

# Regulating InsurTech: Role of the Regulator in managing data risks and protecting consumers

# Presenters

## Technical expert



**Stefanie Zinsmeyer**  
Lead Digital Finance and Digital  
Economy, GIZ  
GIZ

## Moderator



**Janina Voss**  
Access to Insurance Initiative (A2ii)

## IAIS representatives



**Natalia Escobar**  
International Association of  
Insurance Supervisors (IAIS)



**Conor Donaldson**  
International Association of  
Insurance Supervisors (IAIS)

## Supervisory Presenters

Case study 1: BaFin, Germany  
Case Study 2: IRA, Kenya  
Case study 3: NAIC, USA

Speakers:  
Kathleen Koehn, BaFin  
Elias Omondi, IRA  
Tim Mullen, NAIC

# Enter the code and participate!

Go to [www.menti.com](https://www.menti.com) and use the code 58 69 85

# Big Data

## The FOUR V's of Big Data

From traffic patterns and music downloads to web history and medical records, data is recorded, stored, and analyzed to enable the technology and services that the world relies on every day. But what exactly is big data, and how can these massive amounts of data be used?

As a leader in the sector, IBM data scientists break big data into four dimensions: **Volume, Velocity, Variety and Veracity**

Depending on the industry and organization, big data encompasses information from multiple internal and external sources such as transactions, social media, enterprise content, sensors and mobile devices. Companies can leverage data to adapt their products and services to better meet customer needs, optimize operations and infrastructure, and find new sources of revenue.

By 2015  
**4.4 MILLION IT JOBS**  
 will be created globally to support big data, with 1.9 million in the United States



**40 ZETTABYTES**  
 ( 43 TRILLION GIGABYTES )  
 of data will be created by 2020, an increase of 300 times from 2005.



### Volume SCALE OF DATA

It's estimated that **2.5 QUINTILLION BYTES**  
 ( 2.3 TRILLION GIGABYTES )  
 of data are created each day



Most companies in the U.S. have at least **100 TERABYTES**  
 ( 100,000 GIGABYTES )  
 of data stored



The New York Stock Exchange captures **1 TB OF TRADE INFORMATION** during each trading session



Modern cars have close to **100 SENSORS** that monitor items such as fuel level and tire pressure

### Velocity ANALYSIS OF STREAMING DATA

By 2016, it is projected there will be **18.9 BILLION NETWORK CONNECTIONS**  
 - almost 2.5 connections per person on earth



As of 2011, the global size of data in healthcare was estimated to be

**150 EXABYTES**  
 ( 151 BILLION GIGABYTES )



**30 BILLION PIECES OF CONTENT** are shared on Facebook every month



**1 IN 3 BUSINESS LEADERS** don't trust the information they use to make decisions



in one survey were unsure of how much of their data was inaccurate



By 2014, it's anticipated there will be **420 MILLION WEARABLE, WIRELESS HEALTH MONITORS**

### Variety DIFFERENT FORMS OF DATA

**4 BILLION+ HOURS OF VIDEO** are watched on YouTube each month



**400 MILLION TWEETS** are sent per day by about 200 million monthly active users



Poor data quality costs the US economy around **\$3.1 TRILLION A YEAR**



### Veracity UNCERTAINTY OF DATA



Sources: McKinsey Global Institute, Twitter, Cisco, Gartner, EMC, SAS, IBM, MEPEEC, QAS



Technology has allowed businesses to better understand and serve consumers through the collection and analysis of big data.

# Current Insurtech innovation landscape



But innovations, and specifically the use of consumer data, also leave consumers vulnerable

# Where data leaves consumers vulnerable

## Personal data of a billion Indians sold online for £6, report claims

Newspaper says it bought access to details from world's largest biometric database, used to administer public services



The Guardian (04.01.2018)

For example, [Tala](#), a firm that offers microloans in Kenya using a smartphone app to evaluate applicants' credit risk, gathers various types of data, including where loan applicants spend their time, how many people they communicate with every day, how often they call their parents (by [searching call logs for the word “mama”](#)) and, less surprisingly, whether they pay their bills on time.

CGAP blog (11.12.2018)

BBC  
WORLD  
SERVICE

## Business Daily



Listen now

## Could Big Data Kill Off Health Insurance?

As US health insurers ask customers to wear fitness trackers, are they opening a Pandora's Box of ethical dilemmas and business threats?

Available now  
18 minutes

Ed Butler speaks to Brooks Tingle, chief executive of insurer John Hancock, which has been pioneering the controversial policy of rewarding customers willing to demonstrate that they exercise more.

BBC World Service (01.11.2018)



**Data protection says:** “Collect and use only that information which is necessary to serve the immediate purpose.”

**Big data says:** “Give us everything you have and we’ll see if we can find a purpose for it.”

# Key consumer data risks affecting the insurance industry

## Drivers

- Failure of controls
- Error
- Obstructed consent
- Unauthorized collection, storage and use
- Data breaches

## Negative consumer outcomes

### Address negative outcomes directly

Onus on providers to operate in consumers' best interest

### Example:

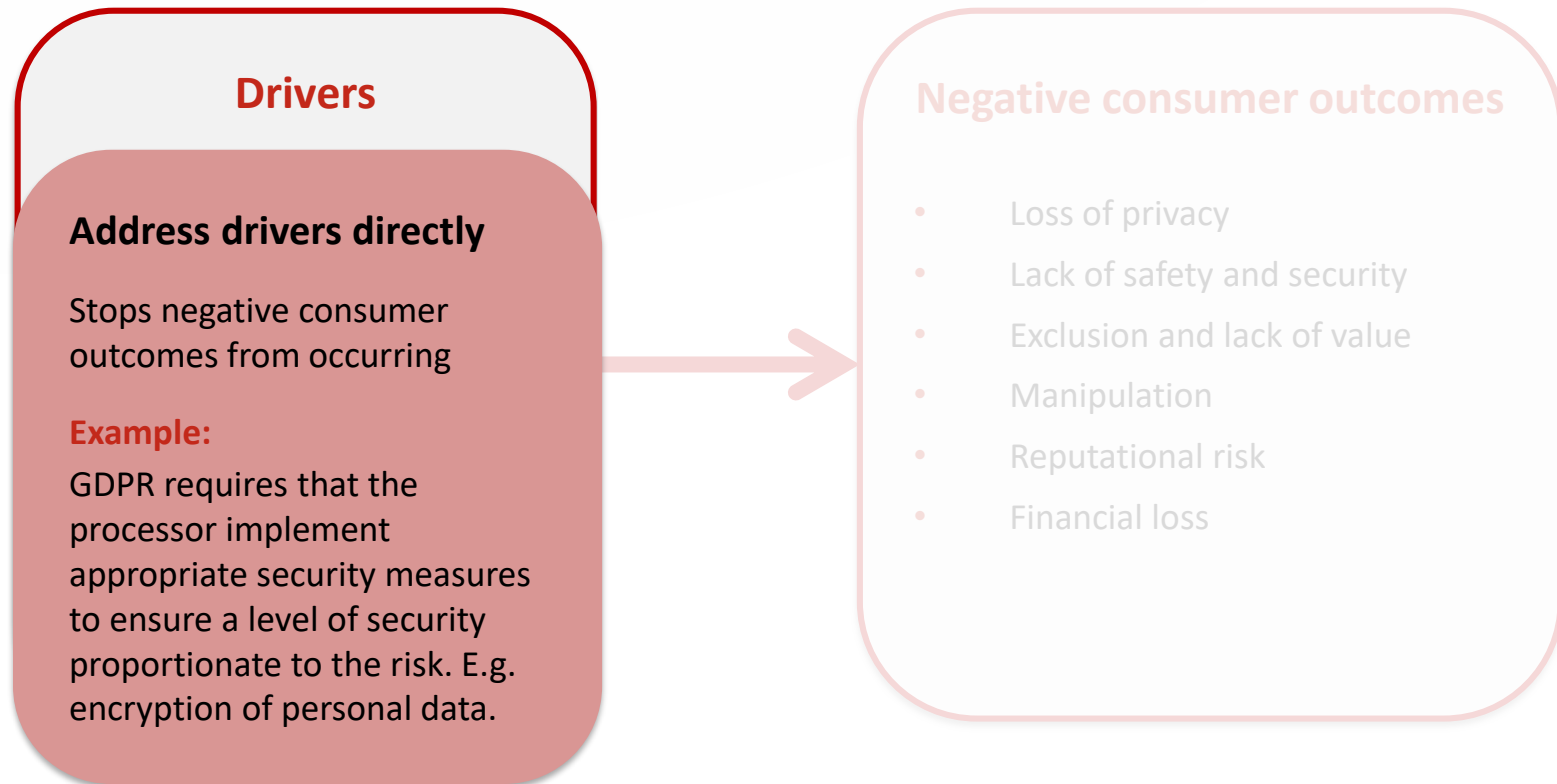
Treating Customers Fairly (TCF) in South Africa

Regulators can hold firms accountable for consumer harm due to inappropriate data collection, storage or use.

Go to [www.menti.com](https://www.menti.com) and enter the code 58 69 85

How high or low do you assess consumer data risks in your jurisdictions? Very high – high – low – very low

# Key consumer data risks affecting the insurance industry



**Source:** Based on IAIS (2016), IAIS (2018a), IAIS (2018b), Institute of Actuaries of Australia (2016), McKee *et al.* (2015), The Smart Campaign (2016), The World Bank Group (2017), BaFin (2018) and stakeholder interviews (2018)

But data and data risks are pervasive and seldom affect only one sector

# Legislative approaches

## Omnibus regulation

Cross-cutting data protection regulatory framework

Often also has a dedicated regulatory authority

E.g. EU, South Africa, New Zealand and Argentina

## Sectoral regulation

No overarching national/regional data protection legislation

Each sectoral regulator is responsible for addressing data protection and privacy

E.g. USA, India and China

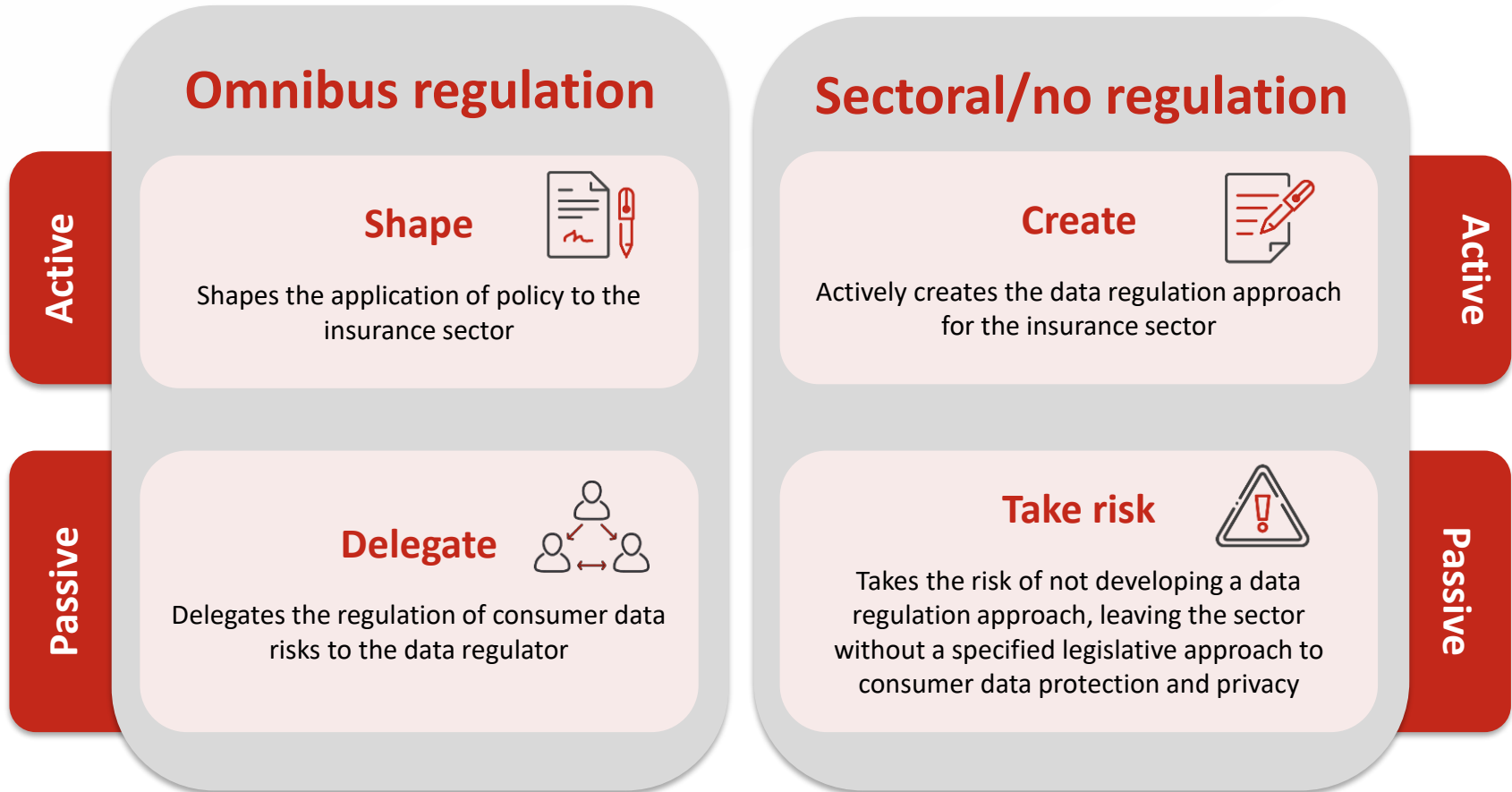
## No regulation

No laws/regulation governing consumer data protection in place

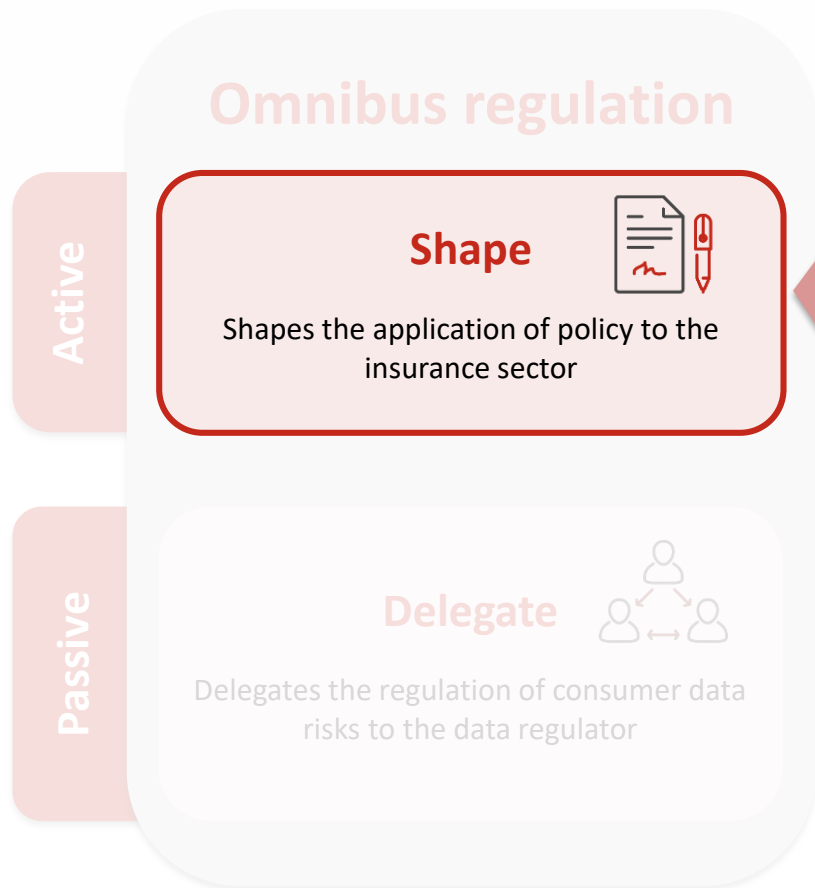
E.g. Kenya

Countries falling into a particular category may have draft or pending legislation, which once in operation, may change the applicable framework category.

# Overall implementation strategies



# Overall implementation strategies



## E.g. BaFin (Germany)

Employs regulatory and supervisory tools to augment the existing omnibus legislative framework

### Tools employed:

- *Regulate*: Data protection requirements beyond GDPR
- *Supervise*: Supports BfDI (Federal Commissioner for Data Protection) in implementing/enforcing data protection laws
- *Advise*: Assists firms with compliance with GDPR (innovation hub)



# Overall implementation strategies

## E.g. IRA (Kenya)

Data protection and privacy legislative framework absent; IRA has amended regulation to deal with data-related risks to consumers.

### Tools employed:

- *Regulate*: Amending and reinterpreting existing market conduct guidelines to ensure appropriate consumer protection against arising data risks; Explicit consideration of harmonisation with pending data regulations and global guidelines

## Sectoral/no regulation

### Create



Actively creates the data regulation approach for the insurance sector

Active

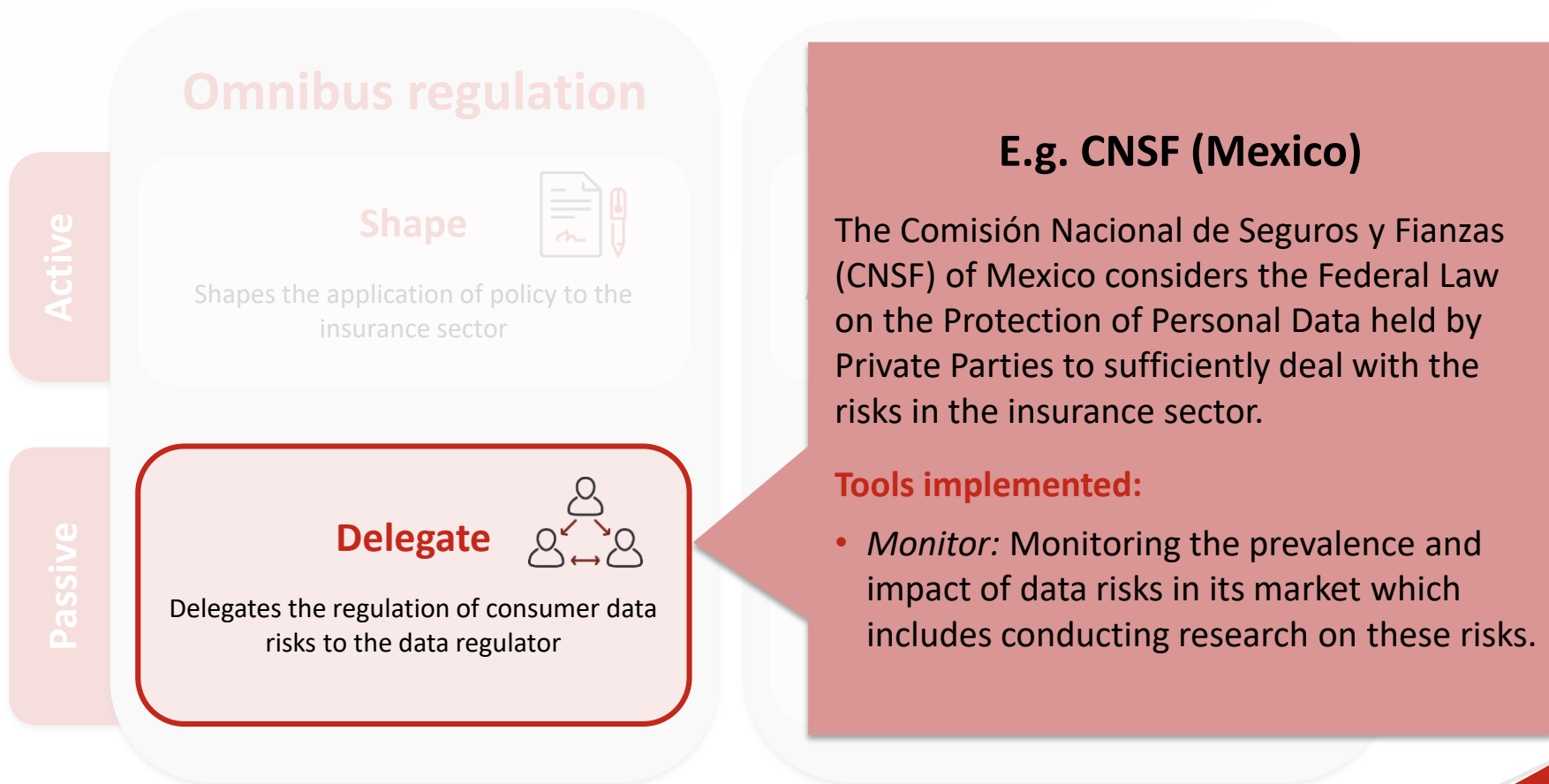
### Take risk



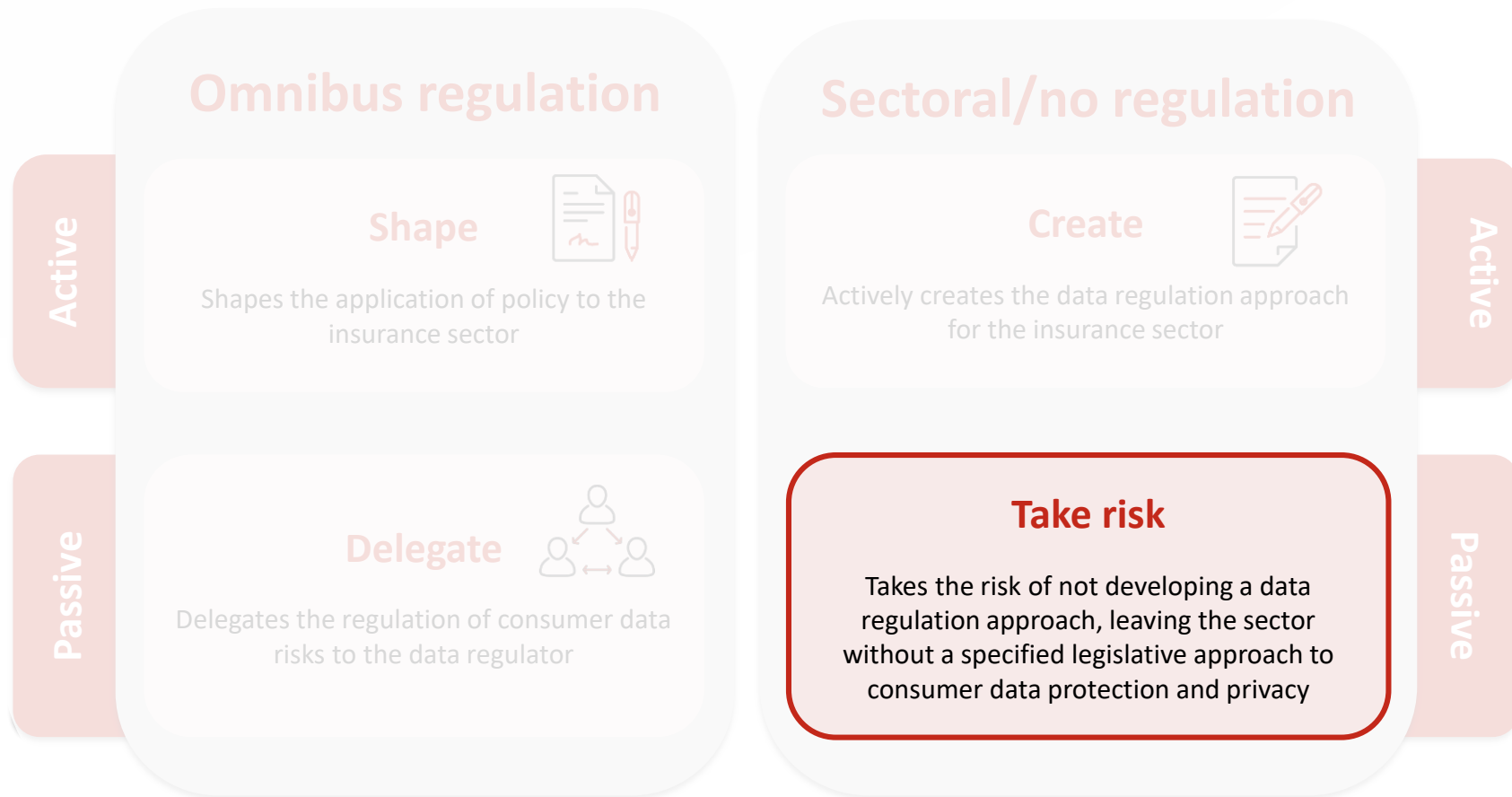
Takes the risk of not developing a data regulation approach, leaving the sector without a specified legislative approach to consumer data protection and privacy

Passive

# Overall implementation strategies



# Overall implementation strategies



Go to [www.menti.com](https://www.menti.com) and enter the code 58 69 85

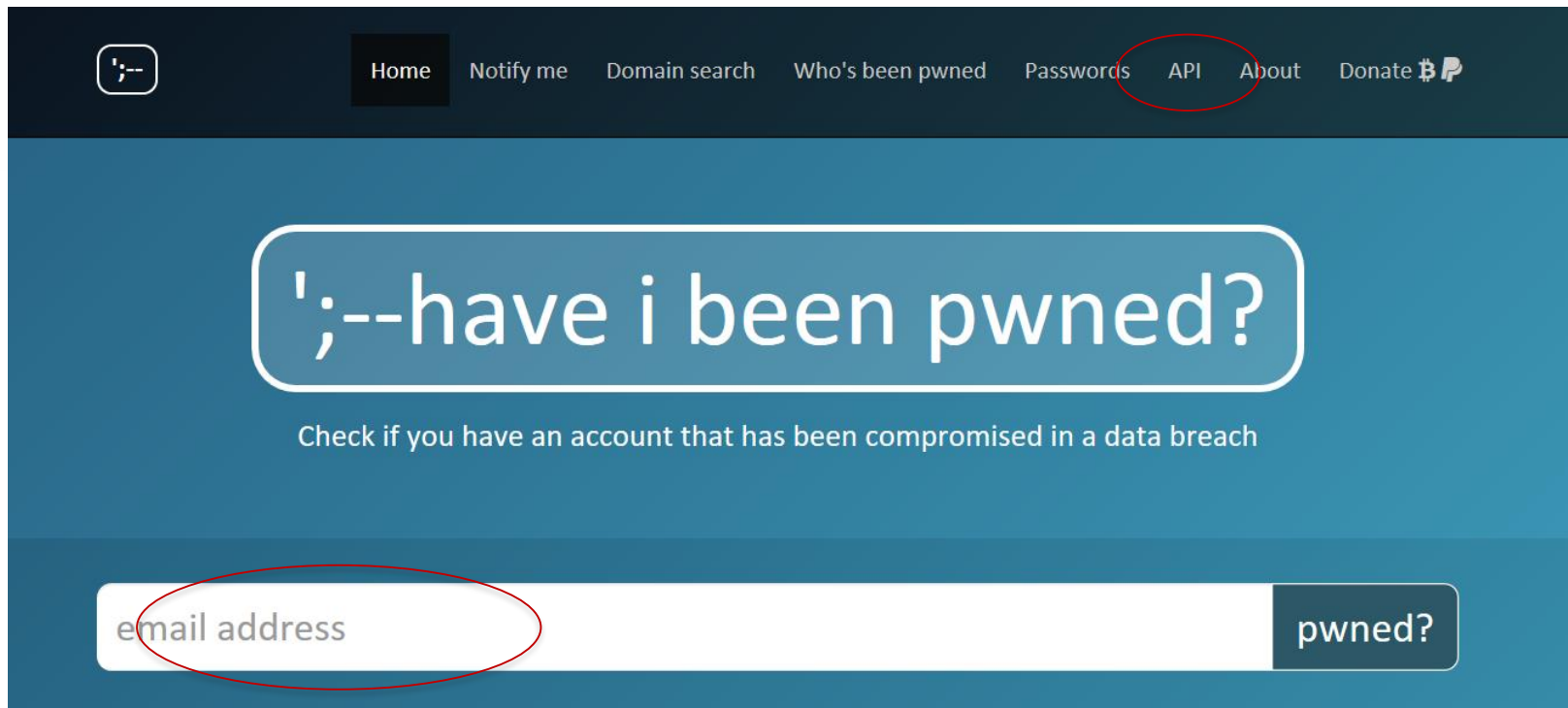
Has your authority taken an active approach on data regulation (“shapes” or “creates” data regulation)? yes/no

Do you think your authority should become more active in data protection? Yes/no

# Test it yourself!

Check if your data has been compromised in a data breach

<https://haveibeenpwned.com/>



The screenshot shows the homepage of the website 'have i been pwned?'. The navigation bar at the top includes links for Home, Notify me, Domain search, Who's been pwned, Passwords, API, About, and Donate. The 'API' link is circled in red. The main content area features the site's logo and a subtitle: 'Check if you have an account that has been compromised in a data breach'. At the bottom, there is a search input field with the placeholder text 'email address' (circled in red) and a 'pwned?' button.



# Big data meets artificial intelligence

Challenges and  
implications for the  
supervision and  
regulation of financial  
services

# The idea behind it: Bringing together experts from all fields

## Technology



## Market perspective

- Banks and financial service providers
- Insurance companies
- Capital markets



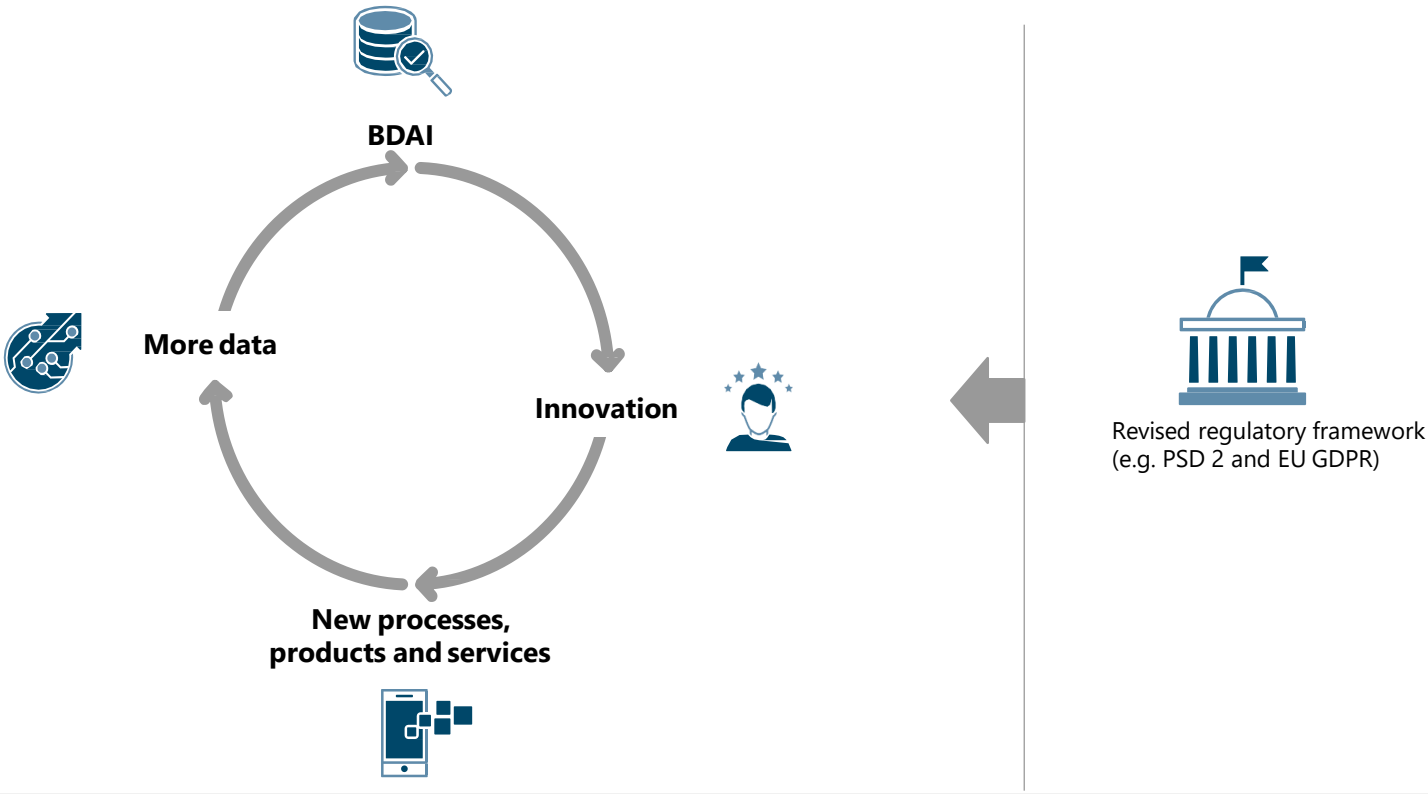
## Supervisory perspective

- Financial stability and market supervision
- Firm supervision
- Consumer protection



Link to the study: [https://www.bafin.de/SharedDocs/Downloads/EN/dl\\_bdai\\_studie\\_en.html](https://www.bafin.de/SharedDocs/Downloads/EN/dl_bdai_studie_en.html)

# Cycle of innovation requires early supervisory attention



Source graphic: BCG



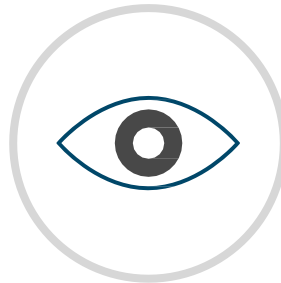
# Profound implications along three dimensions

## Financial Stability



- New forms of systemic importance
- Market structures change

## Microprudential Supervision



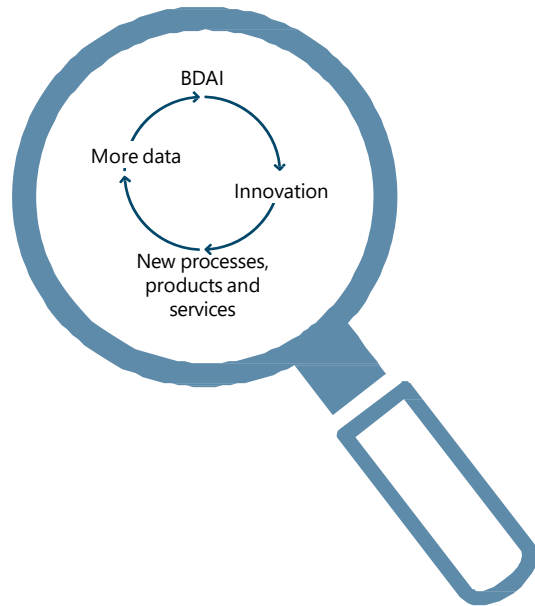
- Responsibility remains with people
- No black box excuses
- Detection of financial crime

## Consumer Protection



- Discrimination vs. differentiation
- Consumer sovereignty

# Basic regulatory principles should remain unchanged



Speed of innovation is increasing

## Regulatory principles

- Technology-neutral
- Principles-based
- Further strengthen international cooperation to reduce regulatory arbitrage
- Develop BDAI capabilities as a supervisor

**Thank you for your attention!**

# Role of the Regulator in managing data risks and protecting consumers

## “CREATE STRATEGY”

Elias Omondi  
Actuarial Associate  
Insurance Regulatory Authority - Kenya

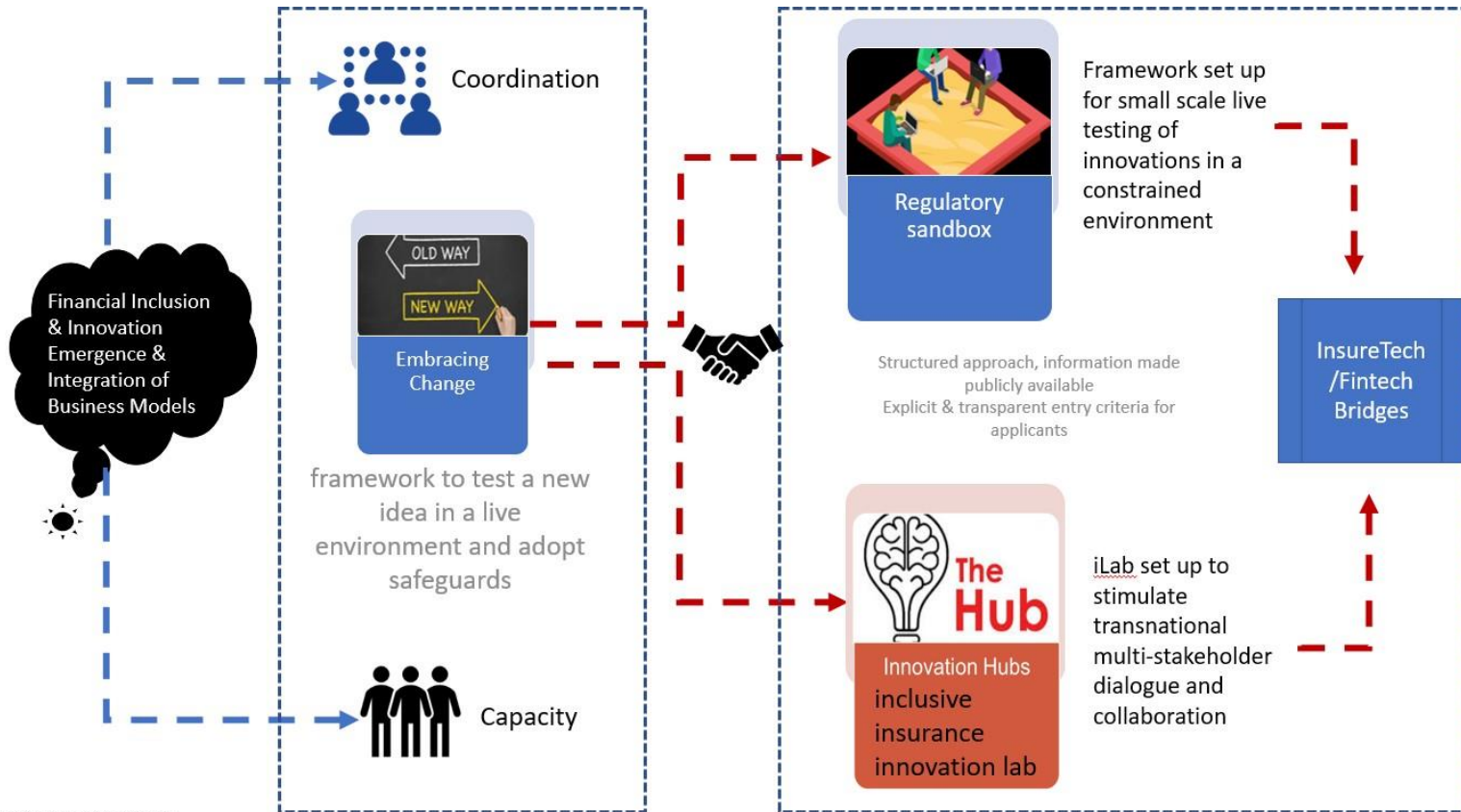


# STATE OF PRIVACY?

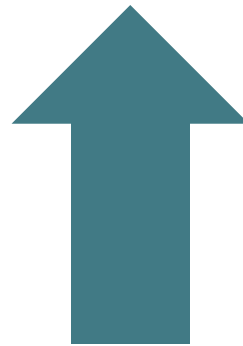
- Constitutional privacy protections: Article 31 of the Kenyan Constitution specifically protects the right to privacy.
- Data protection law: Kenya does not currently have specific data protection legislation. However, a Data Protection bill was tabled in Parliament in 2015.
- Data protection agency: Kenya does not have a specific data protection authority. – To be set once the law is enacted
- The Integrated Population Registration System (IPRS) collects data from a dozen databases held by various government agencies.



# WHY CREATE STRATEGY?



# RISKS VS BENEFITS



## Consumer benefits

- Access to insurance
- Better alignment to customer needs
- Better risk pricing
- Potentially lowering cost

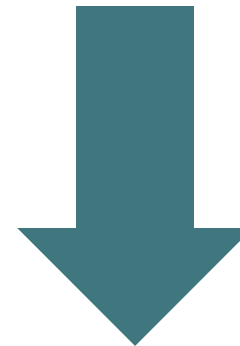


**Role 3:**  
promote the  
development of  
the insurance  
sector

**Role 1:** Maintenance of a fair, safe and stable insurance sector

## Consumer risks

- Less personal interaction / consumer trust
- Privacy & cyber-risks
- Reduced risk pooling & risk of financial exclusion
- Reduced transparency (AI / machine learning)



**Role 2:** protect  
the interest of the  
insurance  
policyholders and  
beneficiaries

# IMPLEMENTATION STRATEGIES

## MARKET CONDUCT GUIDELINES




Amending and reinterpreting existing market conduct guidelines to ensure appropriate consumer protection against arising data risks

## TCF MODEL



TCF Model of Consumer Protection aims to raise standards in the way firms carry on their business by introducing changes that will benefit consumers and increase their confidence in the financial services industry

## REGULATORY SANDBOX



Framework employed to create experimental environment where FinTech/InsureTech can test new ideas and innovations in product design, product development and distribution with a leverage to contain the consequences of failure



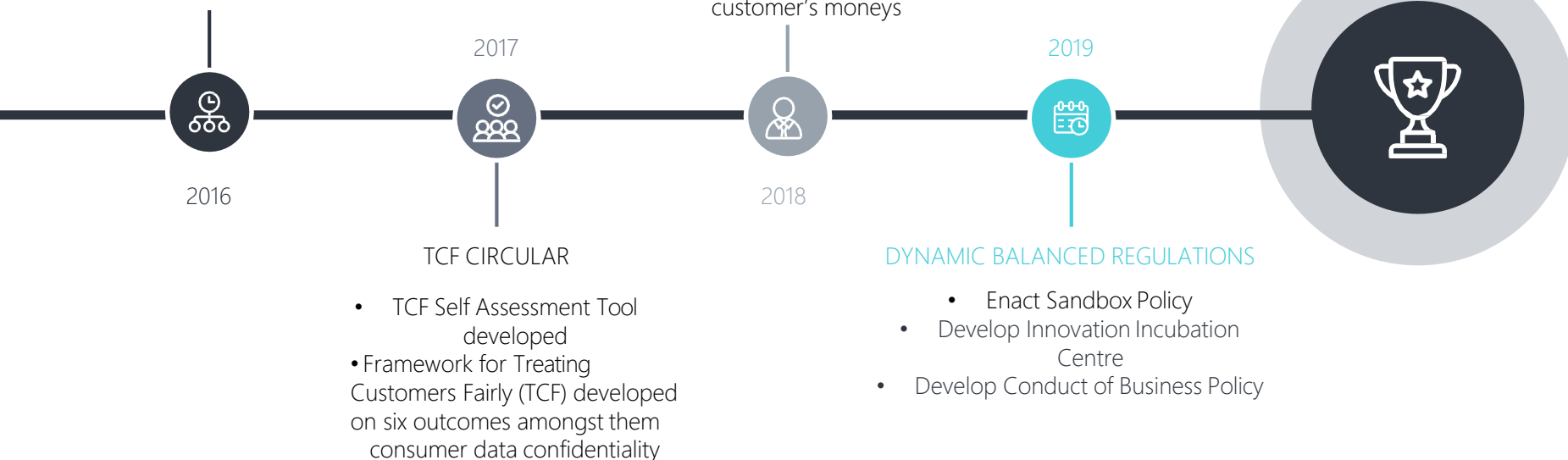
# STRATEGIES

## MARKET CONDUCT GUIDELINE

- Policies and procedures for the protection of confidential information on customers.
- Board and Management required ensure that confidentiality of data as overall culture and strategy

## DRAFT REGULATORY SANDBOX POLICY

- provides appropriate regulatory support by relaxing specific legal and regulatory requirements.
- “To Maintain” requirements on confidentiality of customer information, Fit and proper criteria particularly on honesty and integrity handling of customer’s moneys





**THANK YOU  
ASANTE!!**

[eomondi@ira.go.ke](mailto:eomondi@ira.go.ke)  
[omondieliaso@gmail.com](mailto:omondieliaso@gmail.com)

# *The Role of the Regulator*

Tim Mullen  
NAIC Director of Market Regulation  
January 24, 2019



# Regulating for Responsible Data Innovation

- Encourage innovation and maintain consumer protections
- Consumer Benefits
  - More accurate assessment of risk of loss
  - Faster processing of quotes and claims
  - Enhanced risk management and loss prevention
- Consumer Concerns
  - Accuracy and completeness of data
  - Disclosure to consumers and consumer consent
  - Privacy and cybersecurity
- NAIC Workstreams and Model Laws
  - Innovation and Technology (EX) Task Force
  - Big Data (EX) Working Group
  - Standards for Safeguarding Consumer Information Model Regulation (2000)
  - Privacy of Consumer Financial and Health Information Regulation (2002)
  - Insurance Data Security Model Law (2017)

# Case Study

## Data Breach and the Regulatory Response

- Four Stages of Exam
  - Integration
  - Initial Assessment
  - Breach Assessment
  - Cybersecurity Assessment
- Presentation of Exam Findings
  - Data Breach
  - Pre-Breach Cybersecurity
  - Pre-Breach Response Preparation
  - Response Adequacy
  - Post-Breach Cybersecurity
  - Corrective Actions

# Questions and Comments

Tim Mullen

[tmullen@naic.org](mailto:tmullen@naic.org)

816-783-8260

Thank you.

# Save the Date!

Next Consultation Call on **21 March, 2019**  
**RegTech and SupTech: Implications for Supervision**

Supported by



Follow us on Twitter @a2ii\_org, Youtube and LinkedIn

The Initiative is a partnership between:



Hosted by:

