ASIAN BOND MARKETS INITIATIVE
ASEAN+3 Bond Market Forum (ABMF)

28TH ASEAN+3 BOND MARKET FORUM (ABMF) MEETING AND RELEVANT MEETINGS

18-21 June 2018 / Seinan Gakuin University, Fukuoka City, Japan

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DAY 3 – 20 JUNE 2018

VENUE: MULTI-PURPOSE HALL, 1ST FLOOR, CENTENNIAL HALL

TIME	PROGRAM
ABMF Sub Forum 2 (SF2) Meeting	
08:30 – 09:00	**Registration**
09:00 – 09:05	**Opening Remarks by** Mr. Seung-Kwon Lee, SF2 Chair
09:05 – 09:40	**Session 12: RegTech in US** by Mr. Hudson Hollister, Data Transparency Coalition (DTC) via Webex - Financial Transparency Act in US
09:40 – 10:20	**Session 13: Enhanced Supervisions and Surveillance with Technology** by Mr. Lim Kok Eng, Analytics Department, Securities Commission Malaysia - XBRL submission platform - Web crawling robots - Artificial Intelligence for sentiment and text mining capability
10:20 – 10:45	*Coffee break*
10:45 – 12:15	**Session 14: Panel Discussion: Global trends in data collection and standardization for more structured data** - What are the drivers of the trends? What are benefits and costs of building structured data environment? - What needs to be standardized (ISO 20022, XBRL, LEI, ISIN, CFI, etc)? - How can we standardize? What is the role of international body? - What does Asia need to understand and prepare? Panelist: Mr. Francois Laurent, European Central Bank, ISO TC68 Mr. Masayuki Tagai, JP Morgan, ISO 20022 RMG Vice Convener Mr. Yoshiaki Wada, NTT Data, Chair of XBRL Asia Round Table Mr. Beju Shah, Bank of England Ms. Meiko Morioka, SWIFT Moderator: ADB
12:15 – 12:25	**Wrap-up** by ADB Secretariat
12:25 – 12:30	**Closing Remarks by Mr. Seung-Kwon Lee, SF2 Chair**
12:30 – 13:30	*Lunch*
18:30 – 20:30	***Farewell Dinner**, Café d' Erte, 3rd floor, Hotel Clio Court Hakata, 5-3 Hakataekichuogai , Hakataku, Hakata, 812-0012 Fukuoka*

RegTech in the United States

Hudson Hollister, Executive Director, Data Coalition
@hudsonhollister

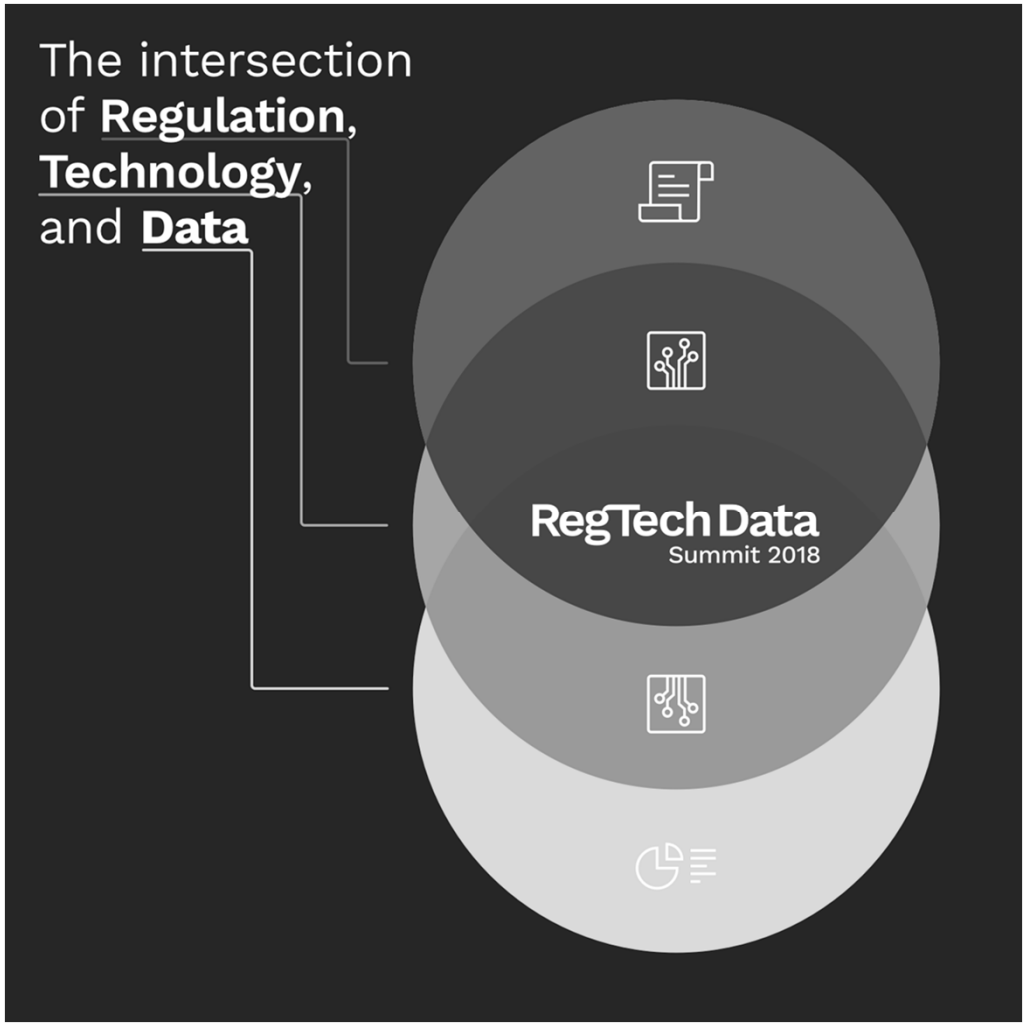
What is RegTech?

“RegTech” refers to technological solutions that perform one of the following functions:

- Automate regulatory compliance or regulatory reporting tasks.
- Derive insights from regulatory filings or information collections.
- Efficiently share information related to complex markets or products.

RegTech is NOT:

- Limited to the financial industry or financial regulation.
- Defined by blockchain or any other particular technology.



RegTech solutions require data standardization.

Financial Transparency Act: Enabling RegTech

The Financial Transparency Act, proposed in Congress in 2015, requires U.S. financial regulators to perform the following tasks

- Adopt data standards to govern all regulatory information collected under existing financial laws.
- Use the same data standards to both collect and publish regulatory information.

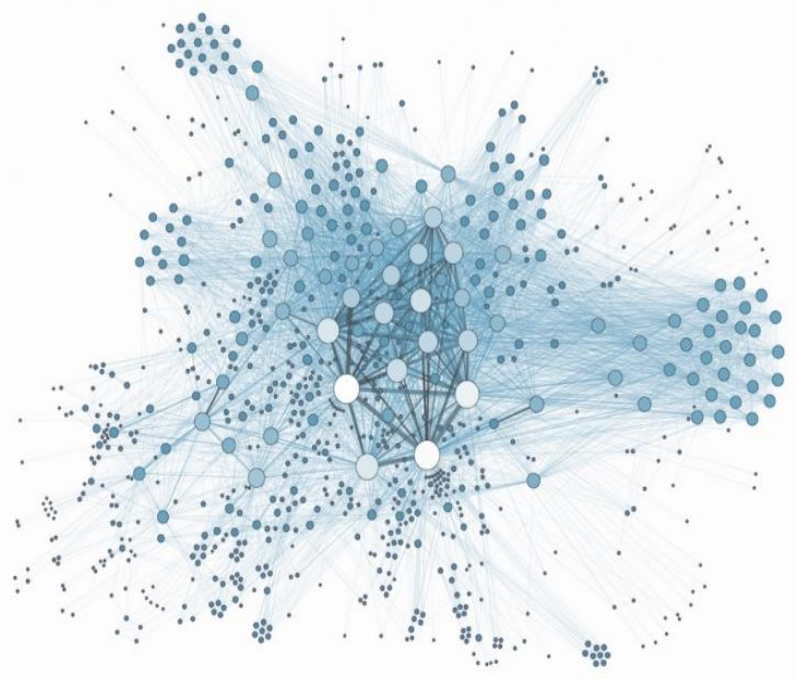
Data standards must:

- Make information fully searchable and machine-readable.
- Be nonproprietary.
- Incorporate the work of voluntary consensus bodies, like XBRL.

Financial Transparency Act: Enabling RegTech

- 2010: First proposed during Congressional consideration of the Dodd-Frank Act.
- 2015: Introduced in the House of Representatives as a stand-alone bill.
- 2016: Embraced by organizations representing 2,000 U.S. and international technology companies.
- 2017: Re-introduced in the House of Representatives as a stand-alone bill.
- 2018: Co-sponsored by 33 Members of the House of Representatives.
- Future: Senate introduction, committee consideration, House and Senate passage, Presidential signature.

Suruhanjaya Sekuriti
Securities Commission
Malaysia



Enhanced Capital Market Supervision & Surveillance With Technology

Lim Kok Eng
Analytics Department,
Securities Commission Malaysia

20 Jun 2018

Enterprise Analytics Roadmap

Be the central leadership for **advanced analytics** at the SC and **empower frontline** business with superior insights through advanced predictive analytics and be the **single point** for data warehousing across functions

Data Efficiency

Straight-through processing - End-to-end processing with accurate data captured at source

- A unified, complete, standard digitalised information disclosure system

Common Reporting Platform - ComRep

- An automated web data collection robot

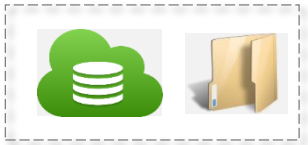
Web Crawling Robots

Data Governance - Establish organizational policies, procedures and standards to manage data and empower users

Enterprise Intelligence

Enterprise approach – A consolidated single source of the truth derived from multiple data sources

Enterprise Data Warehouse



Enterprise Information Repository

Empowering users - Enterprise Analytics Platform to access and visualize data

Enterprise Analytics Platform (Business Intelligence)

Insights

Advanced Analytics - An artificial intelligence engine to provide better Insights

- Text mining (Natural Language Processing),
- Entity network relationship (Graph Database); and
- Predictive modeling on Sentiment Analysis and Correlation Indexing

Regulator Intelligence & Analitics (RegIA) Platform

Superior Data › Empower Frontline › Advanced Analytics

Common Reporting Platform (ComRep)

- A robust and sustainable single submission platform

Filers

Option 1 : Offline Preparation

ComRep Client

Generate XBRL Instance Document

Secured Transmission

SC XBRL Taxonomy

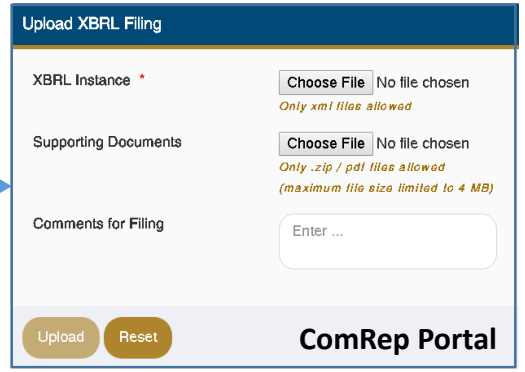
Report Automation

Option 2 : Automate Report Generation

ComRep System & EDW

Objectives :

- To collect timely & quality data
- To lighten regulatory burden
- Better reporting change management



Enterprise Data Warehouse

XBRL Validation

Enterprise Analytics Platform

- Industry AUM Dashboard

- Source of Fund Dashboard

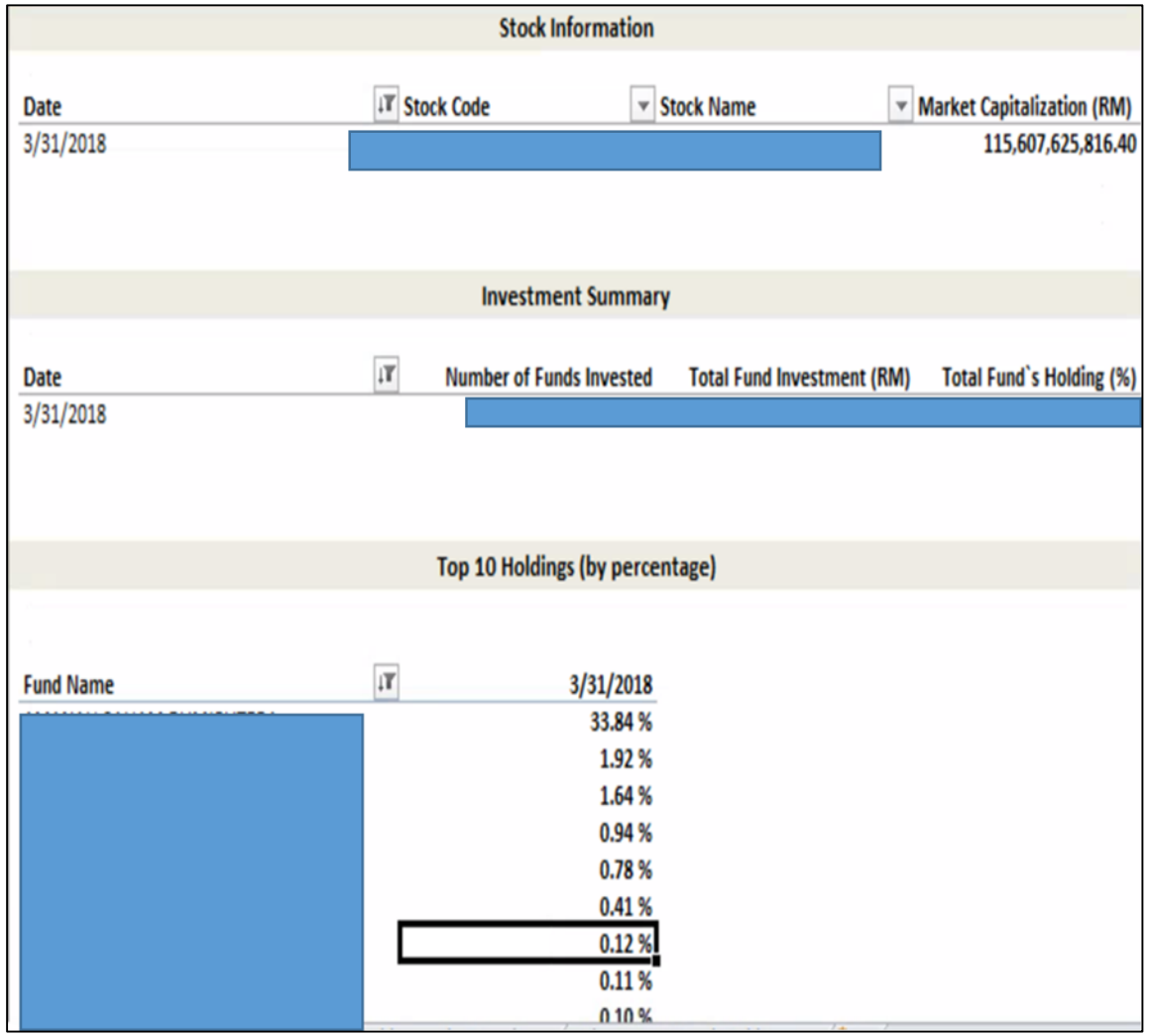
- Fund Overview

- Unit Trust Fund Dashboard

ComRep Platform

- Better slice & dice capability with good quality data

1.Stock Invested By Fund



Stock Information

Date	Stock Code	Stock Name	Market Capitalization (RM)
3/31/2018			115,607,625,816.40

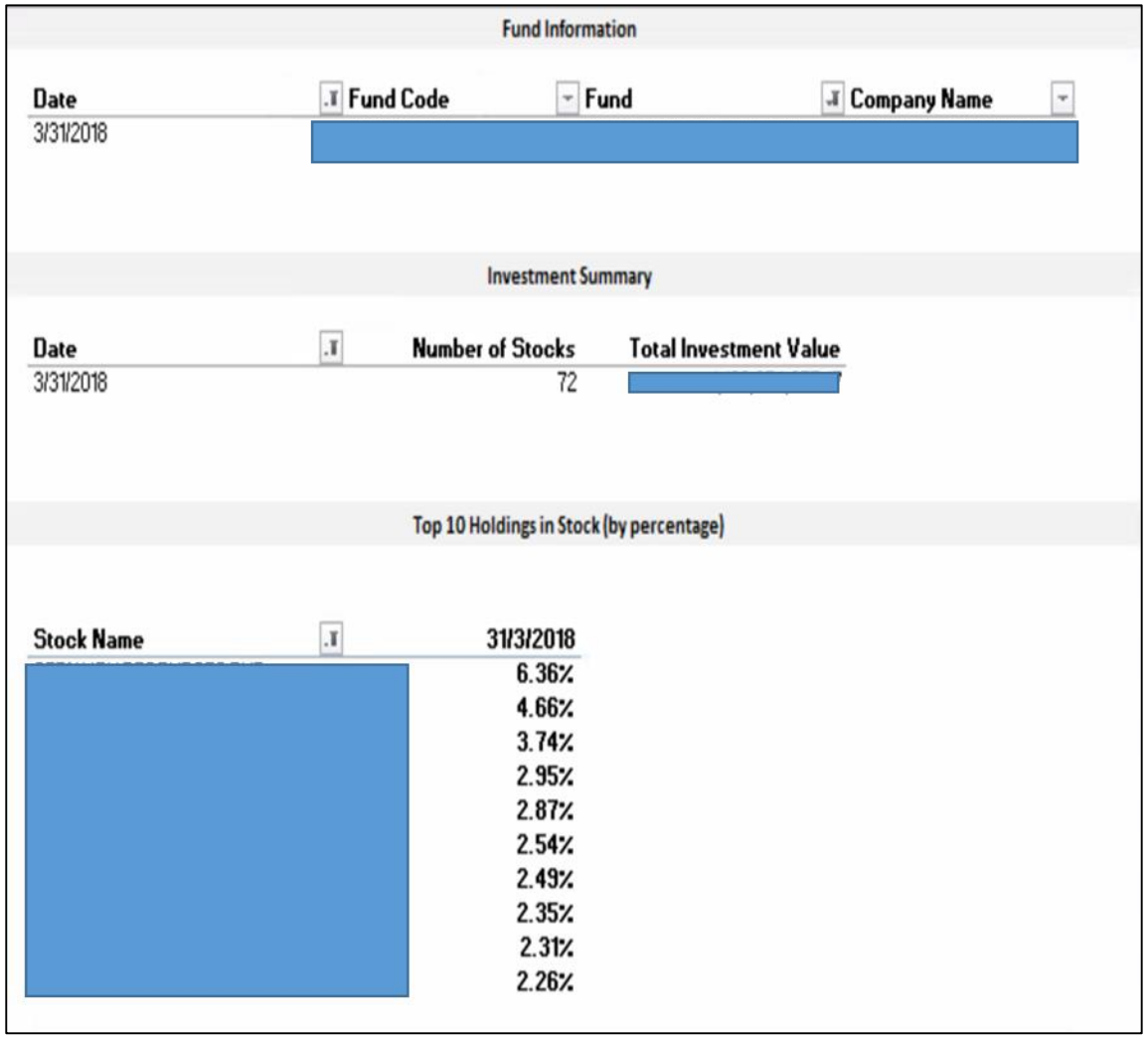
Investment Summary

Date	Number of Funds Invested	Total Fund Investment (RM)	Total Fund`s Holding (%)
3/31/2018			

Top 10 Holdings (by percentage)

Fund Name	3/31/2018
	33.84 %
	1.92 %
	1.64 %
	0.94 %
	0.78 %
	0.41 %
	0.12 %
	0.11 %
	0.10 %

2.Fund Investment In Stock Market



Fund Information

Date	Fund Code	Fund	Company Name
3/31/2018			

Investment Summary

Date	Number of Stocks	Total Investment Value
3/31/2018	72	

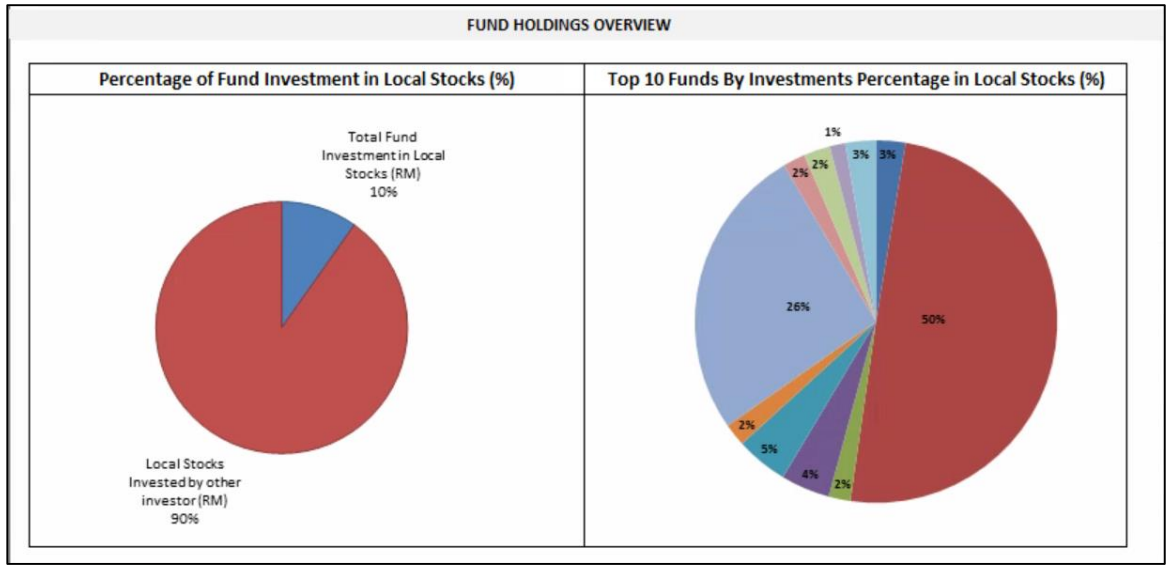
Top 10 Holdings in Stock (by percentage)

Stock Name	31/3/2018
	6.36%
	4.66%
	3.74%
	2.95%
	2.87%
	2.54%
	2.49%
	2.35%
	2.31%
	2.26%

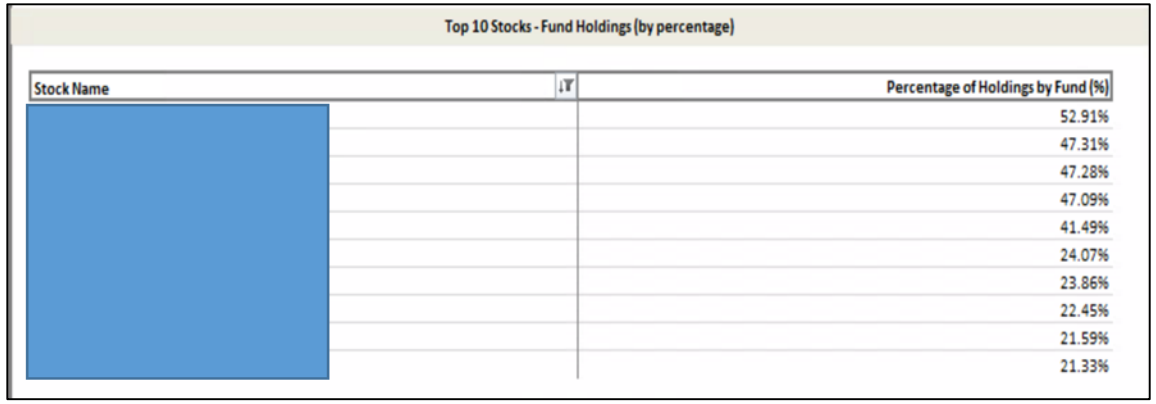
ComRep Platform

- Better insights with inter-connected data

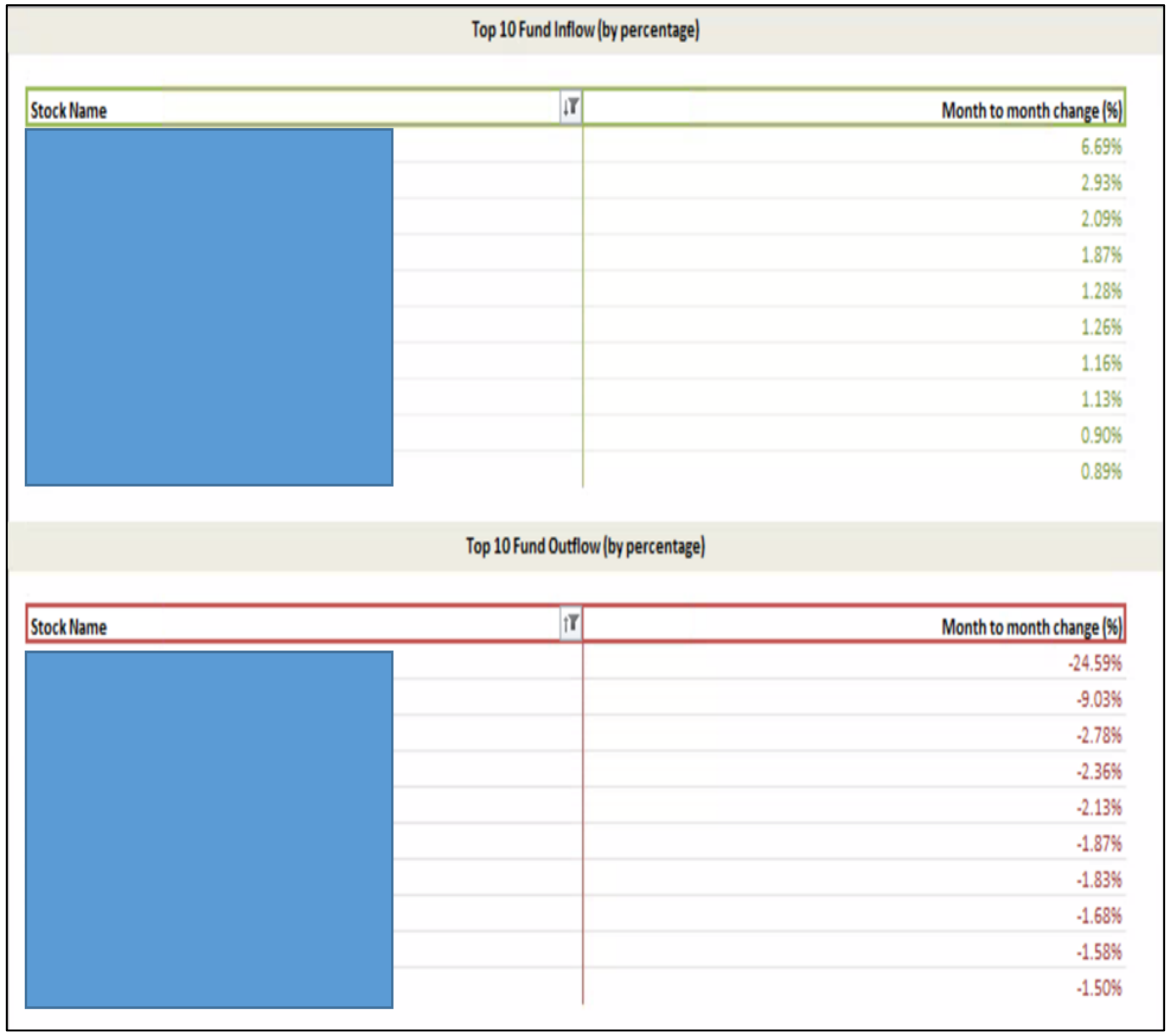
1.Fund Investment in Equities Market



2.Stock Invested by Funds (Top 10)



3.Fund Investment Movement



Web Crawling Robots

- Internet data for more effective supervision & surveillance

Data Source

1. Exchange website
   - PLC Corporate Announcements (CA)
   - Derivatives (DR) Market Trading Summary
2. PLCs related news, blogs & forums
3. Other Country Exchanges Trading Performance & Summary
4. Central Bank website
   - Rates & trading volume
   - Economics & Banking data
5. Bonds Information – Malaysia
6. Bond Yields - International
7. FTSE & MSCI Indices

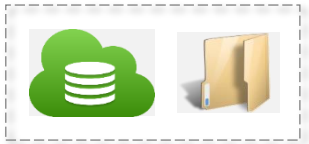
Total 38 sites

Data Collection

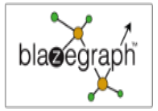
1000+ files daily

Data Warehouse

Enterprise Data Warehouse
(structured DB)



Enterprise Information Repository
(Unstructured DB)

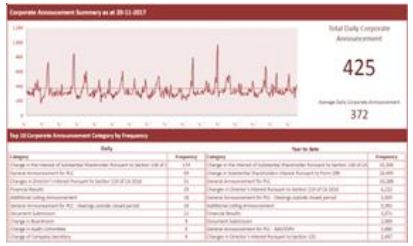


Graph DB
(Relationship DB)

> 150 DB tables

Business Intelligence

- CA Dashboard



- Structured Warrant Settlement

RegIA

> 25 BI Templates + RegIA

Web Crawling Robots

- Transforming semi-structured data into structured data for analysis

Bursa Corporate Announcement Web Site

Company Announcements

Category: Changes in Shareholdings | Submit | Reset
Sub Category: Notice of Interest Sub. S-hldr (29A) / Notice of Interest of Substantial Shareholder Pursua
Company: AIRASIA GROUP BERHAD (5099)
Alphabetical: – Select Alphabet – | Market: – Select Market –
Date Range: 18/04/2018 | Sector: – Select Sector –
18/04/2018

No	Announcement Date	Company	Title
1	18 Apr 2018	AIRASIA GROUP BERHAD	Notice of Interest Sub. S-hldr (Section 137 of CA 2016) - EMPLOYEES PROVIDENT FUND BOARD
2	18 Apr 2018	AIRASIA GROUP BERHAD	Notice of Interest Sub. S-hldr (Section 137 of CA 2016) - TUNE AIR SDN. BHD.
3	18 Apr 2018	AIRASIA GROUP BERHAD	Notice of Interest Sub. S-hldr (Section 137 of CA 2016) - TAN SRI (DR.) ANTHONY FRANCIS FERNANDES
4	18 Apr 2018	AIRASIA GROUP BERHAD	Notice of Interest Sub. S-hldr (Section 137 of CA 2016) - TUNE LIVE SDN. BHD.
5	18 Apr 2018	AIRASIA GROUP BERHAD	Notice of Interest Sub. S-hldr (Section 137 of CA 2016) - DATUK KAMARUDIN BIN MERANUN

Notice of Interest Sub. S-hldr (Section 137 of CA 2016)

AIRASIA GROUP BERHAD

Particulars of Substantial Securities Holder

Name: EMPLOYEES PROVIDENT FUND BOARD
Address: ~~Tingkat 19, Bangunan KWSP~~ Jalan Raja Laut, Kuala Lumpur, 50350 Wilayah Persekutuan, Malaysia
Company No.: EPF ACT 1991
Nationality/Country of incorporation: Malaysia
Descriptions (Class): Ordinary Shares
Name & address of registered holder: Level 42, Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Wilayah Persekutuan

Date interest acquired & no of securities acquired

Date interest acquired: 16 Apr 2018
No of securities: 169,669,049
Circumstances by reason of which Securities Holder has interest: Exchange of all Ordinary Shares in AirAsia Berhad ("AAB") ("AAB Shares") with New Ordinary Shares In AirAsia Group Berhad ("AAGB") ("AAGB Shares"), on the basis of 1 New AAGB Share for every 1 Existing AAB Share Held
Nature of interest: Direct Interest

Total no of securities after change

Direct (units)	169,669,049
Direct (%)	5.077
Indirect/deemed interest (units)	0
Indirect/deemed interest (%)	0
Date of notice	17 Apr 2018
Date notice received by Listed Issuer	18 Apr 2018

Retrieval of Original announcement

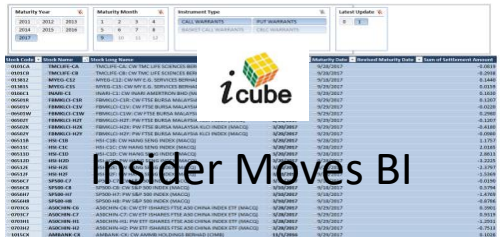
Corporate Announcement Master

Generate meaningful header for better surveillance

Date Announced	Stock Code	Stock Name	Stock Long Name	Announcement Header	HTM Filename
2018-04-18	5099	AIRASIA	AIRASIA GROUP BERHAD	Acquired 516,485,082 shares by TUNE AIR SDN. BHD. and is now new substantial shareholder	\\hq01cmd03\Production\90DMDPublic\CA\201804\2848655.htm
2018-04-18	5099	AIRASIA	AIRASIA GROUP BERHAD	Acquired 1,077,485,082 shares by DATUK KAMARUDIN BIN MERANUN and is now new substantial shareholder	\\hq01cmd03\Production\90DMDPublic\CA\201804\2848649.htm
2018-04-18	5099	AIRASIA	AIRASIA GROUP BERHAD	Acquired 169,669,049 shares by EMPLOYEES PROVIDENT FUND BOARD and is now new substantial shareholder	\\hq01cmd03\Production\90DMDPublic\CA\201804\2848657.h
2018-04-18	5099	AIRASIA	AIRASIA GROUP BERHAD	Acquired 1,077,085,082 shares by TAN SRI (DR.) ANTHONY FRANCIS FERNANDES and is now new substantial shareholder	\\hq01cmd03\Production\90DMDPublic\CA\201804\2848652.htm
2018-04-18	5099	AIRASIA	AIRASIA GROUP BERHAD	Acquired 559,000,000 shares by TUNE LIVE SDN. BHD. and is now new substantial shareholder	\\hq01cmd03\Production\90DMDPublic\CA\201804\2848648.htm

Change In Substantial Shareholders

Date Announced	Stock Code	Stock Long Name	Name of Shareholder	Shareholder Identity Number	Shareholder Nationality	Type of Share	Transaction Type	Transaction Date	Transaction Volume
2018-04-18	5099	AIRASIA GROUP BERHAD	TUNE LIVE SDN. BHD.	948620-U	Malaysia	Ordinary Shares	Acquired	2018-04-12	559000000.0000
2018-04-18	5099	AIRASIA GROUP BERHAD	DATUK KAMARUDIN BIN MERANUN		Malaysia	Ordinary Shares	Acquired	2018-04-12	1077485082.0000
2018-04-18	5099	AIRASIA GROUP BERHAD	TAN SRI (DR.) ANTHONY FRANCIS FERNANDES		Malaysia	Ordinary Shares	Acquired	2018-04-12	1077085082.0000
2018-04-18	5099	AIRASIA GROUP BERHAD	EMPLOYEES PROVIDENT FUND BOARD	EPF ACT 1991	Malaysia	Ordinary Shares	Acquired	2018-04-16	169669049.0000
2018-04-18	5099	AIRASIA GROUP BERHAD	TUNE AIR SDN. BHD.	548526-V	Malaysia	Ordinary Shares	Acquired	2018-04-12	516485082.0000

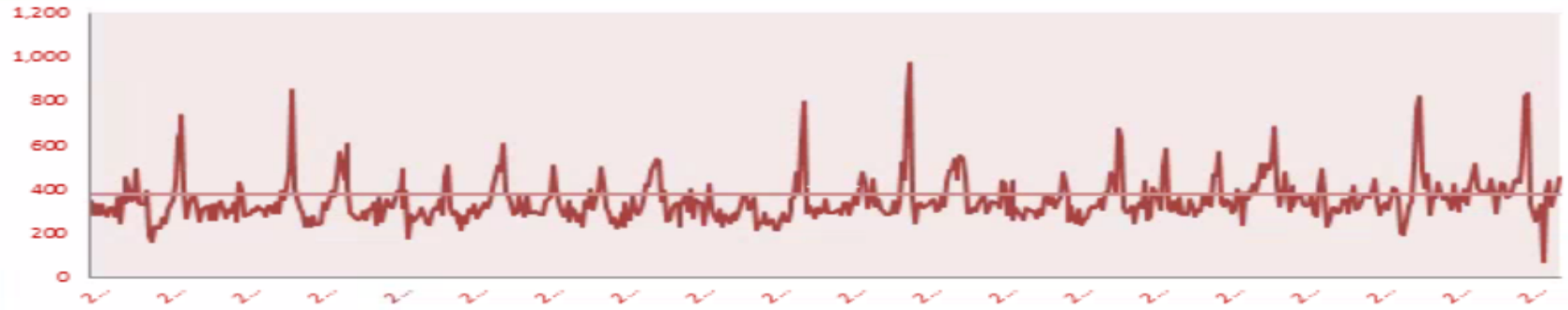


Insider Moves BI

Web Crawling Robots

- Monitoring of the PLCs heartbeats

Corporate Annoucement Summary as at 21-05-2018



Total Daily Corporate Announcement

457

Average Daily Corporate Announcement

383

Top 10 Corporate Announcement Category by Frequency

Daily

Category	Frequency
Change in the Interest of Substantial Shareholder Pursuant to Section 1	142
General Announcement for PLC	65
Financial Results	37
Changes in Director's Interest Pursuant to Section 219 of CA 2016	33
Document Submission	28
Listing Information and Profile	24
General Announcement for PLC - Dealings outside closed period	21
General Meeting	16
Immediate Announcement on Shares Buy Back	15
Entitlement(Notice of Book Closure)	11

Year to date

Category	Frequency
Change in the Interest of Substantial Shareholder Pursuant to Section 13	11,957
Change in Substantial Shareholders Interest Pursuant to Form 29B	10,495
General Announcement for PLC	5,157
Changes in Director's Interest Pursuant to Section 219 of CA 2016	3,098
Changes in Director's Interest Pursuant to Section 135	2,497
General Announcement for PLC - Dealings outside closed period	1,900
Document Submission	1,636
Additional Listing Announcement	1,283
General Announcement for PLC - NAV/IOPV	1,254
Immediate Announcement on Shares Buy Back	1,223

Top 10 Companies by Frequency

Company	Total Frequer	Category With Highest Frequency for the Company	Frequency
GSB GROUP BERHAD	12	Notice of Person Ceasing To Be Substantial Shareholder Pursuant to Se	4
IOI CORPORATION BERHAD	11	Change in the Interest of Substantial Shareholder Pursuant to Section 13	7
IOI PROPERTIES GROUP BERHAD	10	Change in the Interest of Substantial Shareholder Pursuant to Section 13	6
TIGER SYNERGY BERHAD	9	Change in the Interest of Substantial Shareholder Pursuant to Section 13	3
CIMB GROUP HOLDINGS BERHAD	8	Change in the Interest of Substantial Shareholder Pursuant to Section 13	8
SERBA DINAMIK HOLDINGS BERHAD	7	Change in the Interest of Substantial Shareholder Pursuant to Section 13	5
RUBBEREX CORPORATION (M) BERHAD	7	Change in Audit Committee	1
MALAYSIAN RESOURCES CORPORATION BERHAD	6	Change in the Interest of Substantial Shareholder Pursuant to Section 13	2
CUSCAPI BERHAD	6	Change of Company Secretary	3
AEON CO. (M) BHD	6	Change in the Interest of Substantial Shareholder Pursuant to Section 13	6

Data Governance

- Analysis begins with good quality data

- XBRL is used to manage and produce quality data

Inconsistency in Code/Name

- Inconsistent currency code

Submitted Value
FX OPT (GBPMYR)
GBP-MYR
GBPMYO
GBP/MYR

›

Standardised Value
GBP/MYR
GBP/MYR
GBP/MYR
GBP/MYR

Inconsistency in Value

- AUM

  Source of AUM = Allocation of AUM

- NAV

  NAV = Breakdown of Investment

Inconsistency in Definition

- Warrants classification

  Warrants are reported as Equities stocks ›
  - Structured warrants as Structured Products
  - PLC warrants as Equities stocks

- Investment definition on Bonds

  - MM Instrument & Debentures or
  - MM placement & Fixed Income securities

  ›
  - Standardised according to Cental Bank's instrument Type

Inconsistency in Reporting Format & ID

- Standardisation of Date format

  3-2-2018 => 3rd Feb 2018 or 2nd Mar 2018

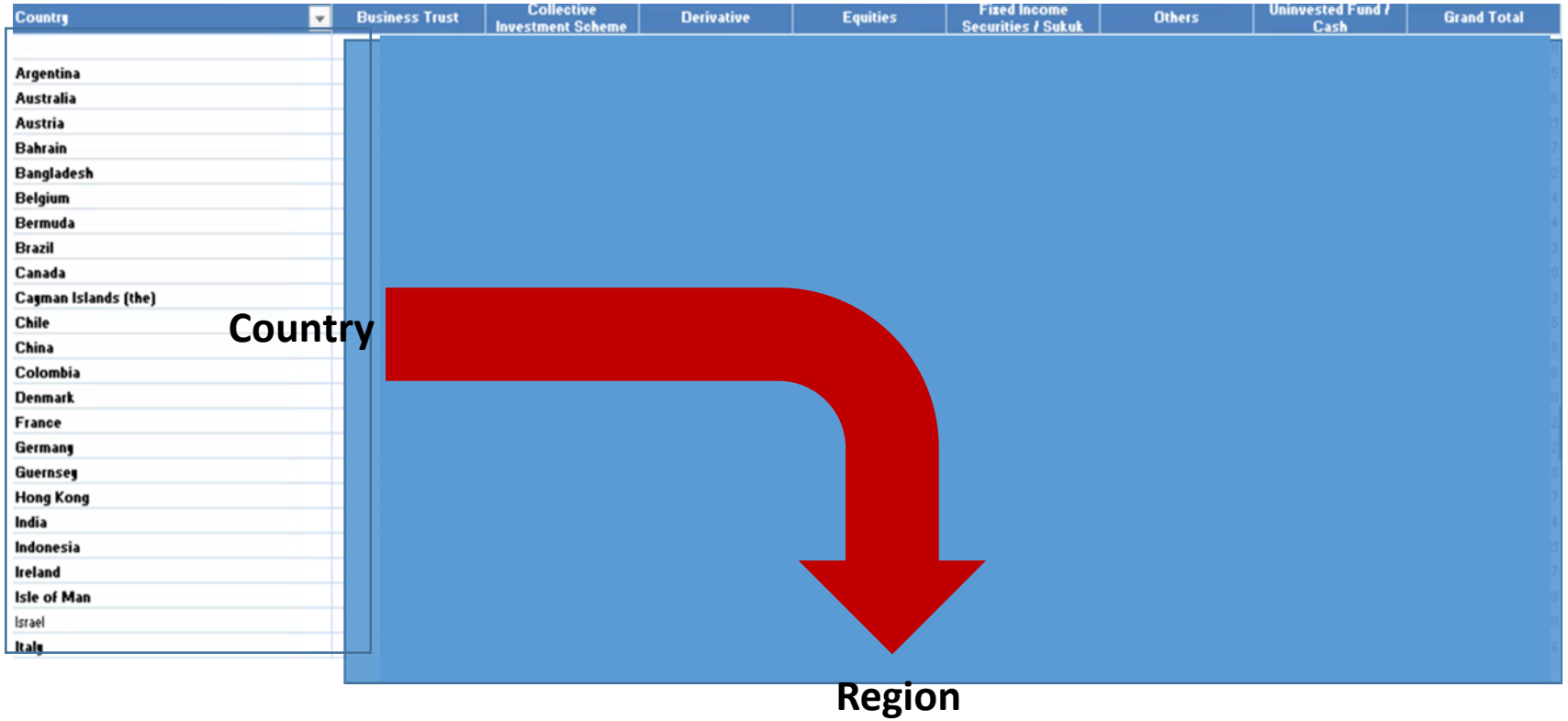
- Standardisation of identification

  - Malaysia ROC – NNNNNNNA
  - New IC – 12 numeric digits

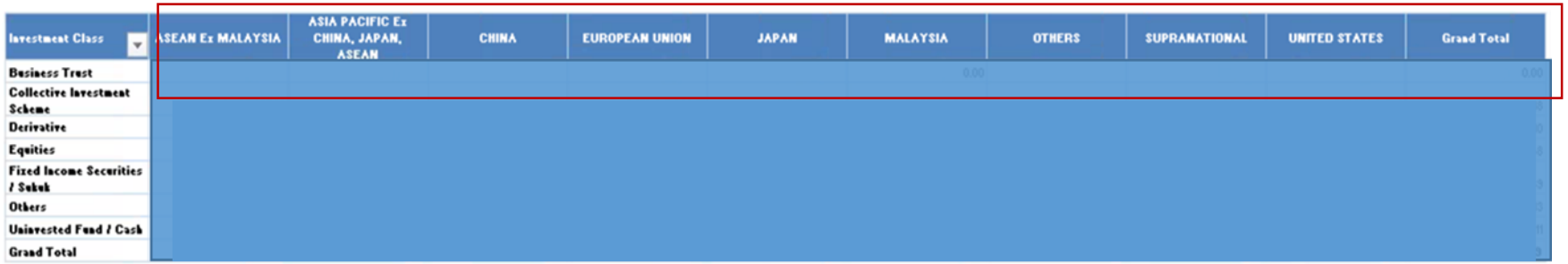
Data Governance

- Data consistency allows accurate data aggregation

1. Country Analysis



1. Region Analysis



Enterprise Data Warehouse

- SEED Initiative : 4 years development from ground zero (2014 – 2017)

EDW : > 2 TB

Number of ETL Programs : > 200

Number of files Processed in last 4 years : > 1 mil

- Industry filing through ComRep

  Via email → ComRep

- Data sourcing from internet using crawling robots

  Manual Download → Web Crawling Robots

- Inter-connect the disparate internal databases

  Disparate databases → Centralized database

- Automate data loading, transformation and cleansing

  Internal Records → ComRep

ETL Programs

Databases

Enterprise Data Warehouse
(structured DB)

Enterprise Information Repository
(Unstructured DB)

Graph DB
(Relationship DB)

icube

Manual preparation → BI Templates

BI reports to support better operational efficiency at the Line Departments

Enterprise i^3 : Information, Intelligence & Insights

- Empowering users with analytic capability via intranet

- Enterprise i^3 is designed to empower users with the capability to obtain "information at a click of a button" and the flexibility to generate own analysis to support business decisions

(@SC – Internal Portal)

Business Intelligence (BI) with Power Pivot

Corporate BI

- Data is updated automatically from SQL database
- 45 sets of Corporate BI

Self-Service BI

- User has direct access to SQL database and can refresh the report at any point of time
- 48 sets of BI reports for 14 Departments

@SC Site Statistics

(YTD - up to April 2018)

171
Total Users

> 27K
Total Pages Viewed

> 200
Pages Viewed Daily

Enterprise i^3

- Capital Market Analysis

1. AUM Trend Analysis

2. Bond Yields Comparison / Benchmarking

Government Securities Yields Comparison

Year: 2018 | 2017

Month: 4 1 2 3 5 6 7 8 9 10 11 12

Date: 2018-04-11 2018-04-12 2018-04-13 2018-04-14 2018-04-17 2018-04-18 2018-04-19 2018-04-20 2018-04-21 2018-04-23 2018-04-24 2018-04-25 2018-04-26 2018-04-27

Country: BULGARIA CANADA CHILE CHINA COLOMBIA CROATIA CZECH REPUBLIC DENMARK EGYPT FINLAND FRANCE GERMANY GREECE HONG KONG HUNGARY ICELAND INDIA INDONESIA IRELAND ISRAEL ITALY JAPAN JORDAN KENYA LATVIA LITHUANIA MALAYSIA MALTA MAURITIUS MEXICO MOROCCO NAMIBIA NETHERLANDS NEW ZEALAND NIGERIA NORWAY PAKISTAN PERU PHILIPPINES POLAND PORTUGAL QATAR ROMANIA RUSSIA SERBIA SINGAPORE SLOVAKIA SLOVENIA SOUTH AFRICA SOUTH KOREA SPAIN SRI LANKA SWEDEN SWITZERLAND TAIWAN THAILAND

Yields are as at 30 Apr 2018

Tenure	3 Months	1 Year	5 Years	10 Years	15 Years	20 Years	30 Years
Malaysia	3.30	3.35	3.80	4.16	4.54	4.78	4.95

Country	Yield	% Difference with Malaysia	Yield	% Difference with Malaysia	Yield	% Difference with Malaysia	Yield	% Difference with Malaysia	Yield	% Difference with Malaysia	Yield	% Difference with Malaysia	Yield	% Difference with Malaysia
INDONESIA	4.90	▲ 48.48%	5.98	▲ 78.57%	6.48	▲ 70.43%	6.90	▲ 65.57%	7.17	▲ 57.88%	7.46	▲ 56.02%	7.60	▲ 53.41%
PHILIPPINES	3.48	▲ 5.39%	4.37	▲ 30.33%	5.40	▲ 42.04%	6.20	▲ 48.93%			7.22	▲ 50.88%		
SINGAPORE	1.48	▼ -55.21%	1.74	▼ -48.06%	2.17	▼ -42.96%	2.59	▼ -37.74%	2.77	▼ -39.02%	2.78	▼ -41.81%	2.90	▼ -41.40%
THAILAND			1.50	▼ -55.22%	1.91	▼ -49.62%	2.46	▼ -40.82%	2.92	▼ -35.74%	3.14	▼ -34.36%		
U.K.	0.50	▼ -84.97%	0.70	▼ -79.04%	1.13	▼ -70.32%	1.43	▼ -65.67%	1.70	▼ -62.70%	1.82	▼ -61.87%	1.84	▼ -62.76%
U.S.	1.83	▼ -44.70%	2.25	▼ -32.78%	2.81	▼ -26.05%	2.96	▼ -28.84%					3.13	▼ -36.77%

Advanced Analytics

- SC Identity (SC Id) - unique internal identifier for each entity & product

All PLCs and Fund Products

PLCs Directors

PLCs Top 30 Shareholders

Directors & Shareholders from RAMCI company search

Auditors

Licensee

Marketing Representatives

Automated cleansing and tagging

Manual checking & cleansing

- Challenge to uniquely identify each individual and name cleansing is a tedious process
- For Example : Employees Provident Fund Board (EPF)
  - EPF has 1,918 different names in 14,285 records, due to
    - Name with trustee
    - English or Malay Name (EPF / KWSP)
    - Short form or Full Name
    - Wrong spelling
      - Employees
        - Employee
        - Emplo yee
        - Employeees
        - Employeed
        - Employment, Etc.
      - Provident
        - Provient
        - Providend
        - Provideent, Etc.

Auto Update of SC Id

Entity Master

Entity Id

Entity Salutation

Entity Address

Entity Contact

Entity Website

Entity Name Reference

Entity Name History

icube

RegIA

Regulator Intelligence & Analytics (RegIA) Platform

- The Malaysian Capital Market intelligence platform

Source

Enterprise Data Warehouse

Integration

Enterprise Information Repository

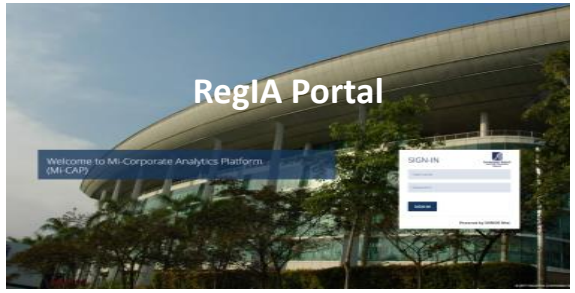
RegIA System

Artificial Intelligence Engine

Entity / Topics Recognition

Relationship Recognition

Sentiment Recognition



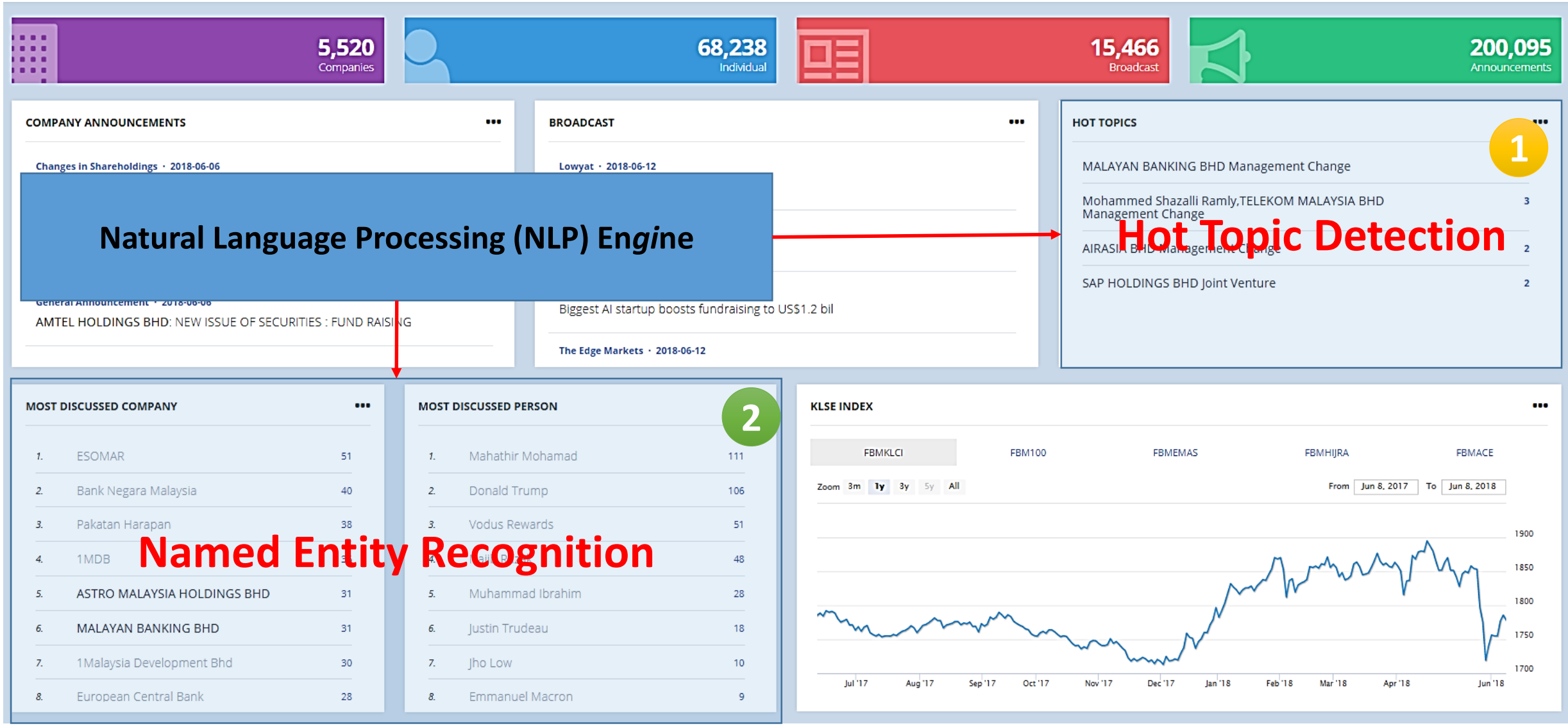
Consolidated Information

- Market Overview
  - Hot Topics
  - Most Discussed Company
  - Most Discussed Person
  - Overall Market Performance
- PLCs Overview (Phase 1)
  - PLCs profile & general information
  - Trading information / Analysis
  - Financial Statement
  - Directorship and key management
  - Top 30 Shareholdings
  - News, Blogs & Forums
  - Corporate announcements
  - PLC Litigation / Red List
  - Sentiment Analysis
  - Correlation Indexing
  - Entity Network Analysis

Powered by **Artificial Intelligence** System

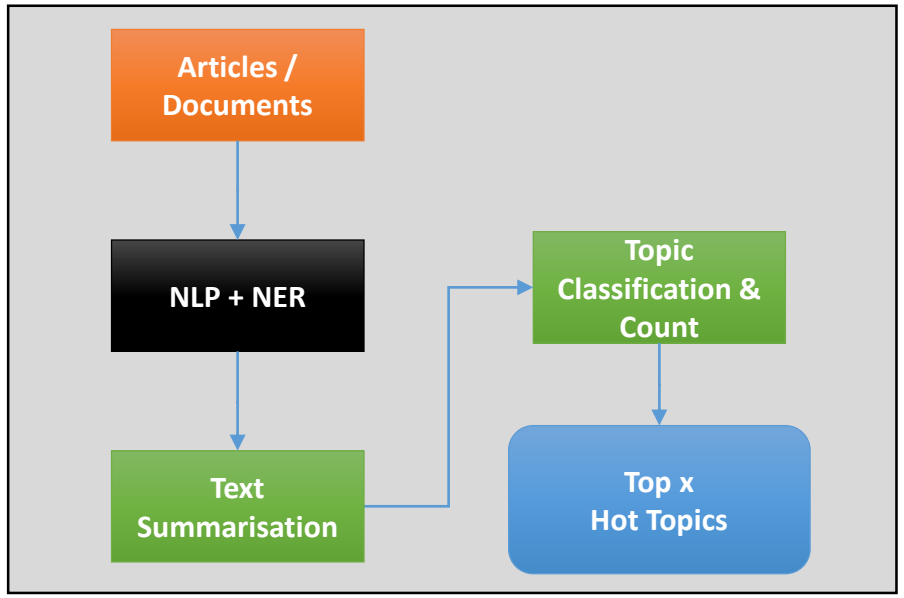
Regulator Intelligence & Analytics (RegIA) Platform

- Market Overview



RegIA Platform

- The hot topics being discussed / circulated



HOT TOPICS

NWP HOLDINGS BHD, LBS BINA GROUP BHD Joint Venture	3
UEM SUNRISE BHD Shrinking	3
BERJAYA CORPORATION BHD Lawsuit	2
M Downsizing	2

NEWS / KEY DEVELOPMENTS

All (3) | News (3) | Blog (0) | Forum (0)

UEM Sunrise to reconsider plans for Gerbang Nusajaya

The Edge Markets · **2018-06-01**

KUALA LUMPUR: UEM Sunrise Bhd, which had in January engaged London-based Atkins as the master planner for Gerbang Nusajaya's transit-oriented development (TOD) plot, will reconsider its plan following the government's decision to scrap the Kuala Lumpur-Singapore high-speed rail (HSR) project. Sprawl...

3 x **Tun Mahathir Mohamad** · 12 x **Londonbased Atkins**

UEM Sunrise to reconsider plans for Gerbang Nusajaya's transit-oriented development plot

The Edge Markets · **2018-06-01**

KUALA LUMPUR (May 31): UEM Sunrise Bhd, which had in January awarded London-based Atkins as the master planner for Gerbang Nusajaya's transit-oriented development (TOD) plot, will reconsider its plan following the government's decision to scrap the Kuala Lumpur-Singa

2 x **Tun Mahathir Moham**

UEM Sunrise looking fo

New Straits Times · **2018-05-**

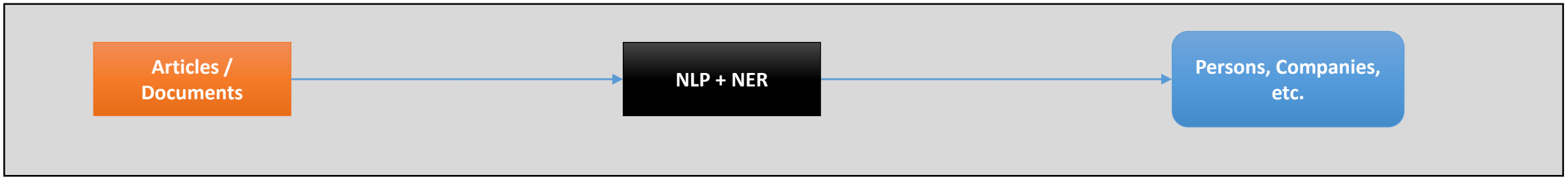
SUBANG JAYA: UEM Sunrise Bhd will be looking at other "catalysts" to replace the 300-acre loophole in its Gerbang Nusajaya project, following the axing of Kuala Lumpur-Singapore high speed rail (HSR). UEM Sunrise, whose Gerbang Nusajaya project will house Iskandar Puteri HSR station, is among the b...

1 x **Anwar Syahrin Abdul Ajib** · 4 x **Anwar**

Number of people / company mentioned in the article

RegIA Platform

- The companies or people being discussed



MOST DISCUSSED COMPANY *From 2018-05-07 to 2018-05-17*

2018-05-07 - 2018-05-17

1.	Pakatan Harapan	77
2.	BANK NEGARA MALAYSIA	67
3.	GST	40
4.	MALAYAN BANKING BERHAD	33
5.	PUBLIC BANK BERHAD	33
6.	Barisan Nasional	29
7.	MIDF AMANAH INVESTMENT BANK BHD	29
8.	CIMB BERHAD	27
9.	PH	26
10.	PETROLIAM NASIONAL BERHAD	25

Meanwhile, '09/18 and '10/18 Public Bank Bhd bonds recorded a trading volume of RM60mil with yields mixed between 4.28% and 8.64%.

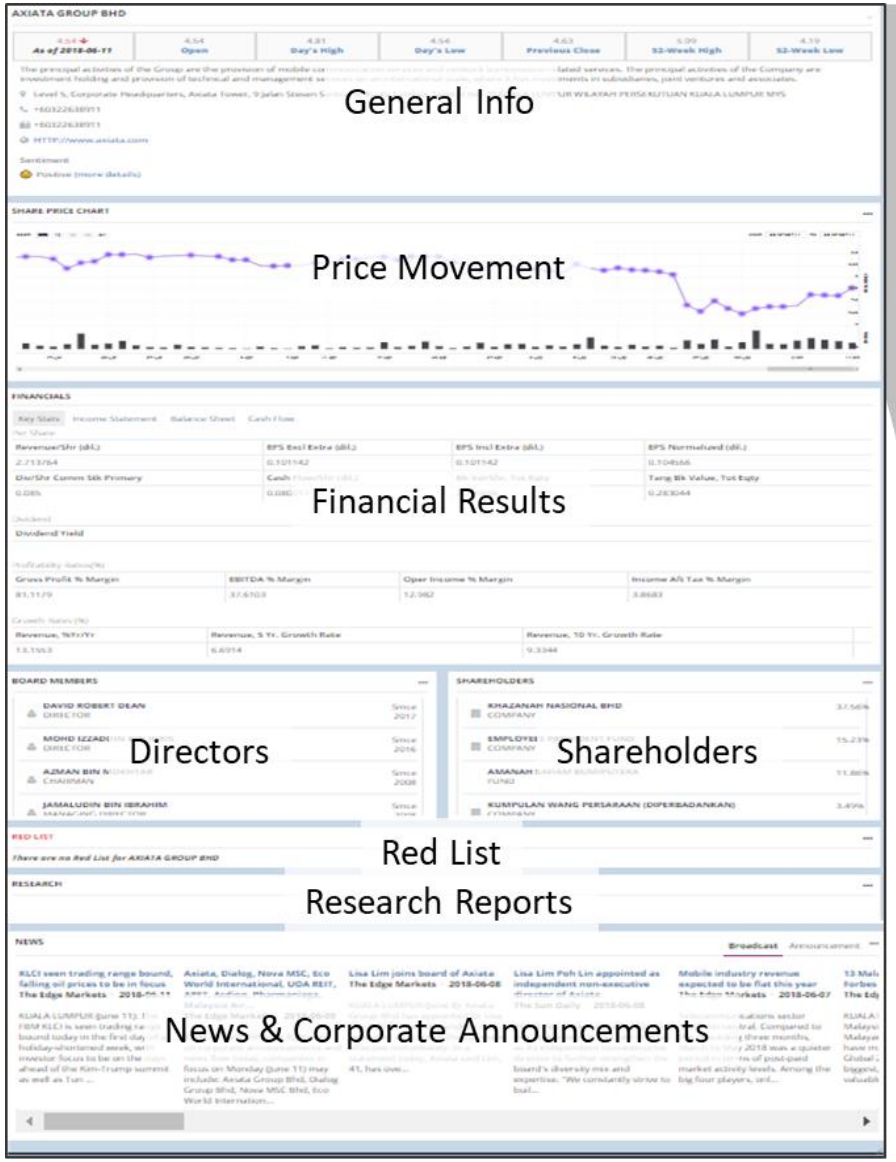
Among heavyweights, Maybank fell six sen to RM10.42, Public Bank was flat at RM23.94 and Tenaga eased two sen to RM15.80.

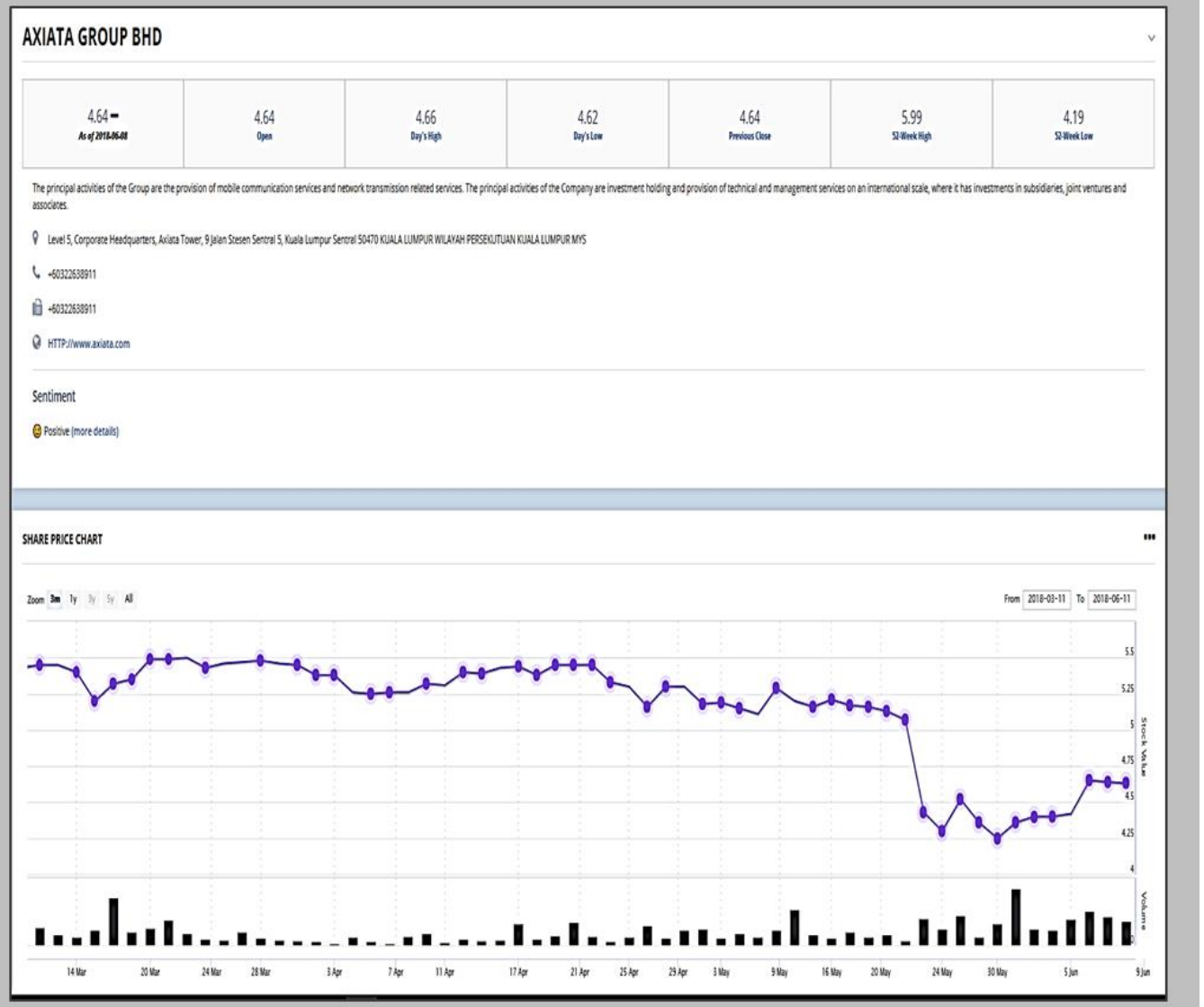
Effective April 1, VPB will become a 100% wholly-owned subsidiary of PBB. Under the terms of the foreign-owned bank licence, PBVN has been granted a term of operations of 99 years.

"In addition, Public Bank Vietnam will provide a convenient platform for the Malaysian business community to conduct business operations in Vietnam," Teh said.

RegIA Platform

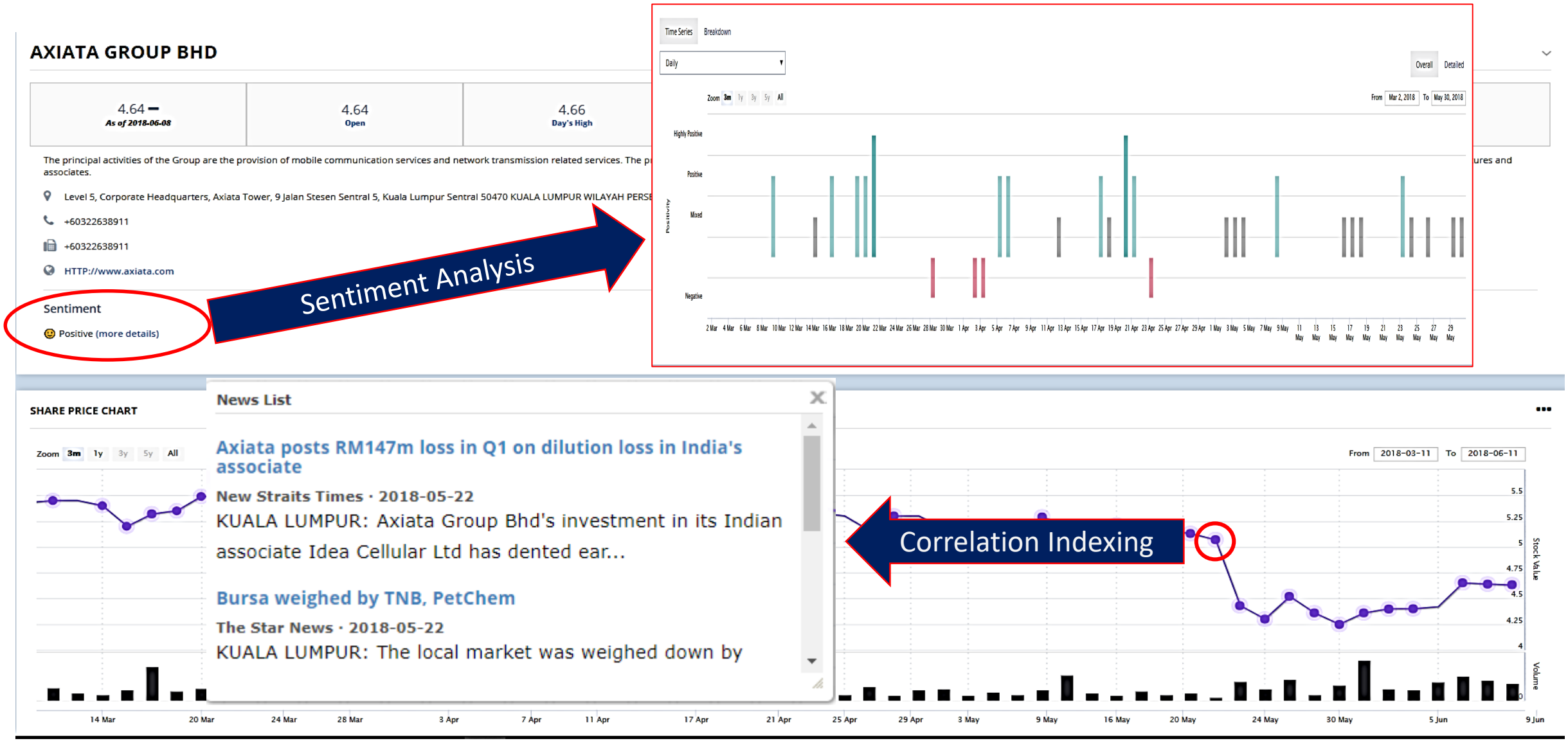
- PLC overview with sentiment analysis & correlation indexing





RegIA Platform

- PLC overview with sentiment analysis & correlation indexing



RegIA Platform

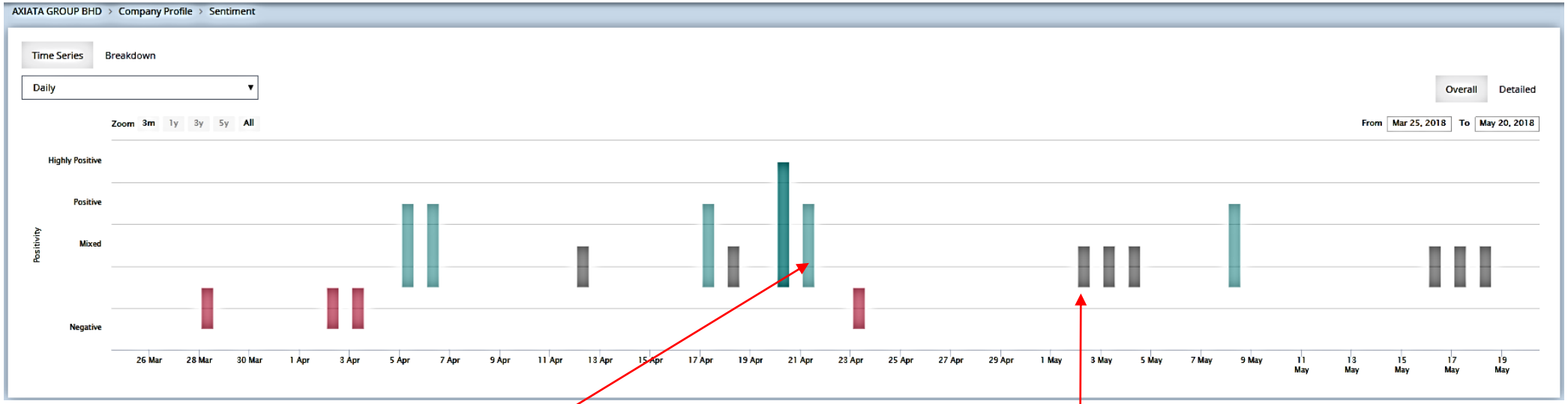
- Sentiment analysis – Provides quick reference on what is happening to a company

Articles / Documents

NLP + NER

Sentiment Analysis

Market Sentiment



BROADCAST

Three-pronged approach for Axiata

The Star News · 2018-04-21 05:17:16 Positive

JUST like how the cellular telecommunications industry is changing, Axiata Group Bhd , the regional telecoms company, is looking at a three-pronged approach towards driving its business. The stagnating cellular business has much to do with the new areas Axiata is veering in order to bring back growt...

BROADCAST

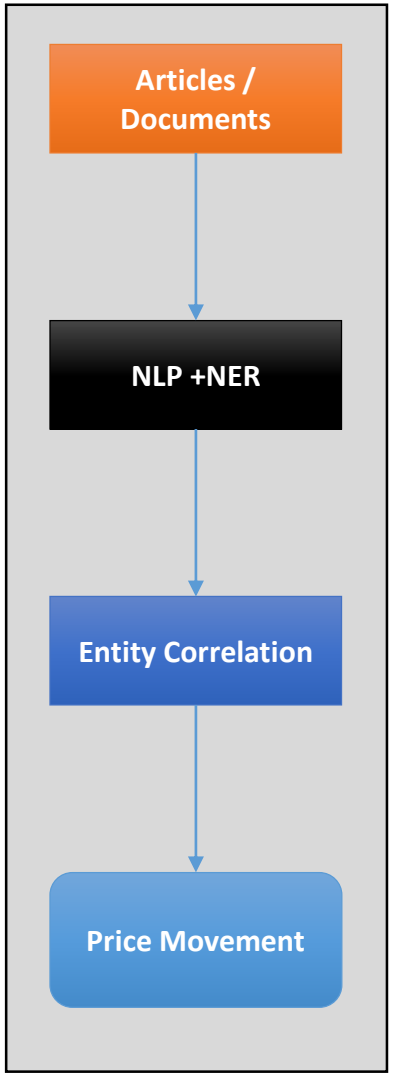
KLCI closes down 18pts as Maxis, CIMB and Maybank weigh

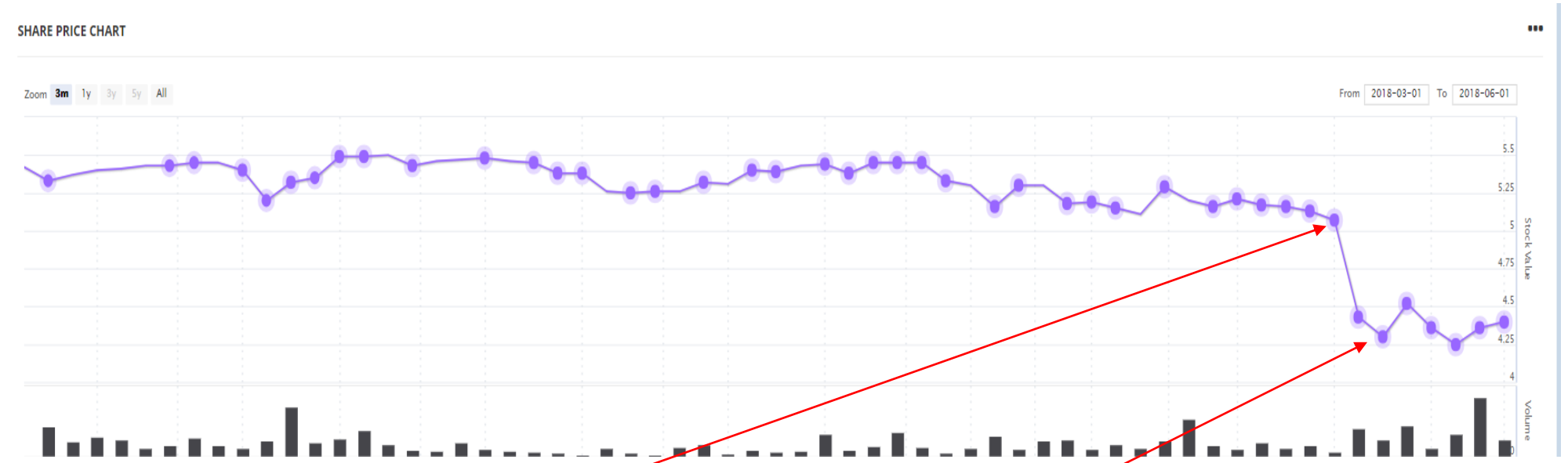
The Star News · 2018-05-02 11:15:48 · Mixed

KUALA LUMPUR: Blue chips closed on a weak note on Wednesday ahead of the 14th General Election on May 9 as investors decided to stay on the sidelines. At 5pm, the FBM KLCI was down 18.34 points or 0.98% to 1,852.03. Turnover was 2.10 billion shares valued at RM2.43bil. There were 311 gainers, 551 lo...

RegIA Platform

- Correlation Indexing – Provides news relating to stock movements





News List

Axiata posts RM147m loss in Q1 on dilution loss in India's associate

New Straits Times · 2018-05-22

KUALA LUMPUR: Axiata Group Bhd's investment in its Indian associate Idea Cellular Ltd has dented ear...

Bursa weighed by TNB, PetChem

The Star News · 2018-05-22

KUALA LUMPUR: The local market was weighed down by

News List

edotco expands business model to include power services in Myanmar

The Edge Markets · 2018-05-24

KUALA LUMPUR (May 24): edotco Myanmar, part of Axiata Group Bhd's subsidiary edotco Group Sdn Bhd, i...

Celcom says 'fully committed' to increasing broadband speeds

The Edge Markets · 2018-05-24

KUALA LUMPUR (May 24): Celcom Axiata Bhd said it looks

RegIA Platform

- Financial Statements & Ratios

FINANCIALS

Key Stats | Income Statement | Balance Sheet | Cash Flow

Per Share

Revenue/Shr (dil.)	EPS Excl Extra (dil.)	EPS Incl Extra (dil.)	EPS Normalized (dil.)
2.713764	0.101142	0.101142	0.104566
Div/Shr Comm Stk Primary	**Cash Flow/Shr (dil.)**	**Bk Val/Shr, Tot Eqty**	**Tang Bk Value, Tot Eqty**
0.085	0.080017	2.739886	0.283044

Dividend

Dividend Yield

Profitability Ratios(%)

Gross Profit % Margin	EBITDA % Margin	Oper Income % Margin	Income Aft Tax % Margin
81.1179	37.6103	12.982	3.8683

Growth Rates (%)

Revenue, %Yr/Yr	Revenue, 5 Yr. Growth Rate	Revenue, 10 Yr. Growth Rate
13.1553	6.6914	9.3344

FINANCIALS

Key Stats | Income Statement | Balance Sheet | Cash Flow

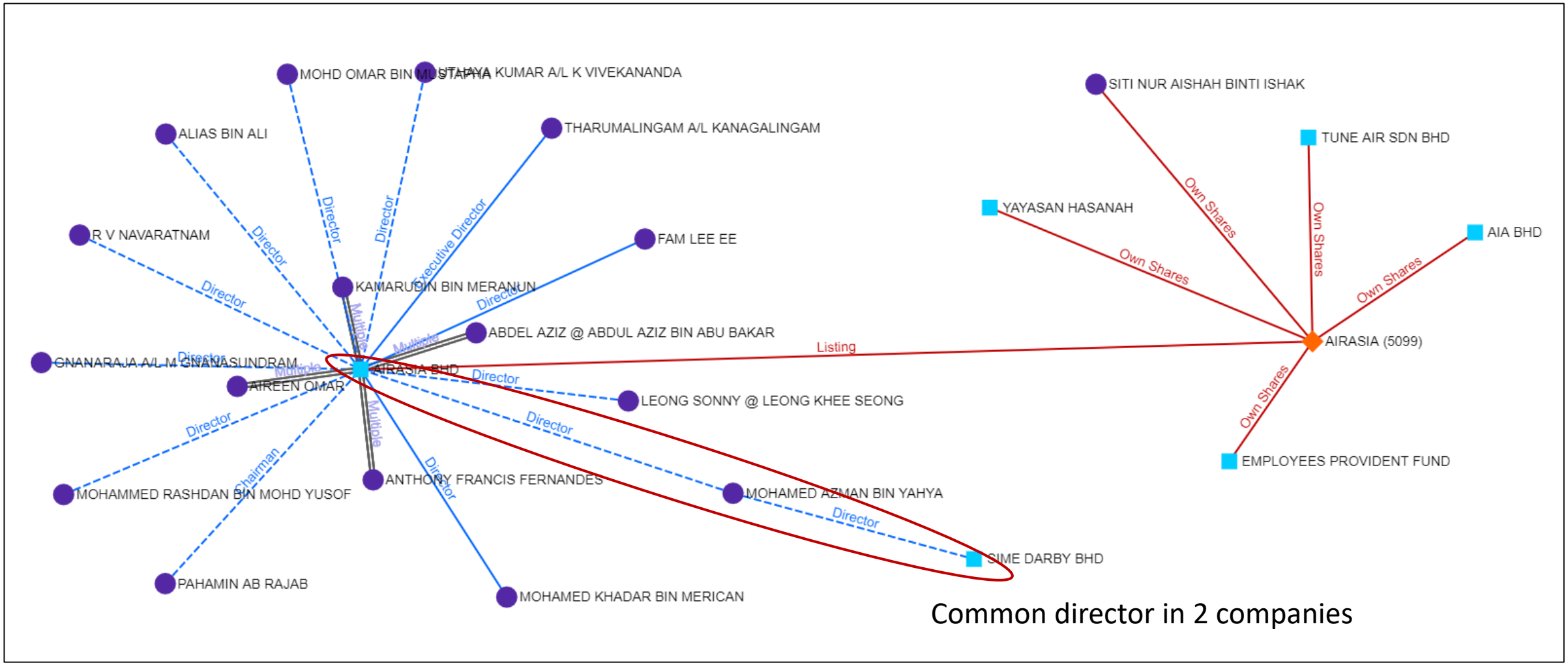
Annual | Quarterly

Amount Standardised in Millions of Malaysian Ringgit

	2017	2016	2015
Revenue	24,402.401	21,565.392	19,883.460
Other Revenue, Total	-	-	-
Total Revenue	24,402.401	21,565.392	19,883.460
Cost Of Revenue	4,607.662	4,906.550	4,702.738
Gross Profit	19,794.739	16,658.842	15,180.722
SG&A Exp., Total	2,108.755	3,814.617	3,242.081
R & D Exp.	-	-	-
Depreciation & Amort., Total	6,009.886	5,595.223	4,170.049
Other Operating Expense/(Income)	8,508.161	4,448.461	4,338.715
Other Operating Exp., Total	16,626.802	13,858.301	11,750.845
Total Operating Expenses	21,234.464	18,764.851	16,453.583
Operating Income	3,167.937	2,800.541	3,429.877
Interest Expense	(1,253.369)	(855.257)	(551.817)
Interest and Invest. Income	241.807	183.394	173.421
Net Interest Exp.	(1,011.562)	(671.863)	(378.396)

RegIA Platform

- Entity Network Analysis



Common director in 2 companies

Radial Search **Interconnection Search**

Technology …

- Enables Efficient and Effective Surveillance of the Capital Market

Faster → **Better** → **More Effective**

Monitoring & Surveillance

With quick access to relevant data, we can operate more efficiently and effectively in the daily surveillance work, to **put all PLCs in Malaysian capital market under the radar at all time.**



Thank you

Regulatory Policy Insights

Data Standardization
A Call To Action

May 2018

Consistent application of financial data and reporting standards within and across jurisdictions remains an important unresolved legacy issue with risk management and financial stability implications. There is a need for the financial services industry, global regulators and other stakeholders to collaboratively build on their progress toward achieving a data standardization framework that addresses current deficiencies and allows innovative new technologies to be adopted. Establishing and implementing a common global language for financial instruments and transactions will create efficiency, reduce costs and result in the improved usability of financial data to create valuable information and manage systemic risk.

To support this effort:

- The Financial Stability Board (FSB) should continue to promote the consistent application of global data and reporting standards across jurisdictions and monitor the progress of adoption
- Individual jurisdictions should evaluate their individual regulatory frameworks to promote common data standards and best practices
- International standard setters such as the FSB and Bank for International Settlements (BIS) should regularly assess, in cooperation with other stakeholders, what additional new global data standards are needed
- The private sector should continue to explore opportunities to drive data standardization in market process and practices both related and unrelated to regulatory requirements

JPMorgan Chase & Co.

Introduction

The financial crisis of 2008 powerfully exposed operational and regulatory deficiencies across the global financial system. It made it abundantly clear that neither regulators nor financial firms had the tools necessary to quickly and accurately identify and assess the outstanding exposures of and to failing financial institutions as well as specific legal entities within these institutions. Teams of people were needed to identify the parties to transactions with troubled firms, quantify the exposures involved, and unravel a complicated web of financial structures and products. The lack of transparency and time it took to compile usable information hindered the ability of regulators and firms to respond quickly to the crisis. For example, at the time there was approximately $6.5 trillion of daily turnover in the global foreign exchange (FX) and over-the-counter (OTC) derivatives markets alone, making this no small task.[1]

International and national regulators knew this information gap needed to be closed, and the industry agreed. Regulators and the financial services industry had been exploring improvements to data standardization for decades, but it took the crisis to create the imperative and regulatory will to actually make progress. At the G20's 2009 Pittsburgh Summit[2], the charter of the FSB was strengthened to address the root causes of the crisis and transform the system of global financial regulation. The need for improved data and information was specifically recognized in the FSB and International Monetary Fund (IMF) report on *The Financial Crisis and Information Gaps* (October 29, 2009) where it was noted, "Indeed, the recent crisis has reaffirmed an old lesson—good data and good analysis are the lifeblood of effective surveillance and policy responses at both the national and international levels."

Since the crisis, and notably more recently, progress has been made towards the creation and required use of global data standards to serve the financial markets, particularly in derivatives markets. These data standard initiatives range from creating single elements of reference data such as the Legal Entity Identifier (LEI) to sets of data element definitions for OTC derivatives such as the Committee on Payments and Market Infrastructures (CPMI), International Organization of Securities Commissions (IOSCO) and Critical Data Elements (CDE), to full blown reporting standards such as the FSB's Common Data Templates.

It has been critical for the industry to be part of the standard setting and regulatory processes to ensure regulatory requirements and market practices are well aligned and useable by all participants. There has been a unique collaboration among industry, regulators, and other standard-setting bodies to develop data and reporting standards and to create global systems to manage and maintain the standards.

However, considerable work remains that will require continued cooperation between regulators and the industry as well as regulatory mandates to achieve success. Global financial market participants – public and private side alike – must strengthen their commitment to these initiatives putting aside concerns about short term costs

[1] Daily turnover in foreign exchange markets averaged $4.3 trillion in April 2007 and daily turnover in OTC interest rate derivatives averaged $2.2 trillion in April 2007. 2016 Triennial Central Bank Survey – OTC Derivatives and Foreign Exchange; BIS Monetary and Economic Department, September 2016.
[2] The 2009 G-20 Pittsburgh Summit was the third meeting of the G-20 Leaders to discuss financial markets and the world economy. The G20 officially became "the premier forum for international economic co-operation".

A Case for LEI

Consider a dealer that engages in multiple transactions with a client, ABC Bank. The dealer does not use a consistent naming standard or identifier in its recordkeeping, rather referring to its client three ways: "ABC", "ABC Bank", and "ABC Bank NA". While the dealer has transacted with the same client, this is not evident from the dealer's records due to the lack of a standardized identification approach, resulting in inefficient operations and potential identification errors.

To address these issues, the G20 asked the FSB to develop an LEI to uniquely identify legal entities that engage in financial transactions. It was clear that the benefits of a common language for legal entity identification would be significant:

- Speed and accuracy in aggregating exposures in a crisis situation
- Operational efficiency in terms of streamlined regulatory and internal reporting
- Improved client service through clearer communication
- More efficient compliance with business protocols like AML and KYC

Since 2014, over 1.1 million LEIs have been issued.

The Global LEI Foundation website has a wealth of information on the global LEI system at GLEIF.org

and effort and agree to adopt global standards for the greater good of the long term benefits to the market and to financial stability that would be achieved.

This article will examine the global imperative for data standardization, highlight the progress made to date, and take a forward look at the opportunities that can be uncovered through more robust data standardization.

Standardization And Harmonization: Is It Necessary?

A lack of data standardization and imprecise regulatory requirements result in inconsistencies in reported regulatory data across jurisdictions and business lines. Other sources of data, such as data provided by vendors, also lack standardization adding to the complexity of data management. All these factors have a significant impact on financial markets and include consequences for both risk management and efficient operational processes. For example, standardized product and contract identification, coupled with a comprehensive set of key data elements and classification in machine-readable form has not yet been adopted in reporting regulations across

the globe adding enormous costs for end-users especially in their portfolio and risk management. Specifically, without standardization of data:

- Identification of parties involved in financial transactions cannot be quickly and accurately accomplished
- Aggregation of exposures by counterparty, product and region is more challenging
- Analysis of financial information is time consuming and inaccurate
- Management of operational risk is more demanding as manual processes are needed to collect, clean, reconcile, and consolidate data to produce useable information[3]
- Assessment and management of global systemic risk in a timely manner may be unachievable

Further complicating the problem, regulatory reporting requirements have been developed inconsistently across jurisdictions, making it difficult to build a truly global picture of the market and to traverse the various reporting regimes. Well intentioned initiatives like swaps reporting have been less than effective, and have increased rather than decreased operational burdens due to the inconsistent reporting rules adopted by national authorities.

Regulatory reporting requirements are often disconnected from the way firms and institutions define transactions and reference data in their systems, making it necessary to explain why seemingly identical exposures differ between management and regulatory information. Creating consistency between market and regulatory nomenclature is a key area that needs continued collaboration between the industry and regulators.[4]

The significant growth in new regulatory reporting requirements over the past few years has compounded to these issues, especially for entities that operate across jurisdictions and with multiple business lines. According to the U.S. Department of the Treasury's Office of Financial Research (OFR), the estimated cost to the global industry from the lack of data uniformity and common standards runs into the billions of dollars.[5]

Key Benefits Of Data Standardization

While the downside of inconsistent data standards is significant, the good news is that there is tremendous upside when standardization is achieved. Establishing and implementing a common global language for financial instruments and transactions, one that is universal from institution to institution, will result in unambiguous meaning, consistent formats, and improved usability of the data to create valuable information. Consistent use of such standards in regulatory reporting requirements across the globe would significantly improve the ability of the public sector to understand and identify the buildup of risk across multiple jurisdictions and across complex global financial processes. Global data standards also lead to efficiency saving time and reducing costs that firms and regulators would otherwise expend manually collecting, reconciling, and consolidating data, and will lay the groundwork for the future use of evolving technologies and innovative approaches to data management.

[3] Office of Financial Research: Collective Action: Toward Solving a Vexing Problem to Build a Global Infrastructure for Financial Information. (February, 2017) pg. 1
[4] International Swaps and Derivatives Association: The Future of Derivatives Processing and Market Infrastructure (September, 2016)
[5] Office of Financial Research: Breaking Through Barriers Impeding Financial Data Standards (February, 2017)

Improved Risk Management and Financial Stability

The stability of the financial system is dependent on robust systemic risk management and analysis, both of which are dependent on high quality information and data. For example:

- Better quality data supports improved risk management and decision making through the unambiguous identification of counterparties, products, instruments, and transactions
- Good quality data facilitates processes such as payments flows, mergers and acquisitions, orderly resolution and client onboarding for small and large firms alike
- For the public sector, good data is an imperative to support supervisory activities, which benefits both the public sector and the industry[6]
- High quality standardized data will allow the public sector to consider new approaches for collecting information rather than continuing to use old-fashioned and inconsistent reporting formats
- Finally, with standardized data, collected effectively, technology could be better leveraged to improve identification of growing risks, and in the event of a future financial crisis, provide for speed and accuracy in gathering data and mitigating damages

The importance of the financial community having strong systemic risk management capabilities cannot be emphasized enough. We have lived through times without these capabilities, and understand the consequences well. Improvements must continue to prepare us for the future.

Improved Efficiency and Cost Savings

In 2013, Ka Kei Chan and Alistair Milne published an academic paper in coordination with the School of Business and Economics Loughborough University focusing on the benefits of the broad adoption of the LEI as a global data standard and concluded that "there are about $10 billion per annum of measurable direct operational cost savings from the establishment of the global LEI in wholesale financial markets."[7]

The Data Foundation and PricewaterhouseCoopers published a research paper in March 2016 demonstrating that governments have the ability to reduce cost and improve the quality of data by adopting common data standards.[8] The report cites a program where the Australian government adopted common data standards, known as Standard Business Reporting, and reportedly saved more than a billion Australian dollars in 2015.

In October 2017, McKinsey & Company and the GLEIF published a joint white paper, titled *The Legal Entity Identifier: The Value of the Unique Counterparty ID*. The white paper highlights the LEI's value beyond regulatory compliance and illustrates three use cases where substantial cost can be saved and efficiency is created through the use of the LEI. The report estimates savings of 10% of operational costs for client on-boarding and trading processing - $150 million annually for the investment banking community, increasing to $500 million annually when banks engaging in trade financing are added.[9]

[6] Bank for International Settlements: Data as a critical factor for central banks
[7] Chan, Milne: The Global Legal Entity Identifier System: Will it deliver? (August, 2013)
[8] PwC & The Data Foundation: Standard Business Reporting: Open Data to Cut Compliance Costs (March, 2017)
[9] McKinsey & Company and GLEIF: The Legal Entity Identifier: The Value of the Unique Counterparty ID (November, 2017)

It is clear from these examples that the benefits of strategically implementing standardized data elements and reporting can be significant. The example of full standardization in Australia presents an ideal outcome producing significant benefits for the country. In other areas incremental savings are being achieved where the beginnings of standardization have occurred, as with the LEI. But these incremental improvements are just a fraction of the benefits that could be achieved if standardized data were fully integrated into databases, legal documentation, and across the entire data infrastructure of market participants.

Supporting New Technologies

Looking forward, having clean, standardized data is an important stepping stone to reaping the benefits of the ongoing digitization of financial assets, electronification of markets and growing use of new, cutting edge technologies, such as artificial intelligence. Many areas of the financial industry will be impacted, in some capacity, by these innovations in the coming years. These areas may include customer service, investment advice, contracts, compliance, and fraud detection. Current applications of innovations such as artificial intelligence are already visible and include natural language processing for commercial loan agreements, automated trade execution and fraud surveillance.

These new technologies, such as machine learning, for example, have the best outcomes when the data used in their processes is good, i.e., standardized, accurate, complete and timely.[10] Said simply, good data in, good data and information out. Without standardized underlying data, the applied technology could be less effective and efficient, and the insights it produces less helpful and potentially incorrect.

Data standardization and harmonization is not only a critical step towards making the current financial industry more efficient; it will also provide a foundation for the implementation of new technologies and processes in the future.

Progress

As depicted in the examples below, while data standardization has been around a long time, progress on standardization has accelerated since the financial crisis.

These recent initiatives began with a call for the creation of an LEI in 2010, driven by a Policy Statement from the OFR in the United States, stating “Precise and accurate identification of legal entities engaged in financial transactions is important to private markets and government regulation”.

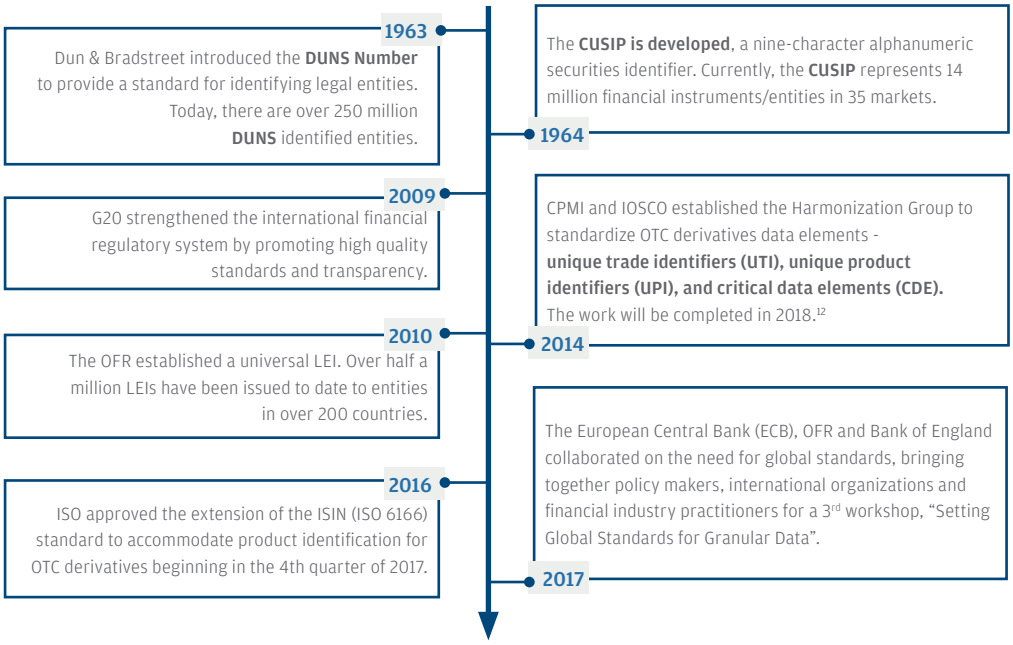
More recently, the mandate by European regulators that investment firms subject to the MIFID II regulation may not trade with parties that do not have an LEI has driven a near doubling of the population to over 1,100,000 LEIs issued globally to date.

In September 2014, the FSB published a study on the feasibility of a mechanism to produce and share global aggregated data (the Aggregation Feasibility Study)[11]. One of the study’s conclusions was that “it is critical for any aggregation option that the work on standardization and harmonisation of important data elements be

[10] SAS: Machine Learning: What it is and why it matters

[11] Financial Stability Board: Feasibility study on approaches to aggregate OTC derivatives data (September, 2014)

completed, including in particular through the global introduction of the Legal Entity Identifier (LEI), and the creation of a Unique Transaction Identifier (UTI) and Unique Product Identifier (UPI)."



As part of this work, the FSB asked CPMI and IOSCO to develop global guidance on the harmonization of data elements that are reported to trade repositories (entities that centrally collect and maintain the records of OTC derivatives) and are important for the aggregation of data by authorities. The FSB also said it would work with the CPMI and IOSCO to provide official sector impetus and coordination for the further development and implementation of uniform global UTIs and UPIs.[13]

New initiatives continue to emerge as well, both from the public sector and the private sector. For example: In 2017, both the CFTC Division of Market Oversight and the European Commission announced comprehensive reviews of reporting regulations to ensure that high quality data is being received and to streamline reporting.[14] In October 2017, the International Swaps and Derivatives Association, Inc. (ISDA) published a conceptual version of its ISDA Common Domain Model (CDM), which sets out the required elements to achieve a single digital representation of trade events and actions – an important precursor to realize the full potential of new technologies, such as distributed ledger and smart contracts. The ISDA CDM will establish a common set

Unique Transaction Identifier (UTI)

In 2009, the G20 concluded that OTC derivatives ought to be reported to trade repositories (TRs), with the goal of improving transparency and mitigating systemic risk.

The UTI was developed primarily to allow the unambiguous, unique identification of individual OTC derivatives transactions that regulators and supervisors require to be reported to TRs.

Receiving the data in a standardized format, with a unique transaction identifier, helps authorities to aggregate and analyze OTC transactions more effectively.

See www.bis.org/cpmi/publ/d158.htm

[12] See www.BIS.org for more information on the harmonization work.

[13] A UTI is unique to a particular OTC derivative transaction. By contrast, a UPI is unique at the product level, meaning that there is a unique UPI code for each OTC derivative product. A UTI cannot be re-used to represent more than one unique transaction, while a UPI is expected to be reused whenever a particular OTC derivative product is part of an OTC derivatives transaction.

[14] U.S. Commodities Futures Trading Commission: Division of Market Oversight Announces Review of Swaps Reporting Regulations (July, 2017)

of data and processing standards that all participants can access and deploy to facilitate interoperability between firms and technology platforms.[15]

This work is very encouraging. For these efforts to be truly successful, however, they must leverage the global standards already completed by their predecessors. For example, the CFTC and the EU, in their efforts to re-look at their reporting requirements, should leverage existing standardized data elements like the LEI, UTI, UPI, ISIN and CDE and include these elements in their revised rules. It would be a lost opportunity for improvement if duplicative, conflicting and overlapping data requirements were implemented as part of these revised rules and standards.

The Need To Work Together

Developing global standards is a unique process requiring creativity and energy. Achieving consensus among stakeholders is a critical success factor and cannot happen without the explicit, unwavering support from the broad range of parties that participate in the financial markets. Senior level support in both the public and private sectors is necessary to maintain progress over the lengthy timeframe it takes to achieve global change.

The need for this support exists today where globally agreed upon standards such as the LEI and the UTI, while complete, are still not universally adopted. There are many jurisdictions around the world that choose to use proprietary standards rather than these globally agreed standards. There are major global processes, such as payments systems, where progress towards adopting standards has been slow and not mandated.

Consider the LEI. The global LEI system has been in place and functioning since June 2014. Despite the significant improvements in systemic risk and exposure management that result from its use, as well as the hundreds of millions in estimated cost savings, approximately 30% of global regulations requiring entity identification still do not mandate the use of an LEI. This is a significant shortcoming of the global community in achieving the huge potential of a global entity identification standard. Regulators, in particular, have a key role in achieving success as regulatory mandates can easily drive global adoption of new data standards.

Following on the heels of the LEI are the important standards that have, and are soon to be, finalized by CPMI and IOSCO. Specifically, these include key over-the-counter derivatives data elements for UTI, UPI, and CDE.[16] Years of work between the industry and public sector have gone into creating these standards, which are scheduled to be completed in 2018. It will now be incumbent upon regulators and supervisors in each jurisdiction to integrate these standards into their existing reporting and disclosure requirements. Without broad, global adoption, the true benefits of such standardization will never be achieved.

[15] International Swaps and Derivatives Association: Common Domain Model Version 1.0 Design Definition Document (October, 2017)

[16] Bank for International Settlements: CPMI - overview

In Summary - A Call To Action

Creation and adoption of global data standards would not only allow the industry and regulatory community to operate more effectively and efficiently in today's environment, but would facilitate the adoption of new and innovative technologies like artificial intelligence and digital data models going forward. Progress has clearly been made. Now, the financial community should strive to create real and lasting global change. To drive these efforts over the finish line, there needs to be a global call to action — a renewed attention to the need for global data standardization. Let's finish the work that was set in motion by the 2008 financial crisis and do our best to set a strong foundation for the future. Specifically:

- The G20, through a body like the FSB, should assess and report on the state of adoption by all jurisdictions around the world of the various global reference data and reporting standards that have been created: for example, LEI, UTI, UPI and the CDE (once finalized). Jurisdictions that have not adopted such standards should be identified and urged to make progress on implementation. The FSB has addressed levels of adoption in certain country peer reviews, however, this could be more effective if done on a comprehensive basis. The FSB, through the Standing Committee on Standards Implementation (SCSI), oversees monitoring of the implementation of agreed financial reforms and the reporting of progress to the G20. Adding monitoring of the progress of adoption of global reference data standards like those indicated above to the FSB oversight and reporting processes could be very effective in driving better global adoption.
- Similarly, national regulators should consider the state of data and reporting standardization within their countries. For example, within the United States, regulatory reporting is fragmented and often duplicated and there is a lack of coordination across agencies. Each agency is focused on collecting data in its own way, with its own definitions, leading to higher cost and poorer data quality. These issues could be addressed through the use of common data standards in all financial data reporting, and enforcing best practices in data collection. In the U.S., the Financial Stability Oversight Council could take steps within its mandate to facilitate coordination among its member agencies towards the standardization of regulatory reporting requirements across the agencies.[17]
- Bodies like the FSB and BIS should regularly assess, in cooperation with other stakeholders, what additional new global data standards are needed. The global financial community would greatly benefit from such ongoing and continued improvements in data standards.
- Finally, the private sector should continue to explore opportunities to drive data standardization in market processes and practices both related and unrelated to regulatory requirements.

[17] Dodd-Frank Wall Street Reform and Consumer Protection Act, Sec. 112 (a)(2)(E)

Published by the Office of Regulatory Affairs

For an electronic copy visit
https://www.jpmorganchase.com/corporate/news/insights/data-standardization-call-to-action.htm

For questions or further information, please contact
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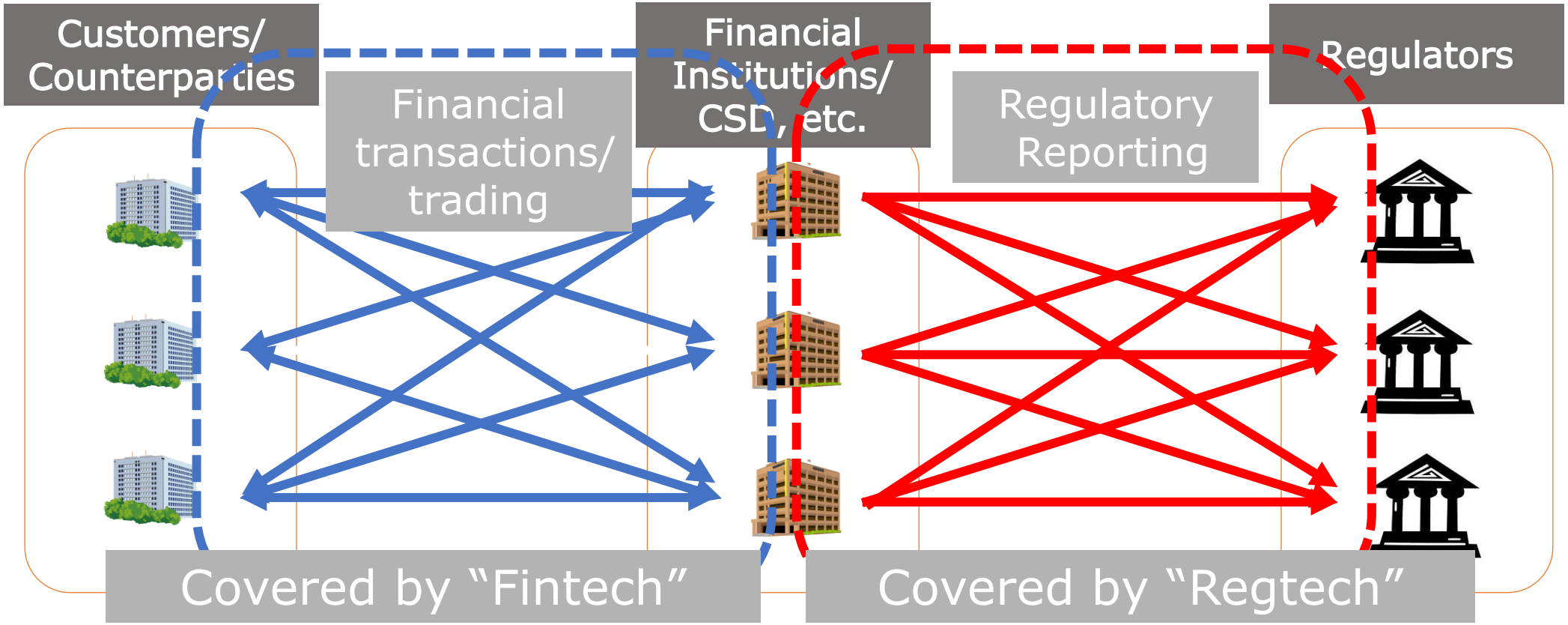
NTT DATA
Trusted Global Innovator

XBRL, Why? and What can do for regtech?

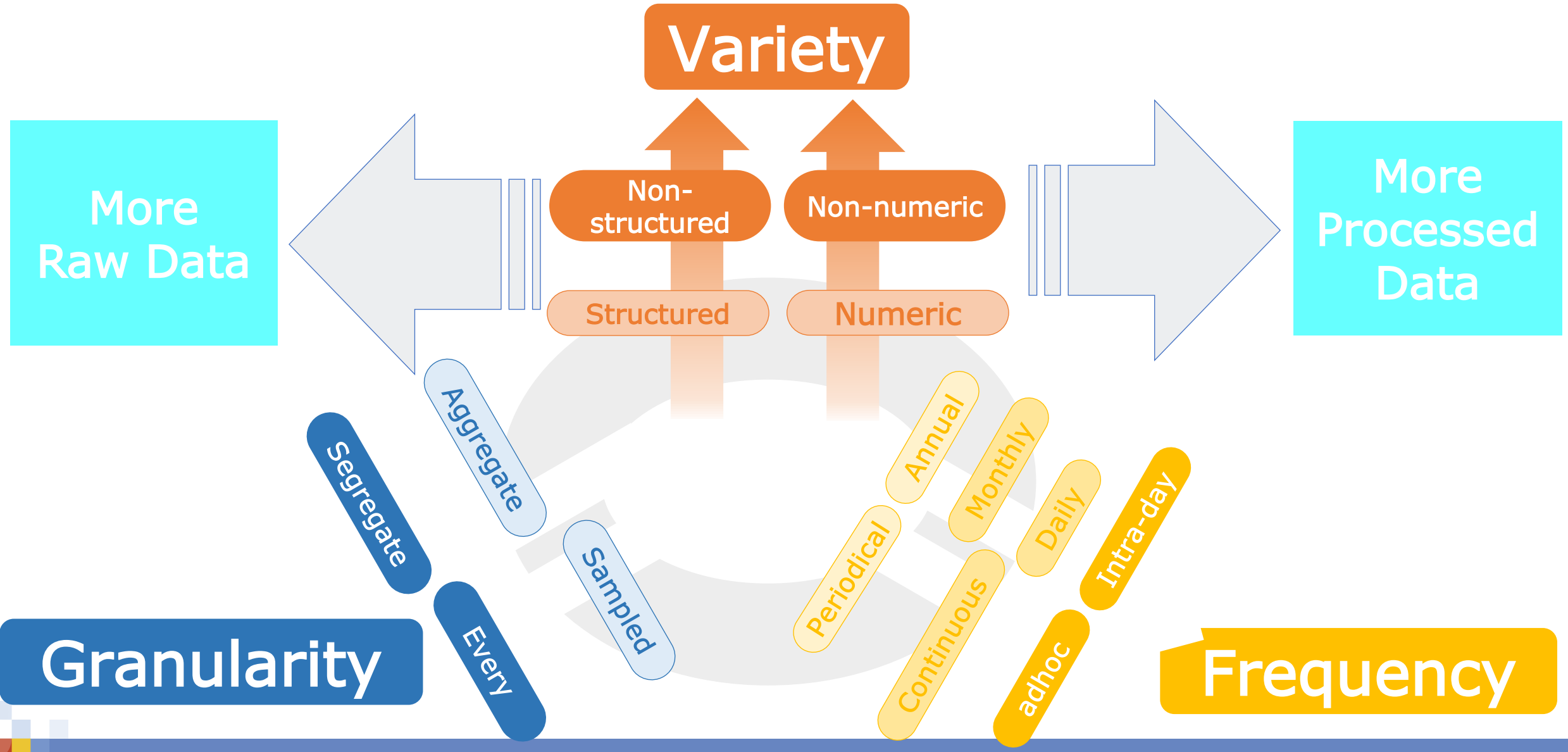
June 2018

Chairman, XBRL Asia Round Table
NTT Data Corporation
Yoshiaki Wada

Recent trend in financial transaction and regulatory missions



Expanding Regulatory Data Scope



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Question:

What is necessary to cope with these new trends?

One possible answer is selecting optimal data

And second answer is expanding the data standardization

Data Format for monitoring

Monitoring Period	Nature of Data	Popular Data Format
Real Time	Simple, high speed, i.e. event-log	CSV, TEXT
Daily	Slightly complicated, i.e. Transaction messaging	CSV, TEXT, XML
Periodical	Complicated, low speed, i.e. reporting	XML, XBRL
On-demand	Flexible structure, i.e. reporting	HTML, PDF, XML, XBRL, Excel

Data Format for monitoring

Monitoring Period	Nature of Data	Popular Data Format
	i.e. event-log	
Daily	Slightly complicated, i.e. Transaction messaging	CSV, TEXT, XML
On-demand	Flexible structure, i.e. reporting	HTML, PDF, XML, XBRL, Excel

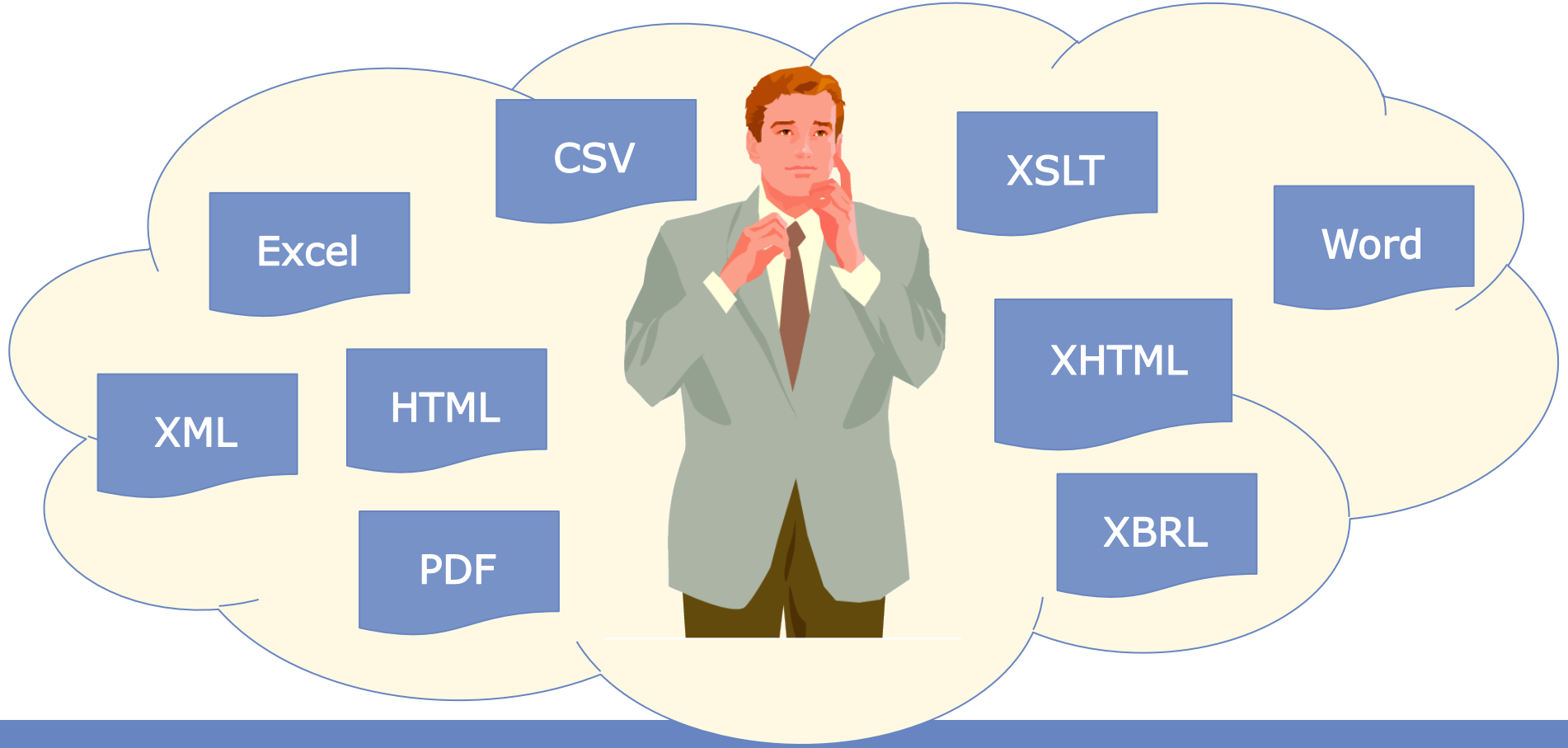
For high speed & simple data, CSV, TEXT is suitable

For messaging, complicated structured report, XML and XBRL is suitable

What is XBRL?

There are so many data format

Why XBRL is unique and useful?



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Feature of XBRL (eXtensible Business Reporting Language)

Attributes/structure

Period	Company Name		ABC Corporation
	Start Date		1-Apr-04
	End Date		31-Mar-05
Consolidated Balance Sheet	Current Assets		
		Cash and Deposit	723891
		Notes Receivable and Accounts Receivable Trade	307254
		Marketable Securities	72422
		Inventories	97359
		Prepaied Expenses	36839
		:	71891
		:	:
		:	:

Elements

Taxonomy

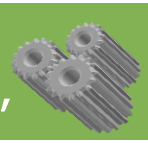
Describing the attributes/structure of element

Instance

Describing the value of element=fact

Computer can understand the structure, meaning of data, then

Data loading,



calculation, analytic

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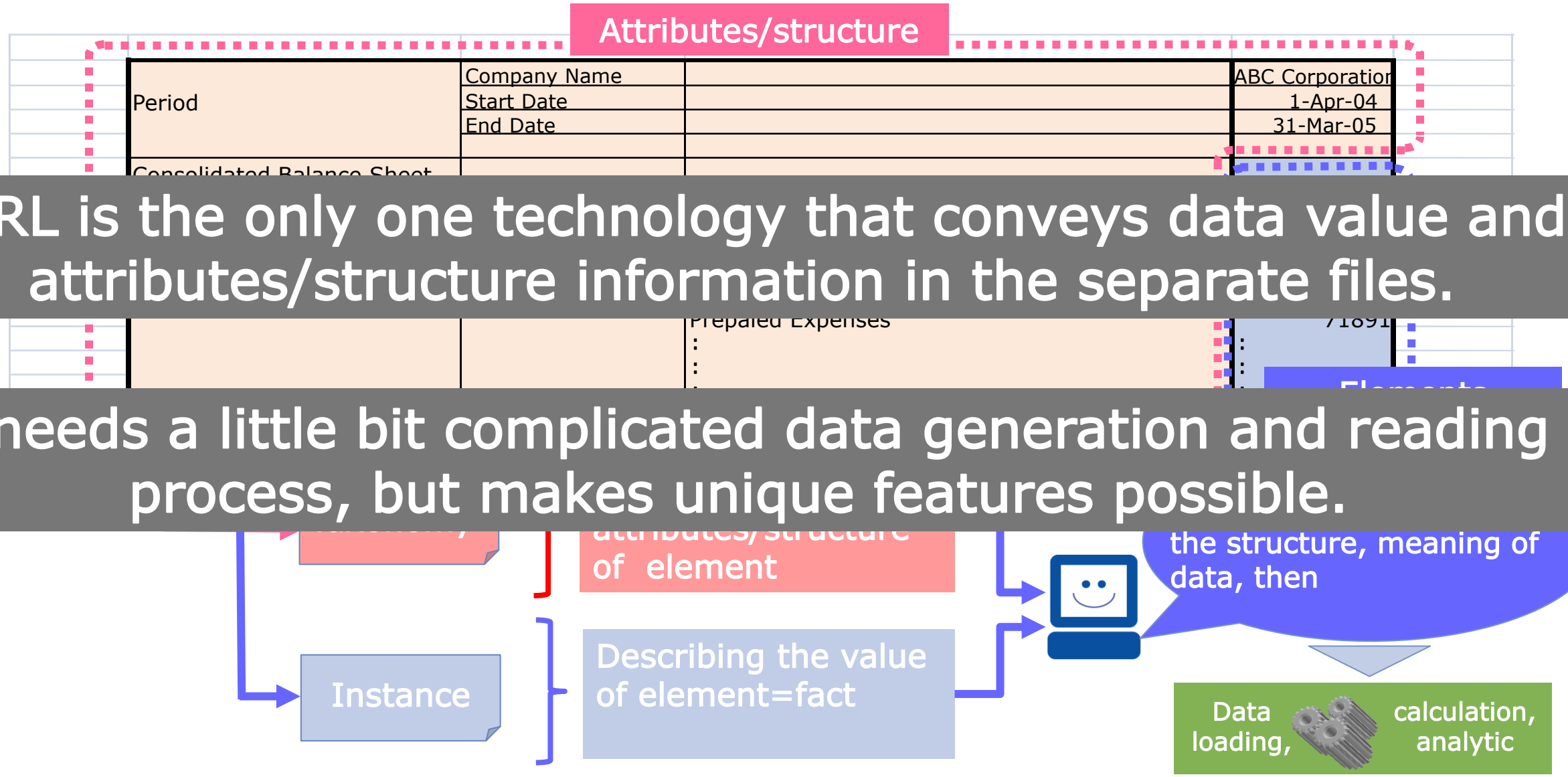
Feature of XBRL (eXtensible Business Reporting Language)



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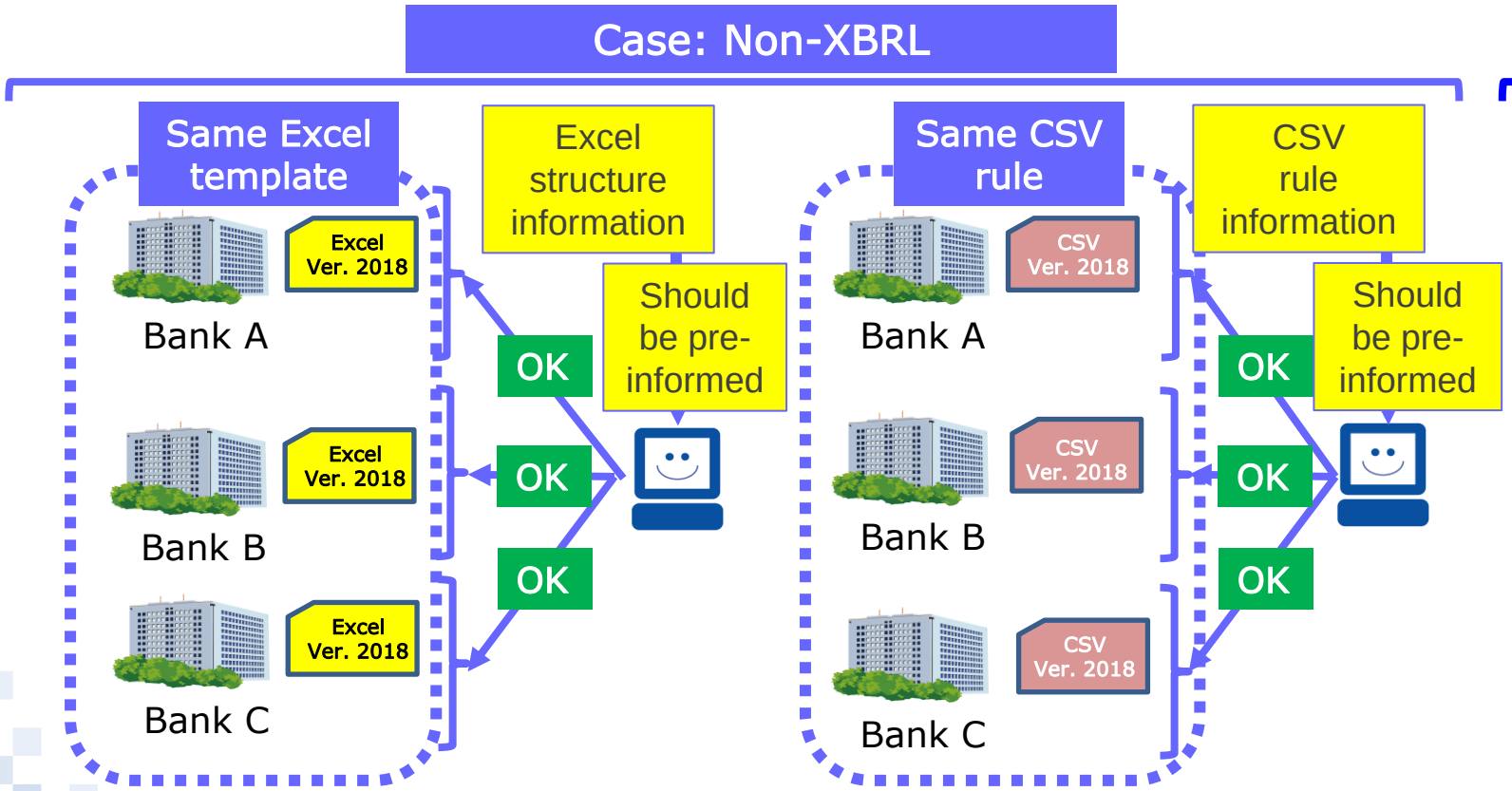
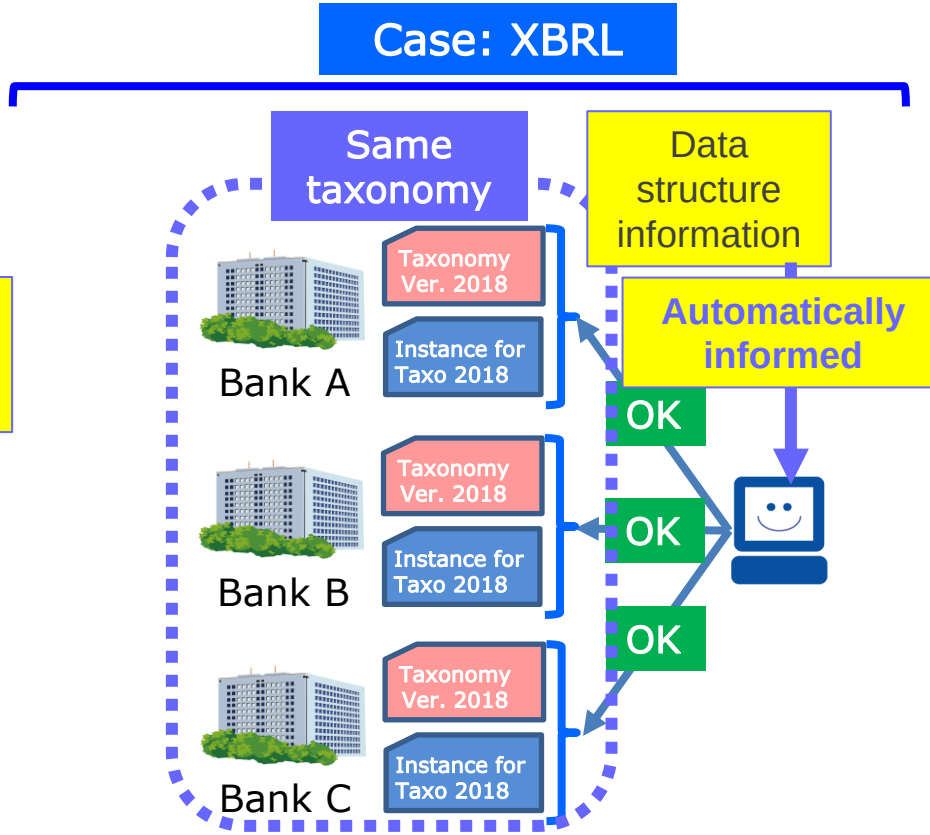
Standardization of reporting/messaging form (1)

For the smooth data exchange, reporting/messaging form, template and rule should be standardized and stable.

Then most data format can work efficiently.





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However,

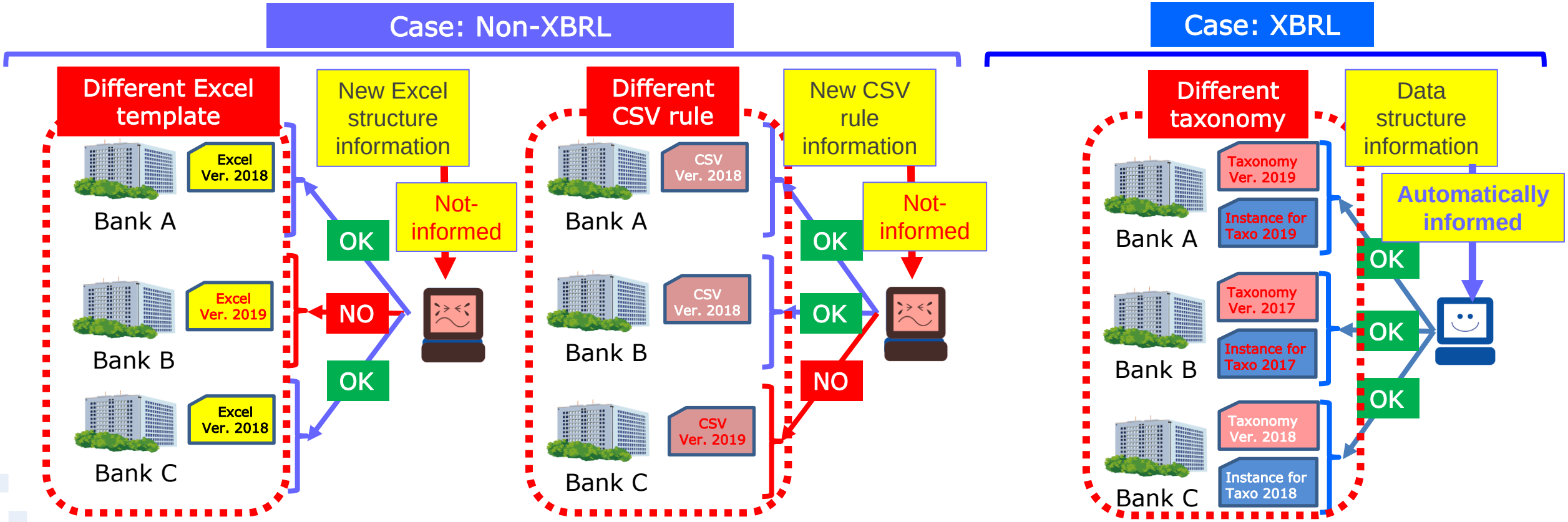
In the real world, reporting requirement is always changing, reflecting the changes in accounting rules, regulatory rules and financial conditions, etc.

Therefore, regulatory reporting form is also changing regularly or irregularly.

This causes difficulty to operate the actual reporting

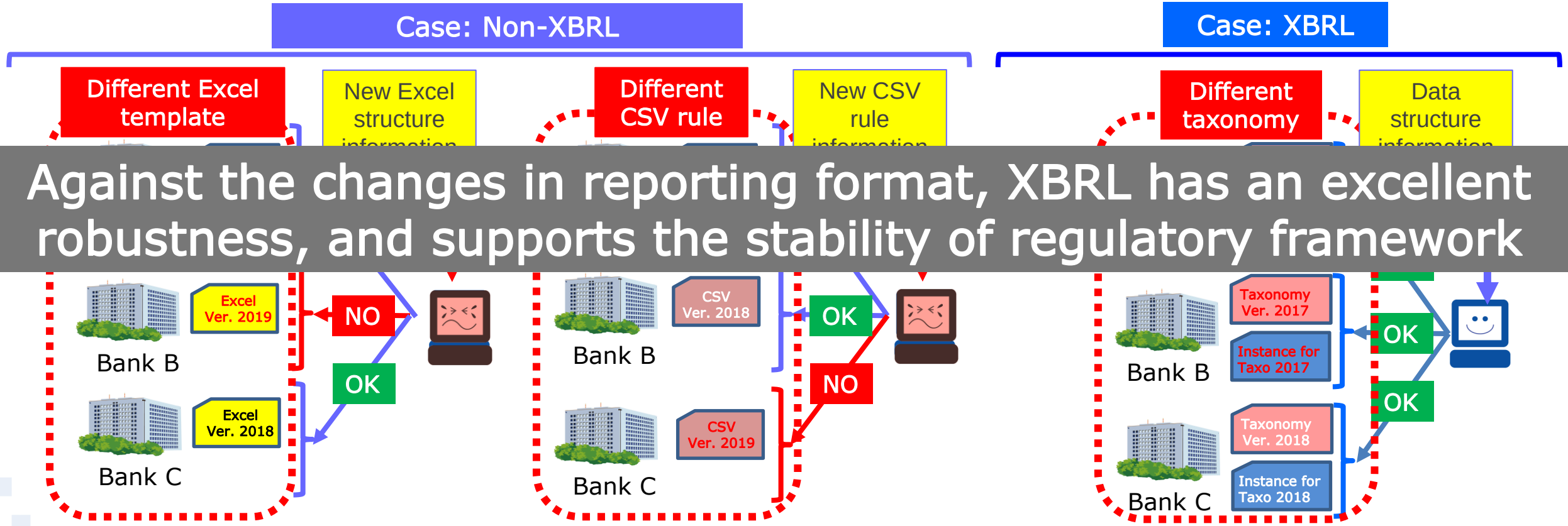
Standardization of reporting/messaging form (2)

If any filer uses different reporting/messaging form or rule, and that is not informed to receiver, what will happen?



Standardization of reporting/messaging form (3)

If any filer uses different reporting/messaging form or rule, and that is not informed to receiver, what will happen?



Against the changes in reporting format, XBRL has an excellent robustness, and supports the stability of regulatory framework

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Major use cases of XBRL

XBRL is already used as an de-facto standard for reporting in various cases, all over the world.

Regulatory Reporting	Central Banks, Financial/Security/Market regulators
Financial/Non-Financial Disclosure	Business Report (e.g., IFRS other GAAP based), ESG Reporting
Governmental Filings	Tax-filing, Pension filings, etc.

Summary

For the efficient and transparent regulatory framework, combination of optimal data format and standardization of report form/template is essential.

On the other hand, there is no reporting free from changes in form/template

Therefore, it is particularly important to design the stable and standardized reporting form/rule, and choose the suitable data format which enables robust data supply chain

Combination of well standardized/structured form and XBRL could contribute to the efficient data supply chain.

Thank you for your attention!

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GLOBAL TRENDS IN DATA COLLECTION AND STANDARDISATION FOR MORE STRUCTURED DATA

BANK OF ENGLAND

TECHNOLOGY | DELIVERY

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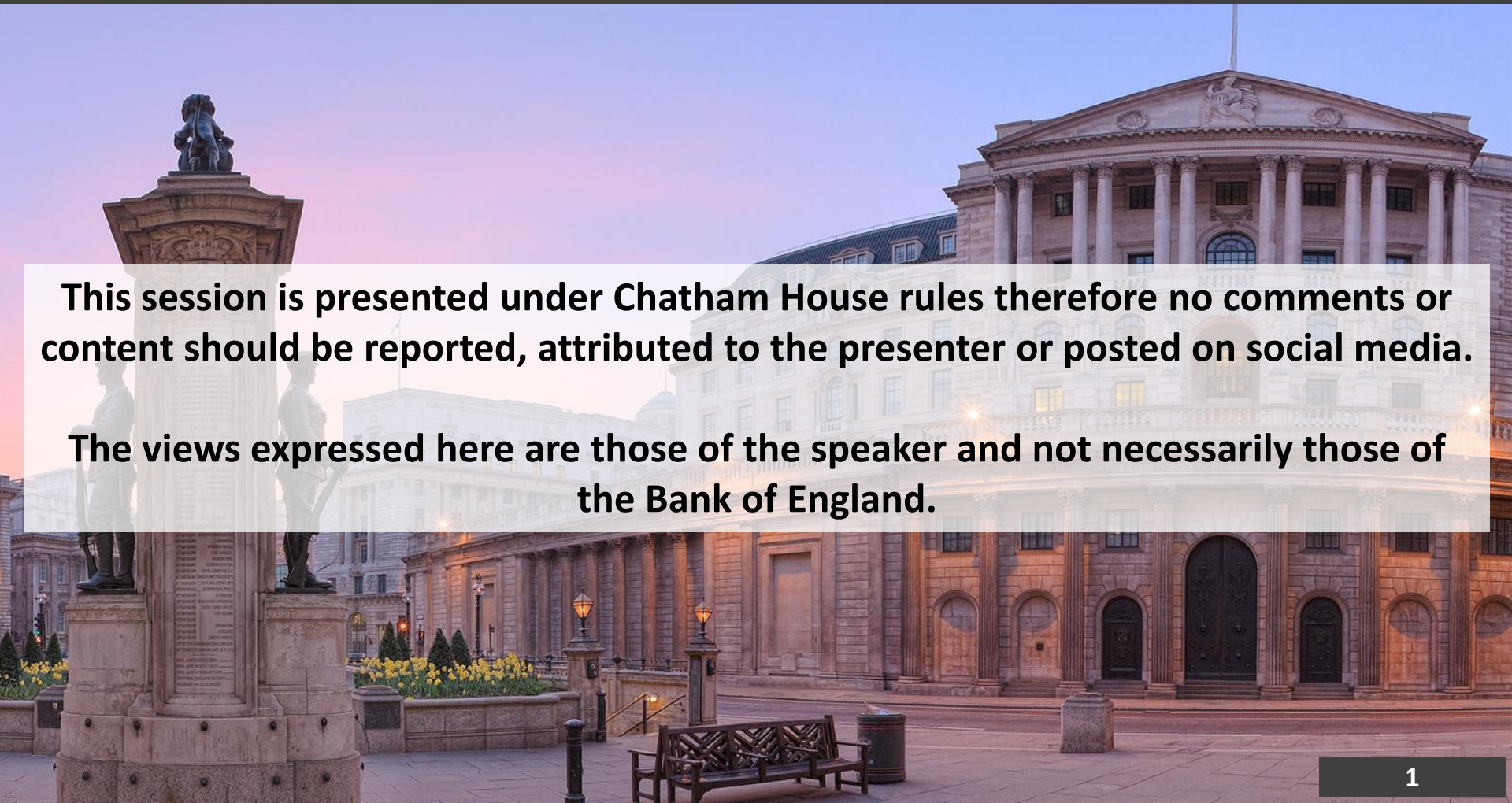

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The views expressed here are those of the speaker and not necessarily those of the Bank of England.

Background

- **Head of Data Collection and Publication**
  - Operational management data collection, publication and shared FCA systems
  - Management of 80+ vendors providing market / 3rd party data services
  - Design and delivery of all data collection projects

- **UK & BoE Representative(s) to the technical committees**
  - EBA, EIOPA, ESMA, ECB
  - LEI Regulatory Oversight Committee

- **Lead high profile 'FinTech' / 'RegTech' PoCs**
  - Ethereum PoC / Ripple PoC
  - Advanced XBRL data management

Post 2008: Regulatory tidal wave

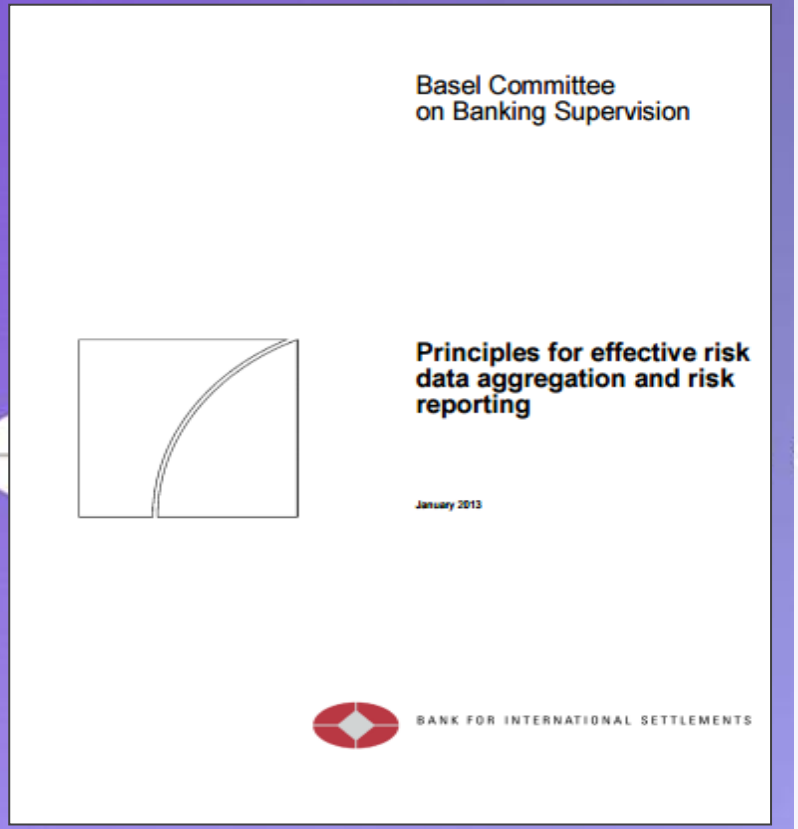
- Regulations in quick succession with a massive increase in data requested
- Complex requirements + Tight Deadlines = High Cost + Tactical Solutions
- Less holistic thinking about data → poor data management → high technical debt
- Focus on just being compliant
- Can be costly

The impact of a regulatory tsunami on technology and data

- Inconsistent technical and data explanatory information published.
- Repetition / overlap of data requested
- Manual processing / validation of data
- Data quality issues
- Multiple formats
- Higher costs of software in the market
- Point solutions / poor data management

3 key themes

1. Identify what risks exist around financial institutions that need to be monitored
2. Identify the data required to monitor these risks
3. Identify the suitable technologies collect, store and analyse this data



- **Principle 2: 33.** A bank should establish integrated data taxonomies and architecture across the banking group, which includes information on the characteristics of the data (metadata), as well as use of single identifiers and/or unified naming conventions for data including legal entities, counterparties, customers and accounts.

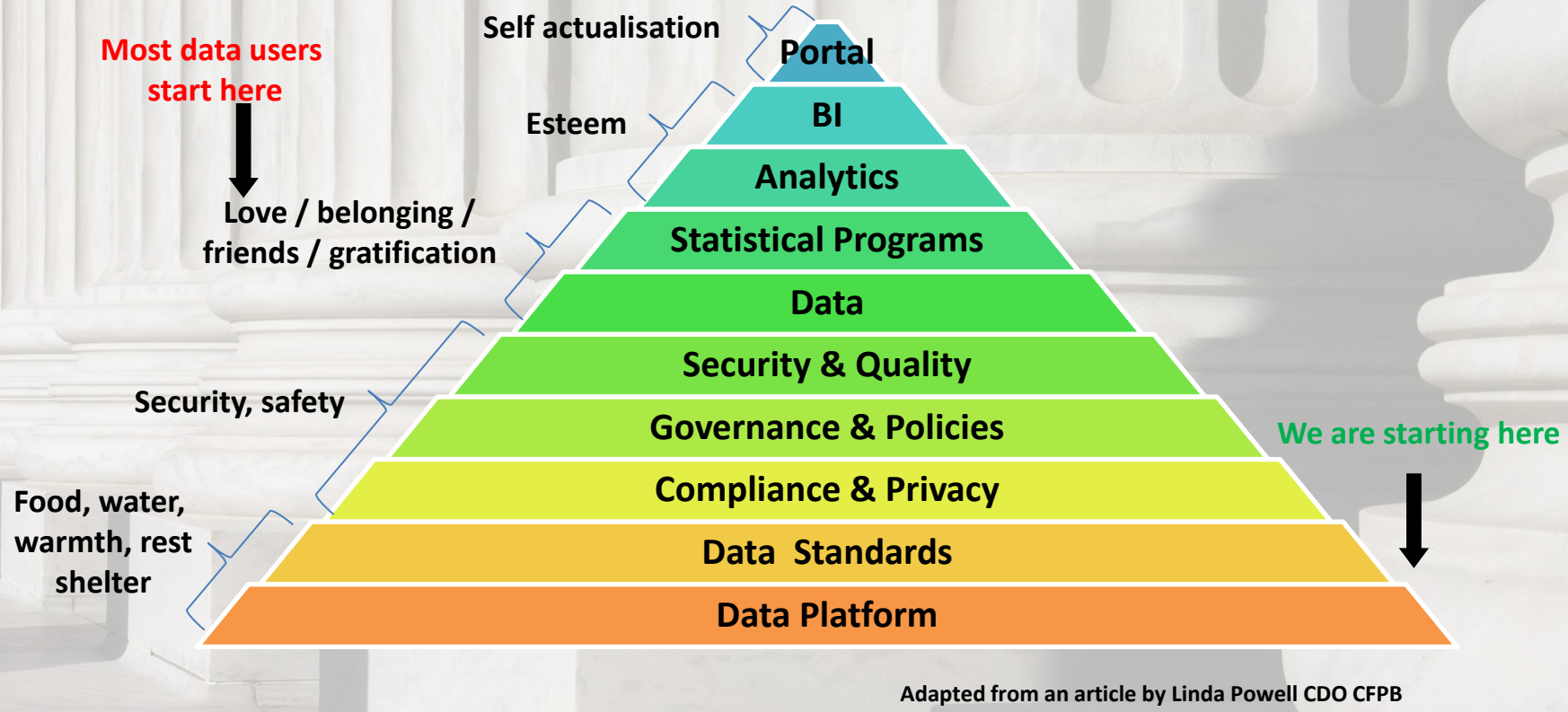
- **Principle 3: 37.** As a precondition, a bank should have a "dictionary" of the concepts used, such that data is defined consistently across an organisation.

2015: Key principles and standards

- Standard machine readable data dictionary and data exchange format
- Data model based approach
- Automation of checks at source / receipt
- Clear and consistent data definitions. Re-use of templates and data definitions.
- Collect once and re-use many
- Standards / unique global identifiers
- Leverage technology and skill investments

- Single data collection platform
- XBRL (extensible business reporting language)
- LEI (legal entity identifier)
- DPM (data point modelling)
- ISO20022

2016: Setting solid foundations – Maslow's / Data Hierarchy of Needs



Adapted from an article by Linda Powell CDO CFPB

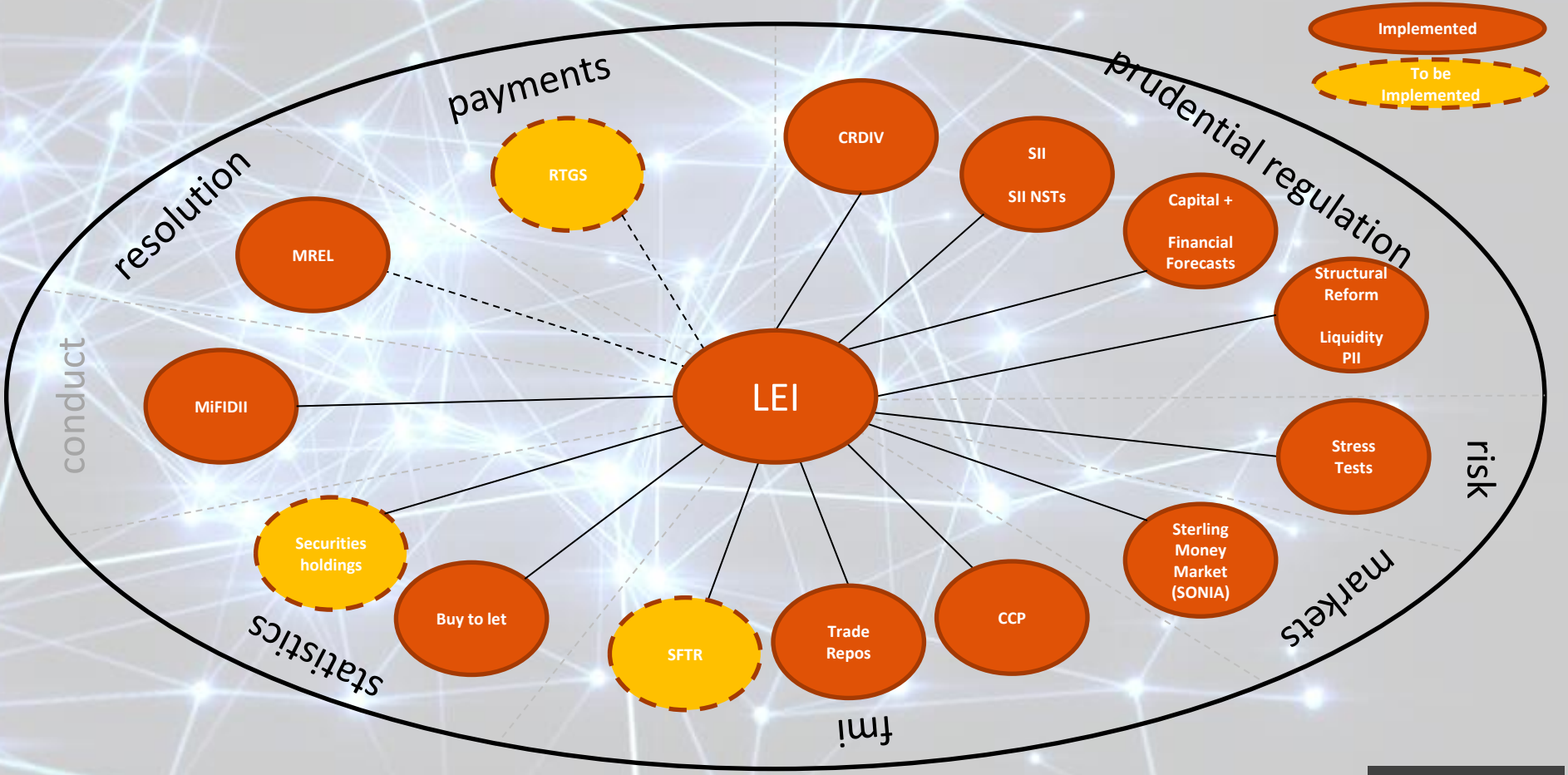
What is the LEI and its benefits?

- The first global and unique entity identifier
- Enables regulators to identify parties to transactions precisely and provide greater transparency.
- Levels of counterparty exposure could be linked and aggregated using the LEI e.g. different business activities, asset classes, jurisdictions and geographies
- Applications include KYC, AML, supervision, asset management, resolution etc.

"The LEI is the most basic of data reporting standards for entities. It is just a single data element"

US Office of Financial Research Jan' 17

How the LEI could benefit a central bank's data



What is the Data Point Model (DPM)?

- Collaboration between business, data and technology. The subjective result of discussion and agreement.
- Dictionary of business terms. Consistent, well structured, no overlaps, etc.. and a mechanism to relate to tables / templates.
- Structured representation of the data and metadata, identifying all the business concepts, relations and validation rules. Model is very stable and extensible if required
- DPM is the technical specifications for developing an IT solution.
- DPM could be a guideline how to organise the data on reporting entity side

What is XBRL and its benefits?

- XBRL is the international standard / programming framework for business, finance, tax and risk reporting
- Representing a data model, dictionary, definitions, templates, the relationships between and links to the regulations as code
- Specifying a varying complexity and severity of business validation checks, with varying tolerances.
- Automatic execution of validation checks at source / receipt
- Representing reporting requirements at any level of granularity or aggregation
- Improved data quality
- Leveraging existing investments in IT and skills

2016: FCA RegTech call for input evidences desire for XBRL and DPM

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Innovate: RegTech

RegTech is a sub-set of FinTech that focuses on technologies that may facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities.

Financial Conduct Authority

FCA

Feedback Statement FS16/4

Call for input on supporting the development and adopters of RegTech

July 2016

What RegTech could be introduced?

4.1 The innovative and diverse ideas generated by the inputs and discussions at the roundtables ranged from the use of online portals and greater use of XBRL (see glossary) for reporting through to the use of more complex and wide reaching technology, such as artificial intelligence, shared utilities and the blockchain.

Integrate, standardise and understand

Technology that drives efficiencies by closing the gap between intention and interpretation

Semantic tech and data point models
Technology that converts regulatory text into a programming language.

- Machine-readable regulation would allow more automation and could significantly reduce the cost of change.
- It could also help ensure greater consistency between the intentions of a regulation and its implementation.

Shared data ontology
A formal naming and definition of the types, properties, and interrelationships of entities.

- Sharing a common understanding of the structure of regulatory data would improve efficiency, reduce costs, ease interactions and help remove ambiguity.

2016 – 2017 : 'Here and now' initiatives

- **Stress Testing XBRL proof of concept**
  - Manual to (more) automated, less Excel!
  - DPM based
  - Collaboration with firms
  - Aligned to BCBS239
- **Sterling Money Market ISO20022 standard created**
- **ISO20022 standard for CCP reporting created**
- **LEI's requested in all new data collections**
- **Publication of the XBRL based UK Taxonomy**
- **New PRA reporting requirements are model based machine readable using DPM and XBRL**
- **Re-used existing data, template and rule definitions from the EBA CRDIV Taxonomy**
  - Capital+ was 90% re-use
  - Financial Forecasts is around 90% re-use
  - Retiring FSA001, FSA002, FSA014 and FSA015 is 100% re-use
- **Stress Testing PoC completed successfully and go-live approved for 2018 and beyond**

2017 : Short to medium term initiatives

- **Expansion of the UK Taxonomy to cover**
  - MREL (v 3.1 is out soon)
  - Structural Reform

- **Consultation on the UK Taxonomy for Insurance**

Just some of the results so far…. (its not just about shiny new toys)

- Software vendor who has ~55% market share of banks in the UK stood up new reporting in their software in 4 hours.
- 35% reduction in firm time saved during a Stress Test week
- Reduction in ~50% of validation rules in one Stress Test template and automation of rest.
- If Insurance goes ahead - ~95% of reported data will be Digitised. Banking already ~80% digitised.
- TCO of platform reduced by ~25% over LFL contract term by adopting standards

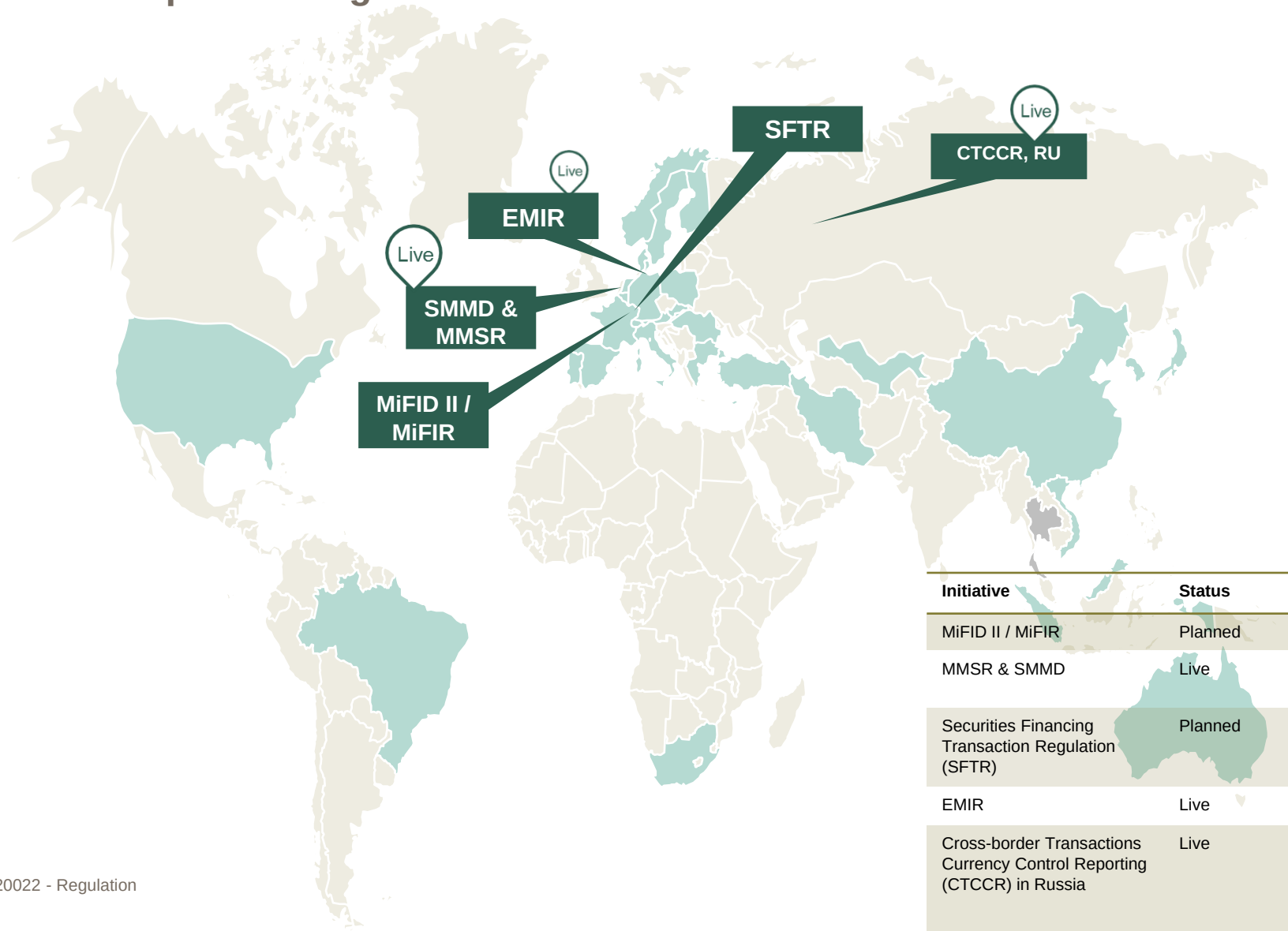
Thank you and Questions

Regulation and Standards

Mieko Morioka, SWIFT Standards APAC

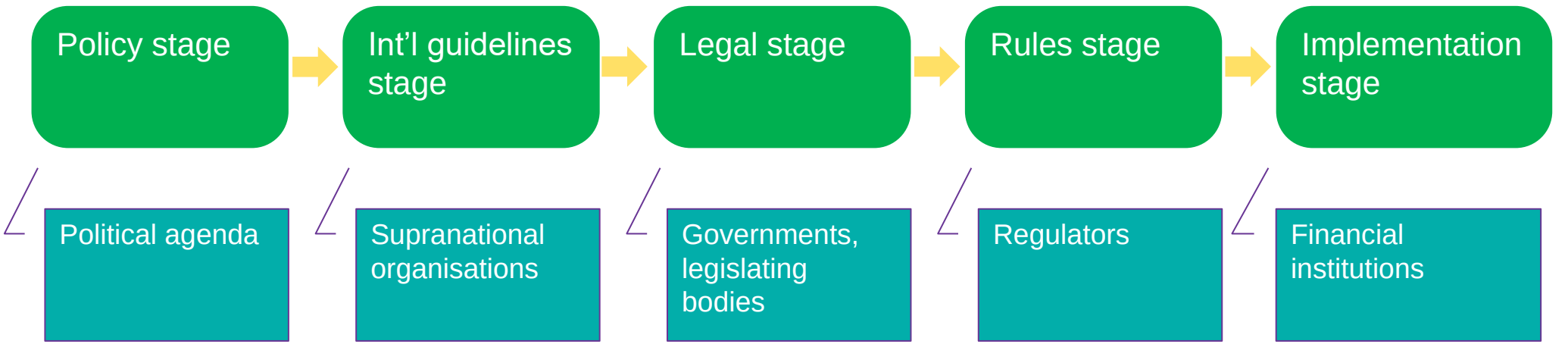
June 2018

ISO 20022 Adoption – Regulator initiatives



Initiative	Status	Planned live date
MiFID II / MiFIR	Planned	Jan 2018
MMSR & SMMD	Live	Apr 2016
Securities Financing Transaction Regulation (SFTR)	Planned	Jul 2018
EMIR	Live	Aug 2016
Cross-border Transactions Currency Control Reporting (CTCCR) in Russia	Live	2016

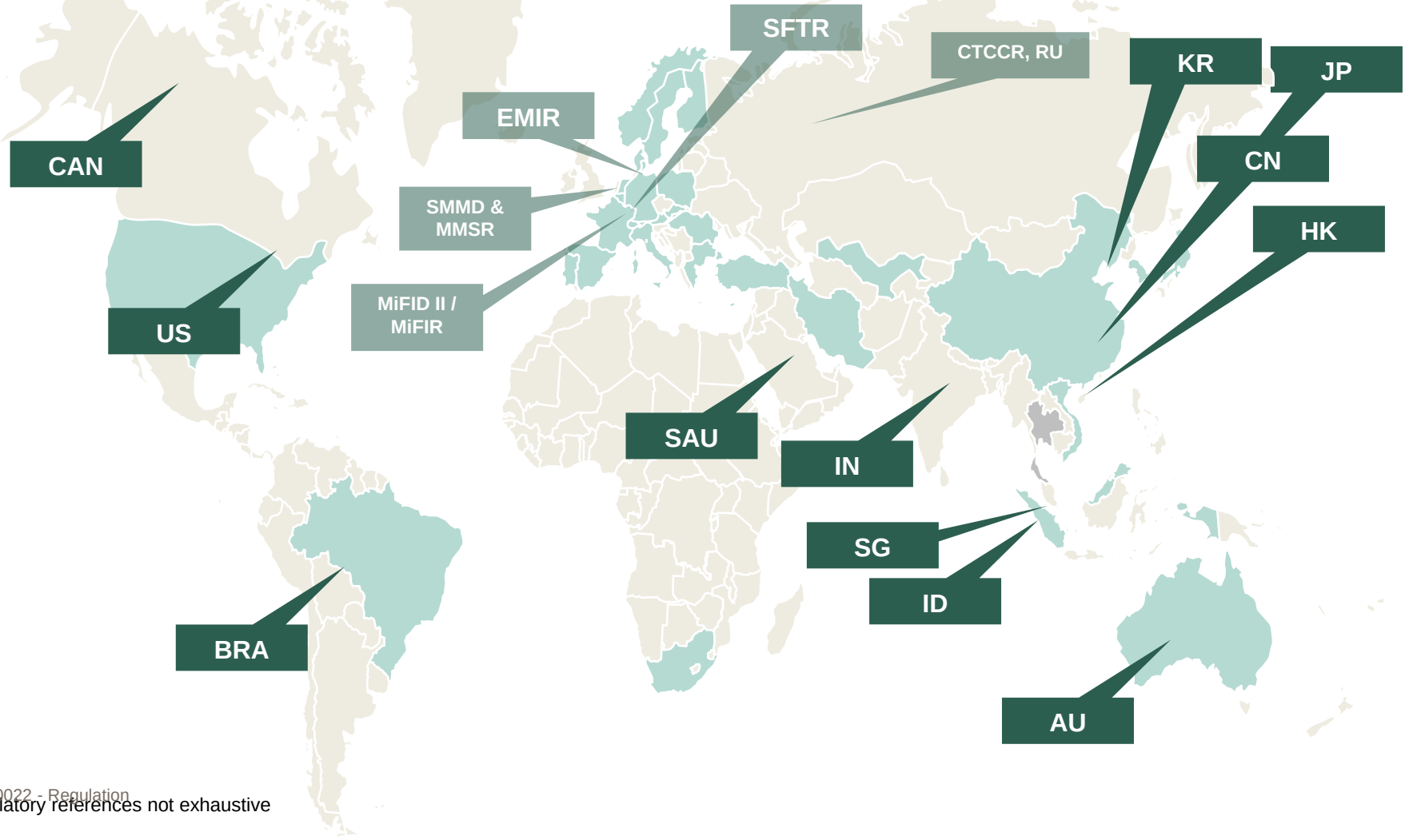
Development stages of the regulatory reporting implementation



Reference Data Standards

Standard	Description
ISO 15022	Securities Messages
ISO 20022	Universal Financial Messages
ISO 17442	Legal Entity Identifier (LEI)
ISO 6166	International Securities Identification Number (ISIN)
ISO 9362	Business Identifier Code (BIC)
ISO 10383	Market Identifier Code (MIC)
ISO 10962	Classification of Financial Instruments (CFI)
ISO 3166	Codes for Countries and Subdivisions
ISO 4217	Currency codes

Reporting initiatives and repositories: Europe, Americas, Asia Pacific



Regulatory references not exhaustive

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