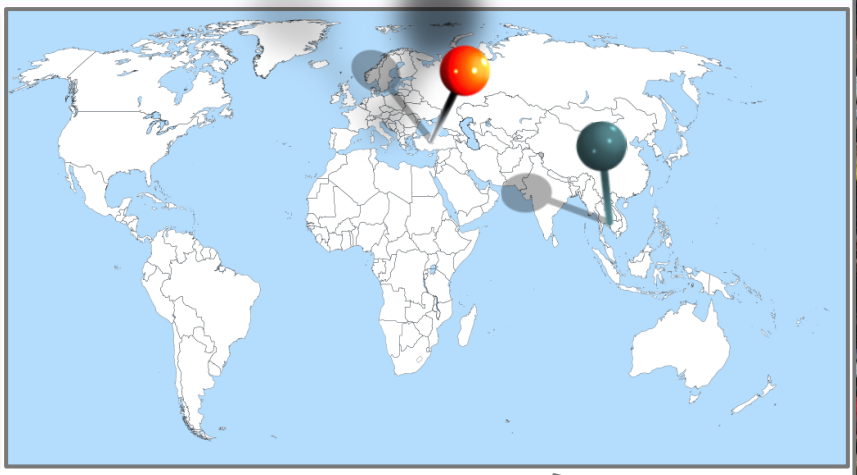
TurkStat

Turkish Statistical Institute

Demographic Statistics Department
Population Characteristics Group





1st April 2022

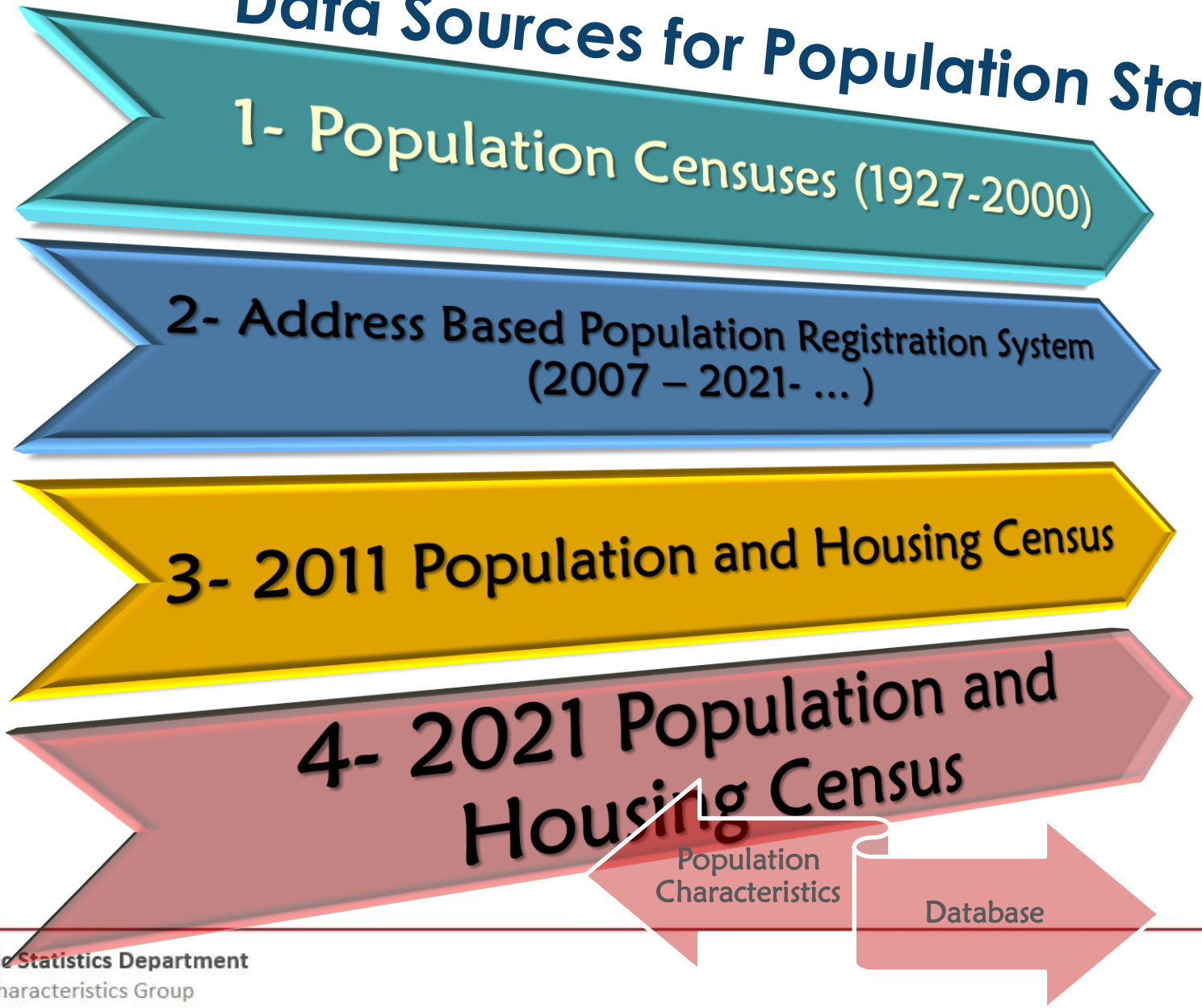
Transition Towards a Register-based Census in Turkey

STATS CAFÉ

4 April 2022| 13:00 - 14:30 (UTC+7)

Emerging Trend – The Use of Administrative Data in Asia-Pacific Censuses

Data Sources for Population Statistics



Census History in Turkey

- The first census in 1927,
- The second census in 1935,
- Every five years between 1935-1990,
- The last traditional census in 2000
- *Totally 14 traditional population censuses*







Method

- Traditional census method
- Standard questionnaire (PAPI)
- «De facto» population definition,
- One day application with national curfew

Address Based Population Registration System

- **Established by TurkStat (2007),**

- **Up-to-date population information of the people:**
  - Their place of residence,
  - Population movements can be monitored at any time,
  - Persons and their residence addresses are matched according to the personal ID number in the Central Civil Registration System (MERNİS)

- **Purposes:**
  - To define an address standard
  - Standardized numbering and signboarding
  - National address database (NAD) → full coverage…
  - To match the personal data and addresses by a field work
  - Covering all people → place of residence…
  - «De-Jure» definition…
  - Actual information on population size & structure…

Legal Base

1. **Civil Registration Services Law** No. 5490, dated 29.04.2006.
2. The regulation related to Address and Numbering Study.

(Prepared in accordance with Civil Registration Services Law)

3. **The Turkish Statistical Law** No. 5429 (related articles on field application and data confidentiality).

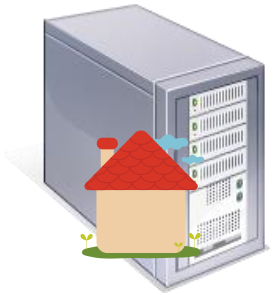
- Civil Registration Services Law charged;
  - TurkStat for establishing the ABPRS.
  - Ministry of Interior for maintaining and updating the system.



ABPRS: Structure



Central Civil Registration System (MERNİS)



National Address Database (NAD)

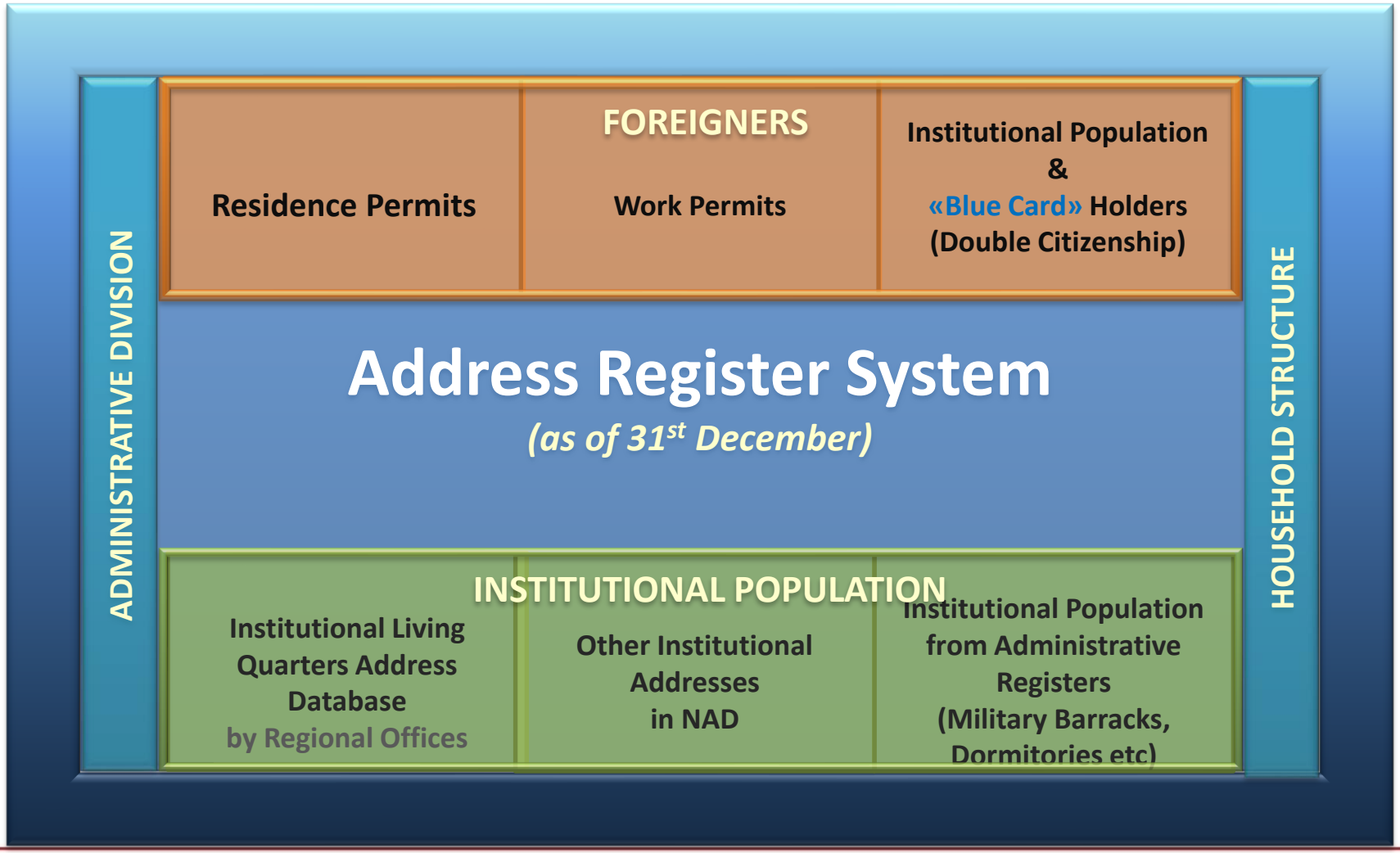


Foreigners living in Turkey

Address Based Population Registration System

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

ABPRS: Structure



Which statistics produced from ABPRS?

Statistics produced annually (since 31 December 2007) :

- Population size by localities
- Age, sex
- Literacy and completed level of education
- Nationality (Country of Citizenship)
- Marital status
- Place of civil registration
- Mean household size
- Internal migration (since 2009)
- Place of birth (since 2014)
- Type of households (since 2016)
- Immigration and emigration (since 2016)



ABPRS is also base for:
- Life tables
- Population projections

2011 Population and Housing Census

- After 14 traditional censuses, 2011 PHC was conducted with "**combined**" method.
  - %20: Address Based Population Registration System (ABPRS) and National Education Statistics Database (NESD)
  - %80: Sample survey
- In 2011 PHC, registers were also used for:
  - Address frame (National Address Database)
  - To check the accuracy (Social Security Records, Unemployment Agency Records, Building Permits)
  - Corrections/Imputations

2011 Population and Housing Census

- De jure population definition (instead of de facto)
- 3 months field application (instead of one-day)
- 12% sample rate (enumeration area)
- Full enumeration in institutional places
- In total: 2.4 million households and 9 million individuals
- Face to face interview
  - 40% PAPI
  - 60% CAPI


2011 POPULATION AND HOUSING SURVEY
QUESTIONNAIRE



2000 vs 2011 PHC

	2000 PC	2011 PHC
Method	Traditional	Combined
Definition for residency rule	De-facto	De-jure
Duration of field application	One day application with a national curfew	2-3 month
Questionnaire	Standard	Household + Institutional Places
Collection method	PAPI	PAPI and CAPI
Data entry	ICR	Online data transfer for CAPI, Web-based program for PAPI
# of staff	1 million	4 500





2021 PHC

2021 Population and Housing Census: Driving Forces

- **Negative features** of the censuses with field operation

Positive effects of:

- Completion of the **Central Civil Registration System (MERNIS) including unique ID numbers:** 2002
- Setting up the **National Address Database (NAD)**: 2006
- Establishment of the **Address Based Population Registration System (PR/ABPRS)**: 2007
- Creating the **National Education Statistics Database (NESD):** 2008



2021 Population and Housing Census: Driving Forces



- Producing **annual population statistics** according to PR: 15 years, 2007-2021.
- Utilizing **administrative registers** for the first time for census purposes: 2011
- Setting up **the Institutional Living Quarters Address Database:** 2012
- Transforming the National Address Database to **Spatial Address Registration System (SARS)** by adding coordinate information to addresses: 2012-202? **(ongoing…)**

Population and Housing Census Methodology



2011
Combined Census

(Registers +
Large sample survey) *

(2.4 mil. HHs & more variables)

2021 Register-Dominant
(!) Combined Census

(Appr. 66 % from ABPRS +
More registers +
Ad-Hoc survey) *

*(306 000 HHs & less variables)

Ultimate target: Changing the system from combined method to full (100 %) register-based census (ongoing efforts)

2021 Population and Housing Census: Preparations

- Steering Committee (SC) was established (June 2018):
  - Consists of a vice president and 5 related heads of departments of TurkStat
  - To coordinate all processes of 2021 PHC
  - To decide the working groups
  - To decide the registers to be used
  - To determine the needs (budget, IT infrastructure)
- Working groups on «Labor Force Statistics» and «Quality» were established.

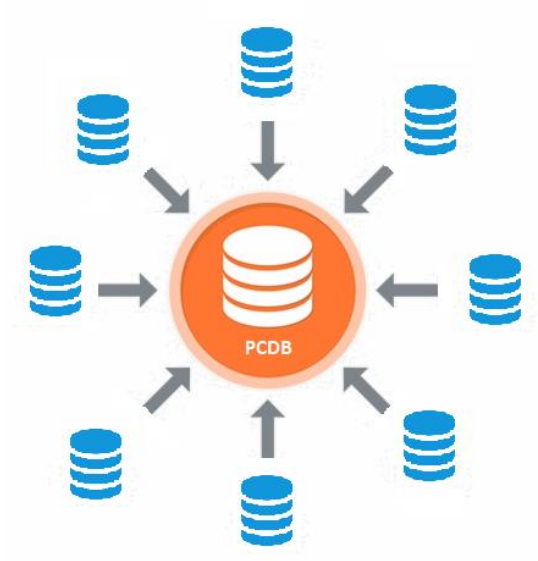
Registers Needed for a Register-Based Census

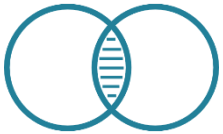
- Population (demography, migration, household/family) ✓
- Address ✓
- Education ✓
- Disability — Ministry of Family and Social Services & Ministry of Health
- Employment and Unemployment ⚠
- Buildings and Dwellings ⚠



2021 Population and Housing Census

Targeting register-dominant combined census in 2021







Registers

ABPRS

&

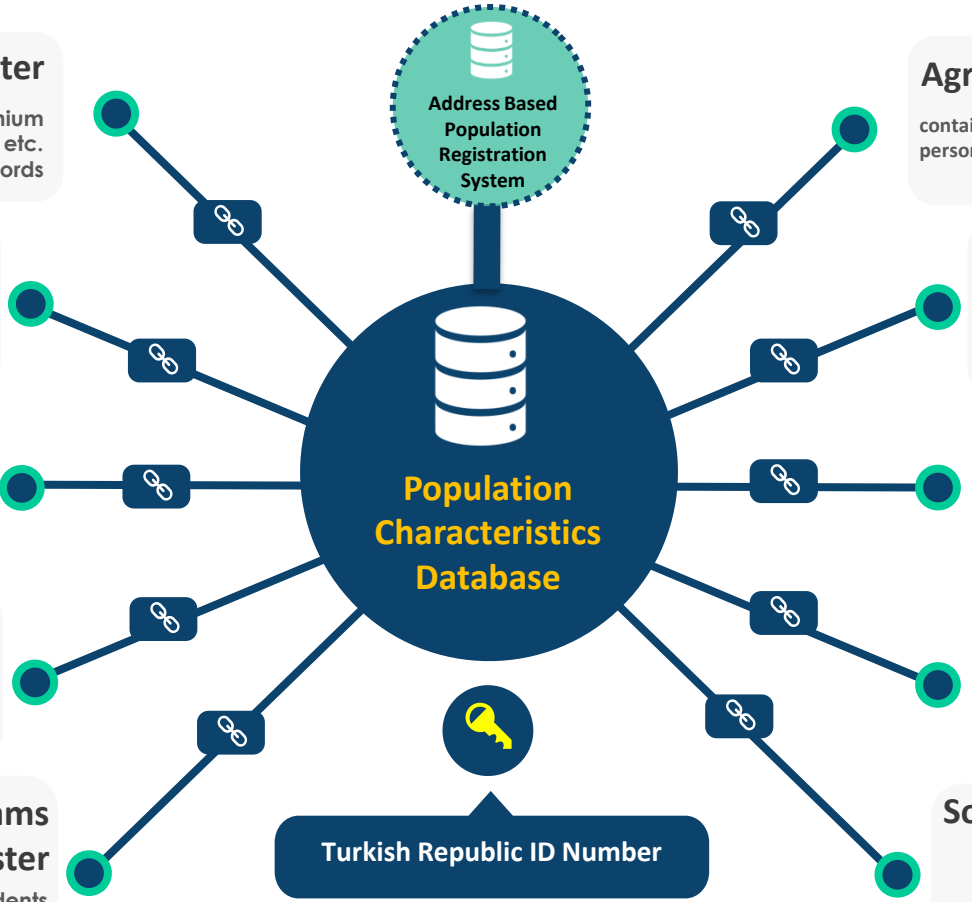
Population Characteristics Database

Survey

Survey on Building and Housing Characteristics

with CATI Method

Population Characteristics Database



Social Security Register

contains the insured's earnings, premium amount, premium payment days, etc. records

Income and Tax Register

contains the Annual Income Tax Return and earnings records

Employment and Unemployment Register

contains Turkish Employment Agency's job seekers records

Disabled Register

contains type of disability and rate of disability

Education and Exams Register

contains active and passive students records and higher education exams and exams for job

Agricultural Register

contains agricultural activities of persons

Tradesman Information System

contains Tradesman records

Road Motor Vehicle Register

contains Road Motor Vehicles records

Retirement Register

contains retired records

Social Assistance Register

contains disabled pension, widow's pension, orphan's pension and other social assistance

What is the PCBD?

Population Characteristics Database (PCDB):

provides integrated individual information on:



age,
sex,
nationality,
disability,
education,
employment status,
property,
migration,
family structure.

Aim:
To produce

high quality,
low cost,
Sustainable
and comprehensive statistics

for PHCs and other data users.

Pilot studies were planned for PCDB:
I. Pilot Study (with reference date end of 2018)
II. Pilot Study (with reference date end of 2019)
III. Pilot Study (with reference date end of 2020)

Advantages & Challenges of Admin Data

Advantages



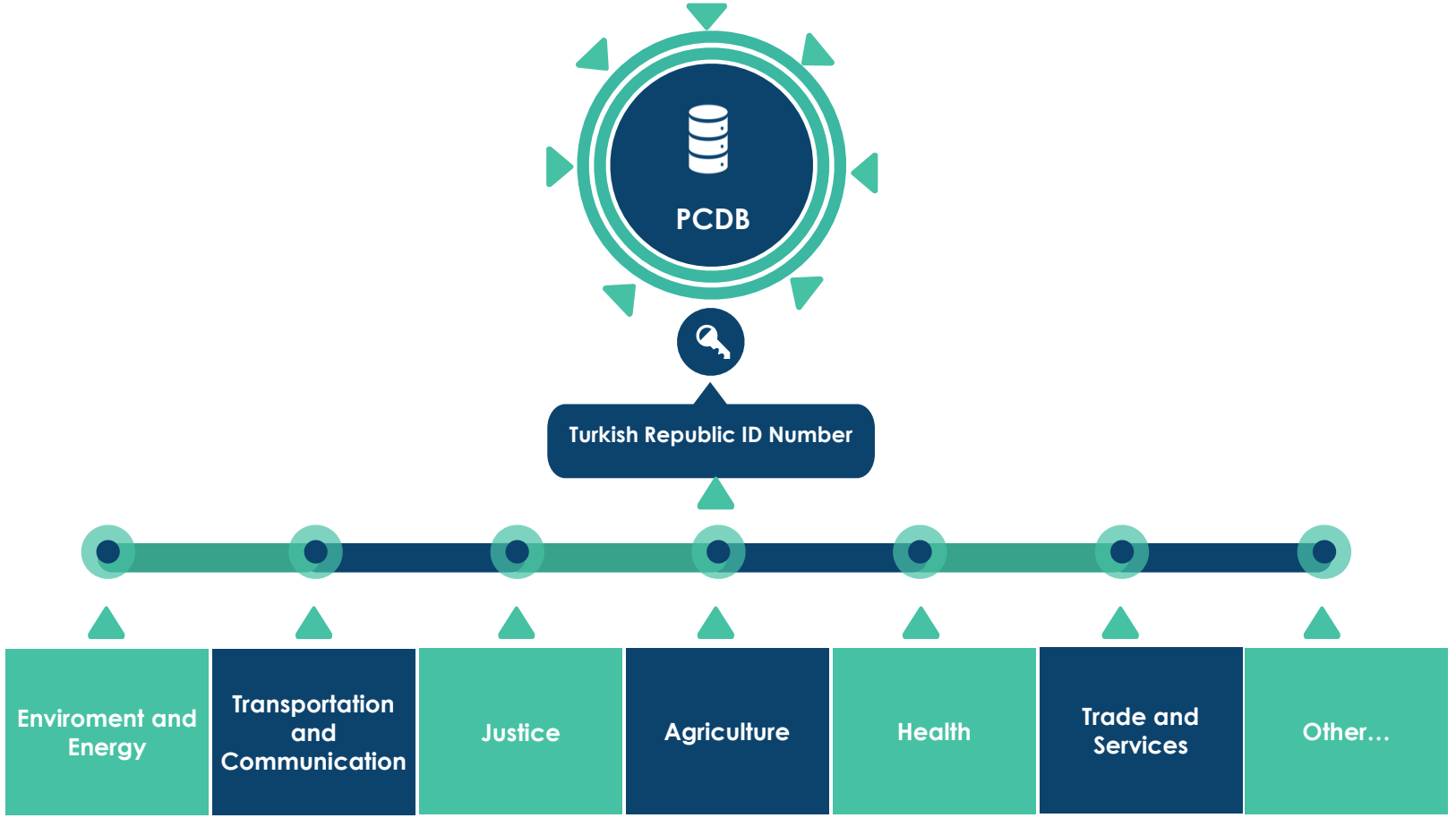
- Cost efficiency
- Labor-saving statistical production
- More up-to-date and frequent statistics
- Linkage with various registers via unique keys (Personal ID Number / Address ID Code)

Challenges



- Lack of Metadata
- Different Classification by Data-holders
- Differences of Definitions
- Missing Value in Registers
- Discrepancies in Reference Dates
- Multiple Record – Deduplication – Data Loss
- IT Infrastructure

PCDB beyond 2021 PHC



The ultimate goal: to produce census-type statistics annually based on administrative records in the post 2021 round.

Building and Housing Characteristics Survey

- Conducted **Pilot Study** in **December 2020**
- Around **306 000** households with **CATI method**
- Currently ongoing from **October 2021** to **March 2022**
- Estimated 80-145 enumerators for survey
- Survey duration is 6 min. on average

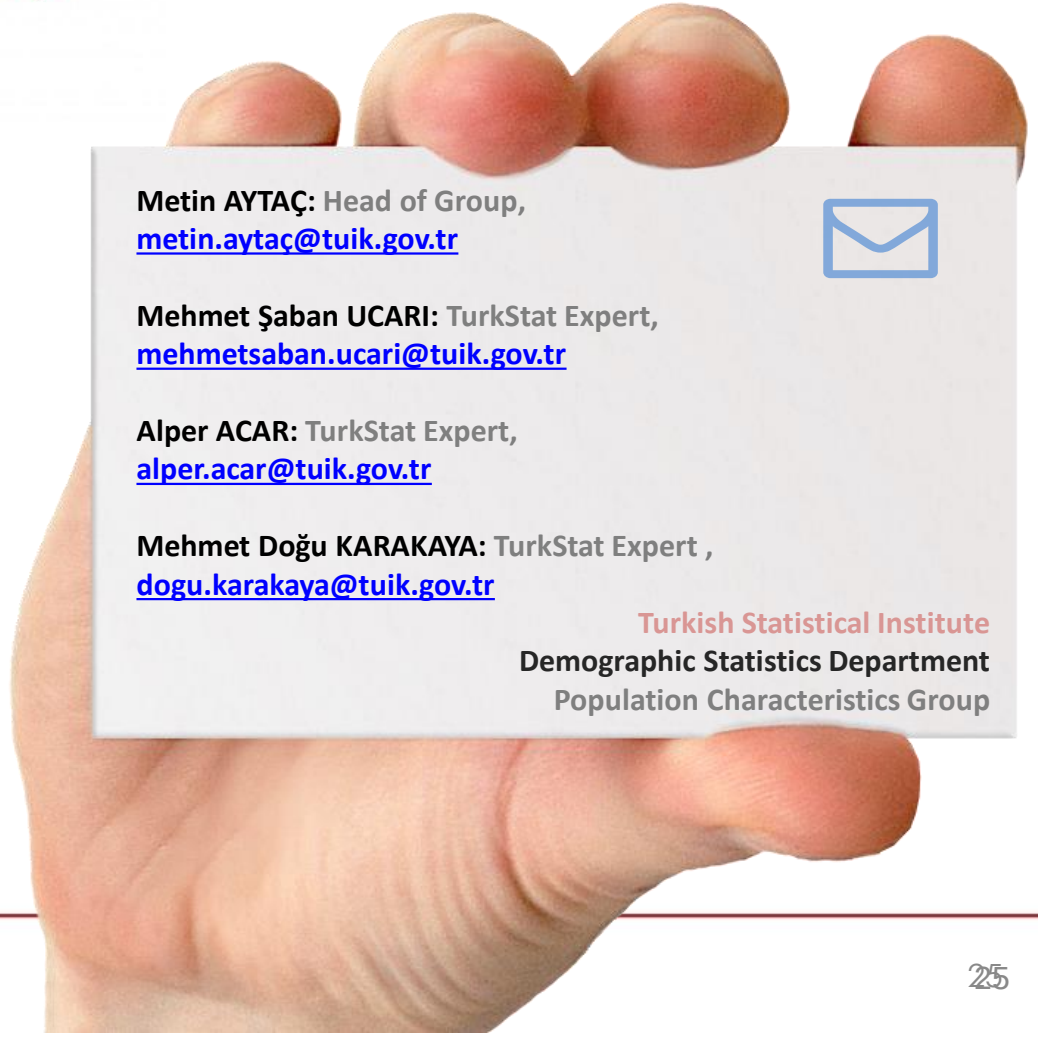


Legal Base

- TurkStat has been implementing all statistical activities (including census) according to the **Official Statistics Programme**, based on the **Statistics Law of Turkey.**
  - Thus, TurkStat does not need a special census law.
  - 2021 PHC and related issues were added to **2017-2021** term Official Statistics Programme
- According to mentioned Law, TurkStat is the authority to determine the **statistical methods, definitions, classifications** and **standards** to be used in the production of official statistics in line with national and international norms







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