



National Tax and  
Customs Administration

# NTCA 2.0

TAX AUTHORITY  
AS A CONSULTANT

NETWORK FRAUD DETECTION

AI SUPPORTED  
RISK ANALYSIS

Mr. Ferenc VÁGUJHELYI  
State Secretary for NTCA



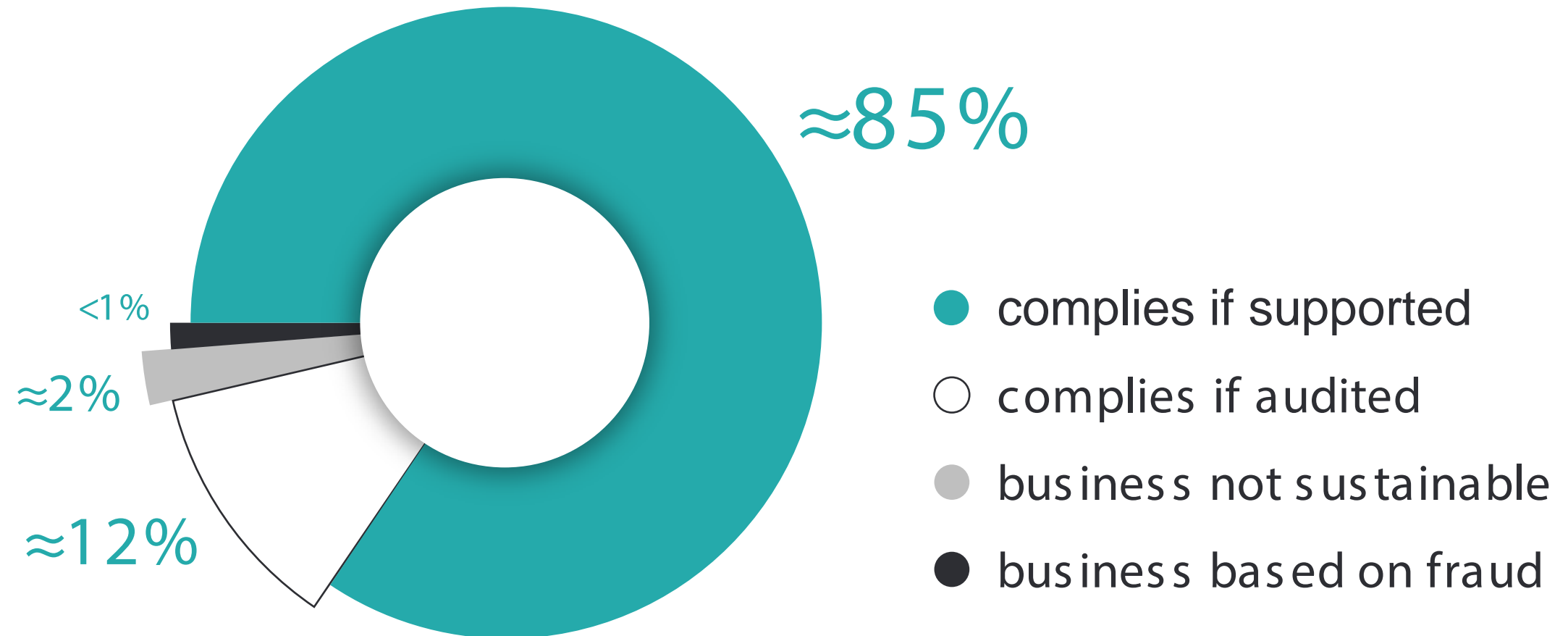
01

# TAX AUTHORITY AS A CONSULTANT



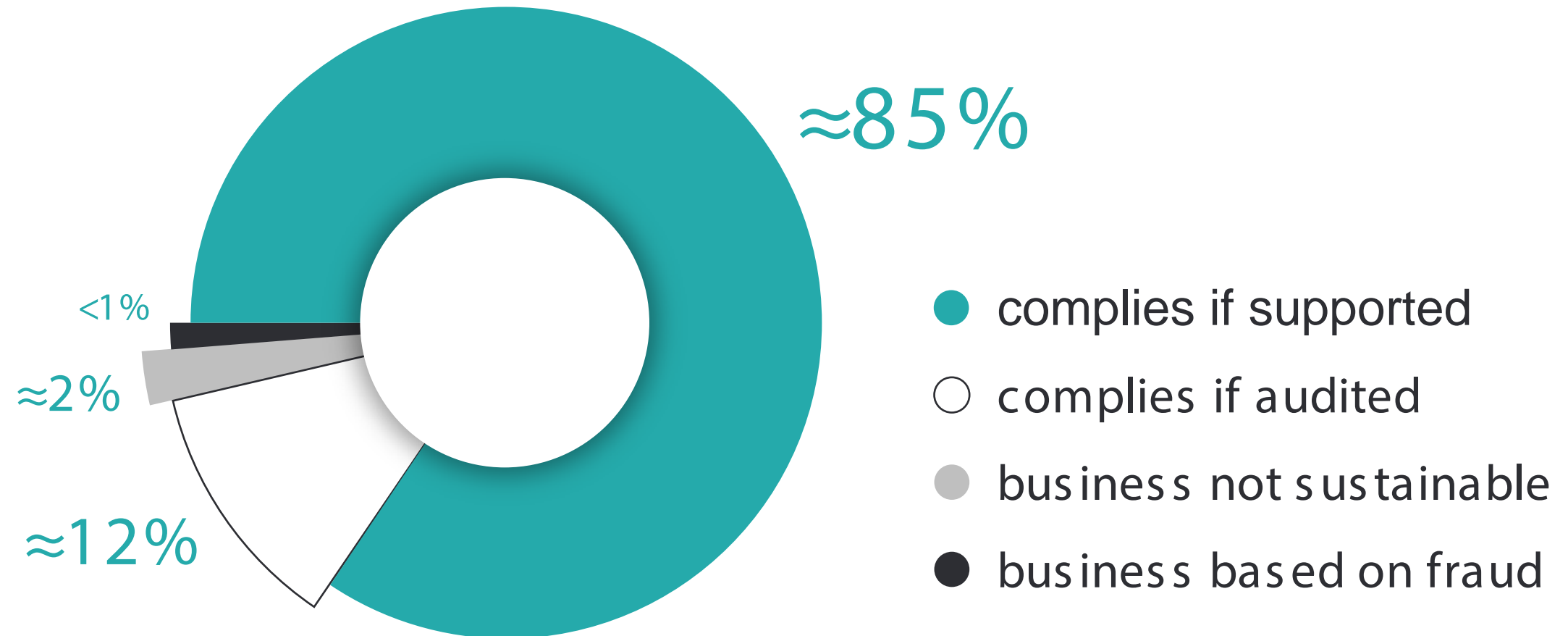
# DIFFERENT CUSTOMERS, DIFFERENT SERVICES

## BUSINESS RISK CATEGORIES



# DIFFERENT CUSTOMERS, DIFFERENT SERVICES

## BUSINESS RISK CATEGORIES





# NECESSARY AND SUFFICIENT MEASURES

## SEGMENTATION BY MEASURES


### Types of measures



SERVICE  
PROVIDER  
by default



AUTHORITATIVE  
for inadequate  
taxpayer response



OTHER,  
EVEN CRIMINAL  
in case of intentional  
tax evasion

# PARTNERSHIP, SUPPORT

## AIMS

Encouraging voluntary compliance

Reducing administration

Increasing budget revenue

## TOOLS

Mentoring

Supporting procedures

Warning before tax audit

Using plain language

Digitalisation: risk analysis, services

## RESULTS

More public revenue

Declining grey economy

Falling VAT gap

# NECESSARY AND SUFFICIENT MEASURES

## CUSTOMER RATING



# NECESSARY AND SUFFICIENT MEASURES

## CUSTOMER RATING



### CUSTOMER GROUPS

Homogeneous for tax purposes

### CUSTOMER VALUE

Past events, facts

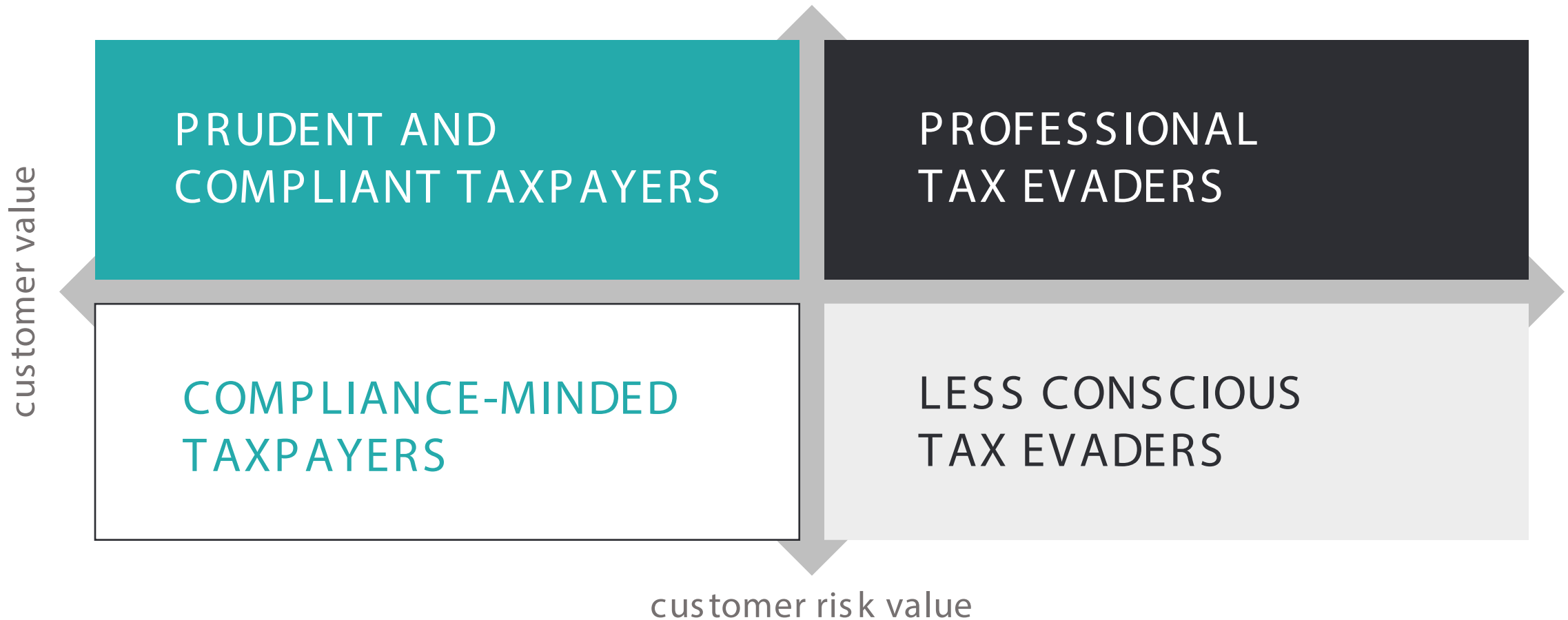


### CUSTOMER RISK VALUE

Mathematical-statistical model calculations

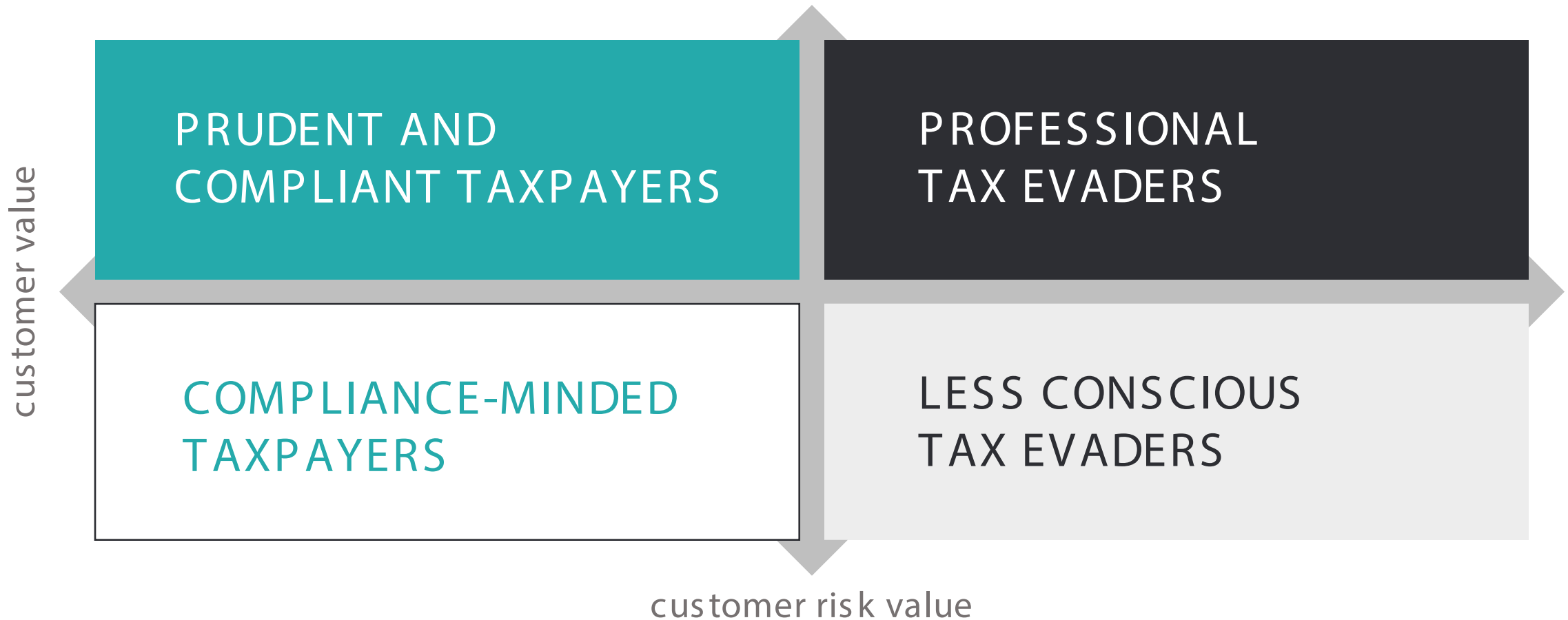
# NECESSARY AND SUFFICIENT MEASURES

## CUSTOMER SEGMENTATION



# NECESSARY AND SUFFICIENT MEASURES

## CUSTOMER SEGMENTATION





# SUPPORTING PROCEDURE

- Not a tax audit
- Starts with providing information
- Aims to remedy the revealed mistake
- Taxpayer's participation is voluntary in it
- We do not impose any sanction on the mistake
- There is not a tax audit indicated in the subject of the procedure





# SUPPORTING PROCEDURE

- Not a tax audit
- Starts with providing information
- Aims to remedy the revealed mistake
- Taxpayer's participation is voluntary in it
- We do not impose any sanction on the mistake
- There is not a tax audit indicated in the subject of the procedure

A man with dark hair, glasses, and a beard, wearing a dark suit, white shirt, and dark tie. He is smiling and giving a thumbs-up gesture with his right hand. The background is a blurred office setting with large windows. The image is partially covered by a teal overlay on the right side.

# SUPPORTING PROCEDURE

## ITS DOMAINS

- Discrepancy between data disclosures and contribution returns
- Incorrect fulfilment of tax obligations
- Company car tax
- Family tax allowance
- Tax on plastic carrier bags
- Public health product tax

02

# NETWORK FRAUD DETECTION



# NETWORK —THE NEW ENTITY OF ANALYSIS

The background of the slide features a dark teal world map. Overlaid on the map is a complex network diagram consisting of numerous circular nodes, each containing a stylized icon of a person or a group of people. These nodes are interconnected by thin white lines, forming a global web. A human hand, shown in grayscale, enters from the right side of the frame, with the index finger pointing towards one of the nodes in the East Asian region of the map. The overall aesthetic is high-tech and analytical.

Committed fraud is identifiable only on the level of the network

Individual economic operators are identified as usual businesses

Networks are organized as cross border entities to hide in a cross legislative environment



# NETWORK —THE NEW ENTITY OF ANALYSIS

A hand is shown on the right side of the image, pointing towards a digital network map. The map features a world map in the background with a grid of lines and dots. Overlaid on this are various icons: several circular icons containing silhouettes of people, and one icon of a bar chart. The network lines connect these icons across the globe, suggesting a global or cross-border network.

Committed fraud is identifiable only on the level of the network

Individual economic operators are identified as usual businesses

Networks are organized as cross border entities to hide in a cross legislative environment

# EUROFISC

## INTERNATIONAL DATA EXCHANGE MECHANISM

a European network to reveal VAT frauds

## DATA EXCHANGE IN THE TNA SYSTEM

indicating risky transactions and feedbacks prepared for them, sharing risk assessment of customers



# EUROFISC

## INTERNATIONAL DATA EXCHANGE MECHANISM

### ADVANTAGES

a European network to reveal VAT frauds  
speed

a targeted and risk-analysed dataset  
supports the tracking products sold  
indicating risky transactions and feedbacks prepared  
for them, sharing risk assessment of customers



# EUROFISC

## ADVANTAGES

speed

a targeted and risk-analysed dataset

supports the tracking products sold



# EUROFISC

## REGULAR EXCHANGE OF INFORMATION

Aggregation of transactions of observed enterprises monthly and quarterly

Suspicious circumstances linked to verification of validity of Community VAT numbers

Information and invoice data collected for tax audits of enterprises monitored

Individual signalizations

# EUROFISC

## REGULAR EXCHANGE OF INFORMATION

Aggregation of transactions of observed enterprises monthly and quarterly

Suspicious circumstances linked to verification of validity of Community VAT numbers

Information and invoice data collected for tax audits of enterprises monitored

Individual signalizations



# EUROFISC

## REGULAR EXCHANGE OF INFORMATION

Aggregation of transactions of observed enterprises monthly and quarterly

Suspicious circumstances linked to verification of validity of Community VAT numbers

Information and invoice data collected for tax audits of enterprises monitored

Individual signalizations

# IT SUPPORT

## TNA - TRANSACTIONAL NETWORK ANALYSIS

Risk analysis on EU level

Automated monitoring based on transaction data (VIES database)

Automated signalization

Real time recording of ratings

Evaluation of risk indicators and identified networks

Support for Member State prioritisation



# 03

## AI SUPPORTED RISK ANALYSIS

### REASONS FOR INTRODUCTION

Locate Business in Dataspace

Behaviour Analysis



### AIMS

Feedback on turnover and taxation

Tackling back black economy

Strengthening the fair competition

## FILING TAX RETURNS IN TRADITIONAL WAY

aggregates  
for declaration period

accounting entries



analytics



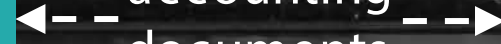
Invoices in accounting



Tax returns



accounting  
documents



Data warehouse



## DATA DISCLOSURE IN THE 21<sup>st</sup> CENTURY

In real time  
By transactions

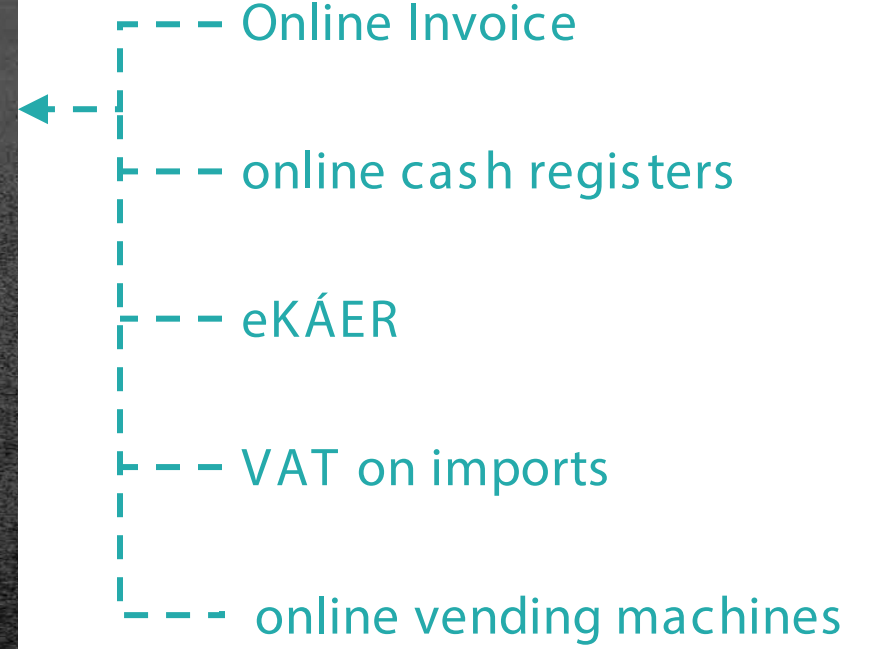
Online Invoice

online cash registers

eKÁER

VAT on imports

online vending machines





## FILING TAX RETURNS IN TRADITIONAL WAY

aggregates  
for declaration period

accounting entries



analytics



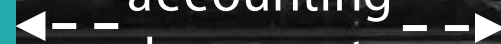
Invoices in accounting



Tax returns



accounting  
documents



Data warehouse



## DATA DISCLOSURE IN THE 21<sup>st</sup> CENTURY

In real time  
By transactions

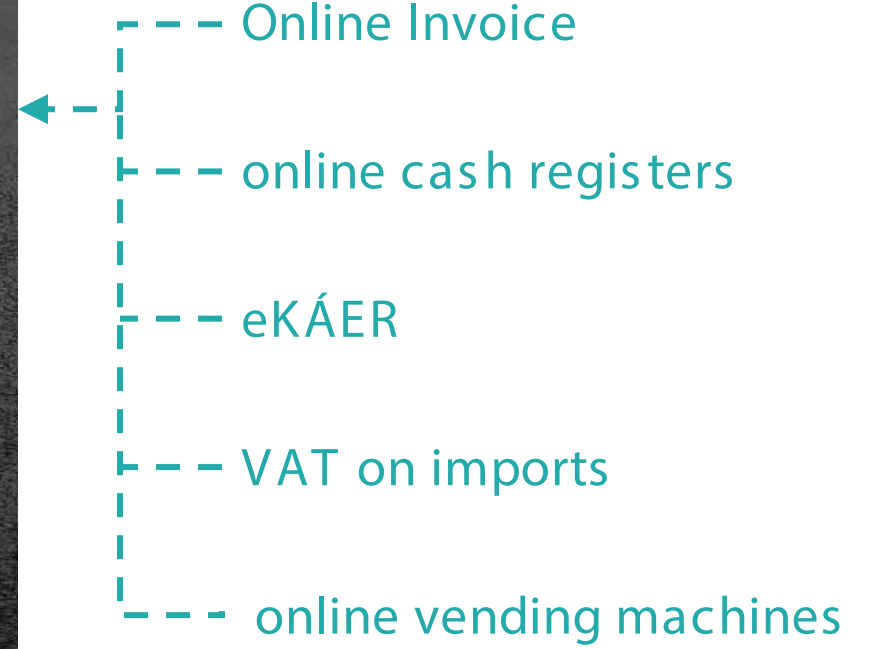
Online Invoice

online cash registers

eKÁER

VAT on imports

online vending machines





Data warehouse



semantic  
data asset  
cadastre



ANALYSIS / AI



deep  
learning  
models

morphological  
analysis of graphs  
classification  
clustering  
neural networks



potential  
contradictions



deviance  
indicators

logical contradictions  
super-optimum  
indicators  
classis risks



FINDING



tax audit



CRIMINAL PROCEDURE

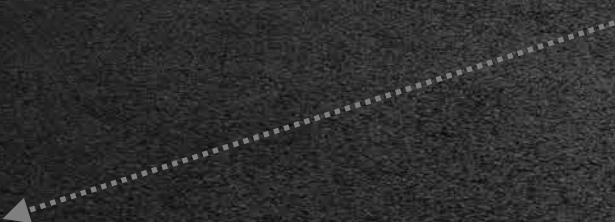
supporting  
procedure



TAXPAYER



RESOLVED CONTRADICTIONS



# PREVENTION, PRESENCE OF THE TAX AUTHORITY

## TAX AUTHORITY'S EARLY WARNING SYSTEM (SO-CALLED "TAX TRAFFIPAX")

Publication of tax audit actions:  
geographical location, activity





# PREVENTION, PRESENCE OF THE TAX AUTHORITY

## TAX AUTHORITY'S EARLY WARNING SYSTEM (SO-CALLED "TAX TRAFFIPAX")

Publication of tax audit actions:  
geographical location, activity



# USING DATA DATA WAREHOUSE



Services



Risk analysis is



Tax audits  
(On-the-spot,  
follow-up)



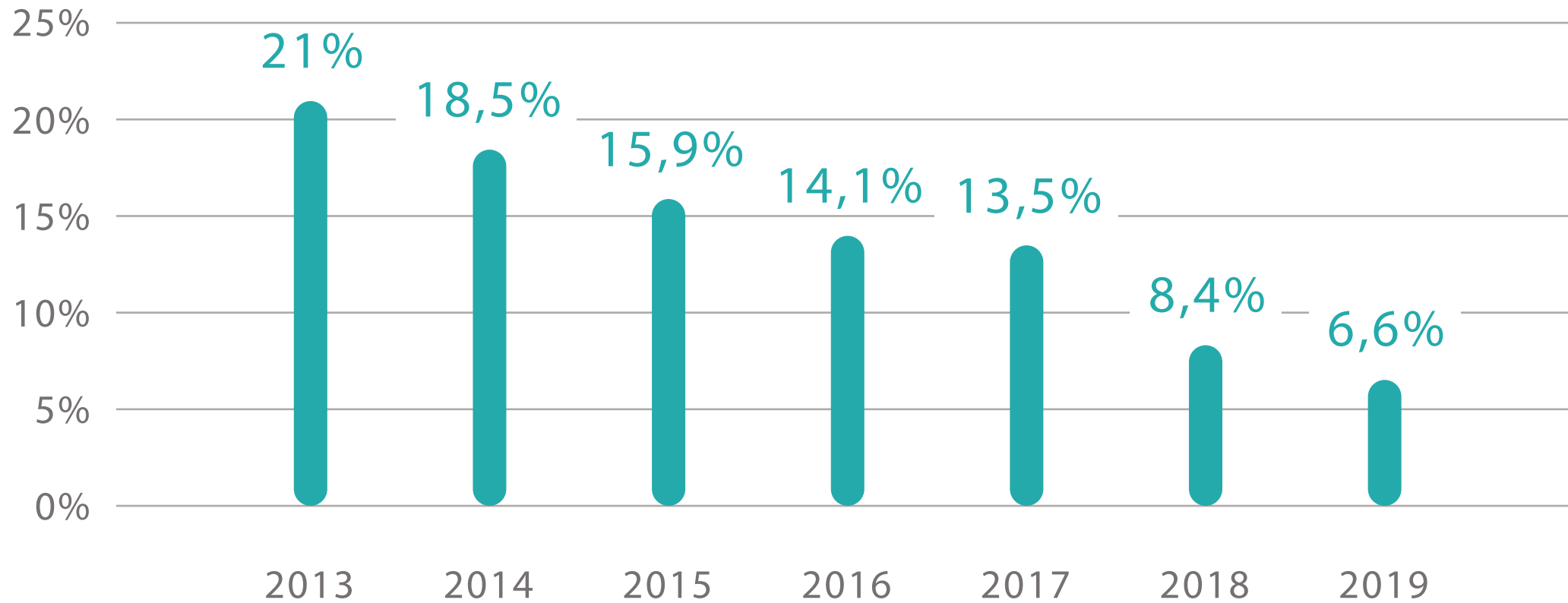
Examining  
economic  
trends



The image features a line graph on a grid background. A thick teal line starts at the top left and trends downwards to the right, ending in a large teal arrowhead. This line is surrounded by several thinner grey lines with circular markers at each data point, representing fluctuating data. The overall composition is framed by a teal shape on the top left and a dark grey shape on the bottom left.

**FALLING  
VAT GAP**

# VAT GAP IN HUNGARY



According to the VAT gap report published by the European Commission





National Tax and  
Customs Administration

[www.nav.gov.hu](http://www.nav.gov.hu)