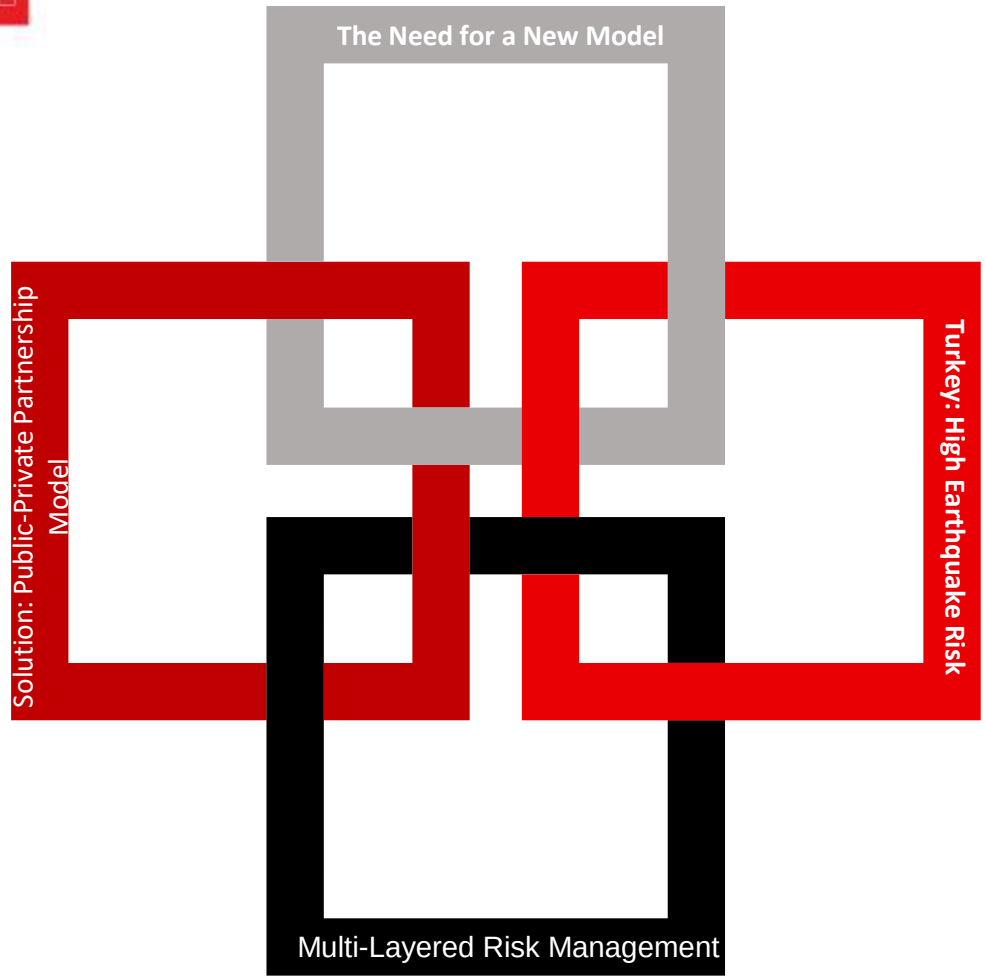
Turkish Natural Catastrophe Insurance Pool

Disaster Risk Finance Academy Executive Education Program

Istanbul, 09.04.2025

DOĞAL AFET SİGORTALARI KURUMU

Türkiye’s Disaster Risk Finance & Insurance Model



Turkey: High Earthquake Risk

1999 Marmara Earthquake → 15,000 fatalities & massive economic burden
Only 3% of homes insured → Heavy strain on public finances

The Need for a New Model

Reduce the post-disaster financial burden
Encourage individual responsibility

Solution: Public-Private Partnership Model

2000 → TCIP (DASK) established
First national catastrophe insurance pool in a middle-income country

Multi-Layered Risk Management

Insurance sector → Primary risk bearer
Reinsurance markets → Global risk-sharing
Government → Government-backed financial guarantee

Türkiye’s Disaster Risk Finance Approach

Turkey’s Multi-Layered Disaster Risk Financing Strategy

1 First Layer: TCIP Risk Pooling & Domestic Fund Reserves

Nationwide insurance premiums are pooled into a national fund

Ensures risk-sharing across the country

Covers damages up to a predefined limit

2 Second Layer: International Reinsurance Support

In case of major disasters, domestic funds may be insufficient

TCIP transfers excess risks to global reinsurance markets

3 Third Layer: Government-support financial guarantee

The state provides support under market conditions, with the same terms, by defining the missing parts from the beginning.

Establishing the regulations from the outset and determining the commitment in advance.

Briefly Natural Disasters in Türkiye

Floods: Second most frequent disaster after earthquakes. **2021 Black Sea floods** caused 97 deaths; majority of homes and businesses were uninsured.

Landslides: Frequent in the Black Sea region; deadly events like 1988 Maçka (64 deaths) highlight risk.

Wildfires: 2021 fires burned over 150,000 hectares in Mediterranean Türkiye; affected forests, villages, and tourism zones.

Policy Need: Urgent to **expand multi-hazard insurance**, raise awareness, and incentivize climate risk protection.

Underinsurance in Other Hazards: Floods, landslides, wildfires, storms and avalanches cause **recurrent losses**, yet remain largely **uninsured**.

Policy Gaps: Protection gap remains high; need for increased penetration in **voluntary property insurance** and **parametric models**.

Purpose of TCIP

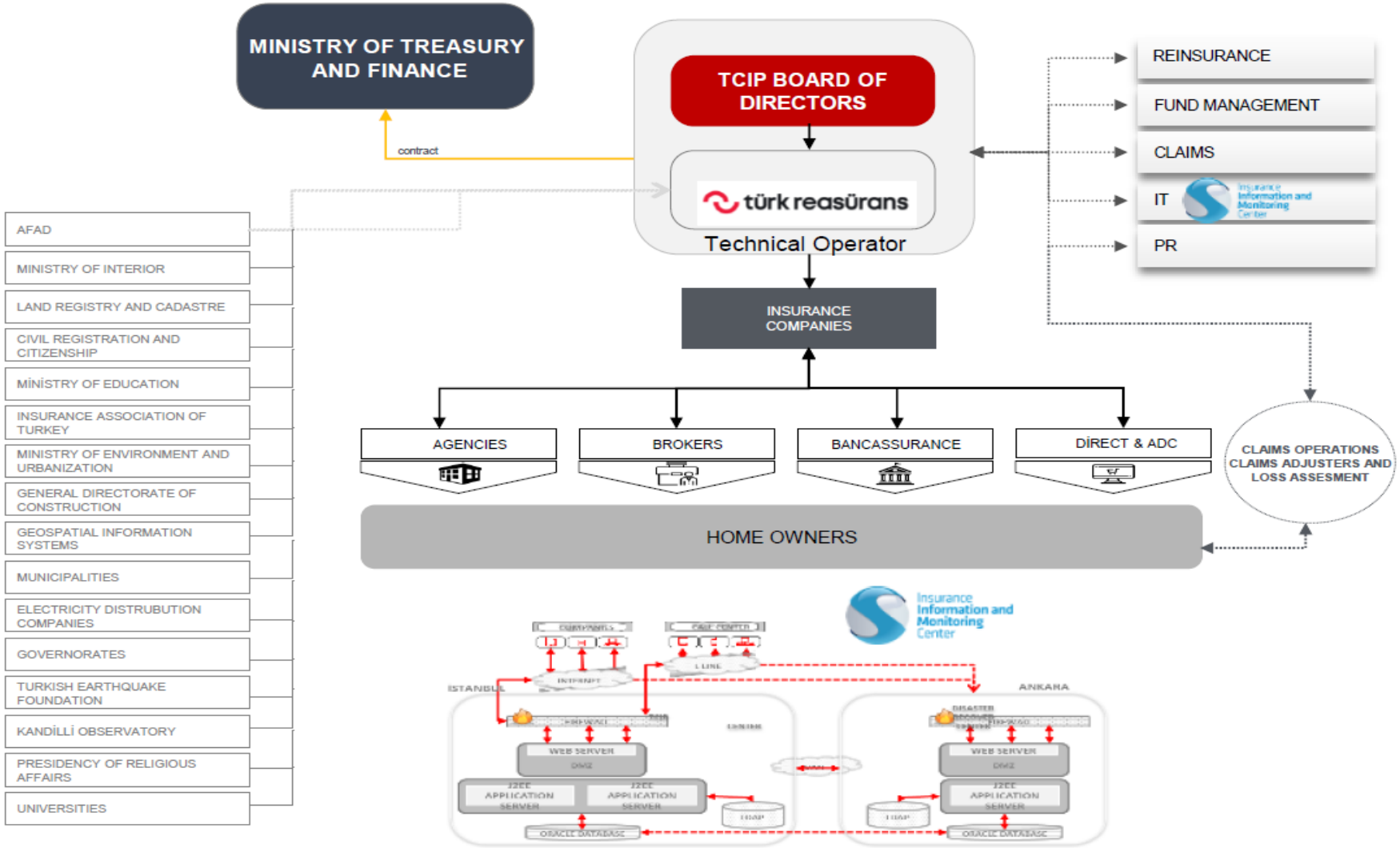
OBJECTIVE

- Insurance Coverage at reasonable prices for people with average income
- Less government expenditure for catastrophes
- Ground for long term fund accumulation
- Sharing the financial burden of earthquake with reinsurance markets
- Improvement of risk culture and insurance consciousness in public
- Coordination of 39 Insurance Companies and about 17.000 agencies to issue Compulsory Earthquake Policy
- Loss assessment and payment of indemnities in case of an earthquake

PAYMENT CAPASITY

- DASK has enough **protection & claim payment capacity** in case of an earthquake
  - Accumulated Earthquake Reserve
  - Reinsurance protection
- Whole Reinsurance protection is provided by reputable Reinsurers and Insurers.
- Claim payment capacity of TCIP is **TL 355 Billion** in 2024-2025

Background: TCIP structure



BOARD CHAIRMAN and MEMBERS

- The TCIP is managed by the **Board of Directors of Turkish Catastrophe Insurance Pool**, which consists of seven members, one of which is the chairman.

- The Board of Directors consists of the representatives of:
  - the Ministry of Treasury and Finance, Insurance & Private Pension Regulation and Supervision Agency (chairman)
  - the Ministry of Environment, Urbanization and Climate Change,
  - the Ministry of the Interior, the Disaster and Emergency Management Presidency,
  - the Capital Markets Board,
  - the Insurance, Reinsurance and Pension Companies Association of Turkey,
  - a university representative and
  - the Technical Operator, Türk Reasürans A.Ş.

Role of the Insurance and Private Pension Regulation and Supervision Agency (SEDDK)

1. Overview of SEDDK

- Regulatory and supervisory authority for the insurance and private pension sectors in Turkey.
- Ensures sustainability, transparency, and efficiency in the insurance market.

2. SEDDK's Role in DASK

- **Regulation & Supervision:**
  - Oversees policy issuance, pricing, and claim settlement.
  - Defines and updates Zorunlu Deprem Sigortası (Compulsory Earthquake Insurance) tariffs and coverage.
- **Financial Sustainability & Reinsurance:**
  - Oversees DASK's reinsurance strategies and financial reserves.
  - Supports financial planning.

IT Operations Managed by the Insurance Information and Monitoring Center (SBM)

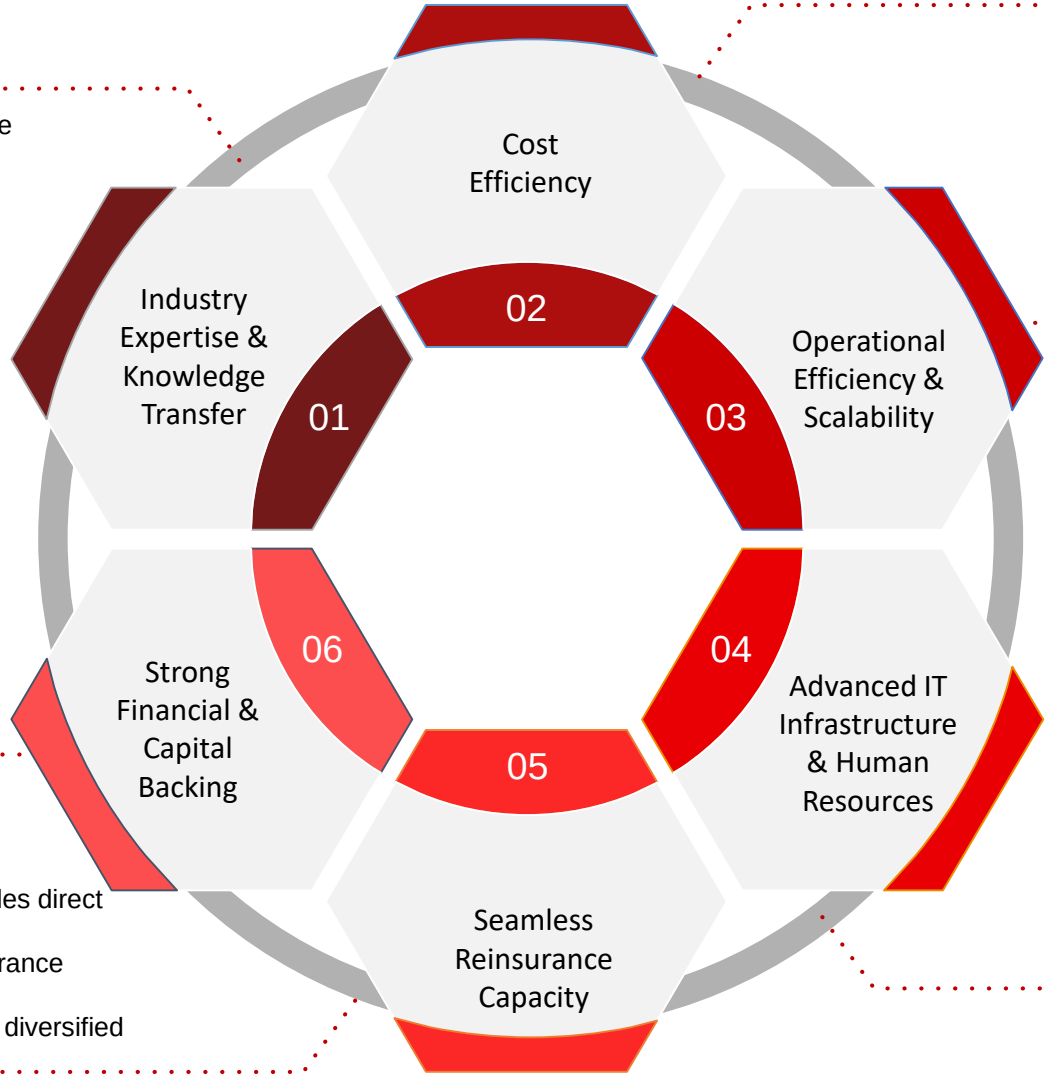
1. About the Insurance Information and Monitoring Center (SBM)

- Established to provide digital infrastructure and data services for the Turkish insurance industry.
- Manages sector-wide platforms including policy databases, claims systems, and fraud detection tools.
- Ensures data standardization, sector transparency, and regulatory reporting.
- Manages sector-wide platforms including policy databases and claims systems.

2. SBM's Role in DASK:

- Operates and maintains DASK's IT infrastructure, including underwriting, claims, and reporting systems.
- Provides real-time integrations with e-Government, AFAD and Land Registry.
- Supports operational scalability during large-scale events like the Kahramanmaraş earthquakes.

Benefits of Having a Technical Operator in DASK



- Utilizes the experience and technical know-how of the insurance sector.
- Facilitates access to best practices in underwriting, claims management, and catastrophe modeling.
- Ensures compliance with global insurance standards and regulations.

- Reduces operational expenses by leveraging existing insurance infrastructure.
- Eliminates the need for DASK to establish and maintain its own operational teams.
- Enhances resource allocation for risk management and policy expansion.

- Enables quick scalability in times of major disasters.
- Ensures uninterrupted service delivery, even in high-claim scenarios.
- Enhances customer service and policyholder satisfaction with streamlined processes.

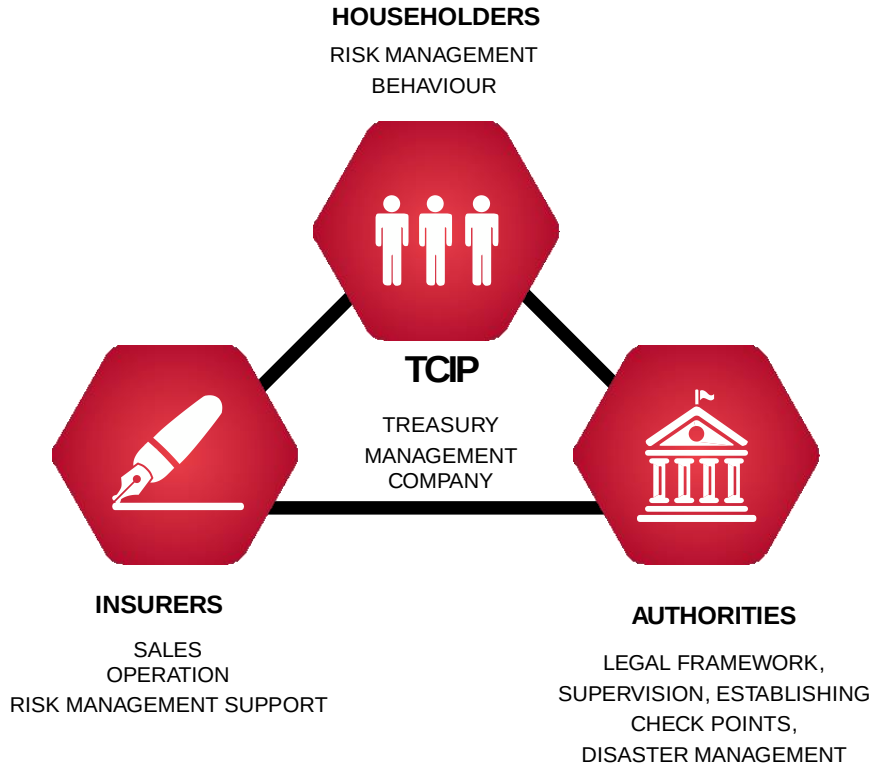
- Benefits from the financial strength of the technical operator.
- Ensures liquidity and stability in handling large-scale disaster claims.
- Supports long-term sustainability through effective capital management.

- Provides state-of-the-art IT solutions for policy issuance, claims processing, and risk assessment.
- Utilizes big data analytics, AI, and digital tools for efficient disaster response.
- Ensures a skilled workforce with expertise in insurance operations, actuarial analysis, and catastrophe modeling.

- As a reinsurance company, the technical operator provides direct access to international reinsurance markets.
- Enhances financial resilience by securing optimal reinsurance agreements.
- Reduces volatility in catastrophic loss scenarios through diversified risk-sharing mechanisms.

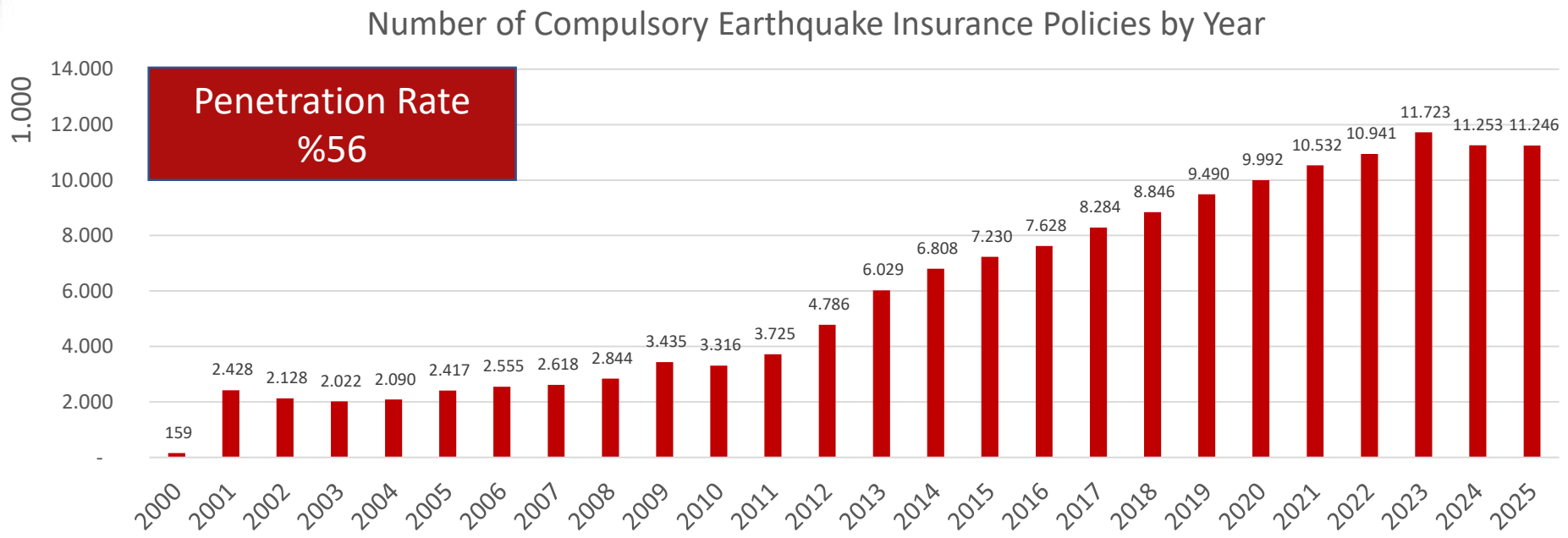
UNIQUE ORGANIZATIONAL STRUCTURE

- Simple/lean organization
- Public-Private-Partnership
- Low operational cost
- Low distribution cost
- Adherence to insurance principles
- Obtaining strong political and regulatory support
- Embracing all stakeholders



LOW COST
NETWORK
ORGANIZATION

POLİCY ISSUANCE



The Role of Facultative Insurance

- Supplements DASK coverage by offering **additional protections**.
- Covers **contents (furniture, appliances), business interruptions, and additional building damages**.
- Allows policyholders to tailor their insurance coverage to their specific needs.
- Enhances financial security by **offering broader risk protection**.

Number of In-Force Policies
11.2 Billion

Average Coverage Amount
22.605 USD

Average Premium
37 USD

Total Number of Claim Files
689.000

Maximum Coverage
45.797 USD

Total Amount of Claims Paid
41,8 Milyar TL

Solvency
9,3 Billion USD

Penetration Rate
%56

General Policy Renewal Rate
%61

Innovations: CCI Transition, TCIP Mobile App, and Loss Adjuster App

Transition To **Compulsory Natural Catastrophe Insurance**

Compulsory Earthquake Insurance **CEI**	
Earthquake	Building

Compulsory Natural Catastrophe Insurance **CCI**		
Earthquake Volcanic Eruption	Building	Tariff Exist
Flood	Building UNC*	New Tariff
Landslide	Building UNC*	New Tariff
Hurricane - Cyclone Avalanche Hail Wildfire	Building UNC*	Fixed Price

TCIP **MOBILE APPLICATION**

LOSS ADJUSTER **MOBILE APPLICATION**

Product

Product concept → **Singularity**

Line	Peril	Risk	Provider
Property	- Earthquake - Flood - Landslide - Hurricane – Cyclone - Avalanche - Hail - Wildfire	Residential Buildings	TCIP

Product feature → **Simplicity**

Understanding	Access	Pricing	Click Product	Post-sales Operations
- Earthquake - Flood - Landslide - Hurricane – Cyclone - Avalanche - Hail - Wildfire	All Channels	4 pricing factors	Few Information requirements	Just Call 125

Simple Tariff

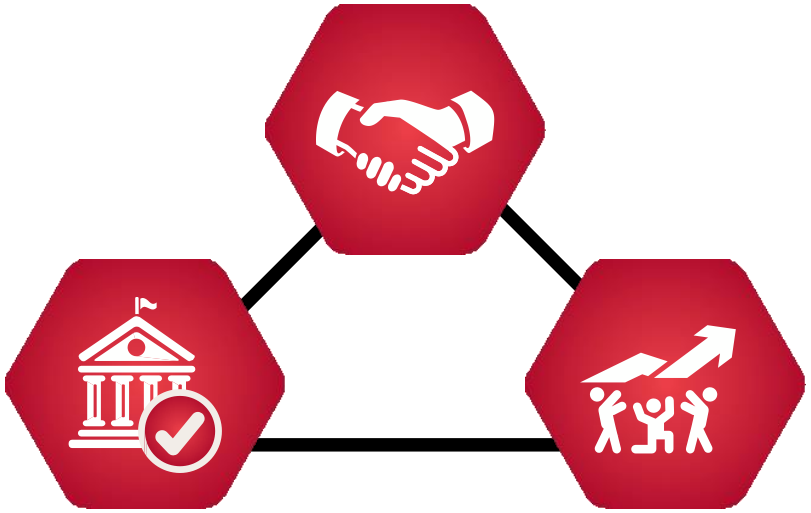
- Risk Groups
- Construction Type
- m² of apartment
- Number of Storeys

BEST PRICE Guaranteed

REACHING AND MANAGING WITH STAKEHOLDERS

DISTRIBUTION

INSURANCE COMPANIES, BANKS AND INSURANCE INTERMEDIARIES, DASK DIRECT, WEB SALES



CHECK POINTS

UTILITY COMPANIES (ELECTRICITY AND WATER)

LAND REGISTRATION OFFICES, MORTGAGE TRANSACTIONS

PR ACTIVITIES

NATIONAL AND LOCAL ACTIVITIES, HOMEOWNERS, OPNION LEADERS, PUBLIC OFFICERS, LOCAL AUTHORITIES

- For the purpose of increasing the prevalence of Compulsory Earthquake Insurance, effective control mechanisms are created to take out insurances at the time of electricity and water subscriptions, title deeds transactions and housing loan requests.
- *Next Step : Natural Gas Subscriptions, Internet Service Providers Subscriptions*

SOCIAL MARKETING

COMPLEXITY IN NAT-CAT OPERATIONS

1
LOSS ASSESSMENT PROCESS


2
LOSS ADJUSTER MANAGEMENT

3
OPERATION CENTER MANAGEMENT

Brokers

Operation Center

Pool's Management Compnany

Call Center

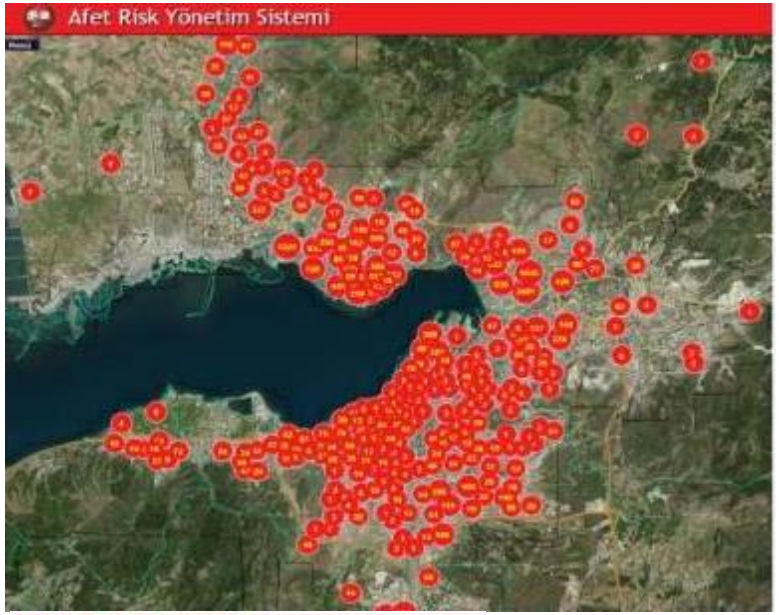
TCIP Secondary Operations Center

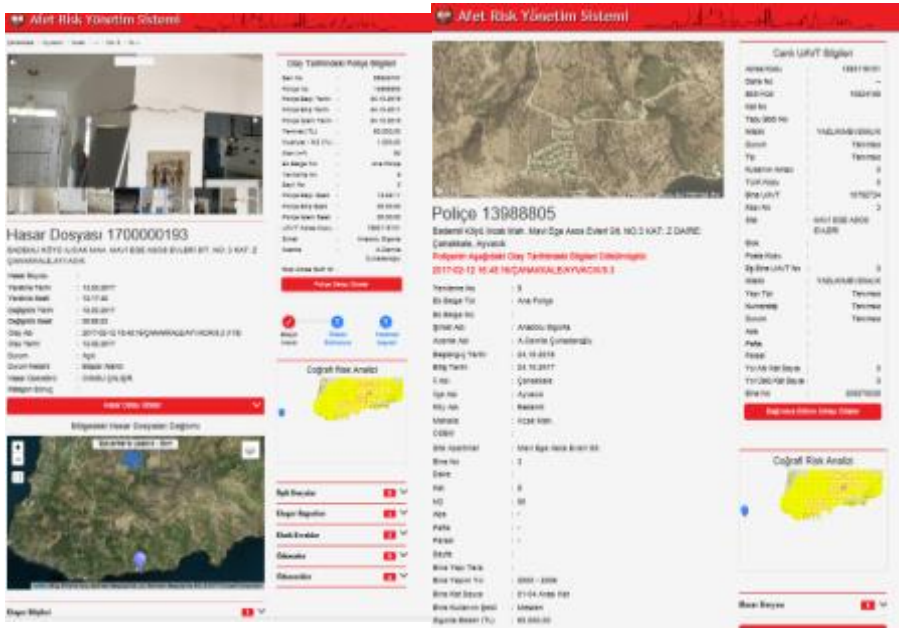
Loss Adjusters Executive Board
AKOM
Governorates, Municipalities ve Local Authorities
Call Centers
Transportation Companies
Telecommunication Companies
Catering Firms
Hotels
Security Firms
Cargo and Courier Firms
Mobil Banc Transactions

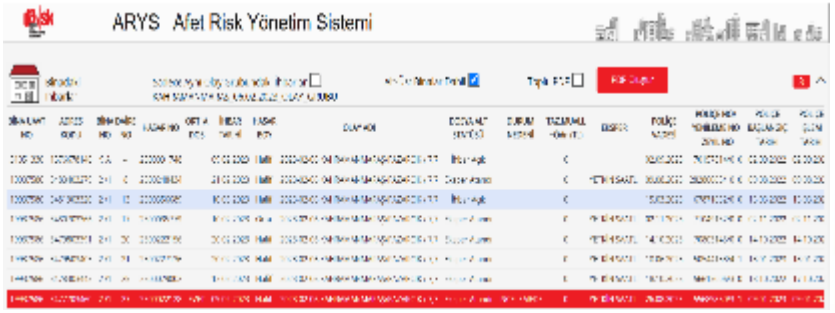
4
OPERATION COORDINATION MANAGEMENT

Minister of Treasury and Finance
Insurance Association of Turkey
Insurance Companies
AFAD
Environment And Urbanization
TOBB

DIGITAL REAL TIME OPERATIONAL PLATFORM (ARYS)







DIGITAL REAL TIME OPERATIONAL PLATFORM (ARYS) Cont'd

CAT MANAGEMENT PROGRAM STRUCTURE

DISASTER CALL CENTER

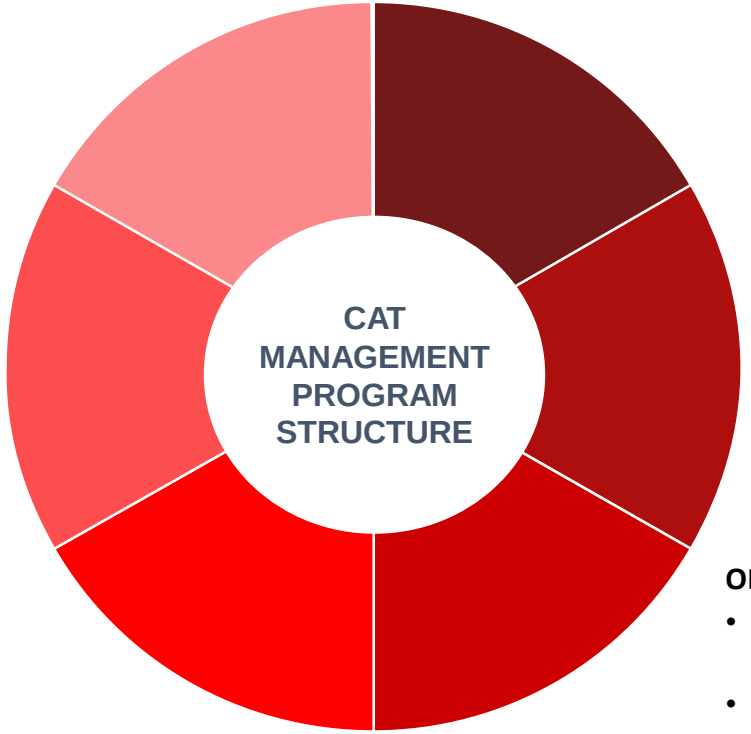
The Disaster Call Centre project is a model study made for an earthquake, the time, place and scale of which are uncertain but the loss effects of which are not possible to be ignored. Solely improved by TCIP due to her EQ & Nat-Cat Operations.

NATURAL DISASTER RISK MANAGEMENT SYSTEM (ARYS)

GIS based decision support platform, for purposes of facilitating the operations management and planning efforts

MOBILE LOSS ASSESSMENT APPLICATION

- Loss assessments are made solely through the Mobile Loss Assessment Application for rapid claim assessment, a simple methodology developed for determining structural damages
- To control costs centrally 22K cost recipes are up-loaded into the software



CLAIM MANAGEMENT IT STRUCTURE

Disaster Management System (DMS) software is developed to be the heart of TCIP's claims system is put into practice in 2016.

CONTINGENCY LOSS ADJUSTER RESOURCE & NATIONAL DAMAGE ASSESSMENT METHODOLOGY

Using technical staff of the Ministry of Environment and Urbanization in case of a big earthquake.
Common methodology for building damage assessment among the institutions who are on the field after an earthquake.

OPERATIONAL EXCELLENCE

- Ankara Emergency Operations Management Center established
- Claim notification system upgraded
- Improved coordination &online integration with Government Stakeholders
- New parametric methodologies to be developed for claims handling instead of traditional damage&loss assessment
- Mobile Office put into operation

MANAGING CLAIM PROCESS

CAT RESPONSE PLAN	LOSS ASSESMENT/CLAIM MANAGEMENT
START	EARLY LOSS ASSESMENT
PR AND COMMUNICATION	NOTIFICATION
EARLY ASSESMENT – FINANCIAL ANALYSIS	ADJUSTER LOGISTICS
APPOINTMENT	ADJUSTMENT
COMMUNICATION WITH PARTNERS	VALUATION
COORDINATION WITH FINANCIAL INST	APPROVAL
COORDINATON WITH PUBLIC OFFCICES	PAYMENT
FOLLOW UP	REPORT/COMPLAINP ERFORMANCE MANAGEMENT

OPERATION MANAGEMENT

RESOURCE MANAGEMENT

MOBILE APPLICATION

- Improving new models and methodologies
- Operational management of catastropic claims
- Management of aftershocks
- Standardization of claims adjusting
- Unit cost management
- Mobile indemnity payment infrastructure
- Mobile field and claim management

CLAIM NOTIFICATION CHANNELS

ALO DASK 125
Zorunlu Deprem Sigortası Hattı

IVR

TCIP MOBILE APPLICATION

türkiye.gov.tr

WWW.DASK.GOV.TR

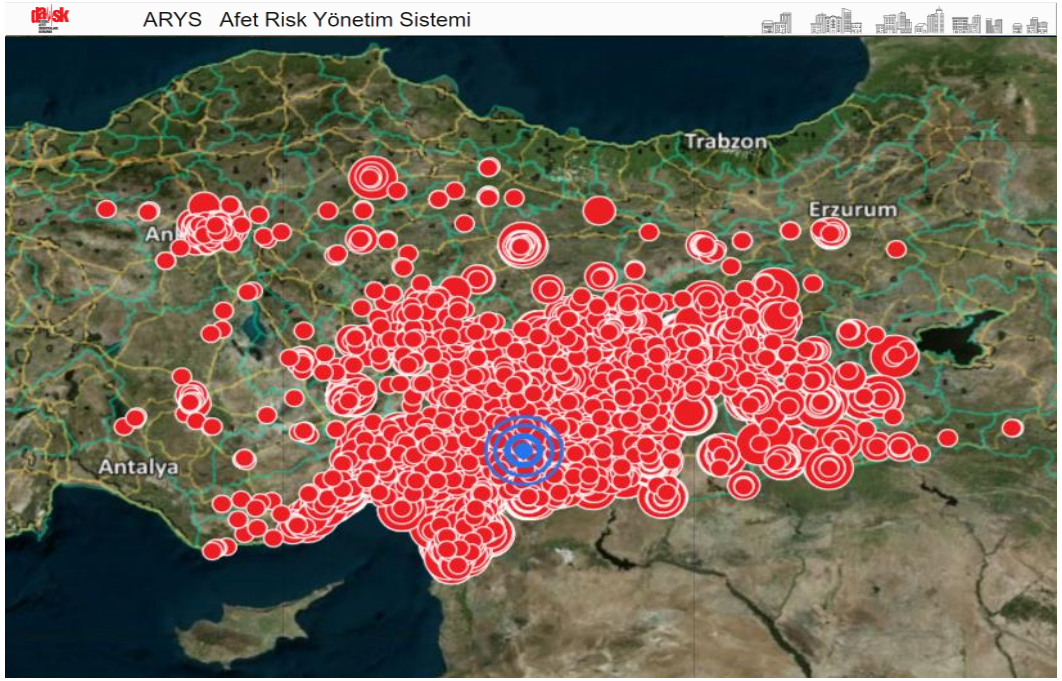
Note: With the New Claims System Transition, Adjusters will be able to report new claims during their active field work via the Adjuster Mobile application.

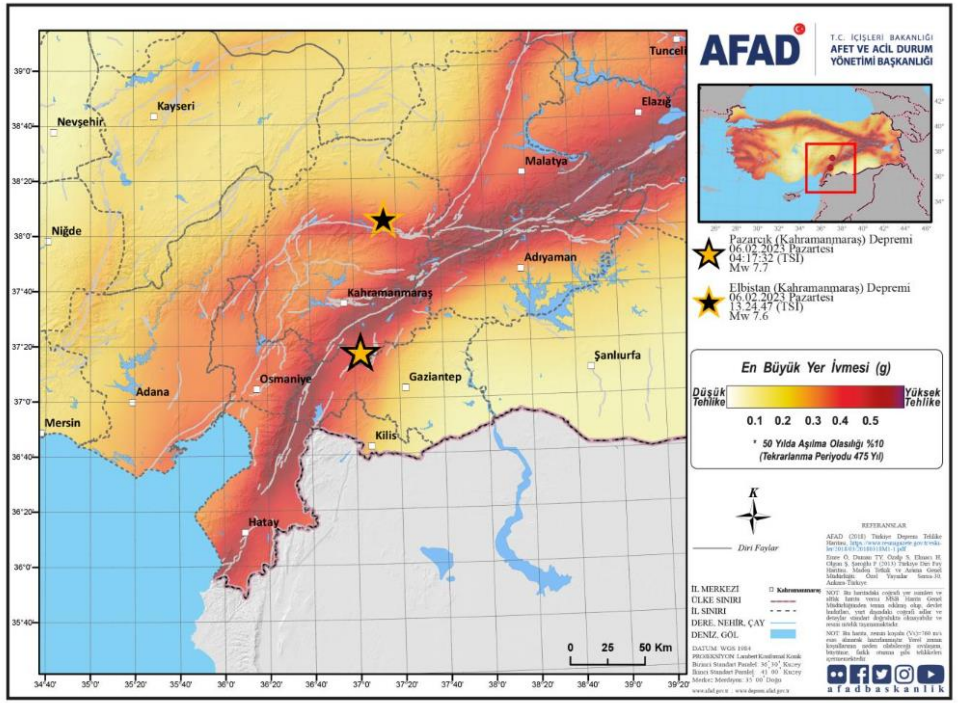
EQ Operations – Kahramanmaraş Earthquake

February 6th 2023 (7,6 and 7,7) Kahramanmaraş / Elbistan and Pazarcık

- Total Claim Files ~ 630.000
- Paid Claim Files ~ 524.000
- Claims Paid ~ TL 39.2 Billion
- Cities Affected 11 + 17 (surrounding)

* As of February,2025





General Earthquake Preparations and Pre-Earthquake Preparations

- On November 22, 2022, **Risk Operations Management Center of TCIP** was established in Ankara.
- To ensure the continuity of operations during earthquakes, **TCIP's technological infrastructure has been renewed.**
- The notification systems have been upgraded to respond to the demands of the day, enabling simultaneous receipt of unlimited claim notifications and the ability to **open 96,000 claims files within 24 hours.**
- **Main Data Center of TCIP** has been relocated to Ankara, an area with lower earthquake risk, while its backup remains in Istanbul.
- **The Catastrophic Modeling product CATMOD,** developed within Türk Reasürans, is the first of its kind in Turkey and the third of its kind worldwide. CATMOD allows for modeling based on Turkey-specific building inventories and local conditions.
  - **The required protection amount** against potential major earthquakes in Turkey has been calculated.
  - Loss indemnity calculations to be paid within **48 hours after the Kahramanmaraş earthquakes** have been performed.
  - **Cash flow planning** has been established accordingly.
- As of September, 2024, the maximum coverage amount has been increased from **1,272,000 TRY** to **1,567,179 TRY**.

After Kahramanmaraş EQ Actions

- In line with the determinations of the Ministry of Environment, Urbanisation and Climate Change, we started to initiate damage processes and make payments rapidly without even waiting for the notification from our policyholders, and we made our first damage payment less than 24 hours after the earthquake.

- Our Ministry of Environment, Urbanisation and Climate Change continues to work rapidly to carry out damage assessments after the earthquakes.

- With Prof. Dr. Alper İlki, who is also a member of the Board of Directors of our Institution, guiding our Ministry in this context, parallelism was ensured in the determination processes between the two institutions and accordingly, a **structural payment method** was adopted in our compensation payments.

- As a matter of fact, ensuring the completion of approximately 626k claim files with manpower will cause a process that will spread over years.

- From this point of view, the following parameter is applied:

Damage Description	Indemnity Payment Ratio
Collapsed, Urgent Demolition, Heavy Damages	100%
Moderate Damages	50%
Slight Damages	15%

SYSTEMIC IMPROVEMENTS MADE DURING THE EARTHQUAKE PERIOD

Uninterrupted claim notification thanks to our renewed technological infrastructure

Obtaining **Spatial Address Registration System (MAKS)** data and integrating it into TCIP systems

Relocation of the **Main Data Center** to Ankara, where there is less earthquake risk, with a backup in Istanbul

Thanks to **CATMOD**, our catastrophe modeling product developed within Türk Reasürans, we calculated the amount of claim indemnity and the amount of protection required against possible major earthquakes that may occur in our country.

In line with the determinations made by the ÇŞİDB, parametric claim payment and integration

Cooperation and data integration with the **General Directorate of Land Registry**

New services via E-Government

"TCIP Payment Password Service"

"Contact Information Update"

Considering a possible major earthquake in our geography, we increased our payment capacity to **117 billion TL**

Decision to make **advance payments** on claim files in order to provide financial support to citizens

Cooperation with banks

Lessons learned at Kahramanmaraş EQ and future steps of the TCIP

01

Claims handling with **traditional loss adjusting** methodologies, is not feasible for such devastating EQ.

02

Traditional loss adjusting is more convenient and manageable for localised EQ events.

03

Assessment of loss by using a **parametric model** is more applicable and prompt solution than traditional loss adjusting

04

In addition to loss adjusters appointed by TCIP, using damage assessments handled by human resource of Ministry of Environment, Urbanisation and Climate Change as main source for loss adjusting, combined resources and provided time and cost advantage.

05

Data received from peer stakeholders and transferred to TCIP database enabled to build prompt decision support mechanisms.

Lessons learned at Kahramanmaraş EQ and future steps of the TCIP Contn'd

Further steps planned:

Parametric methodologies are to be developed for claims handling instead of traditional loss assessment .
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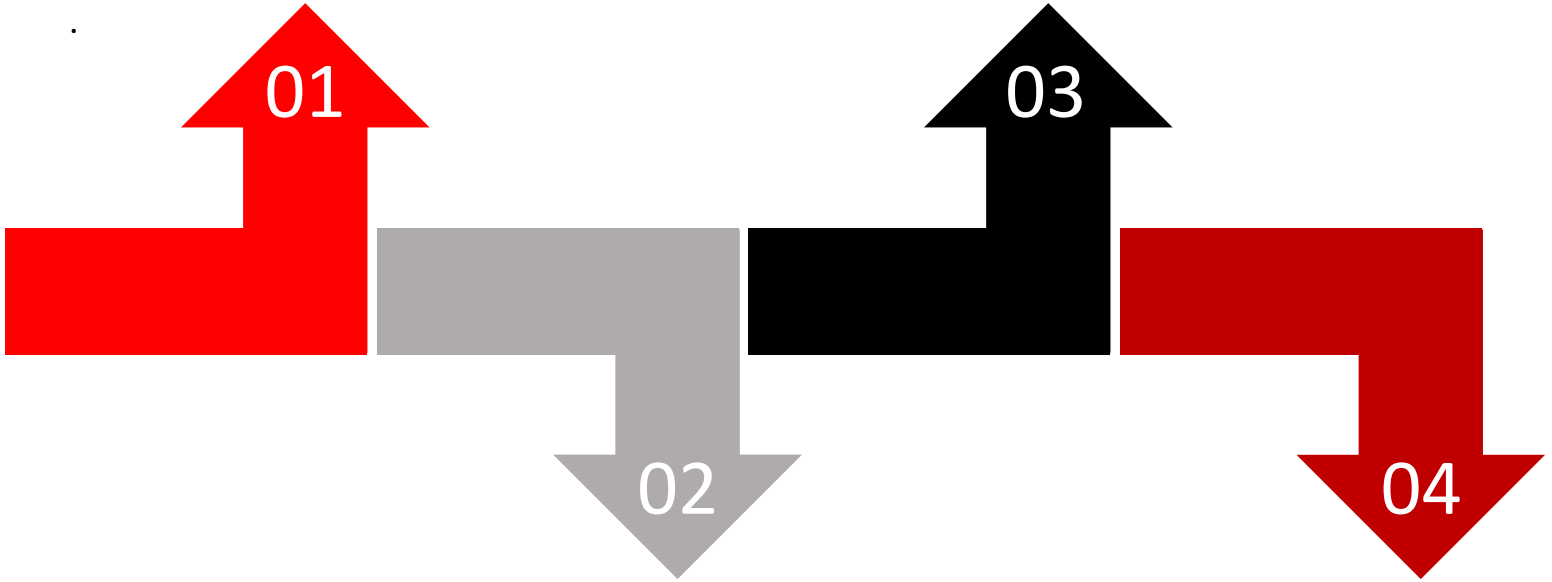
Accelerating **damage assessment** processes by facilitating data transfers through integrations with public institutions.



In order to **minimize the controls** during claims handling, integration for data inquiry during for policy issuance should be provided for accurate address, land registry record and right beneficiary.

Representation offices at the cities will be established for both information support of policy issuance and also for claims operations during catastrophe events.

Thank You

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AFET
SİGORTALARI
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