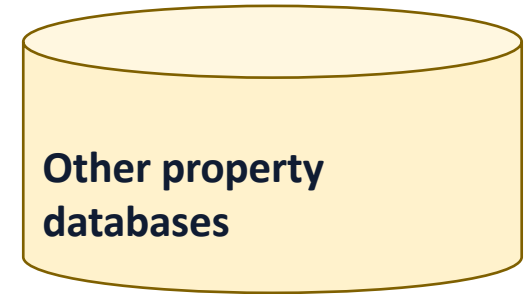
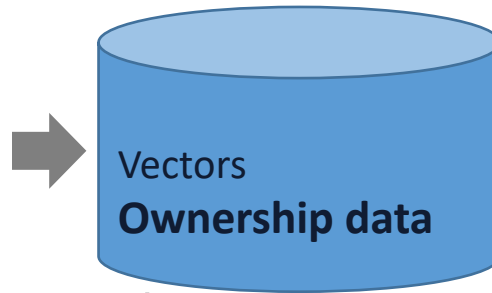
Archeological cadastre, military property registry, E9 property taxation database



Non-integrated, no-common georeference, no interoperability = practically non-existing

SDI elements

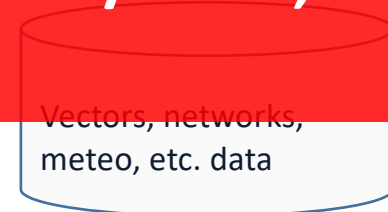
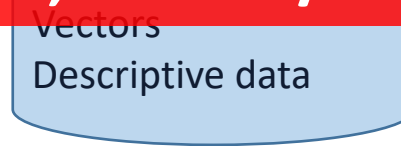
Cadastral development Spatial ownership references
Legal ownership references



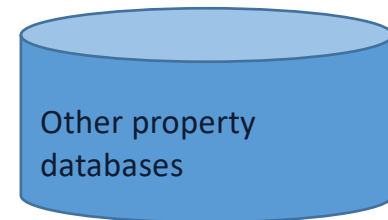
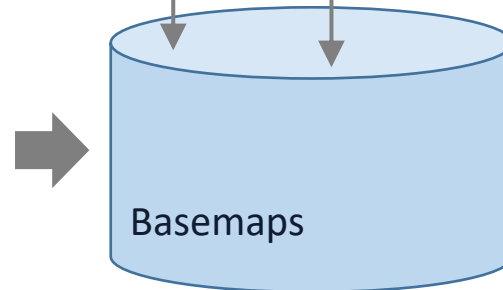
**N.3882/2010, N.1464/2013, N.4269/2014, N.4281/2014,
N.4305/2014, Π.Δ.28/2015, ...**

E9 property taxation database

Field studies Forest areas
Coastlines
Civil borders



Aerial photo campaigns VLSO data (images)



Γιατί ανοικτά χωρικά δεδομένα;

Εθνικός χωρικός σχεδιασμός με χρήση πολύ-κριτηριακής ανάλυσης σε χωρο-χρονικά δεδομένα.

Υποστήριξη σχεδιασμού δράσεων περιβαλλοντικού ενδιαφέροντος.

Βελτιστοποίηση διαχείρισης φυσικών πόρων και ενέργειας.

Ανάλυση οικονομικών δεδομένων με χωρική διάσταση.

Υποστήριξη αποφάσεων και σχεδίαση αναπτυξιακών και επιχειρηματικών δραστηριοτήτων.

Διαφάνεια και κοινωνικός έλεγχος επί των πολιτικών αποφάσεων με χωρική διάσταση.

Τι κάνουμε;

Αποδοχή της ανάγκης για πραγματικά ανοικτά γεωχωρικά δεδομένα
Διάλογος μεταξύ Πολιτείας και ευαισθητοποιημένων φορέων
Εκσυγχρονισμός του νομικού πλαισίου (πολιτισμού;)

Πρόταση Open Knowledge Greece:

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Ευχαριστώ για την προσοχή σας!

Υποδομές ανοικτών χωρικών δεδομένων για διαφάνεια και ανάπτυξη

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