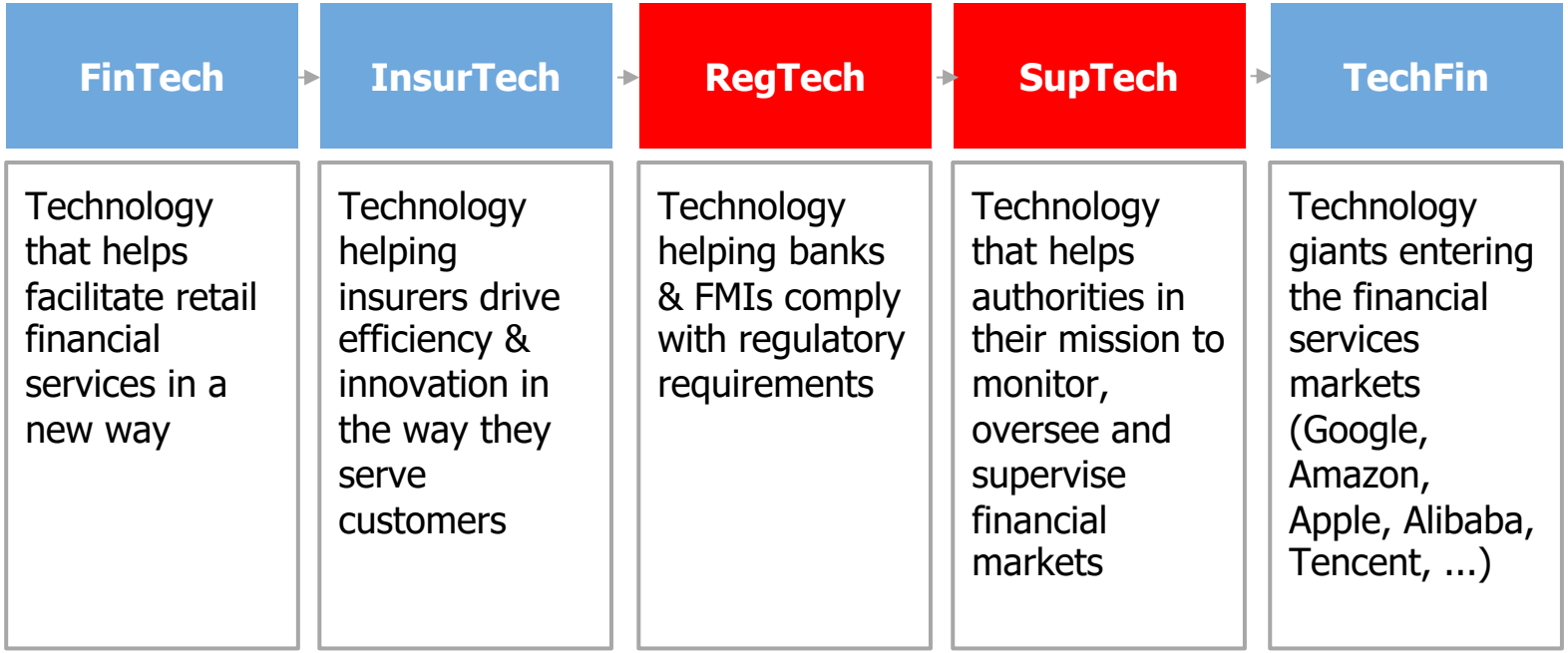
FNA

Gaining Insights and Control by
using Regulatory & Supervisory Technology

Evolution of Terminology



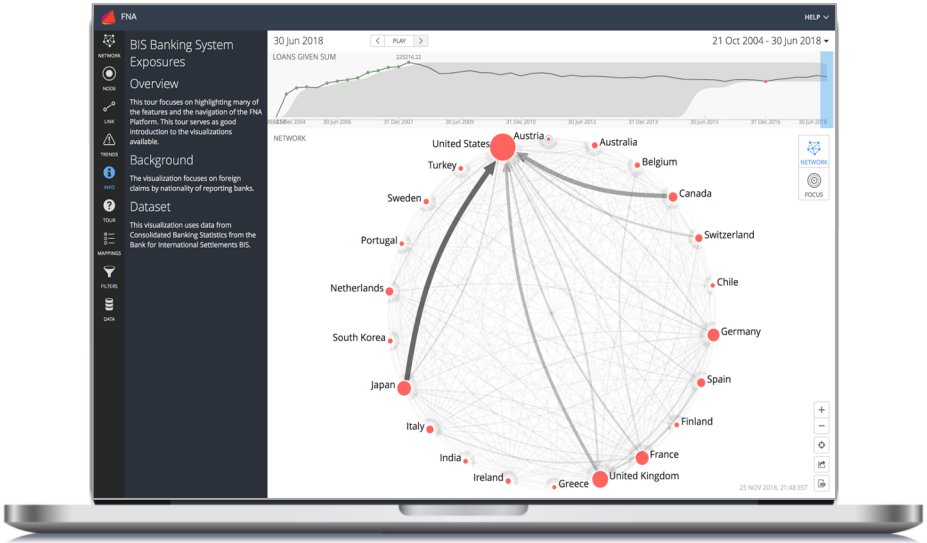
Drivers of Suptech

- **Increased complexity**
  - Global interconnectedness
  - Larger, digitalized financial institutions
  - New market entrants - rise of FinTech
  - Velocity of transactions

- **Higher expectations**
  - Digitalization
  - AI/ML

- **Increased data collection post-Lehman**

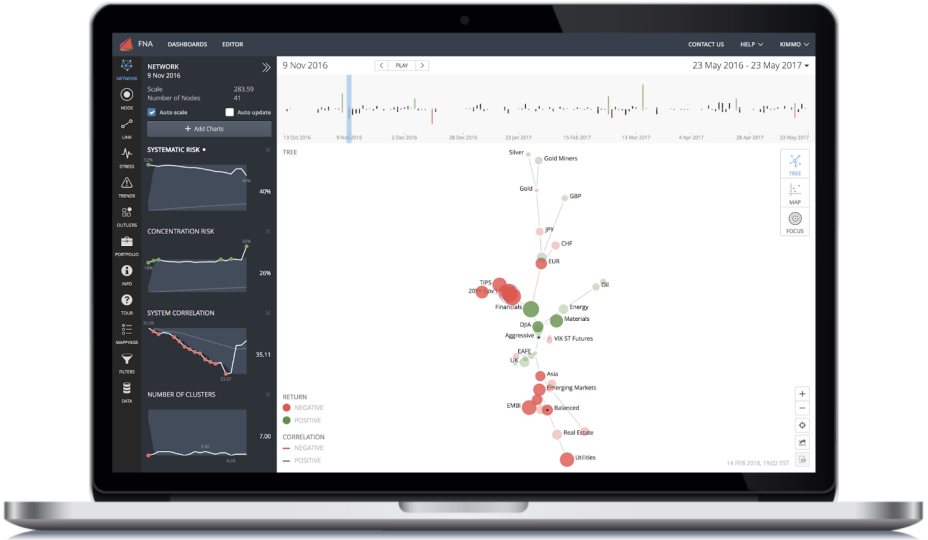
  - BCBS239, CCAR / SST, MIFID
  - EMIR, Derivatives TRs
  - SFTRs, Payments Data Repositories
  - Resolution & recovery data
  - Payments data repositories
  - CCP stress tests
  - Trade & communications surveillance



Opportunities in Suptech

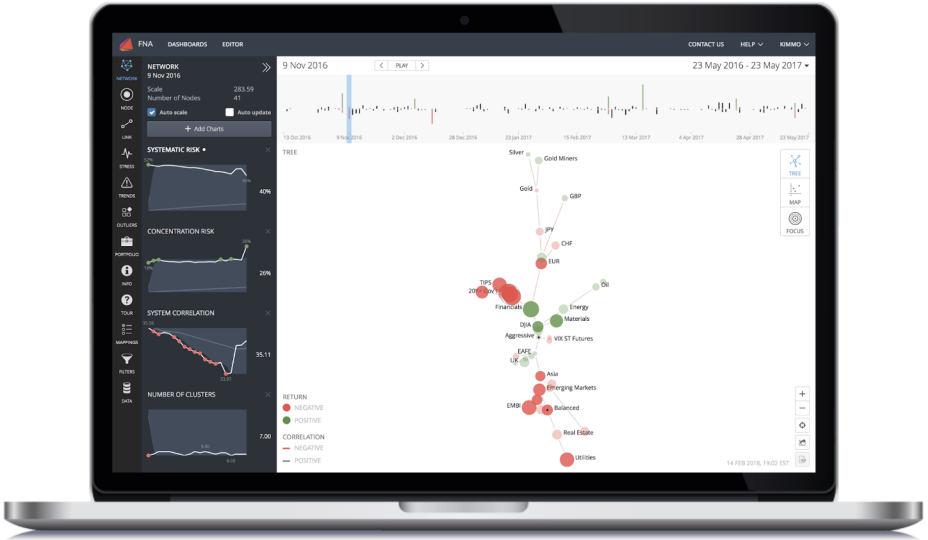
- **Enabling Technologies**
  - AI/ML
  - Robotic Process Automation
  - Data Visualization
  - Simulation/Agent Based Models
  - Cloud

- **Outcomes**
  - Less manual work
  - From periodic to real-time monitoring
  - From backward looking to predictive analysis
  - Reduced risk & better insight
  - Better communication
    - Internally within FIs
    - Between FIs and Supervisors



Challenges in Suptech

- **Data**
  - Quality
  - Access across organization(s)
- **Capabilities & Skills**
  - Data Science
  - Subject Matter
  - Technology
- **Gap between Research & Production**
  - Cool vs Useful
  - Tools & Technology
  - Decision making processes



Engagement by Financial authorities

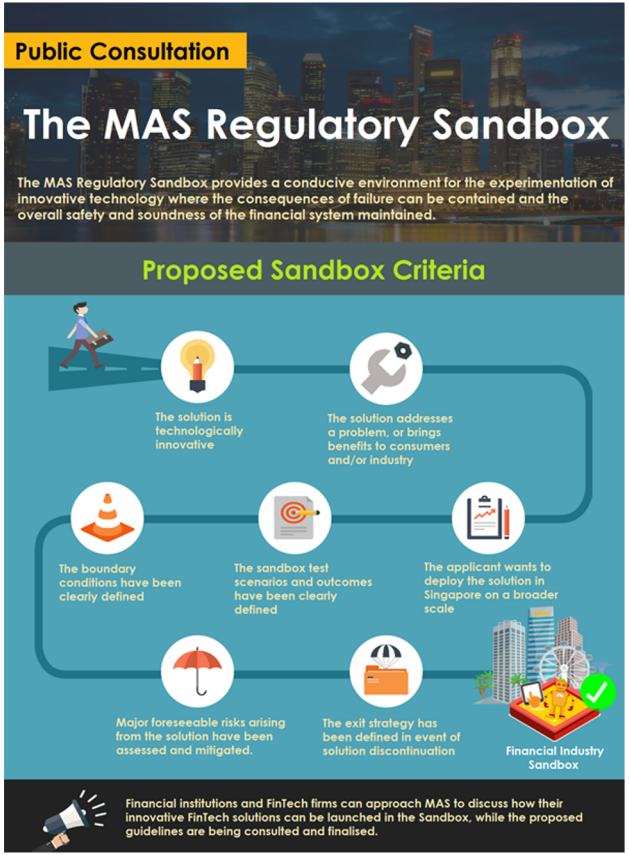
Regulatory Sandboxes (many)

Fintech/Suptech Officers/Offices
- MAS, HKMA

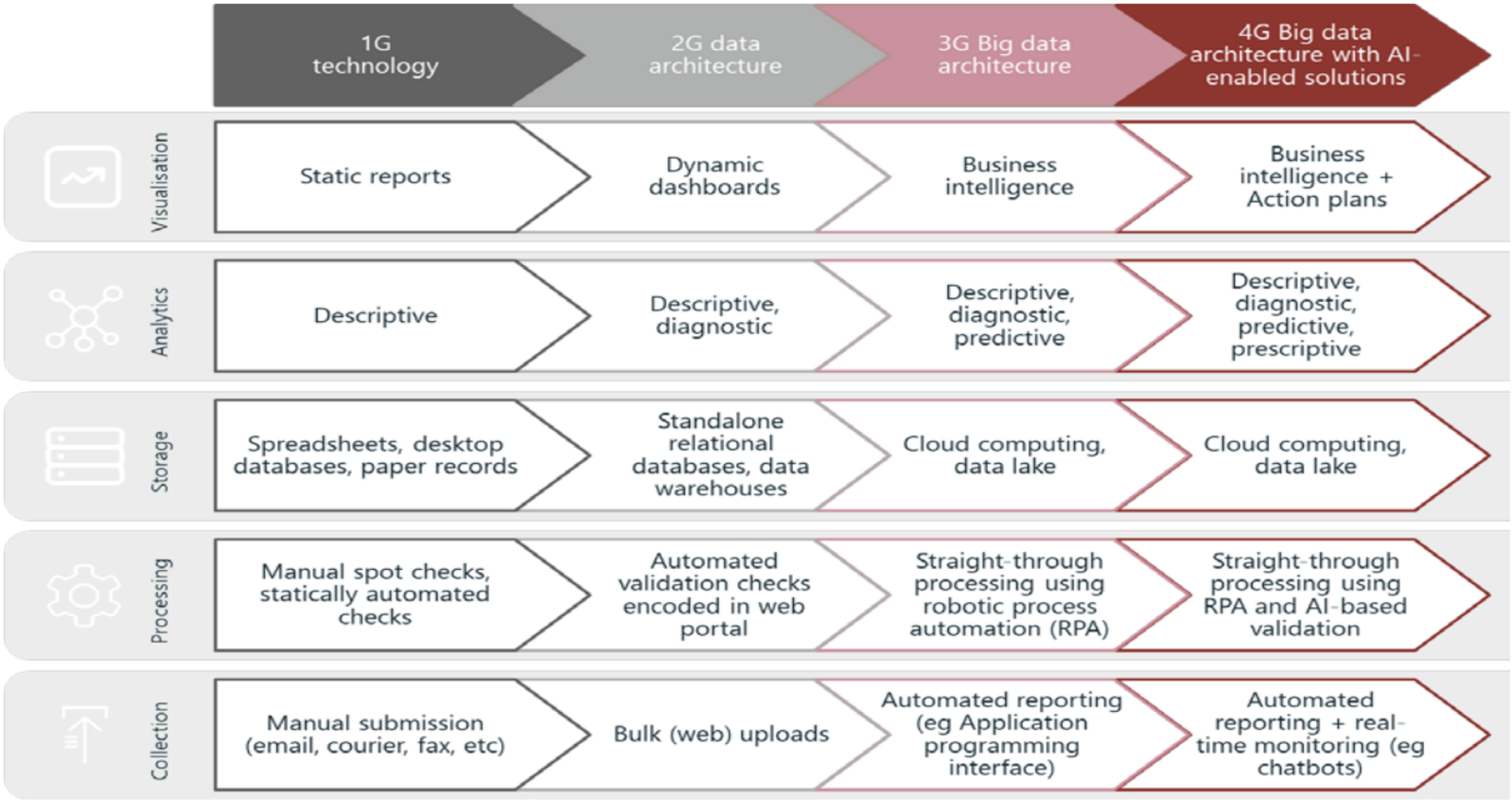
Programs
- BoE Fintech Accelerator
- LabCFTC

Own use
- Central bank cryptocurrencies
- Big data programs
- Suptech deployments

Associations
- IRTA
- Australian Regtech Association

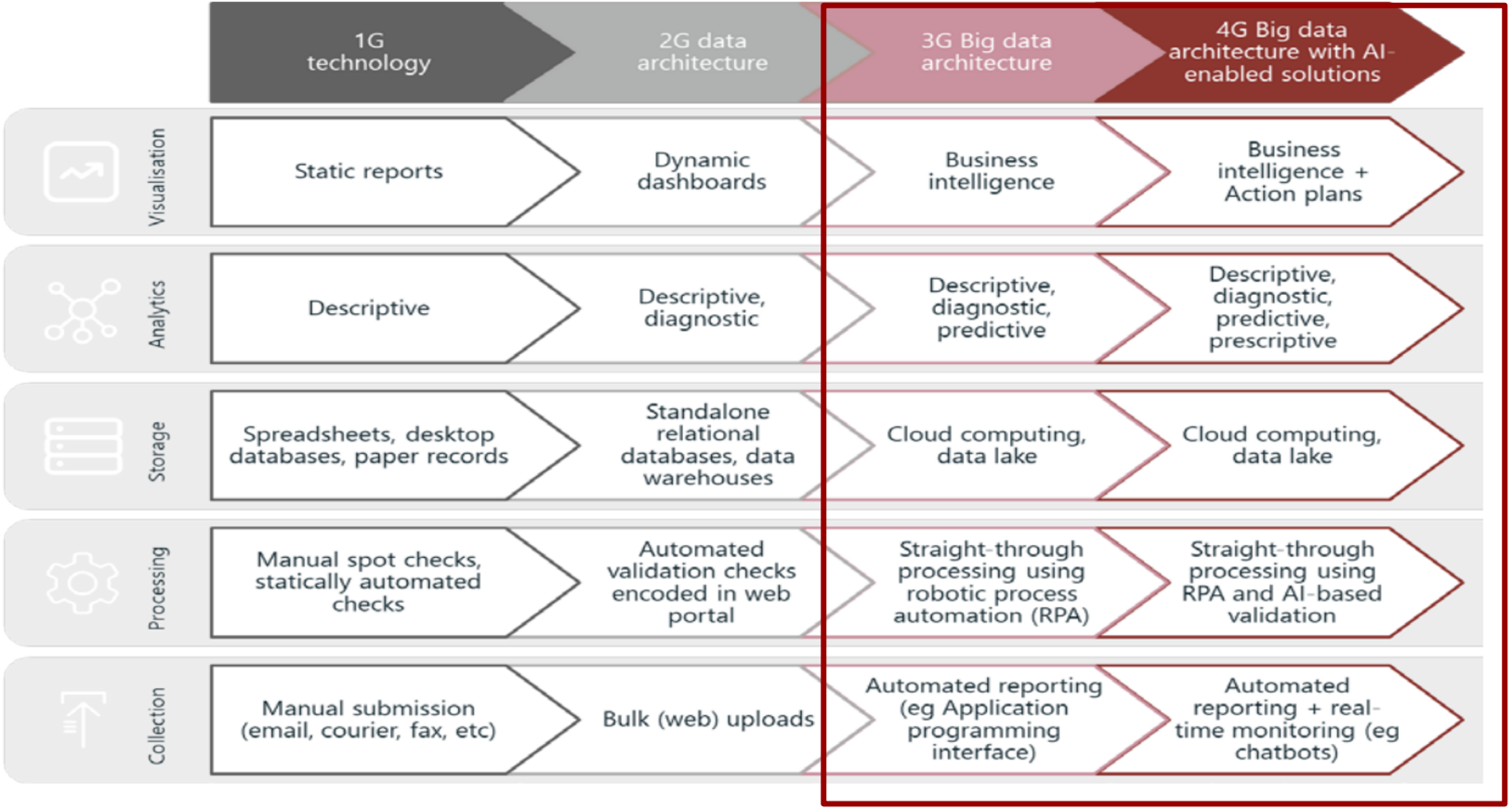


Technology Adoption in Supervisors



"The suptech generations", BIS, October 2019

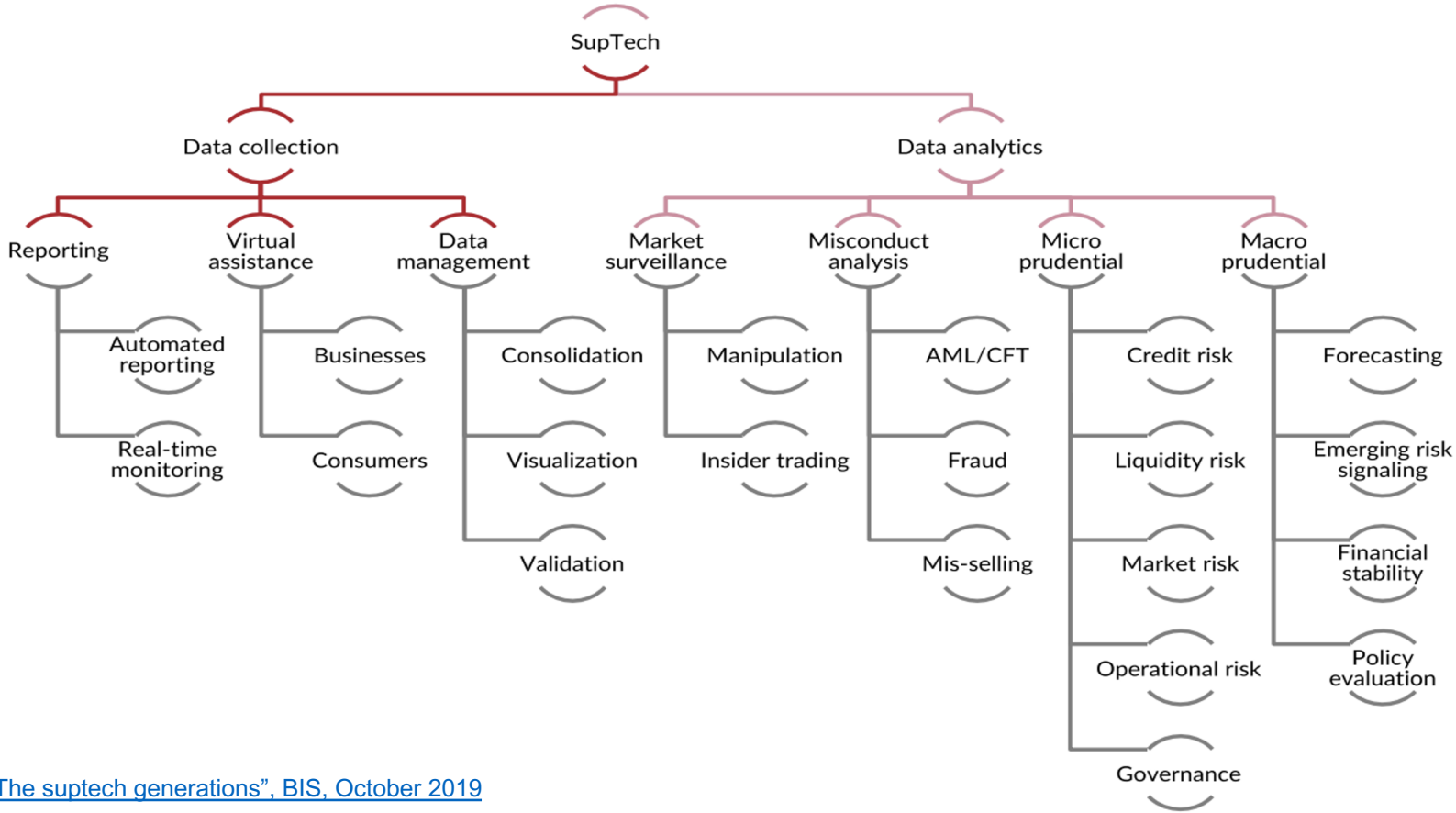
Technology Adoption in Supervisors



"The suptech generations", BIS, October 2019

Suptech

Suptech Taxonomy



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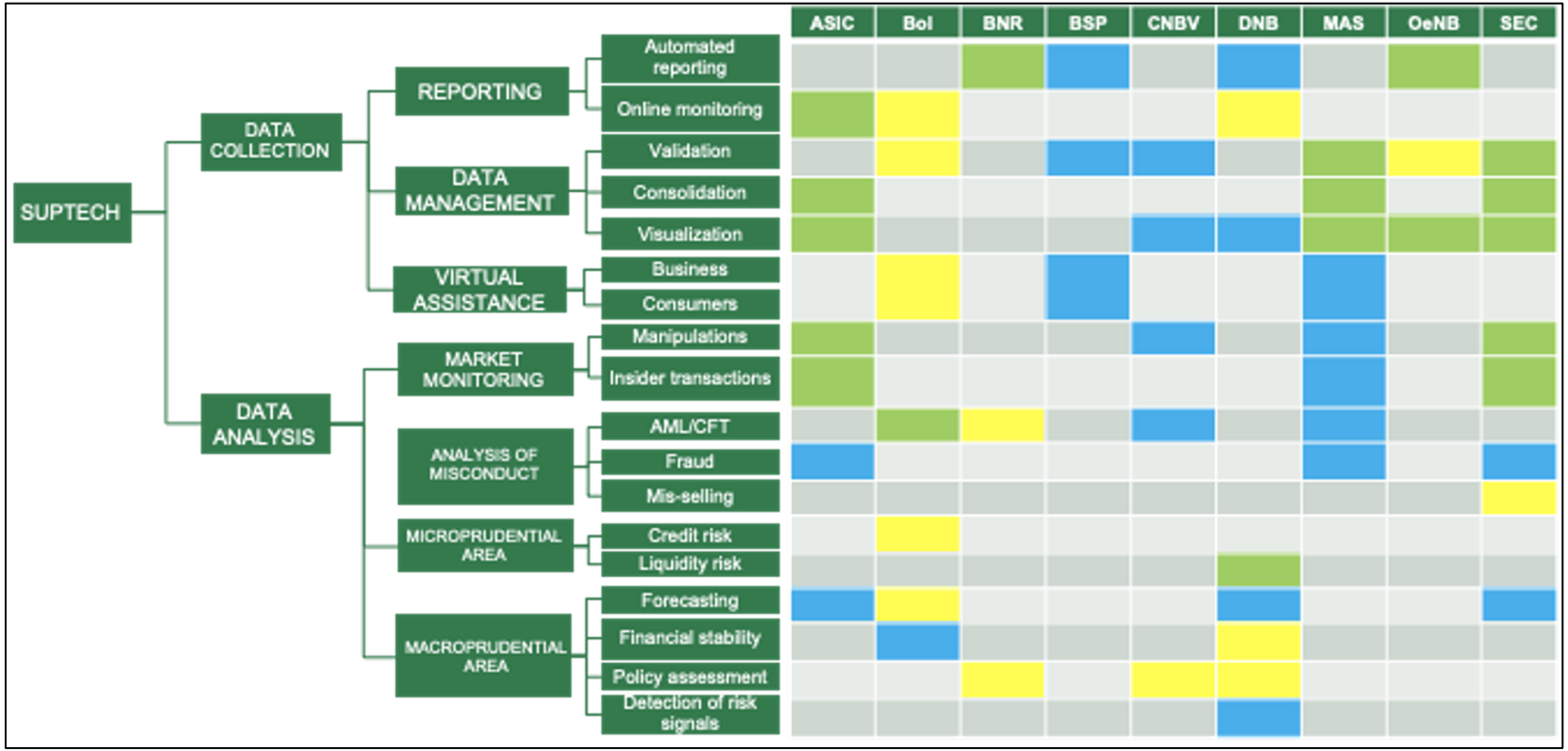
Suptech Adoption in Selected Regulators

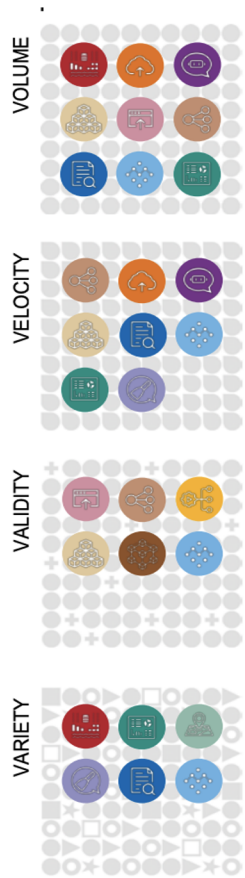


Experimental stage

Under development

Operational

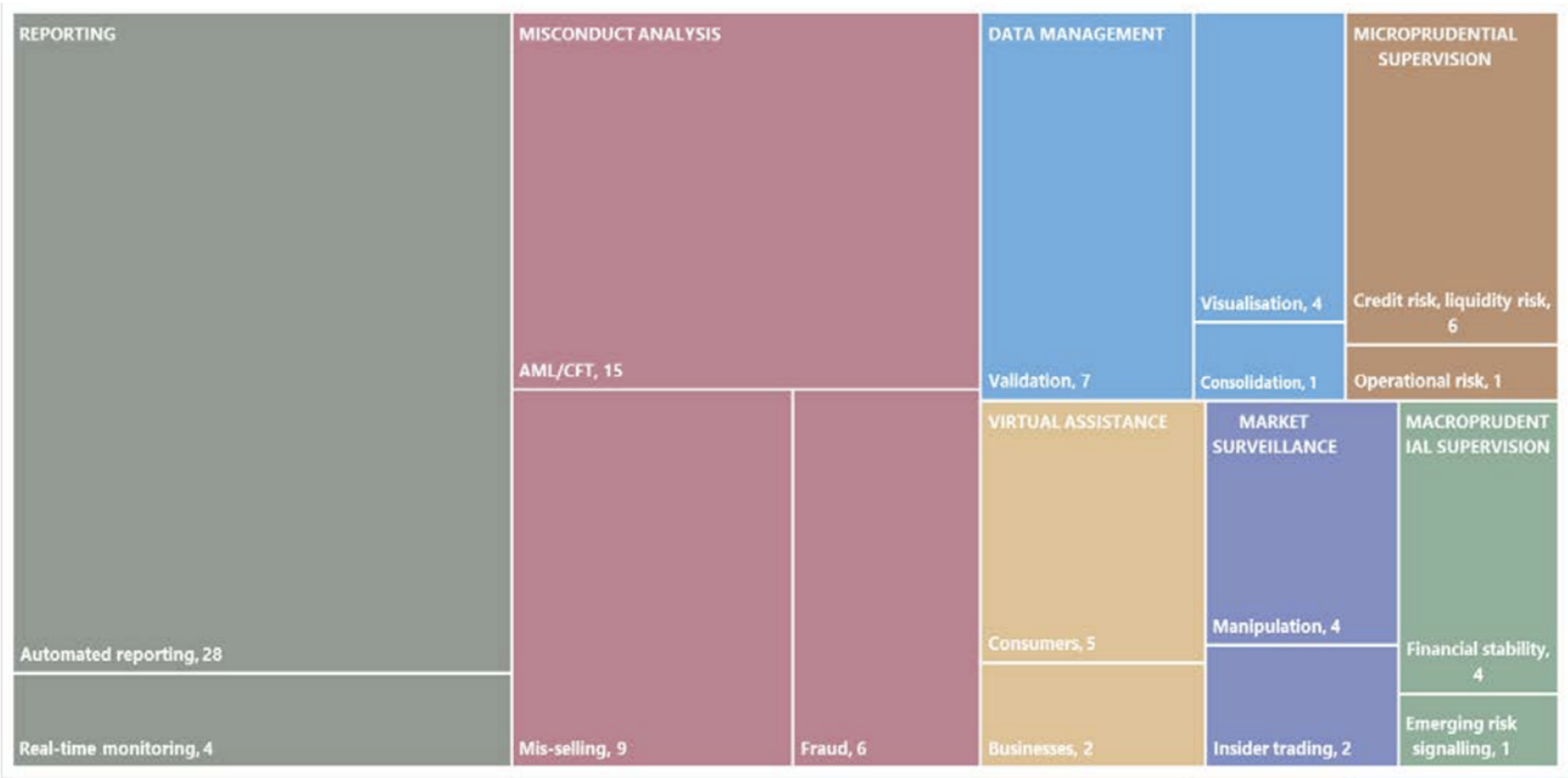
Big Data & Related Applications - the 4 Vs



- **Data lake:** scalable storage solution for diverse structured, semistructured, and unstructured data
- **Web portal:** static file upload via web site with built-in automated validation checks
- **Chatbot:** automated capture and interpretation of qualitative data enabling data collection in real time
- **Application programming interface (API):** direct database-to-database data transmission enabling granular, real-time reporting and automated validation
- **Data cubes:** granular data storage and transmission solution enabling real-time data collection
- **Web scraper:** automated capture of web data by "bots"
- **Cloud computing:** on-demand network access to a share computing resources (eg networks, servers, storage, applications, and services)
- **Distributed ledger technology (DLT):** a network to securely propose, validate and record changes to a synchronised ledger distributed across multiple nodes
- **Robotic process automation (RPA):** partial or full automation of manual, rule-based and repetitive human activities by "bots"
- **Dashboards:** customisable, dynamic interactive reporting tools that automatically fetch and render data in meaningful and actionable visualisations
- **Text mining:** automated extraction of meaning from textual data
- **Machine learning:** automated data analysis enabling anomaly detection, merge-sort, scoring and other use cases
- **Geographic information systems (GIS):** automated analysis of spatial or geographic data

"The suptech generations", BIS, October 2019

Suptech Areas of Focus



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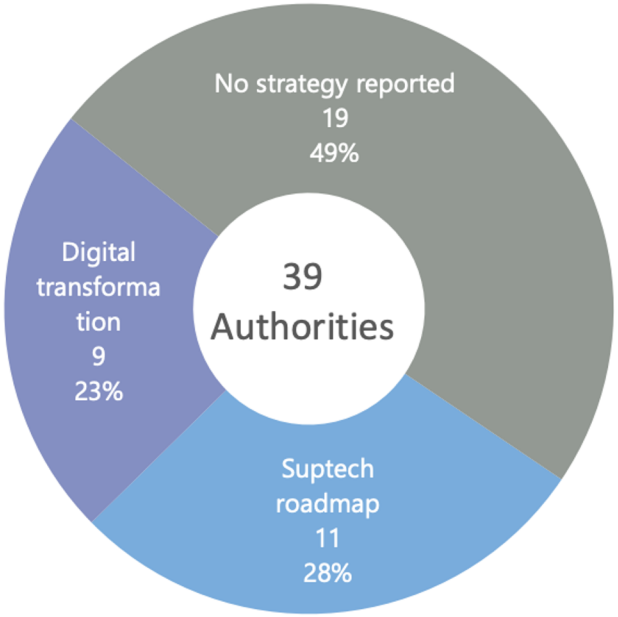
SupTech Status

SupTech Approach



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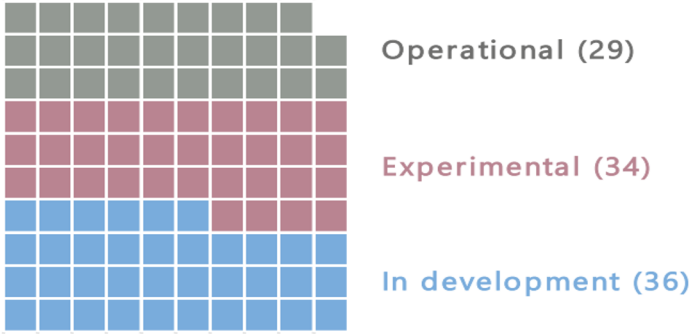
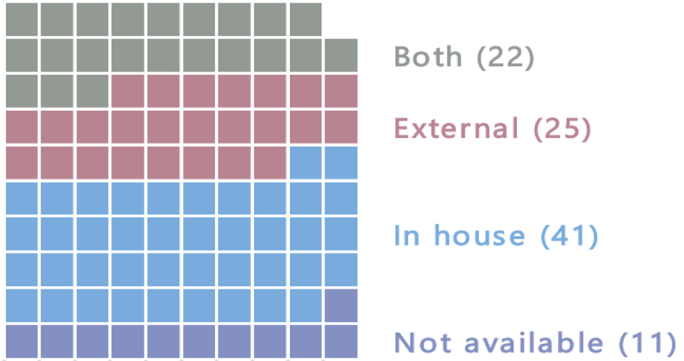
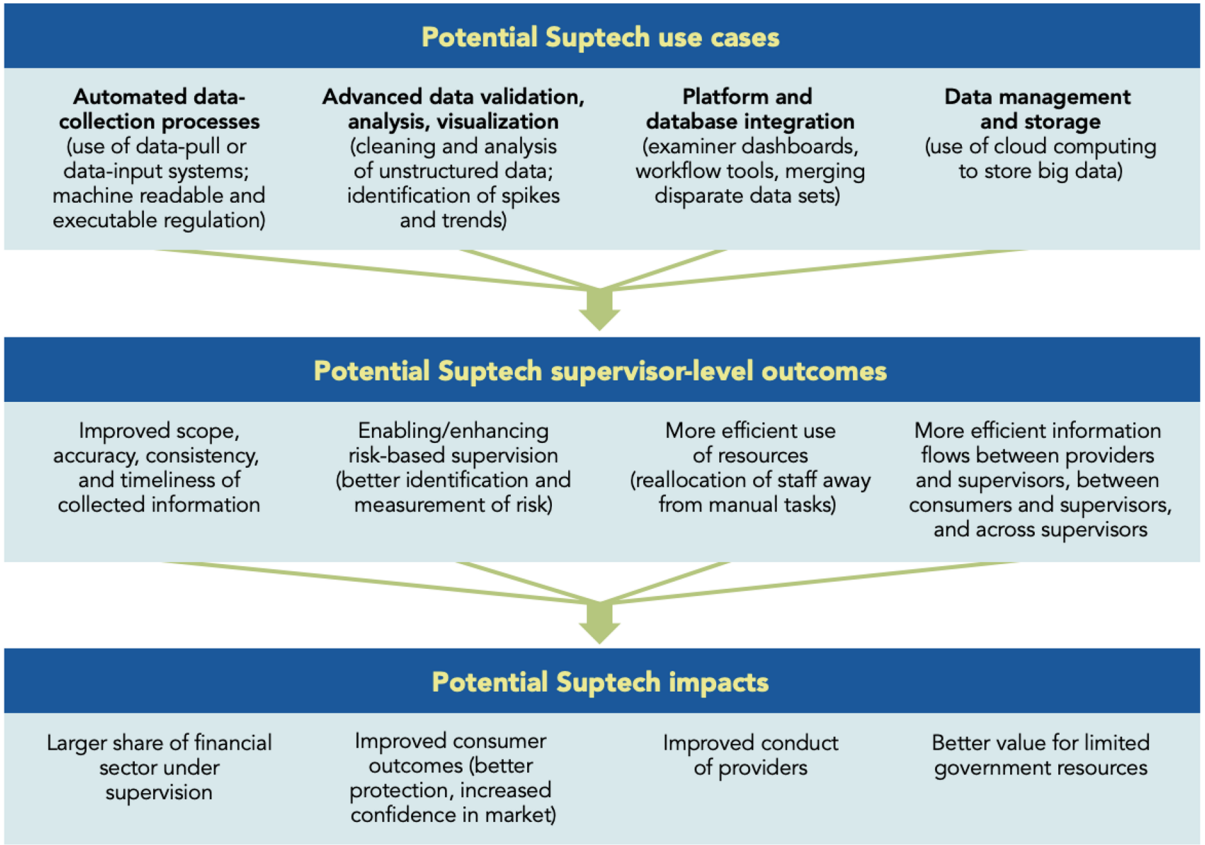
SupTech Adoption



Internal vs. External Technology



Impacts of Suptech

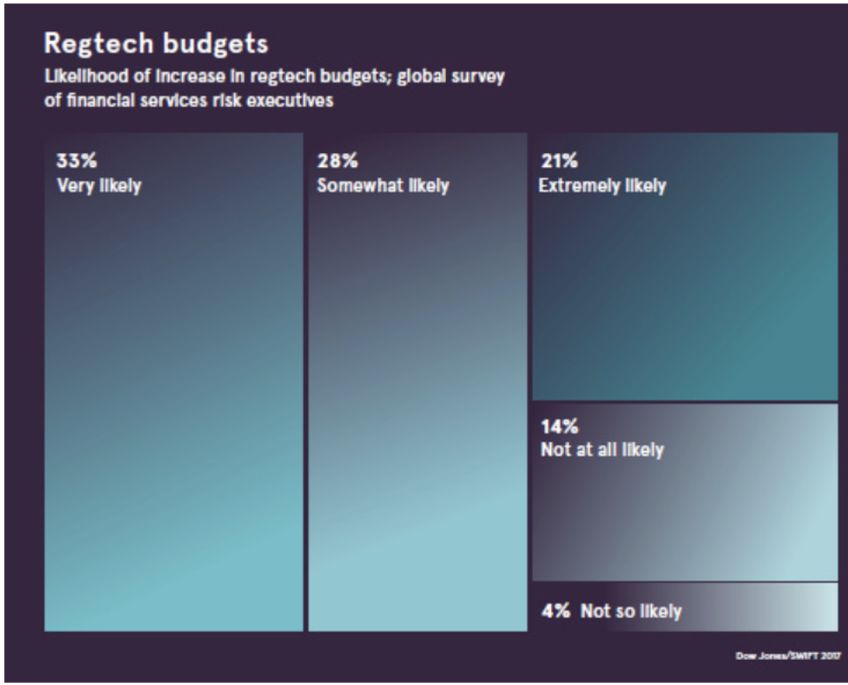


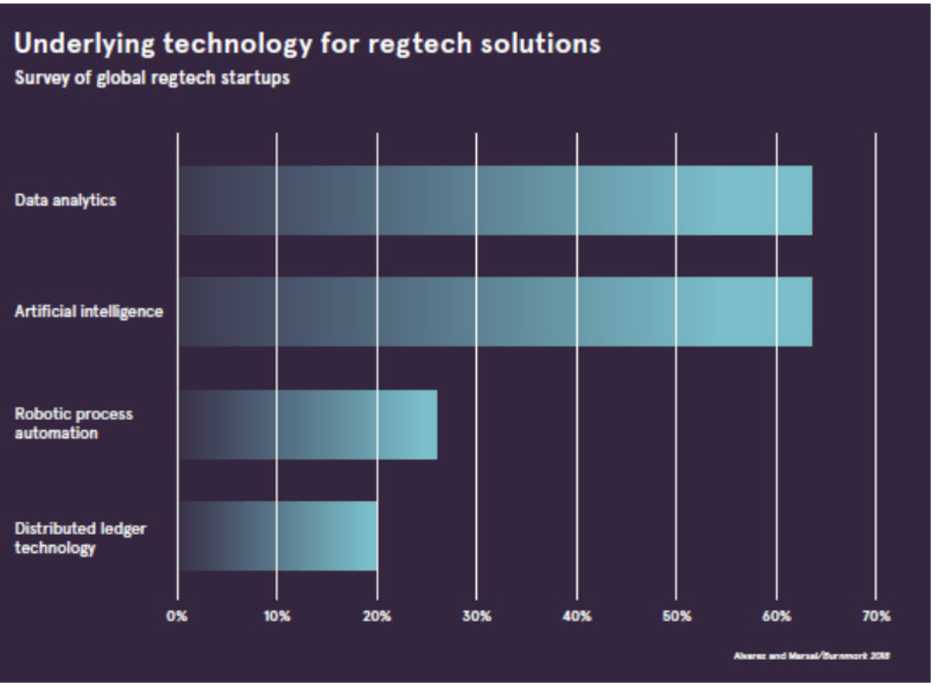
World Bank (2018)

RegTech Universe - budgets & underlying technologies

82% of financial institutions anticipate increased RegTech budgets

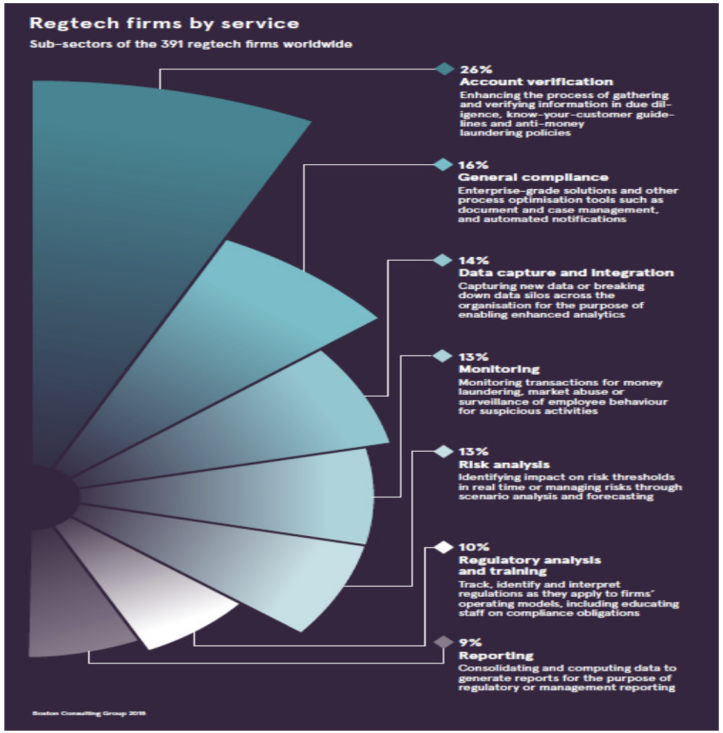
Analytics & AI are major focuses for future spend



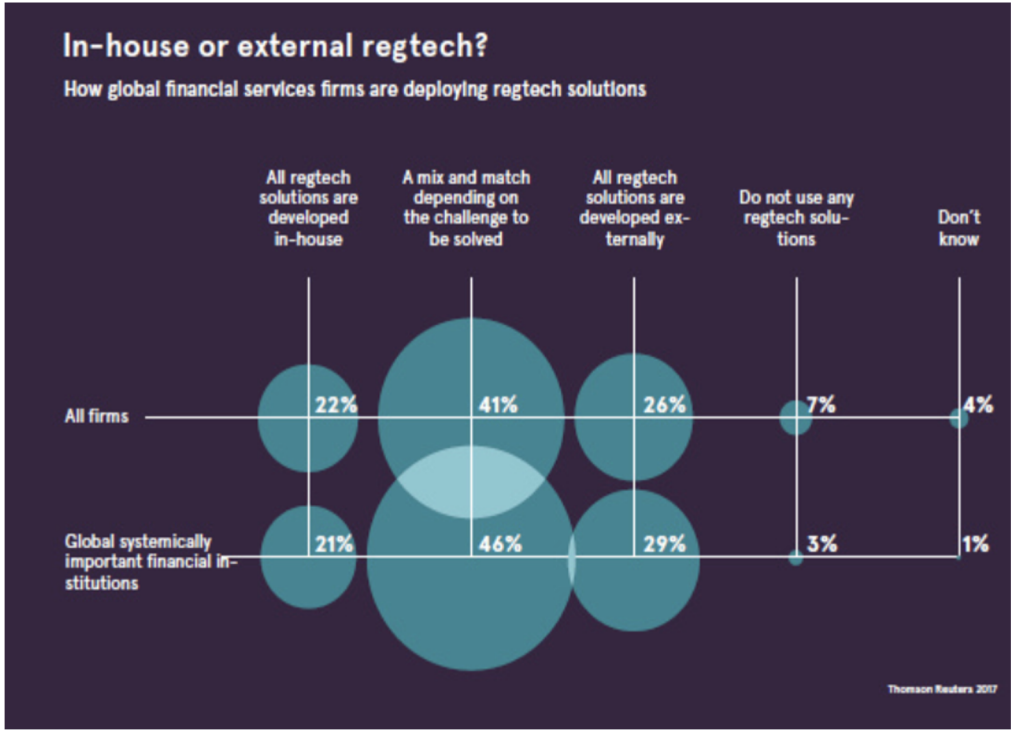


RegTech Universe - solution types and internal vs. external

RegTech spend is spread across a variety of functional areas



RegTech solutions in many financial institutions are a mixture of in-house & external applications



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