



UNECE



UNECE Census Week 2024:

Workshop on Population and Housing Censuses

Self-assessment of readiness to adopt administrative sources for or in support of censuses

Country Presentation: Türkiye

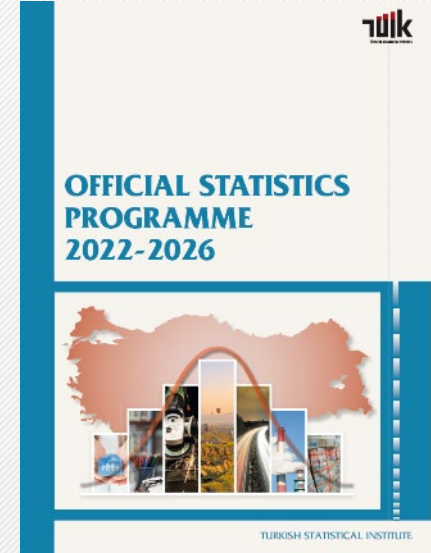
Palais des Nations in Geneva, Switzerland
30 September – 1 October 2024



Türkiye's readiness to use administrative data for census purposes

Self Assessment of TurkStat:

- Political support and legal framework ✓
- Collaboration with administrative data holders ✓
- Availability of administrative data sources ✓ (Partially)
- Unified identification system ✓
- Human and IT Resources ✓
- Methodological matters and quality assessment ✓ (Partially)
- Data confidentiality ✓



Self Assessment of the Main Admin Data Holder:

- Institutional arrangements ✓
- Data sharing ✓
- Database and availability of unique identifier ✓
- Data quality ✓ (Partially)
- Coverage ✓ (Partially)
- Consistency and comparability ✓

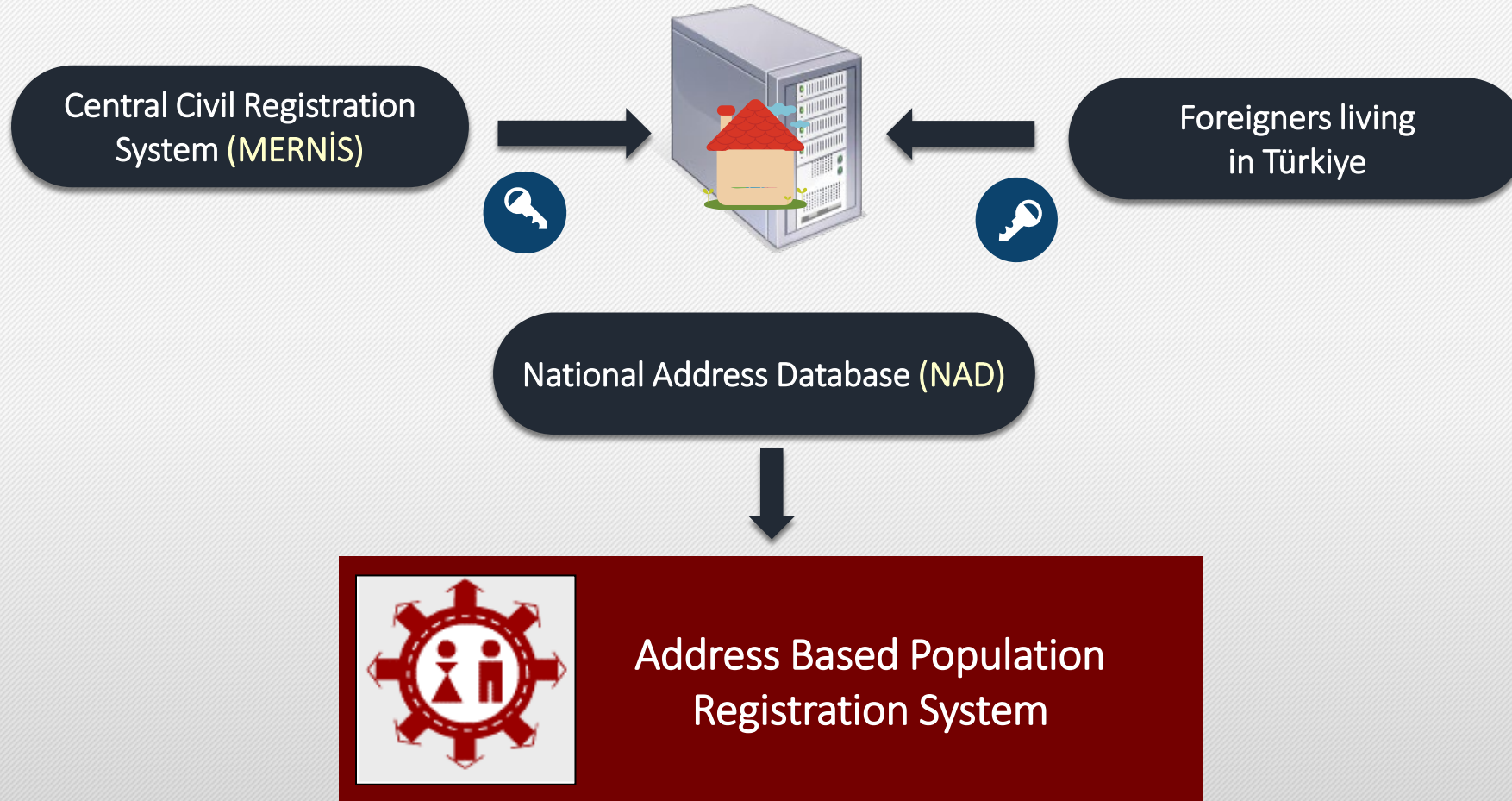
STATISTICS LAW OF TURKEY

No. of the Law : 5429
Date of Approval : 10/11/2005
Published Official Gazette : Date: 18/11/2005 No.: 25997

Before administrative registers...

- The first census in 1927,
- The second census in 1935,
- Every five years between 1935-1990,
- **The last census in 2000**
- Totally 14 traditional population censuses.
- Traditional census method (face to face interview),
- Standard questionnaire (paper) (PAPI),
- «De facto» population definition,
- One day application with national curfew (no permission to go out)



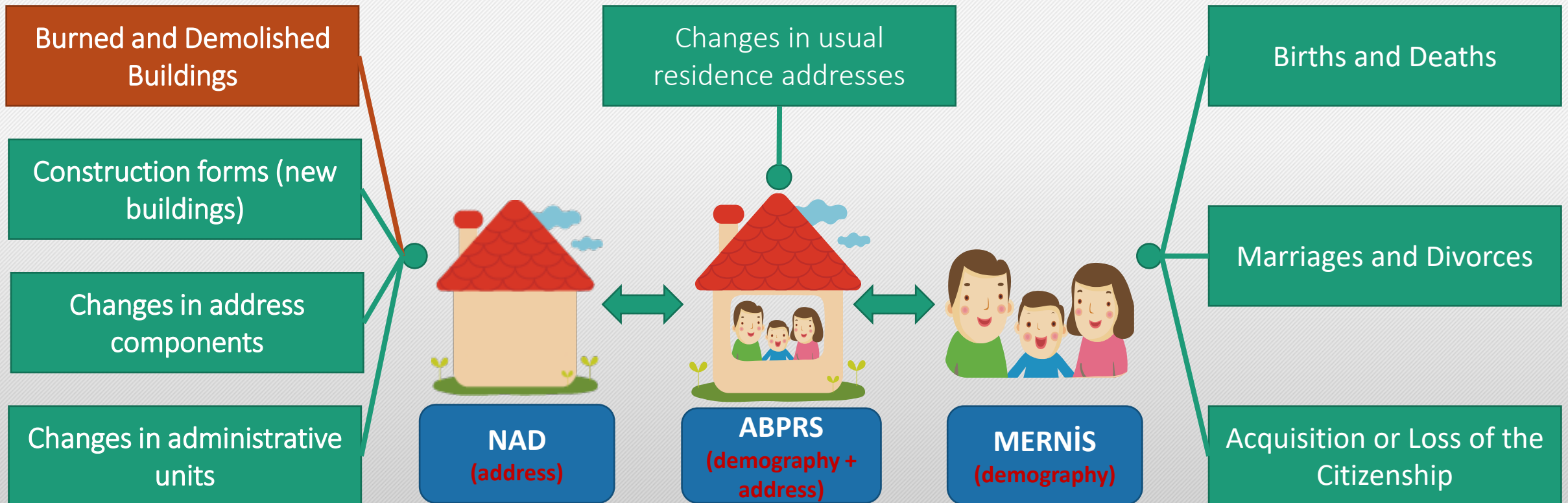


Personal information was matched with address information by using:
Identification Numbers & Address Codes.

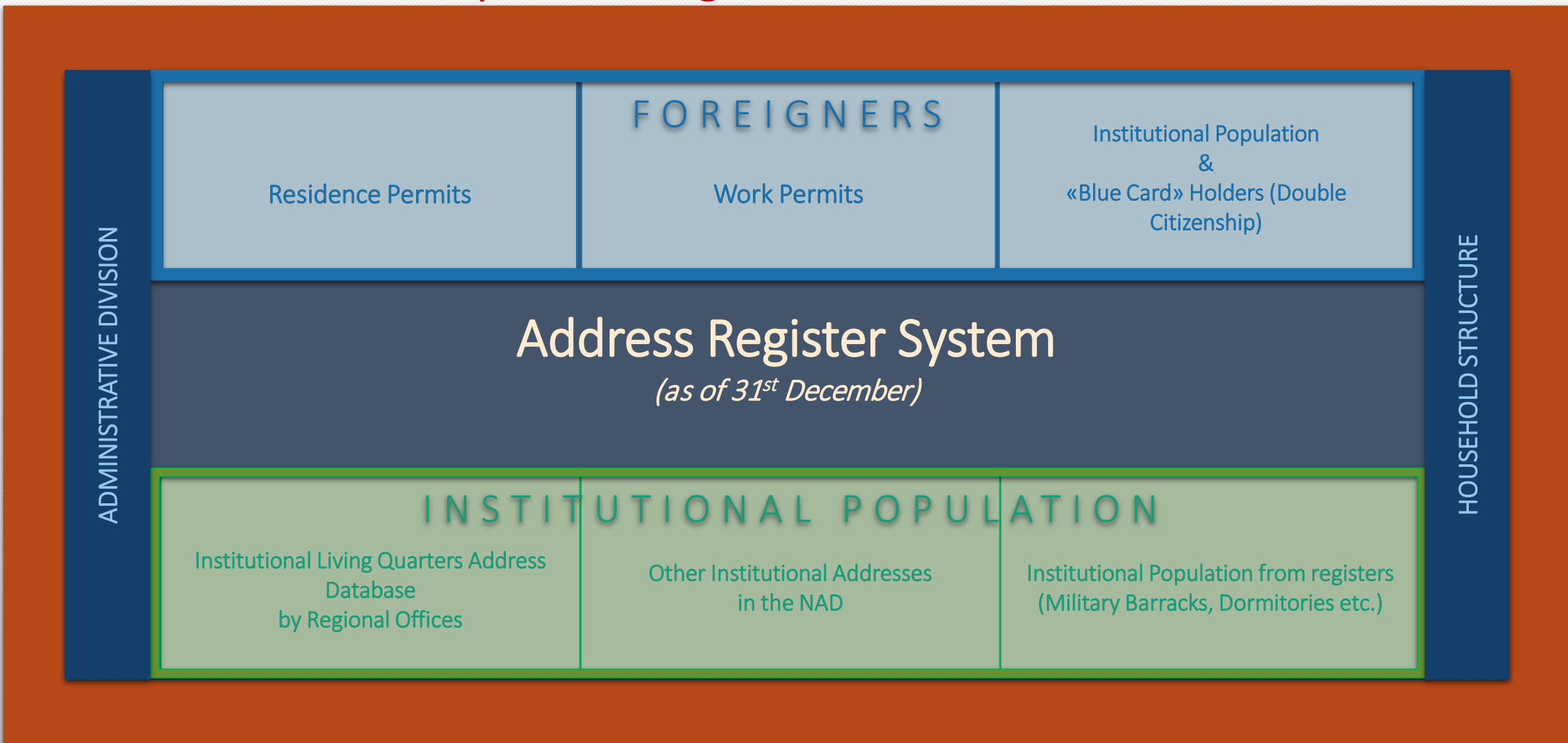
Up-to-dateness of the ABPRS

Agencies/institutions shall use NAD, MERNIS and ABPRS when carrying out their relevant acts and procedures. Public services (health, education, voting, judicial process, utility subscriptions, etc.) are provided based on the ABPRS.

→ Ensuring up-to-dateness automatically.



ABPRS as a Statistical Population Register



Statistics produced annually (since 31 December 2007) :

- ✓ Population size by localities/regions
- ✓ Age and sex structure
- ✓ Literacy and completed level of education
- ✓ Marital status
- ✓ Place of civil registration
- ✓ Mean household size
- ✓ Internal migration (since 2008)
- ✓ Nationality (country of citizenship) (since 2012)
- ✓ Place of birth (since 2014)
- ✓ Type of households (since 2014)
- ✓ Immigration and emigration (since 2016)
- ✓ Reason for internal migration (since 2018)
- ✓ Basic figures at grid/1 km² field level (since 2022)



ABPRS is also base for:

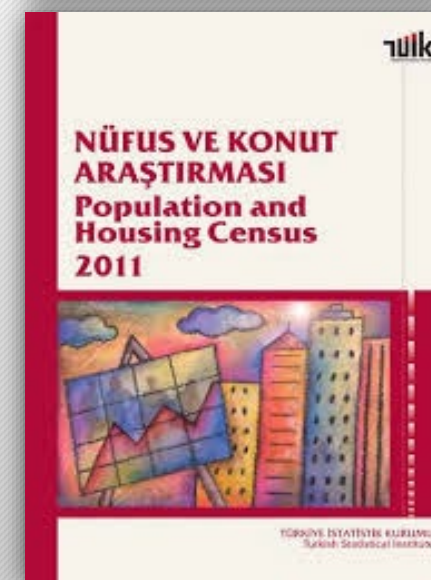
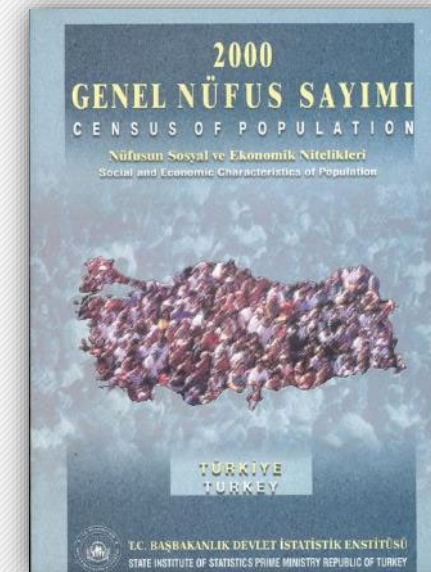
- Life tables
- Population projections

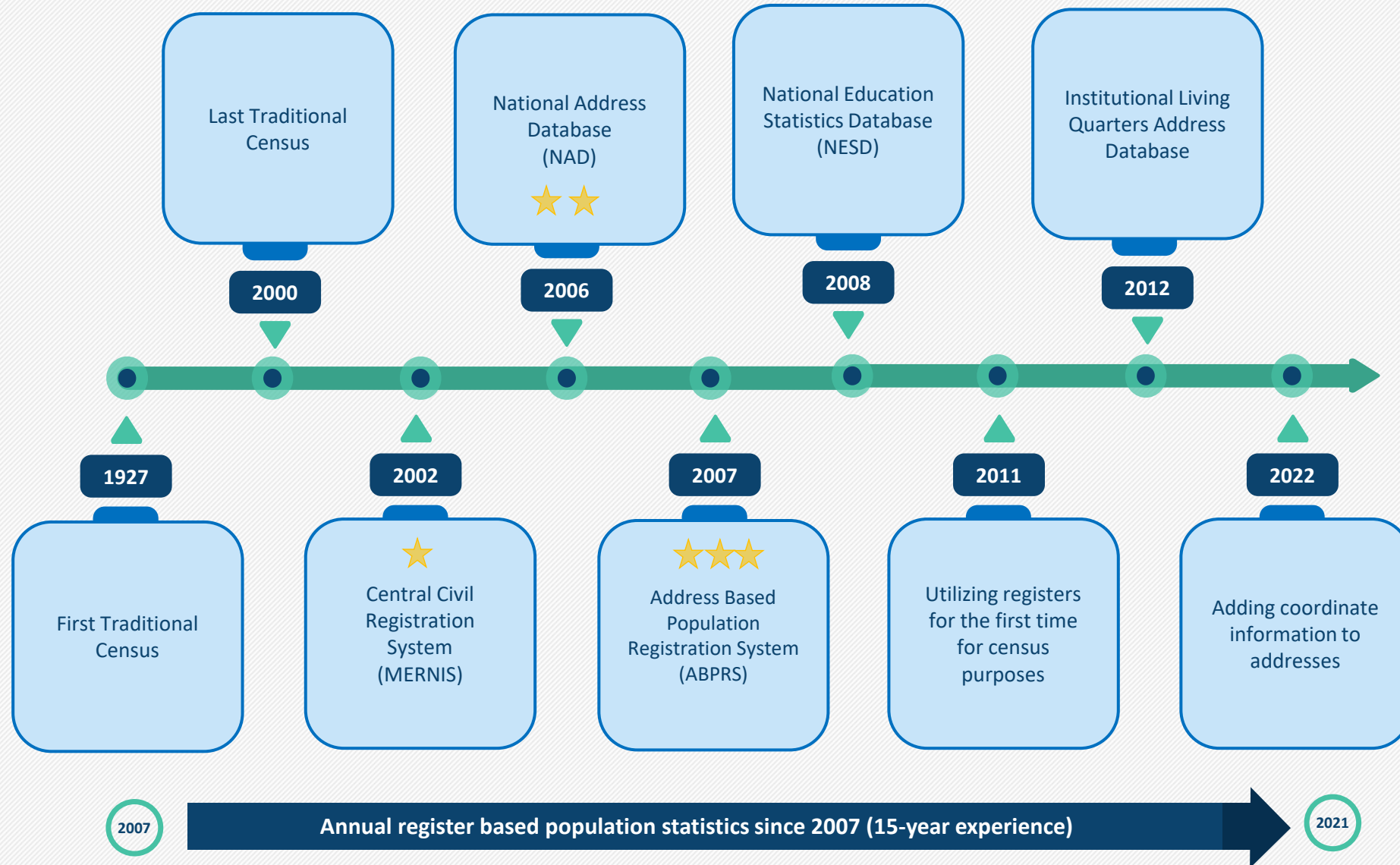
Also serves as a sampling frame of household surveys.



	2000 PC	2011 PHC
Method	Traditional	Combined (20% of census info from the registers)
Definition for residency	De-facto	De-jure
Duration of field application	One day application with a national curfew	2-3 month
Sampling size	Full enumeration (no sampling)	12% sample rate (2.4 million households and 9 million individuals)-Full enumeration in institutional places
Questionnaire	Standard	Household + Institutional Places
Collection method	PAPI	PAPI (40%) and CAPI (60%)
Data entry	ICR	Online data transfer for CAPI, Web-based program for PAPI
# of staff	1 million	4.500
Cost*	43.7 million \$	5.2 million \$

* According to TurkStat's Monetary Value Converting for July, 2024





- ❑ TurkStat has been implementing all statistical activities (including census) according to the **Official Statistics Programme**, based on the **Statistics Law of Türkiye**.
 - Thus, **TurkStat does not need a special census law**.
 - 2021 PHC and related issues were added to 2022-2026 term Official Statistics Programme.
- ❑ According to the mentioned Law:



In order to be used for the production of official statistics, the **institutions and organizations are obliged to submit or open to use of the TurkStat the records and other data files** they compile, process and store...

On the other hand, administrative registers which were obtained only for statistical purposes by TurkStat **cannot be shared with any institution or organization at microdata or record level.**

Available:

- Population (ABPRS): Demography, migration, household
- Address (NAD)
- Education (National Education Statistics Database)

Not available/complete:

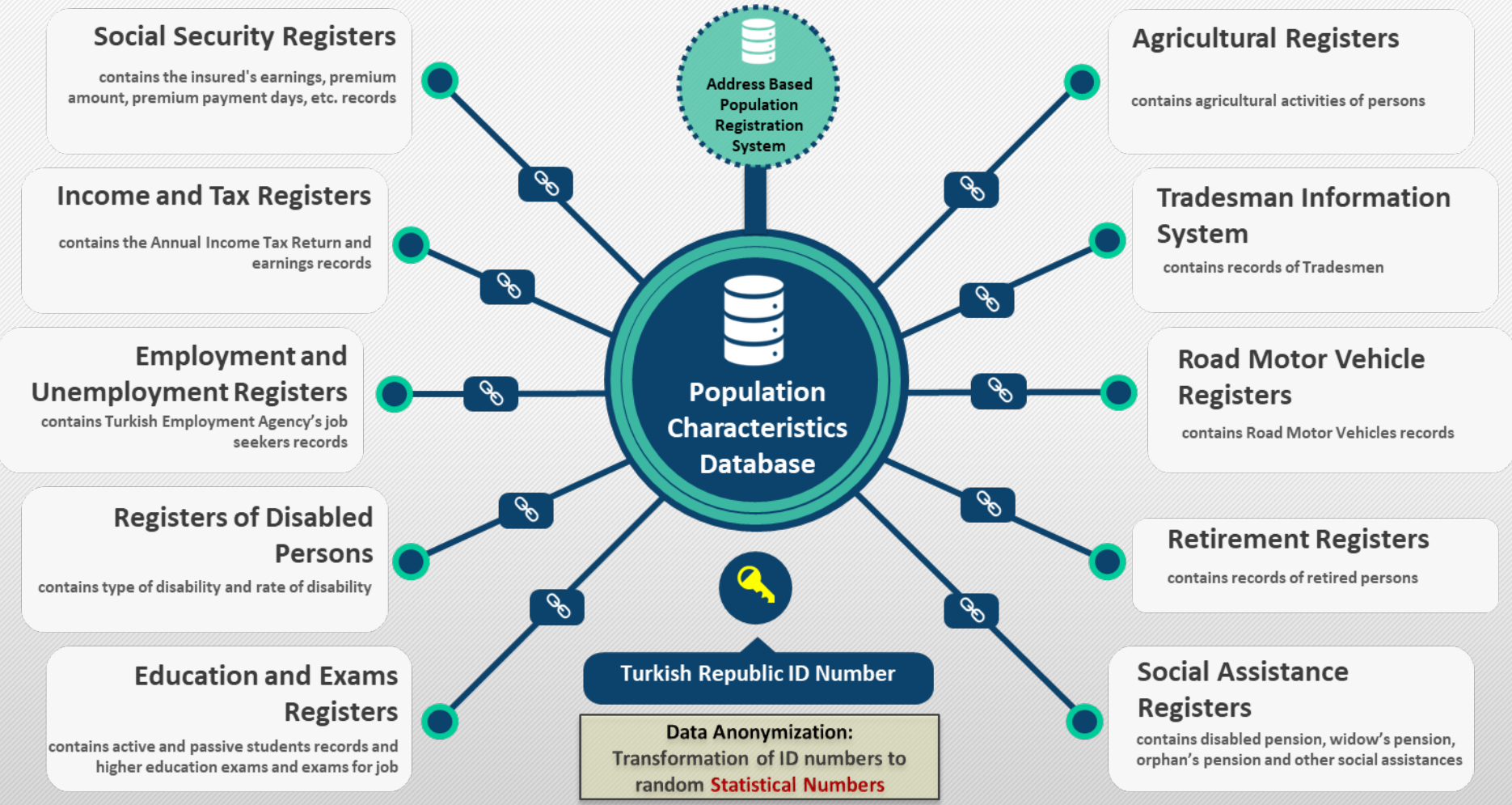
- Employment and Unemployment
- Buildings and Dwellings



2021 PHC:

- ❑ In Türkiye, almost half of census-type variables:
 - ✓ Information on population size, age and sex structure, legal marital status, education level, migration, country of citizenship, place of birth, type and structure of households are already obtained annually from the ABPRS (almost half of the census core variables).
- ❑ 2021 PHC was actually planned to be fully register-based and studies were carried out in this direction.
- ❑ Along with this motivation, TurkStat defined that the ultimate goal in terms of register-based statistics is to set up an integrated “**Population Characteristics Database (PCDB)**”.





30 administrative registers (76 data sets) obtained from **14 different public institutions** were integrated with the ABPRS.

- ❑ For census-type labour force characteristics (current activity status, industry, status in employment, occupation) the target in the first step was to utilize “**Population Characteristics Database (PCDB)**”.
- ❑ However, due to **considerable unregistered employment** in Türkiye, there was **considerable divergence between the results of Household Labour Force Survey (LFS) and the PCDB by nature** (i.e. expected differences between sampling surveys and registers).
- ❑ That’s why it was decided to use the **LFS** for census.
 - Indicators were obtained by recalculating the LFS data. LFS data from the 6 months before the census reference date and the 6 months after the reference date were combined. This combined LFS data has been harmonized to the reference date of the census.
 - PCDB could only be partially utilized for census purposes.
(for the institutional population which is not covered in the LFS)
 - *Information on «occupation» could not be produced.*



□ For housing characteristics, **setting up a registration system for buildings and dwellings** has been one of the institutional targets of TurkStat.

- However, establishing a such a registration system would take time. **It was obvious that the planned registration system would not be available during census period.**

□ In order to eliminate the lack of administrative registers in this area, a **Survey on Building and Dwelling Characteristics, 2021** was carried out by TurkStat in October 2021-March 2022 period.



Survey on Building and Dwelling Characteristics, 2021	
Sampling unit	Household
Method	CATI
Sampling Frame	Addresses registered in the ABPRS, where households reside.
Sampling Size	306 thousand and 615 addresses
Estimation Level	Province (NUTS 3)
Length of Questionnaire	11 questions in two parts (Part 1: Building, Part 2: Dwelling)
Average duration of interview	~10 minutes
Field Application	4 October 2021 – 1 April 2022
Usage of registers	Spatial Address Registration System (SARS) was utilized for the statistical adjustments and controls for the data. Particularly for: number of floors, construction year of the building, type of living quarters (whether it is a residential dwelling or a workplace) and availability of lift.



2021 Population and Housing Census Variables: Overall

No	EU CORE and UNECE CORE/CORE-DERIVED VARIABLES	Status	Data Source
Population to be enumerated			
1	Place of usual residence	✓	ABPRS
Geographic characteristics			
2	Locality	✓	ABPRS
3	Location of place of work/ Location of school, college or university	X	?
Demographic characteristics			
4	Age	✓	ABPRS
5	Sex	✓	ABPRS
6	Legal Marital Status	✓	ABPRS
Educational characteristics			
7	Educational attainment	✓	ABPRS
Migration			
8	Country/place of birth	✓	ABPRS
9	Country of citizenship	✓	ABPRS
10	Previous place of usual residence and date of arrival in the current place; or Place of usual residence one year prior to the census	✓	ABPRS
11	Ever resided abroad and year of arrival in the country	X	?
Economic characteristics			
12	Current activity status	!	LFS
13	Industry (branch of economic activity)	!	LFS
14	Status in employment	!	LFS
15	Occupation	X	?

ABPRS: Address Based Registration System
LFS: Labour Force Survey
SBDC: Survey on Building and Dwelling Characteristics

No	EU CORE and UNECE CORE/CORE-DERIVED VARIABLES	Status	Data Source
Household and family characteristics			
16	Family status	✓	ABPRS
17	Type of family nucleus	✓	ABPRS
18	Size of family nucleus	✓	ABPRS
19	Household status	✓	ABPRS
20	Type of private household	✓	ABPRS
21	Size of private household	✓	ABPRS
22	Tenure status of households	x	?
Housing characteristics			
23	Number of occupants	✓	ABPRS
24	Type of living quarters	x	?
25	Housing arrangements	x	?
26	Occupancy status of conventional dwellings	x	?
27	Dwellings by type of building	x	?
28	Type of ownership (tenure arrangements under which the dwelling is occupied)	!	SBDC
29	Useful floor space and/or Number of rooms of housing units	!	SBDC
30	Density standard	!	SBDC
31	Water supply system	!	SBDC
32	Toilet facilities	!	SBDC
33	Bathing facilities	!	SBDC
34	Type of heating	!	SBDC
35	Dwellings by period of construction	!	SBDC

✓	Register-Based	16
!	Survey Information	11
X	Not Produced/Shared	8

Traditional Censuses

1927 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 2000

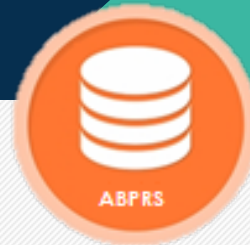
Combined Censuses

2011 Combined Census

(Registers + Large sample survey) *
(*2.2 mil. HHs)

2021 Register-Dominant Combined Census

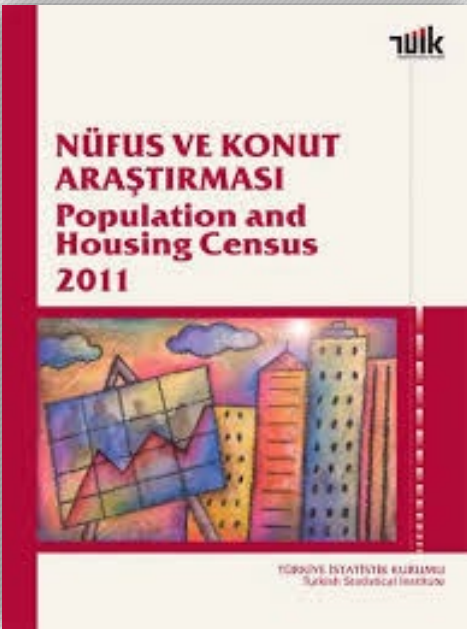
(ABPRS + LFS + SBDC*)
(* 306 000 HHs)



Registers
ABPRS & LFS-based Estimations



Survey
on Building and Dwelling Characteristics with CATI Method



Ultimate target: Changing the system from combined method to fully (100 %) register-based census in 2030 round.



Census Year	Method	~Cost*
2000	Traditional	43.7 million \$
2007	Establishment of the ABPRS	35.9 million \$
2011	Combined (registers: only 20%)	5.2 million \$
2021	Combined	0 \$
2008-2023	Production from the ABPRS	0 \$

ABPRS 17 years old.
 Alternative perspective:
Cost per year (reducing):
~2.1 million \$

* According to TurkStat's Monetary Value Converting for July, 2024

Advantages of using registers:

- ✓ Cost efficiency, reduced burden & non-response
- ✓ Labor-saving statistical production
- ✓ More up-to-date and frequent statistics
- ✓ Flexibility: Linkage with various registers via unique keys (Personal ID Number / Address ID Code)

Challenges for administrative data processing (input):

- ↓ Information collected for solely administrative purposes
- ↓ Lack of metadata
- ↓ Different classifications/definitions used by data holders
- ↓ Coverage issues and missing values in registers
- ↓ Reference date discrepancies, timeliness
- ↓ Multiple records – deduplication – data loss
- ↓ IT infrastructure

Challenges for output data:

- ↓ Quality management and accuracy.
- ↓ Communication strategy for register-based statistics.
- ↓ Ensuring the sustainability and maintenance of the system.
- ↓ Data confidentiality.
- ↓ Deviation from regular household surveys (such as LFS, SILC)



❑ Determination of the final census methodology in 2020 round was a significant challenge for TurkStat. Together with increased use of registers compared to the previous census round, 2021 PHC is referred as a “**register-dominant combined census**” by TurkStat.



❑ For the 2030 census round:

➤ **Setting up a registration system for buildings and dwellings** will be one of the institutional targets of TurkStat.

➤ **Improvement of the Population Characteristics Database (PCDB)** in terms of coverage, content and quality.

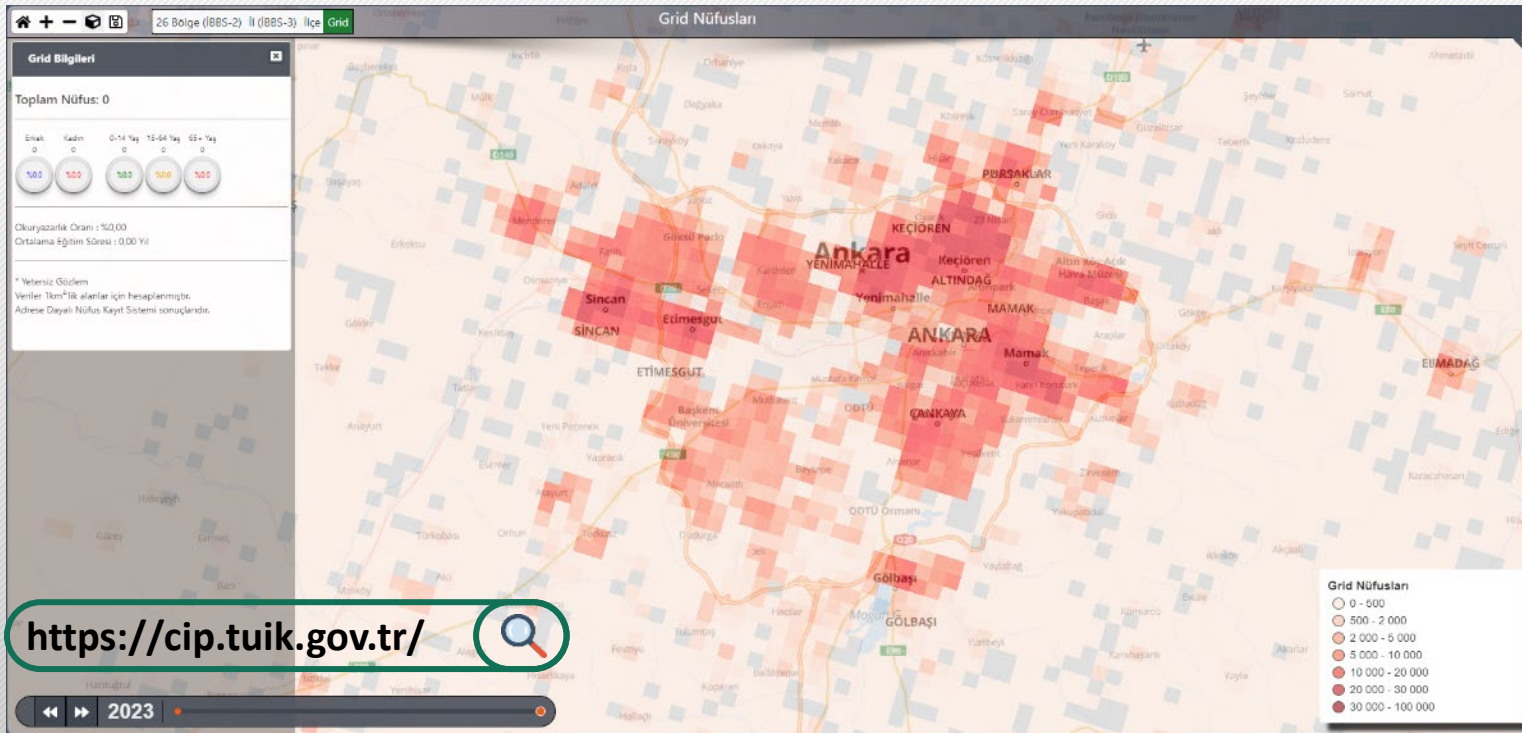
➤ **Ultimate target:** Changing the system from combined method to **fully (100 %) register-based census in 2030 round.**



- ❑ **Spatial Address Registration System (SARS)** was operationalized nationwide in 2023. The system is basically the extension of the text-based address registers with **coordinate information**.
- ❑ However, **TurkStat could not use the SARS directly for 2021 PHC** due to the **time lap** between the census operation and the introduction of the SARS.



Spatial Address Registration System



❑ With the introduction of the SARS, **population grid (1 km² field level) statistics** were produced for the first time in 2023. TurkStat also developed a new urban-rural typology (**based on the Degree of Urbanisation (DEGURBA)**) by using the population density over 1 km² population grids.

❑ **Grid statistics in 2030 census round!**

Thanks for your attention

