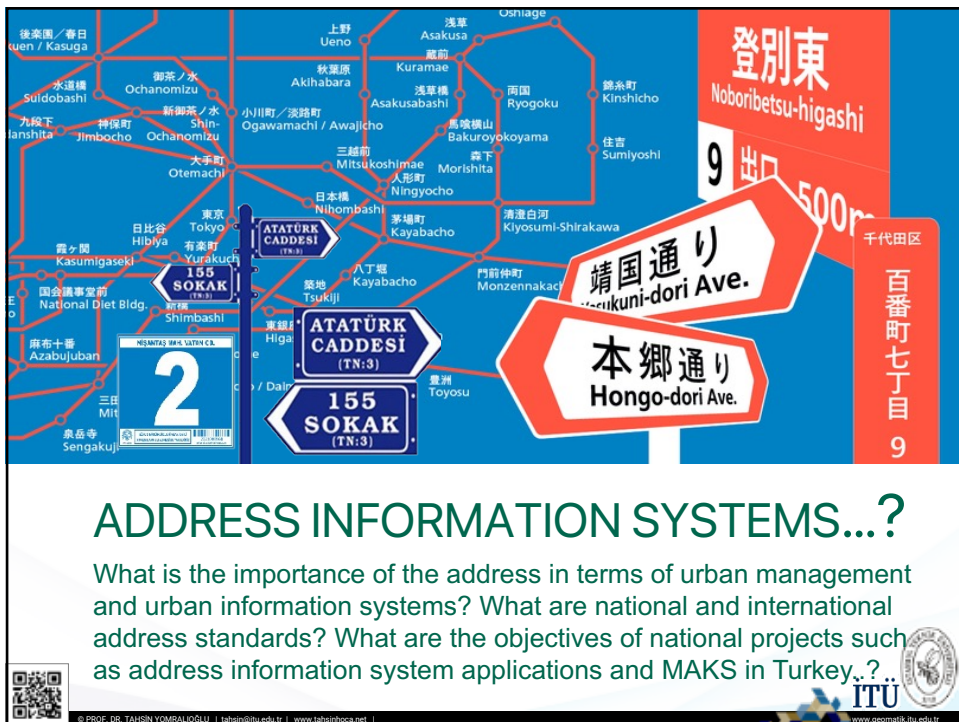




1



2



What is The ADDRESS...?

WHERE someone is living (TDK)...

The PLACE where a data is located and the DATA that defines how it can be accessed...

The address is a very important official reference information for urban management, which verbally explains the location of a place, ensuring that a certain place is reached in accordance with predetermined standards...

- It is the basic identifier of any piece of land, whether urban, commercial, industrial, recreational or for whatever purpose.
- It is considered a more permanent and legal definition compared to other criteria such as property and right of use.
- In most public administration departments, the address is designated as the only criterion for the availability of various data sources



ITÜ

3

Why is The ADDRESS important...?

ADDRESS ?



ITÜ

4



Why is The ADDRESS important...?

ADRES SORMAK 1 TL
Adres sorulmasından bıktı, çareyi ücretlendirmekte buldu

Adres sormak
1 TL
Bilmediğimiz Bir yeri
Israrla Sormak
5 TL

ADRES SORMAK
50 KURUSTUR

LÜTFEN ADRES SORMAYIN
BEN GENEDE SORAYIM DİYORSANIZ
BİR TL (1 LİRA) ÖDEYECEKSİNİZ
ÇÜNKİ ADRES İŞİNDEN BIKTIM
HİÇ KİME BANA SİTEM ETMESİN

Ali bey, a shoe painter in Cankaya district of Izmir, was tired of being constantly asked for an address and put up a sign saying 'Address is described for 1 TL'.

İTÜ

5

Why is The ADDRESS important...?

25 Ekim 2020. Bir kargocu adresi bulamadığı için uğradığı saldırı sonucu hastanede hayatını kaybetti. Kız arkadaşına iki ayakkabı sipariş eden şahıs, kargocu adresi bulamayıp teslimat gecikince, kargocuyla telefonda randevulaşıp, ürünleri teslim alırken, kargocuyu öldürmesiye dövmüştü...

Son yıllara kadar adres bileşenleri belediyelerde tabela olarak sahaya yansıtılmadığı için, ayrıca ciddi anlamda sokak adlarında seçimden seçime değişiklikler yapılabildiği için adres bilgisi istendiğinde yakınlardaki cami, market ya da büyük yapılar var ise bunları da adrese ekleyerek adresten çok, oraya ulaşım adımlarını da tarif eden adresler vardı.

Mesela;
6841 SOK NO:26 EVKA-2 ÇİĞLİ İZMİR – Çiğli Emniyet Müdürlüğünden girilecek Kömürcü Otobüs Durağı'nın (ilk duraktır) yanındaki ara sokağa girilecek. 26 NOLU EV. Çiğli (Prof. Dr. Ahmet Taner Kışlalı Mah.) İZMİR

Eş Durumu Atamalarında Adres Kayıt Sistemi Sorunu

Aile Birliği Mazereti Atamalarında Adres Kayıt Sistemi(AKS) Sorunu...

STREET NAMES? DOOR NUMBERS? ZIP CODE?

İTÜ

6



Why is The ADDRESS important...?

The address does what the coordinate information does, provides location information..

Operatör (O): 112 Acil servis! Problem nedir?
Konuşmacı (K): Problem kocam! Sanırım kalp krizi geçiriyor.
O: Tamam bayan telaşlanmayın. Şu anda nerede?
K: Evdeyiz..
O: Tamam da, bana evinizin adresini söyleyin!
K: "Hasan Ağanın Mahallesi" diyorlar buraya..
O: Nerede bu mahalle, Kent Merkezinde mi? Lütfen bana adresinizi söyleyin!
K: Aylin Market var ya, hemen üstü..
O: Hanımefendi lütfen adresinizi tam verir misiniz?
K: Yaa burası Çimenli .
O: Hanımefendi, bu söylediklerinizle size nasıl ulaşalım!
K: Bak şimdi, sahil yolundan gelirken, Çimenli kasabını geç, ayrımdan sağa dön. Oralarda sor, sana nasıl geleceğini söylerler. Ben camdayım zaten..
O: Lütfen ayrılmayın! (Bu arada ambulans olay yerine yönlendirilir..)
K: Artık gelmeyin. Sanırım kocam sizlere ömür..

112

İTÜ

7

Why is The ADDRESS important...?

ADDRESS;
It's Not Just a Component That Needs To Replace Mail Messages..!

IT ALSO SAVES LIVES!!

İTÜ

8



Benefits of ADDRESS information...?

PUBLIC ASPECT

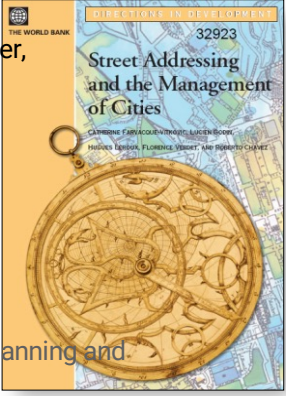
- Finding a place,
- Transportation from one place to another,
- Distribution services,
- Emergency services,
- Fire services,
- Security services

LOCAL GOVERNMENTS FROM THE POINT OF VIEW

- Increasing tax revenues,
- Increasing municipal revenues,
- Increasing municipal services,
- Waste and garbage management,
- Increasing the effectiveness of urban planning and long-term programs,

SPECIAL SECTOR FROM THE POINT OF VIEW

- Management of infrastructure services,
- Control of water, electricity and communication networks,
- Maintenance and repair activities of the part of municipal services carried out by the private sector,



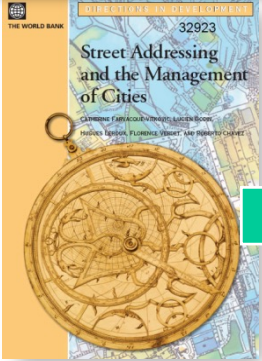
A MORE LIVABLE CITY!!

İTÜ

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net | www.geomatik.itu.edu.tr

9

Benefits of ADDRESS information...?



According to the World Bank report (2005); "Address" information is required in the following procedures in the fulfillment of urban activities.

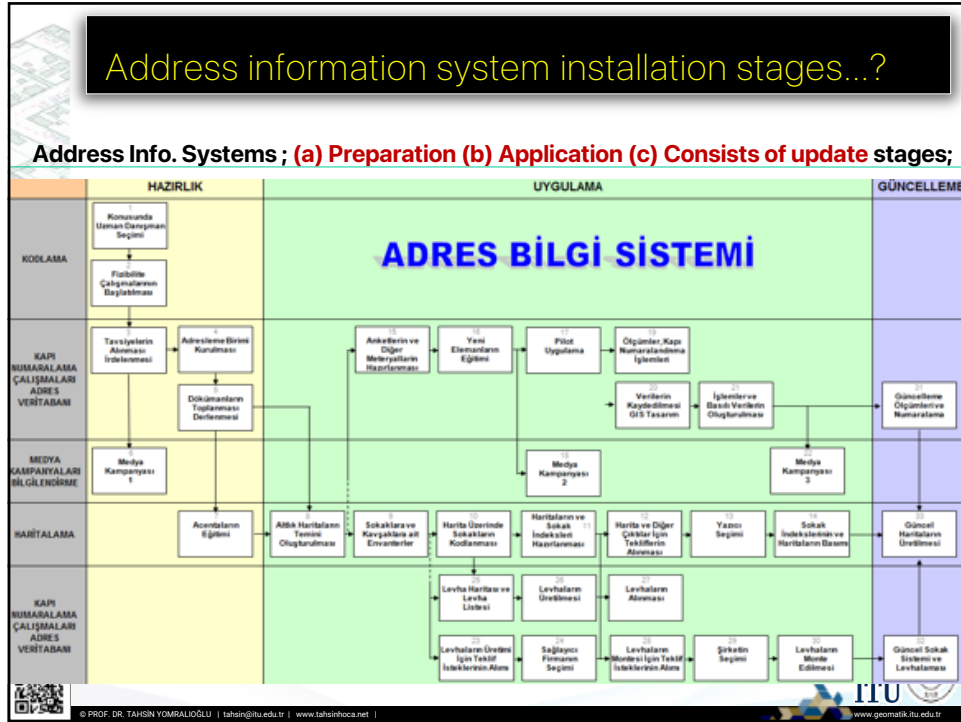
Source: Street Addressing and the Management of Cities – World Bank Report

- A- Citizenship ID
- Addresses
- Elections
- B- Urban Information
- C- Local Government Services
- Street Systems
- Existing Building Inventories
- Environmental Cleaning / Garbage
- D- Tax Systems
- E- Land Management / Cadastral
- F- Illegal Construction / Urban Transformation
- G- Other Related Units
- Water, Electricity
- Postal Service
- Health Services, Emergency Management
- Urban/Geographic Information Systems
- H- Trade, Economic Development...

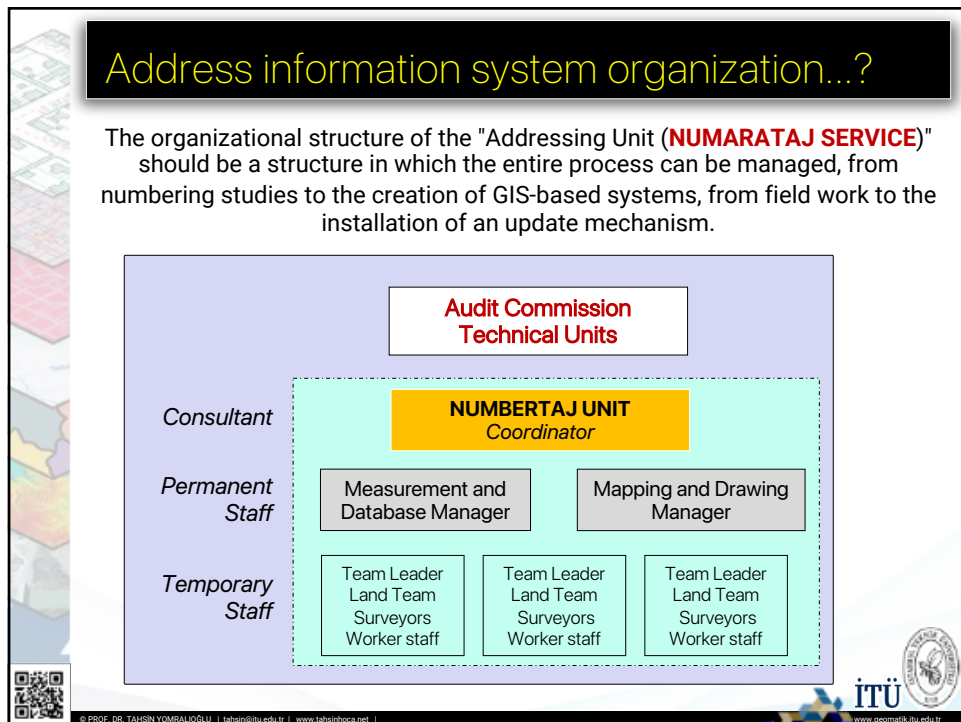
© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net | www.geomatik.itu.edu.tr

10





11



12



Address standards in the world..?					
STANDARD	REFERENCED AS	PUBLISHER	DATE	LEVEL	JUSTIFICATION
INSPIRE D2.8.1.5 Data Specification on Addresses	INSPIRE Address	INSPIRE TWG Addresses	2010	Regional (Europe)	Regional address standard that specifies how public authorities of EU member states must make their address data available
ISO 19112:2003, Spatial referencing	ISO 19112	ISO/TC 211	2003	International	International standard for spatial reference systems using geographic identifiers, such as gazetteers.
OASIS CIQ v3.0 Approved Committee Specifications	OASIS CIQ	OASIS	2008	International	International address standard, especially interesting for its XML schema.
UPU S42, International postal address components	UPU S42	Universal Postal Union (UPU)	2006	International	International address standard with specific focus on postal mail.
AS/NZS 4819:2003, Geographic information	AS/NZS 4819	Standards Australia and New Zealand	2003	Regional	Regional address standard, especially interesting for its rural addressing scheme.

13

ISO/TC 211 N 3188 – Geographic Information / Addressing

In some cases, a broad geographical assessment of the address is required. For example, if you want to use Land Management, Infrastructure Planning and Repair.

It is very important to accurately identify distribution points in a street or neighbourhood for mail distribution or planning of emergency services.

In a customer analysis, some distribution points may be excluded from the distribution network because of incorrect address data.

In the management of an emergency event, it may not be possible for the relevant unit (security, fire brigade, ambulance, etc.) to reach the scene quickly due to a lack of standard in the address data.

address data must be restored to a standard, both the address must be read correctly and written correctly.

According to ISO/TC 211 address functions...

- 1 Define address...**
 - Local governments, Postal Operators
- 2 Identify address applications..**
 - Electoral commissions, Infrastructure service providers, Local and central governments, Customer service
- 3 Find address...**
 - Citizens, Distribution services, Emergency services

14



Address formats & standards used in the world...

Address components by standards: When the address formats and standards used in the world are examined, it is seen that the address data consists of a number of components. These components come together in different hierarchies from country to country to form address data. Examples include:

Category & No.	Standard	Sample Addresses	Component
(1) Address that identifies addressable entities or distribution points	ISO/TC 211 N 3188	Mr Girard, Flat B , Le Barcolean, 1 allée 91940, LES ULIS	Building
(2) Address components that refer to a real-world entity	US FGDC Address	Statue of Liberty , Liberty Island, New York, NY	Road name
(3) Address components that refer to a geographic area	BS 7666	389 Chiswick High Road, London	Local
(4) Address components referencing a distribution area	US FGDC Address	PO Box 6943 Birmingham, AL 35305	ZIP code
(5) Address components that refer to a type of mail distribution service	AS 4590	PO Box 312 Paramatta BC NSW 2150	Mailing delivery ID
(6) Address components that refer to a distribution office	SANS 1883-1	477 Chopin Street, Glenstantia , 0010	Post office
(7) Address components that define proximity	INSPIRE	On the NW corner of Main and Cross Streets , Southampton	Identifying location

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

15

Address formats & standards used in the world...

the addressing system of 48 countries is examined, the basic address components;

No.	Country Name	I. Component	II. Component	III. Component	IV. Component	V. Component	VI. Component	Adres Formatı
1	Germany	Name	Street	Door No.	Zip code	State / Province	Country	Herrn Quinc Happy Wacholderweg 52 - 26133 Oldenburg / GERMANY
2	Austria	Name	Street	Door No.	Zip code	State / Province	Country	Frau Mag. Maria Muster Gartenweg 8 Rafing 3741 Pulkau / AUSTRIA
3	Belgium	Name	Door No.	Street	Zip code	State / Province	Country	M. Andre Dupont 14, Rue du Cornet B-4800 Verviers / BELGIUM
4	England	Name	Door No.	Street	Zip code	State / Province	Country	Ms. Emma Porter 114 Abbey Road 14500 LONDON
5	Ireland	Name	Door No.	Street	Zip code	State / Province	Country	Mr. A. N. Other 23 Morehampton Road , Dublin 4 / IRELAND
..	..	...	...	...	...	...	...	...
48	Czech Rep.	Name	Street	Kapı No	Zip code	State / Province	Country	Pan Martin Parma Prujezdna 320 / 62 10000 Praha 10 / CZECH REP.

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

16



Address formats & standards used in Europe...

INSPIRE spatial data groups

EK-1	EK-3
1. Coğrafi Referans Sistemleri	1. İstatistik Veriler
2. Coğrafi Grid Sistemleri	2. Binalar
3. Coğrafi Yer İsimleri	3. Toprak
4. İdari Birimler	4. Jeoloji
5. Ulaşım Ağları	5. Arazi Kullanım
6. Hidroğrafya	6. İnsan Sağlığı ve Güvenliği
7. Koruma Alanları	7. Kamu Hizmeti Tesisleri
	8. Üretim ve Endüstri Tesisleri
	9. Tarım Tesisleri
EK-2	10. Nüfus Dağılımı – Demografi
1. Sayısal Yükseklik Verileri	11. Sınırlar ve Korunma Alanları
2. Adres	12. Doğal Afet Alanları
3. Tapu ve Kadastro Bilgileri	13. Atmosferik Durumlar
4. Arazi Örtüsü	14. Meteorolojik Detaylar
5. OrtoFoto Görüntüler	15. Oşinografik Detaylar
	16. Deniz Bölgeleri
	17. Biocografik Bölgeler
	18. Habitat Bölgeleri
	19. Hayvan ve Bitki türlerinin dağılımı

**All European countries
In 2011-2016, ANNEX-I and
In 2014-2019, access to geographic data
groups in ANNEX-II-III is planned...**

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

17

Address formats & standards used in Europe...

INSPIRE
Infrastructure for Spatial Information in Europe

D2.8.1.5 INSPIRE Data Specification on Addresses – Guidelines

Title	D2.8.1.5 INSPIRE Data Specification on Addresses – Guidelines
Creator	INSPIRE Thematic Working Group Addresses
Date	2010-04-26
Subject	INSPIRE Data Specification for the spatial data theme Addresses
Publisher	INSPIRE Thematic Working Group Addresses
Type	Text
Description	This document describes the INSPIRE Data Specification for the spatial data theme Addresses
Contributor	Members of the INSPIRE Thematic Working Group Addresses
Format	Portable Document Format (PDF)
Source	
Rights	Public
Identifier	INSPIRE_DataSpecification_AD_v3.0.1.pdf
Language	En
Relation	Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)
Coverage	Project duration

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

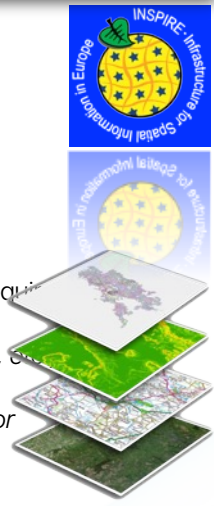
18



Address formats & standards used in Europe...

INSPIRE Data Specification on Address 2010-04-26

- The 2007/2/EC INSPIRE Directive defines "address" data as a "positional data layer."
- According to this directive, the address is; with the help of path name, door number and postcode identifiers, it is shown as the most important locator.
- According to inspire address directive, address data is required to perform the following functions;
 - 1- Locating (distribution services, location and direction, etc.)
 - 2- Identification (Immovable registration, etc.)
 - 3- Judgment / Notification (Authorized person liability for property defined by address)
 - 4- Classification-sorting and ordering processes
 - 5- Security and Emergency services



© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

ITÜ

19

Address formats & standards used in Europe...

According to the INSPIRE numbering directive;
numbering of buildings on the same side of the road
in urban areas "under normal conditions"...

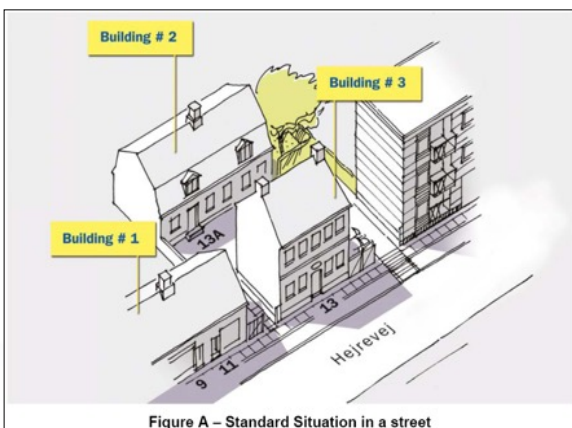


Figure A – Standard Situation in a street



D2.8.1.5 INSPIRE Data Specification on Addresses – Guidelines	
Title	D2.8.1.5 INSPIRE Data Specification on Addresses – Guidelines
Creator	INSPIRE Thematic Working Group: Addresses
Date	2010-04-26
Subject	INSPIRE Data Specification for the spatial data theme: Addresses
Publisher	INSPIRE Thematic Working Group: Addresses
Type	Text
Description	This document describes the INSPIRE Data Specification for the spatial data theme: Addresses
Coordinator	Members of the INSPIRE Thematic Working Group: Addresses
Format	Portable Document Format (PDF)
Source	Public
Rights	INSPIRE Data Specification, 2010
Identifier	INSPIRE Data Specification, 2010
Language	En
Relation	Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)
Coverage	Project duration

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

ITÜ

20



Address formats & standards used in Europe...

According to the INSPIRE numbering directive;
numbering of independent departments in urban
areas "under normal conditions"...

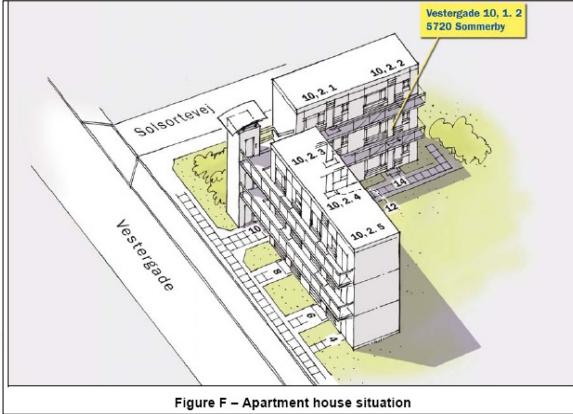
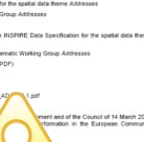


Figure F – Apartment house situation






D2.8.1.5 INSPIRE Data Specification on Addresses – Guidelines

Title	D2.8.1.5 INSPIRE Data Specification on Addresses – Guidelines
Creator	INSPIRE Thematic Working Group Addresses
Date	2010-04-26
Subject	INSPIRE Data Specification for the spatial data theme Addresses
Publisher	INSPIRE Thematic Working Group Addresses
Type	Text
Description	This document describes the INSPIRE Data Specification for the spatial data theme Addresses
Contributor	Members of the INSPIRE Thematic Working Group Addresses
Format	Portable Document Format (PDF)
Source	Public
Rights	INSPIRE Data Specification, A2.1.1.pdf
Identifier	EN
Language	EN
Relation	Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)
Coverage	Project duration





www.geomatik.itu.edu.tr

21

Address formats & standards used in Europe...

According to the INSPIRE numbering directive;
numbering of buildings in rural areas "under normal
conditions"...

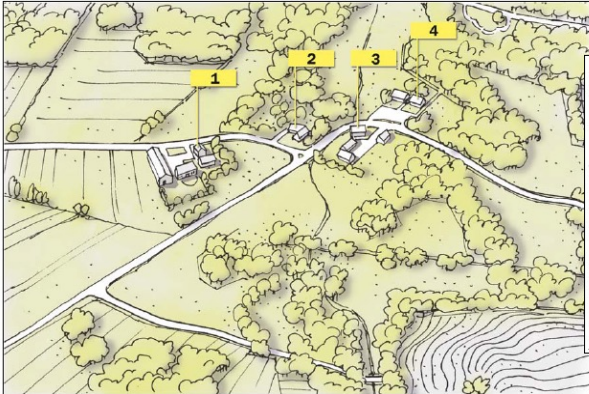


Figure J – Rural area situation






D2.8.1.5 INSPIRE Data Specification on Addresses – Guidelines

Title	D2.8.1.5 INSPIRE Data Specification on Addresses – Guidelines
Creator	INSPIRE Thematic Working Group Addresses
Date	2010-04-26
Subject	INSPIRE Data Specification for the spatial data theme Addresses
Publisher	INSPIRE Thematic Working Group Addresses
Type	Text
Description	This document describes the INSPIRE Data Specification for the spatial data theme Addresses
Contributor	Members of the INSPIRE Thematic Working Group Addresses
Format	Portable Document Format (PDF)
Source	Public
Rights	INSPIRE Data Specification, A2.1.1.pdf
Identifier	EN
Language	EN
Relation	Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)
Coverage	Project duration





www.geomatik.itu.edu.tr

22



Address formats & standards used in Europe...

EURADIN - European Address Infrastructure <https://www.euradin.eu/>

OBJECTIVE: To ensure inter-agency interoperability by establishing an Address Network to ensure the integrity of addresses at the European Level, and to increase efficiency in services and services...

EURADIN
European Address
Infrastructure

**EURADIN Project
2008 - 2010**

EURADIN consortium
euradin.eu

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

23

Address formats & standards used in Europe...

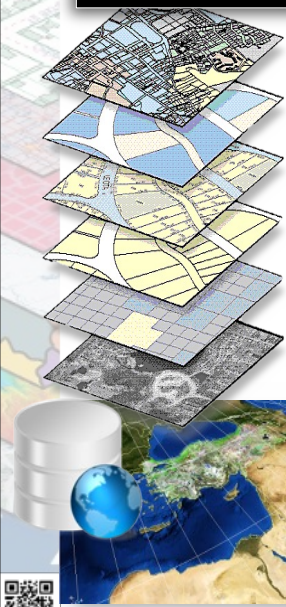
EURADIN
European Address
Infrastructure

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

24



TUCBS - SPATIAL DATA THEMES



TUCBS EK-I: Temel Veri Temaları...

- 1- TUCBS: AD Adres
- 2- TUCBS: BI Bina
- 3- TUCBS: TK Tapu-Kadastro
- 4- TUCBS: ID İdari Birim
- 5- TUCBS: UL Ulaşım
- 6- TUCBS: HI Hidrografiya
- 7- TUCBS: AO Arazi Örtüsü
- 8- TUCBS: OF Ortofoto
- 9- TUCBS: TO Topografya
- 10- TUCBS: JD Jeodezik Altyapı

TUCBS EK-II: Tematik Veri Temaları

TUCBS: YA Koruma Bölgeleri
TUCBS: PL Plan Bölgeleri
TUCBS: SO Sosyal/Kültür
TUCBS: AL Altyapı
TUCBS: DO Doğal Kaynaklar
TUCBS: BI Biyoçeşitlilik
TUCBS: HA Hava/İklim
TUCBS: JF Jeoloji/Çevre

** TUCBS EK-II İkincil düzeydeki "Tematik" veri temaları, uygulamaya göre TUCBS-Koordinasyon Kurulu tarafından belirlenir...*



It all happens somewhere...

If the nature of the places where events take place, their impact on humans, the environment and the benefits of this location can be better understood, better planning can be made, risks can be better managed and resources can be used more rationally. This approach increases the success rate of new startups, helps reduce potential future problems, and provides palpable financial benefits. Because of all this, "The place where everything happens" is important.

İTÜ

25

TUCBS - SPATIAL DATA THEMES

1 TUCBS.AD Veri Teması

1.1 Tanım

Adres teması, herhangi bir toprak parçası, binanın ve coğrafi varlığın konumu açısından tanımlanmasıdır. Adres; Mahalle/Köy, CSBM ve Kapı Numarası gibi bileşenler ile tanımlanmış olup konumsal olarak referanslandırılabilir. Ayrıca diğer coğrafi temalarda da ifade edilen ve gerçek dünya varlıklarını temsil eden Coğrafi Yer İsimleri konumsal olarak tanımlanmaktadır.

1.2 Kapsam

Adres bilgisi kamuya yönelik birçok işlevde temel bilgi olarak yer bulmaktadır. Ulaşım güzergâhlarının belirlenmesi ve bunların coğrafi veriyle bütünleşik kullanılması birçok çalışma disiplinine önemli faydalar sağlamaktadır.

Yerel yönetimler tarafından **numarataj** çalışmaları kapsamında üretilen dış kapı, nokta geometride temsil edilmektedir.

Ulusal adres veri tabanında tanımlanan adres bilgisinin; idari birim, cadde/ sokak, bulvar/ mahalle (CSBM), kapı no ve posta kodu gibi anlamsal birlikte çalışabilirliği sağlayacak adres bileşenleri ile ifade edilmesi esas alınmaktadır. Ortak adres kodu kullanılarak adres bilgisi ve dış kapı ilişkilendirilmektedir. Adres konumlayıcı kullanılarak, adres bilgisi diğer TUCBS temalarındaki yol orta hattı, parsel ve bina gibi sınıflar ile konumsal olarak referanslandırılabilir. Gerçek dünya varlıklarını temsil eden Coğrafi Yer İsimleri, bu tema kapsamında tanımlanmış olup, idari birim, hidrografiya ve ulaşım gibi temalardaki detayları temsil eden nitelikte konumlandırılabilir.



TÜRKİYE ULUSAL COĞRAFI BİLGİ SİSTEMLERİ STANDARTLARININ BELİRLENMESİ PROJESİ:

TUCBS.AD Adres Veri Teması

İTÜ

26



TUCBS - SPATIAL DATA THEMES

1 TUCBS.AD Veri Teması

TUCBS Projesi kapsamında yapılan Kurumsal Veri Gereksinim Analizleri sonucunda, Adres Veri Temasının aşağıda tanımlanan işlerde kullanıldığı ortaya çıkmıştır.

- ✓ Adres Konumsal Referanslandırma
- ✓ Kamu Yönetimindeki Adres Tanımlamaları
- ✓ Mobil Atık Takip Sistemi
- ✓ Yapı Denetim
- ✓ Kadastro
- ✓ Plan Hazırlama
- ✓ Mekânsal Adres Kayıt Sistemi (MAKS)
- ✓ Çevrimiçi Emlak Ve İnşaat İzinleri
- ✓ Taşınmaz Envanter Sistemleri
- ✓ Hizmet Alanı Sınırı Belirleme
- ✓ Kamulaştırma
- ✓ Araç Takip Sistemleri
- ✓ Acil Durum Yönetimi
- ✓ Okul Kayıt Sistemleri
- ✓ Vergi Tabanlı Uygulamalar
- ✓ MERNİS
- ✓ Yargı Sistemleri – Tebligat – İhbarname
- ✓ Aile hekimliği / Sağlık uygulamaları

T.C. ÇEVRE VE ŞEHİRCİLİK BAKANLIĞI
COĞRAFI BİLGİ SİSTEMLERİ GENEL MÜDÜRLÜĞÜ
TÜRKİYE ULUSAL COĞRAFI BİLGİ SİSTEMLERİ STANDARTLARININ BELİRLENMESİ PROJESİ:
TUCBS.AD Adres Veri Teması

İTÜ

27

What is NUMARATAJ...?

The numarataj certificate is to determine the address of the squares, boulevards, streets, roads, streets and structures that have a faced within the boundaries of the municipal area and to ensure that any building or similar object is defined in terms of geographical location and function.

ADRES VE NUMARALAMAYA İLİŞKİN YÖNETMELİK

Resmi Gazete Tarihi : 31 Temmuz 2006 - Resmi Gazete Sayısı: 26245

T.C. RESMÎ GAZETE

Amaç : Madde 1 - (1) Bu Yönetmeliğin amacı, binaların numaralandırılması, numaralandırılan binalara ait adreslerin Ulusal Adres Veri Tabanına işlenmesine ilişkin usul ve esasları belirlemektir.

Madde 4 - (1) Bu Yönetmeliğin uygulanmasında;

- Adres: Herhangi bir toprak parçası veya binanın coğrafi konumu ve işlevi açısından tanımlanmasını,
- Adres bileşenleri: Numaralama işlemlerinde kullanılan unsurlar; posta kodları, il, ilçe, bucak, köy ve mezra isimleri, mahalle, meydan, bulvar, cadde, sokak isimleri ile sabit tanıtım numarası ve bina numarası gibi adres verileri ile tanımlanan coğrafi konum, kişisel ve kurumsal adres bilgisine ulaşmak için gerekli olan bilgileri,

28



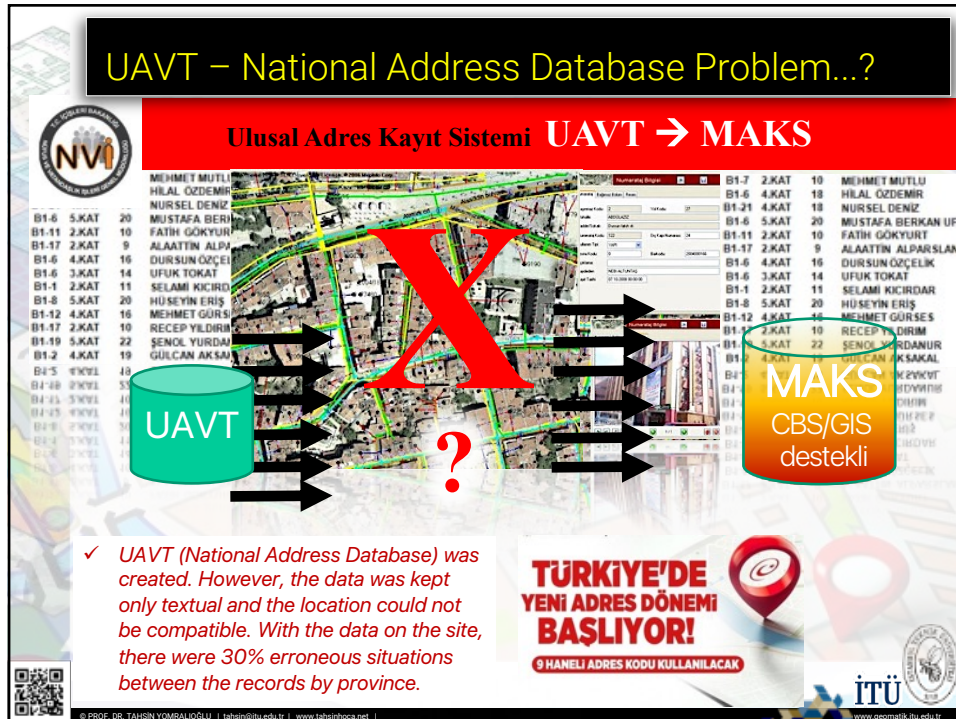
What is NUMARATAJ...?

- With the Address Registration System (AKS) created on the basis of the Population Services Law No. 5490, it is aimed to keep the settlement and other address information of Turkish Citizens and foreigners with a residence permit in Turkey for at least six months up to date in a central structure electronically and to end the clutter about the address.
- In this context, national address database (UAVT) was established by municipalities and provincial special administrations by completing numbering and slabing works throughout the country. The data obtained by the Turkish Statistical Institute (TURKSTAT) as a result of the field application to match the identity numbers of the People of the Republic of Turkey with the address information has been transferred to the General Directorate of Population and Citizenship Affairs and has started to be kept up to date electronically.
- UAVT, which is an important prerequisite for keeping people's locations and other addresses up to date, is designed text-based in the current structure. Within the framework of the principles and procedures determined by the Population Services Law No. 5490 and the Regulation on Address and Numbering, authorized administrations (municipalities, provincial private administrations and organized industrial regional directorates) process the changes in address components within their areas of responsibility to UAVT and in this way, the data kept up-to-date are shared with public institutions and organizations through the Identity Sharing System.

29

UAVT – National Address Database Problem...?

Ulusal Adres Kayıt Sistemi UAVT → MAK



30



MAKS – Spatial Address Registration System...?



Sn. Tahsin Yomralıoğlu
61 Karadeniz Sokak
34469 Sarıyer
İSTANBUL
TURKEY
(45.567483 - 37.823754)
ANO 45567483 37823754



- **Spatial Address Registration System** was created for the purpose of moving existing textual data on address, numbering and building documents to the spatial (geographical) environment taking into account national and international standards,
- It is the system to be created as a result of the project, which is included in the 2009 investment program as "Spatial Address Registration System Creation and Online Real Estate and Construction Permits Project" and is being carried out by the General Directorate of Population and Citizenship Affairs of the Ministry of Interior.

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net | www.geomatik.itu.edu.tr

31

MAKS – Spatial Address Registration System



HEDEFLER...

- Creating a more effective and functional Spatial National Address Database by adding a spatial dimension to the National Address Database (UAVT), on which all address components throughout the country are managed textually,
- Preparation of services that will allow authorized administrations with Geographic Information System (GIS)based Urban Information Systems (KBS) to keep spatial UAVT up to date with the integration of systems without the need for a second manual data entry,
- Spatial data sharing and the creation of data update infrastructure to ensure the continuous up-to-dateness of this shared data, which will ensure that the address data needed by many institutions and organizations is provided more effectively and accurately in accordance with the existing standards through Spatial UAVT,
- To create the infrastructure that will allow the building documents issued by the competent administrations within AKS to be integrated with the systems of the relevant institutions involved in the Spatial UAVT and building documents process, to be organized more effectively, quickly, efficiently and accurately, to automatically update Spatial UAVT in the process and to integrate it with authorized management systems,
- The creation of an infrastructure where citizens can access the processes related to address components and building documents more quickly and accurately and ensure transparency in address-based services.

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net | www.geomatik.itu.edu.tr

32

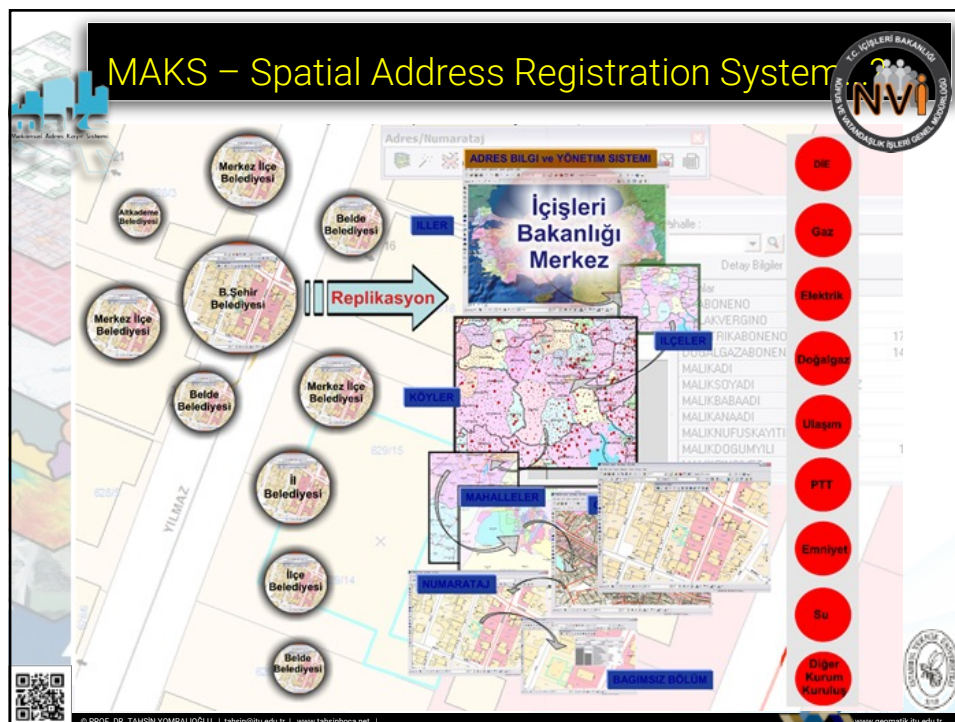


YÖNTEM...

Within the scope of MAKS Project, it is aimed to create a multilayered centralized system and software architecture. System architecture; it will have a multilayer architecture consisting of at least one textual database layer, at least one spatial database layer, application layer, and client layers.

- The system to be created; Depending on the structure, competence and size of the competent administrations, it is aimed to operate in the following three different scenarios:
- Ensuring the reciprocal processing of spatial data changes, both within their own bodies and carried out within NVI, by integrating the systems of the authorized administrations with CBS-based KBS with the services to be offered from the center,
- Ensuring the reciprocal processing of spatial data changes that occur within their own bodies and carried out within NVI by integrating the systems of the authorized administrations with the services to be provided through the servers that are directly connected to the central system and will be placed on the local networks of the authorized administrations,
- Ensuring that authorized administrations that do not have GIS-based KBS, which it carries out actively and effectively, but have data in accordance with the data standard to be created within the scope of this project, can carry out their transactions with web interfaces to be created in the center.

33



34

MAKS – Spatial Address Registration System

With MAKS, the map of Turkey is opened; The county list, data quantity, and proportions table is listed by a default component. In addition, a graph determined according to provincial-authorized administration-mah/village levels is shown.

When a province is selected through the table, that province is approached on the map. The table lists the competent authorities in the province. When one of the authorized administrations is selected from the table, the authorized administration is approached on the map. The table lists the neighborhood/village within the authorized administration. Independent, building, number and road component ratios will be shown at the provincial and competent administration level and at the Neighborhood/village level.

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

35

MAKS – Spatial Address Registration System

BİLEŞENLER	1. (%) Bileşen	2. (%) Bileşen	3. (%) Bileşen	4. (%) Bileşen	5. (%) Bileşen	6. (%) Bileşen	7. (%) Bileşen
Kurum Şirket ve Şahıs İsmi	91	-	3	-	-	3	
Bina No ve Bina Adı	2	52	36	5	5	-	
Sokak Adı	-	36	52	5	5	2	
Posta Kodu	-	7	5	61	10	17	
Bölge, ilçe, şehir	-	-	5	22	51	5	
İl, Vilayet	-	-	-	-	17	27	
Ülke	6	-	-	-	-	42	52

295^A
900 SOKAK
KARADENİZ

3 1245456 1345344

1. Kurum, şahıs ismi
2. Bina Numarası
3. Sokak İsmi
4. Posta Kodu
5. İlçe yada Bölge ismi
6. Vilayet yada il
7. Ülke

Sn. Tahsin Yomralioğlu
61 Karadeniz Sokak
34469 Sarıyer
İSTANBUL
TURKEY
(45.567483 - 37.823754)
ANO 45567483 37823754

Geokod

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

36



MAKS – Spatial Address Registration System

Across the country, a unique address identification system, just like TC.NO, will be introduced in the AD.NO (ADDRESS-NO).

Thus, all address information services in the country will use ADDRESS-CODE instead of complex and time-consuming address location definitions.

EXAMPLE:
AD.NO = 39.32.5725.4724
Latitude: 39,5725
Longitude: 32,4724

GEO-CODE Application

İletişim Bilgileri

Kurum Adı	Nüfus ve Vatandaşlık İşleri Genel Müdürlüğü
İnternet Sitesi	http://www.nvi.gov.tr/
Telefon	+90 3125912100
Faks	
Adres	Çamlıca Mahallesi 408.Cadde No:136 06200 ANKARA TÜRKİYE

39°57'24.9"N 32°47'23.8"E
[View larger map](#)

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

37

GEOCODING – Addressing by geographic coordinate...?

Address
1600 Pennsylvania Ave NW
Washington DC 20502
(38.898748, -77.037684)

Latitude
38.898748 °
N 38 ° 53' 55.5"
38 ° 53.9249' (degree m.mmmm)

Longitude
-77.037684 °
W 77 ° 2' 15.7"
-77 ° 2.2610' (degree m.mmmm)

ADRESdbase

AID

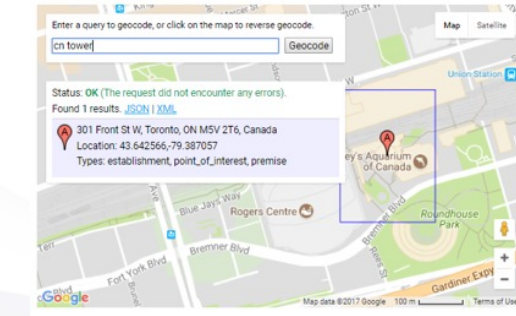
© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

38



GEOCODING – Addressing by geographic coordinate...?

- Geocoding is the process of converting a location (information such as coordinates, addresses and names) to a marked location on the geography of the world.
- It can also geocode with only one of the location-related variables, or it can also use multiple table-diced variables for a healthier conversion.
- With geocoding, it is possible to access a lot of information about a location; it has a wide range of applications, from thefts in a particular region to all kinds of positional socio-economic analyses of customer locations.




© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

39

GEOCODING – Addressing by geographic coordinate...?



Today

Mapping - Visualization

Future...

Distributed - Service Delivery



© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

40



GEOCODING – Addressing by geographic coordinate...?

e- GOVERNMENT

e-Municipality

URBAN INFORMATION SYSTEM

ADDRESS INF SYSTEM

ADDRESS / NUMBER

- ✓ Legal Problems
- ✓ Technical Problems
- ✓ Problems encountered in the application

© PROF. DR. TAHSİN YOMRALIOĞLU | tahsin@itu.edu.tr | www.tahsinhoca.net

www.geomatik.itu.edu.tr

41

URBAN INFORMATION SYSTEMS

Thank you...

Prof. Dr. Tahsin YOMRALIOĞLU

www.geomatik.itu.edu.tr

www.tahsinhoca.net | tahsin@itu.edu.tr

42

