

CAMBRIDGE SUPTECH LAB ACCELERATING THE DIGITAL TRANSFORMATION OF FINANCIAL SUPERVISION

SUPTECH WEEK 2023: DAY 1 TAKEAWAYS

Supervisory agencies are making significant investments in technology and talent to foster the growth of suptech. This rise in suptech highlights the increasing recognition of its potential to revolutionise financial supervision. The complexity involved in the evolution of suptech underscores the vital role of community and teamwork in understanding and implementing technology and data science within supervisory processes. Collaboration within the suptech community is enhanced by open-source technology, which serves as a critical component, facilitating shared progress and innovation.

Advancements in each generation of suptech are expanding the possibilities for creating a more inclusive financial sector. This collective effort allows individuals working together to amplify the impact and significance of their contributions. Innovation within Suptech extends beyond mere technological solutions; it includes improving case management practices. Hasan Fawsi exemplified this by highlighting the training, proof-of-concept development, and prototyping initiatives undertaken by OJK in collaboration with the Cambridge SupTech Lab, with support from the Bill & Melinda Gates Foundation.

A significant majority of financial authorities are now actively engaged in suptech initiatives. These authorities are strategically focusing on establishing new teams and offices specifically dedicated to managing suptech. However, the journey of progress is not straightforward. Agencies face obstacles such as internal resistance to innovation, often described metaphorically by Daniela Shackis of ECB as antibodies rejecting new developments. There is also a crucial need for a deeper understanding of supervisory needs that goes beyond technological solutions.

The importance of annual State of SupTech Reports is emphasised as a critical tool for agencies to measure and track their advancements in suptech, as noted by Jeremy Premio of BIS FSI. These reports provide valuable benchmarks and insights, guiding agencies in their development efforts.

Moreover, the successful development of Suptech hinges on robust collaboration. Addressing challenges such as policy differences, data confidentiality issues, and the consolidation of technology infrastructure requires innovative solutions like interoperability and APIs. By tackling these challenges collectively, the suptech community can ensure more effective and efficient supervision in the financial sector.

SUPTECH WEEK 2023 AGENDA



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DAY 1 4 December 2023

KEYNOTE



Hasan Fawzi Chief Executive of Financial Technology Innovation, Digital Financial Assets, and Crypto Assets Indonesia Financial Services Authority

THE STATE OF SUPTECH

The session offers a comprehensive overview and insightful discussion on the latest advancements and trends in supervisory technology (suptech). It begins with a presentation of the highlights from the State of SupTech Report 2023, illuminating the ways in which financial authorities worldwide are harnessing technology to boost their supervisory capabilities. The session promotes an engaging dialogue among experts, delving into the effectiveness of Suptech strategies and applications. By discussing the current landscape and the potential future developments of Suptech, based on evidence and insights provided by the report, this session will pave the way for the upcoming SupTech Week.



Juliet Ongwae Senior SupTech Specialist Cambridge Suptech Lab



Jermy Prenio Principal Advisor Financial Stability Institute



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Daniela Schackis Dept. Director General Banking Supervision European Central Bank

1 I SUPTECH WEEK 2023 AGENDA: DAY 1

HARNESSING THE POWER OF COLLABORATION:

The Importance of Working Together Within Financial Supervision

With a deep dive into the strategic advantages of collaborative efforts in the adoption and development of supervisory technology, this panel discussion is designed to unpack the potential that lies in shared experiences and the collective tackling of challenges within the suptech space. Attendees leave with a richer understanding of the key components that underpin successful partnerships and how these can be harnessed to foster innovation and efficiency. The session will also cast light on the emerging suptech domains where joint efforts are proving most effective.



Adam Scott Director of Design and Development Consumer Financial Protection Bureau



Lukasz Kubicki Head of Suptech, Technology European Central Bank



Carmen Barendela CBDC solution Architect Bank of England



Whitney Austin Strategy Risk and Innovation Business Advisor Federal Reserve Bank of Richmond

DIGITAL SUPERVISORY INFRASTRUCTURE

The financial sector digital supervisory infrastructure encompasses technologies and systems designed to oversee financial markets and institutions, provide assistance and redress to consumers, support data ecosystems that catalyse innovation via the data commons, etc.



Matt Grasser Co-Head Cambridge SupTech Lab



Miguel Diaz Head of Toronto Centre BIS Innovation Hub



Iman van Lelyveld Head of the Data Science Hub De Nederlandsche Bank



Beatrice Sablone Data & Information Strategist Swedish Financial Supervisory Agency

APPROACHES TO SUPTECH:

The Bank of England's Regtech Strategy



Lewis Webber Head of Division RegTech & Data Innovation Bank of England



Francesca Hopwood Road Head of London Centre BIS Innovation Hub

EMBEDDING INNOVATION IN FINANCIAL AUTHORITIES

This session explores why embedding innovation in suptech as a strategy is important. It explores how to strategise and navigate challenges for innovation, collaboration and building a culture for acceptance of innovation and practical ways to embed innovation in suptech solutions.



Francesca Hopwood Road Head of London Centre BIS Innovation Hub



Sunayna Tuteja Chief Innovation Officer Federal Reserve System



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SUPTECH WEEK 2023: DAY 2 TAKEAWAYS

Cecilia Skingsley (Head of the BIS Innovation Hub, at the Bank for International Settlements) emphasised that data is fundamental to the success of supervisory technology, presenting both opportunities and challenges due to its abundance. The need for granular data has never been more critical, and a seamless flow of data between supervisors and supervised entities is essential. While current technology offers some solutions, the ongoing development of more powerful tools over the next two years is expected to enhance these capabilities. Suptech's role is pivotal in advancing risk-based supervision, although challenges persist in transforming conceptual ideas into practical applications. Effective risk-based supervision relies on technical skills, user-friendly tools like heat maps, and continuous feedback mechanisms.

Improved data governance is necessary, focusing on data quality, granularity, standardisation, and the use of collaborative tools such as data hubs and APIs to ensure a seamless flow of information. New tools like web scraping and sentiment analysis are revolutionising data collection and analysis, with methodologies varying between data-first and outcome-first approaches. Suptech requires a blend of technical, domain, and soft skills to adapt to the evolving regulatory and financial landscape.

The role of AI in Suptech is significant, but addressing biases in data and maintaining human oversight are crucial to ensuring fairness and minimising harm. AI bias often reflects real-world biases, making it imperative to recognise and mitigate these biases before they influence algorithmic outputs. This highlights the importance of keeping a "human in the loop" to manage bias effectively. Implementing AI responsibly involves understanding its mechanics, checking for biases, and establishing clear accountability and security measures.

Cybersecurity is a top global threat, and while AI can aid in combating it, humanassisted responses and cross-border collaboration are also essential. Effective information sharing during incidents and regular, proper training of staff are crucial components of a robust cybersecurity strategy. Supervisory agencies must commit to investing in well-trained staff, seek or develop user-friendly solutions (since even well-trained staff struggle with overly complex tools), and implement a feedback loop to adjust tactics, improve technology, and better serve stakeholders.

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DAY 2 5 December 2023

KEYNOTE



Cecilia Skingsley Head BIS Innovation Hub

SUPTECH-POWERED RISK BASED SUPERVISION

This session explores the role that suptech is playing in enabling and supporting risk-based supervision. Advanced technologies such as big data analytics, machine learning, Natural Language Processing (NLP), and network analysis are being deployed to identify, assess, and classify risks and thus prioritise supervisory actions. The goal is to improve risk identification and management with more effective and efficient utilisation of limited supervisory resources. The panel will also discuss the required skills to interpret the output of these systems and integrate insights into the supervisory process.



Haoying (Ivy) Ou Managing Director of Supervision Data and Analytical Insights Office of the Superintendent of Financial Institutions Canada



Magno Condori Deputy Superintendent Superintendencia de Banca, Seguros y AFP



Javier Tarancon Head of Information Analysis Banco de España



Perttu Korhonen Head of Department Financial Analysis and Innovation Qatar Financial Centre Regulatory Authority

1 I SUPTECH WEEK 2023 AGENDA: DAY 2

THE ETHIC AND REGULATION OF AI:

Implications for Suptech

The State of SupTech Report has demonstrated a continued growth in the prominence of machine learning and AI-driven supervisory technologies within financial authorities. Central to this adoption is a requisite discussion and exploration of the ethical responsibilities arising from the widespread adoption of these technologies, particularly focusing on issues of fairness and accountability. This session will feature insights into the evolving legal and regulatory landscape surrounding AI applications, with a specific emphasis on how these frameworks will impact public sector use. Audience members will walk away with a more nuanced understanding of the multifaceted challenges and opportunities at the intersection of AI, ethics, and regulation in the context of supervisory technologies, fostering a dialogue that guides responsible and compliant implementation in the financial sector.



Gabriele Mazzini Team Lead-Al-Act-Directorate General CNECT European Commission



Matt Grasser Co-Head Cambridge SupTech Lab



Elizabeth Adams CEO EMA Advisory Services



Per Nymand-Andersen Lecturer Goethe-Universitãt Frankfurt

DATA JOURNEY:

Collection, Validation, and Governance

Data is the lifeblood of financial supervision. It is crucial for financial authorities to have efficient processes across the spectrum of the data journey – encompassing collection, validation, and governance. This session will explore the current state of play and how financial authorities are meeting this challenge, both in terms of creating greater efficiency but crucially in adopting user- centric design to ensure that the data tools we create meet the needs of the end user – the supervisor. The panel will discuss how emerging technologies and techniques can potentially transform this data journey and overcome long-standing challenges, as well as the importance of experimentation to this transformation process.



Lewis Webber Head of Division, RegTech, Data & Innovation Bank of England



Edita Lukaševičiūté Head of Governance Bank of Lithuania



Noel Guinto Director, Supervisory Analy tics Banco Sentral ng Pilipinas



Patrick Hoffman Advisor BIS Innovation Hub

DATA JOURNEY:

Cybersecurity and Suptech

This session will explore the potential role that emerging technologies and Suptech solutions can play in strengthening cybersecurity frameworks within financial authorities, with reference to recent examples of experimentation.



Head of Nordic Centre **BIS Innovation Hub**



Head of Innovation (Data Science) Australian Prudential **Regulation Authority**



David Whyte Head of Corporate Security and Cyber Resilience **Coordination Centre BIS Innovation Hub**

DATA JOURNEY:

Web and Social Media Scrapers and Sentiment Analysis

Delve into the intricate world of web scraping, unravelling its theoretical underpinnings and practical applications. Explore the supervisory value embedded in the art of collecting and analysing information from the vast expanse of the internet. Panellists will illuminate the diverse types of data that can be harvested from online sources, providing a detailed exploration of the analyses that can be derived. Furthermore, we discuss the indispensable role of sentiment analysis and other innovative methods in guantifying unstructured data, unveiling their pivotal value and utility in a supervisory context. This will be an opportunity to gain profound insights into the power of web scraping and how it can revolutionise information gathering and decisionmaking processes.



Matt Grasser Co-Head Cambridge SupTech Lab Cambridge SupTech Lab



Abhisekh Rana Senior Data Scientist



Sanea Daruwalla Chief & Legal People Officer Zyte



Lead Technologist Winnow Technologies

THE ETHIC AND REGULATION OF AI:

Algorithmic Fairness

This session convenes deep experts from technical research, academia, and central banking to examine the intricate dimensions of fairness in algorithmic decision-making. The session's primary goal is to delve into the technical advancements, ethical considerations, and real-world implications associated with algorithmic systems. By fostering dialogue among these diverse perspectives, the panel aims to identify collaborative pathways that bridge technical innovation, academic research, and regulatory policies, aiming for a collective approach to ensure fairness and equity in algorithmic outcomes across different sectors.



Gabriele Mazzini Team Lead-Al-Act-Directorate General CNECT European Commission



Matt Grasser Co-Head Cambridge SupTech Lab



Elizabeth Adams CEO EMA Advisory Services



Per Nymand-Andersen Lecturer Goethe-Universitãt Frankfurt



CAMBRIDGE SUPTECH LAB ACCELERATING THE DIGITAL TRANSFORMATION OF FINANCIAL SUPERVISION

SUPTECH WEEK 2023: DAY 3 TAKEAWAYS

The vast amount of data and reporting responsibilities banks face makes datadriven strategies essential for their operations. Suptech holds significant promise for delivering major cost savings to the private sector, which has fuelled banks' growing interest in its development and implementation. The relationship between RegTech and SupTech reveals more commonalities than differences, highlighting the need for collaboration among key players in both fields. Standardised taxonomies can accelerate progress in both areas, fostering a unified approach to regulatory and supervisory technology.

The debate over whether to "buy" or "build" technology solutions often presents a false dichotomy, as many applications incorporate both purchased and internally developed components. Deciding between these options involves evaluating factors such as available budgets, existing open-source components, time constraints, legal considerations like data residency and privacy laws, and the capabilities of the IT team.

Al's role in Suptech is substantial, but it comes with potential risks, including Al hallucinations. To mitigate these risks, it's crucial to maintain a "human in the loop," ensuring continuous human oversight and intervention. This approach helps manage Al's unpredictability and enhances its reliability and fairness in supervisory applications.

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DAY 3 6 December 2023

KEYNOTE



Peter Cai Managing Director, Global Head of Risk Data, Analytics, Reporting, & Tech Citigroup

REGTECH AND SUPTECH:

Two Sides of the Same Coin?

This session explores the intersection between SupTech and RegTech and will offer perspectives on how we can facilitate increased, and more meaningful, interaction between the two.



Antoine Bourdais Product Director Regnology



Drew Propson Head of Technology and Innovation in Financial Ser vices World Economic Forum



Francesca Hopwood Road Head of London Centre BIS Innovation Hub



Thomas Bull Partner, UK Head of Fintech Growth EY



Deborah Young CEO The RegTech Association

DEVELOPING SUPTECH APPLICATIONS

Buy v Build

This session examines the decision-making process for developing suptech applications in house or through an external provider. Panelists will share insights on the pros and cons of both 'build' and 'buy' approaches and key considerations that decision-makers should take into account.



Matt Grasser Co-Head Cambridge SupTech Lab



Sam P. Selim President & Chief Innovation Officer SQL Power Group



Carmelle Cadet Founder & CEO EMTECH

RECENT TRENDS AND DEVELOPMENTS IN SUPTECH

This session explores recent trends and developments and considers the full evolution of suptech. Panellists will reflect on advancements over the past few years, including the integration of AI in suptech, data governance and privacy approaches, and increased cybersecurity in suptech systems, amongst others. Panellists will also highlight challenges and opportunities they are observing for the years ahead.



Anne Leslie Cloud Risk and Controls Leader, EMEA IBM Cloud for Financial Services



Patrick Contech CEO Africa FinTech Network



Aman Thind CTO State Street



Curtis Matlock CEO Proto



Kwame Oppong Head, Fintech and Innovation Bank of Ghana

2023 LAUNCHPAD PROTOTYPE DEMOS

Advanced ML/AI Consumer Protection Suites

Vendors demonstrate the prototypes that have been developed in collaboration with financial authorities. Financial authorities share their experience and how they envision using innovative technology such as social media scraping and ML/AI to gain predictive insights to detect potential misconduct and improve consumer protection.



Nathalie Lenehan Technical Program Manager Cambridge SupTech Lab



Vanessa Babicz COO Proto



Nicolás Tirado Corrective Action Supervisor SBS Peru



Alvin Tolosa Market Conduct, Data Analytics, and Policy Group Bangko Sentral ng Pilipinas



Thomas Nilsson Director of Central Bank Solu tions FNA



Christopher Guess Lead Technologist Winnow Technologies



Clarence Blay Assistant Director Bank of Ghana

APPROACHES TO SUPTECH:

Banco do Brasil & Saudi Central Bank



John Yeo Advisor BIS Innovation Hub



Mansour A Alsaleh Head Saudi Central Bank



Anthony Butler Senior Advisor Saudi Central Bank



Rodrigo Baratta Machine Learning Engineer and Data Scientist Banco do Brasil

REGULATORY TAXONOMIES AND MACHINE-READABLE REGULATION: FINRA DEMO



Alex Khachaturian Director in the Office of Financial Innovation FINRA



Afshin Atabaki Special Advisor and Associate General Counsel FINRA



Nick Vitalo Asistant General Counsel FINRA



Haimera Workie Vice President and Head of Financial Innovation FINRA

PUBLIC/PRIVATE COLLABORATION:

Furthering Suptech Adoption



Simran Singh Techsprint Lead, Innovation Lab Financial Conduct Authority



Ekaterina Borisova Senior Associate, Global Innovation Financial Conduct Authority

BEYOND CHATBOTS:

Advanced Analytics Hackathon and Other Collaborative Events

This session introduces the various event types that have evolved to bring people together to solve big world problems with technology. The panel discusses how data products created in global collaboration of data scientists and domain experts can transition to support consumer protection initiatives.



Nathalie Lenehan Technical Progam Manager Cambridge SupTech Lab



Nitya Malladi Programme Manager Alliance for Innovative Regulation



Abhisekh Rana Senior Data Scientist Camridge SupTech Lab

POTENTIAL BENEFITS OF GENERATIVE AI:

Fireside Chat

A discussion highlighting the potential benefits of Generative AI for regulatory agencies in the realm of supervision and consumer protection



Mariama Jalloh-Heyward Programme Director Alliance for Innovative Regulation



Edmund Towers Head of RegTech and Advanced Analytics Financial Conduct Authority



CAMBRIDGE SUPTECH LAB ACCELERATING THE DIGITAL TRANSFORMATION OF FINANCIAL SUPERVISION

SUPTECH WEEK 2023: DAY 4 TAKEAWAYS

Suptech is an indispensable tool in aiding law enforcement and authorities to combat money laundering, weapons proliferation, and other financial crimes. By fostering collaboration across the public sector, private sector, and academia, and leveraging suptech technology, we can better prevent individuals from falling victim to fraud and other crimes. However, it is crucial to recognise that criminals also have access to these tools, underscoring the importance of continued dialogue and cross-border cooperation to stay ahead of these threats.

Mitigating climate risk in the financial sector requires identifying how these risks manifest. Suptech technology will be instrumental in the global effort to maintain a healthy and liveable planet by providing the necessary tools to monitor and manage climate-related financial risks effectively.

Consumer protection is a fundamental human right and a collective responsibility. Realising this right involves using technology capable of analysing vast amounts of data to identify and stop fraudsters, particularly those targeting vulnerable populations.

Creating a truly inclusive financial system that integrates women into the global economy is one of the most critical economic initiatives worldwide. Despite progress, more efforts are needed to facilitate women's participation in financial services. Supervisory agencies must be intentional in gender-desegregating data to reveal specific challenges and take targeted actions to address them, thereby improving financial inclusion for women.

The establishment of a suptech community that spans the public, private, and academic sectors are crucial for co-creating a global financial system that offers equal opportunities for success, regardless of an individual's background or birthplace. Suptech represents more than just technology; it is a movement aimed at fostering an inclusive and equitable global economy.

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DAY 4 7 December 2023

KEYNOTE



Elsie Addo Awadzi Deputy Governor Bank of Ghana

1 I SUPTECH WEEK 2023 AGENDA: DAY 4

SUPTECH POWERED AML/CFT/CPF SUPERVISION:

Consumer Complaints Analytics

The session explores the evolving field of suptech and its impact on enhancing Anti-Money Laundering (AML), Counter-Financing of Terrorism (CFT), and Countering Proliferation Financing (CPF) efforts. We aim to dissect how suptech is amplifying the efficacy of the fight against financial crime and the emerging trends expected to shape the future of AML/CFT/CPF financial supervision. The panel will also address strategic approaches to integrate suptech effectively into existing systems and share their vision of how technology and data science will enhance supervisory outcomes.



Sarah Paquet Director and CEO Financial Transactions and Reports Analysis Centre of Canada



Nick Maxwell Head Future of Financial Intelligence Sharing



Leslye Sihuay Suptech Specialist Cambridge SupTech Lab



Marco di Simoni Senior Researcher Financial Intelligence Unit of Italy



Dr. Kimmo Soramaki Founder and CEO FNA

GREEN FINANCE AND SUPTECH

This session explores the innovative ways in which suptech is reshaping the landscape of climate finance, facilitating more effective risk management, sustainable investment, and regulatory compliance. Participants will gain valuable perspectives from leading experts from supervisory authorities and international organisations working in state-of-the-art synergies between finance and technology to pursue a more sustainable and resilient future.



Iman van Lelyveld Head of the Data Science Hub De Nederlandsche Bank



Samir Kiuhan Senior Researcher Cambridge SupTech Lab



Carine Bastos Deputy Advisor Banco Central do Brasil



Chrissy Martin Meier Director, Policy Digital Impact Alliance



Andres Alonso Senior Economist Banco de España

SUPTECH-POWERED CONSUMER PROTECTION SUPERVISION:

The session offers an insightful discussion on the latest innovations in consumer protection supervision. It begins with an overview of suptech initiatives that have been designed and developed for a wide range of use cases, providing real-world examples of technologies that authorities are currently leveraging to take consumer protection supervision to the next level. Then, our invited experts will share their experiences and perspectives as early adopters of suptech in this field. By sharing their lessons learned, this session will unveil the challenges and opportunities for suptech adoption and encourage more supervisors to experiment with innovative technologies to better protect consumers in the financial markets.



Jamile Valles Head of Market Conduct Enforcement Department Superintendencia de Banca Seguros y AFP del Perú



Jose Miguel Mestanza Suptech Specialist Cambridge SupTech Lab



Simone Portuesi ICT Expert Banca d'Italia



Rochelle D. Romas Deputy Director Bangko Sentral ng Pilipinas

CLOSING THE GENDER GAP

The panel discussion centres on the critical intersections of suptech, gender dynamics, and the strategic utilisation of gender-disaggregated data in the financial domain. The primary objectives are two-fold: firstly, to delve into the transformative role suptech plays in advancing gender inclusivity and its ability to harness disaggregated data for insights; and secondly, to scrutinise challenges and opportunities associated with these dynamics. The aim is to foster a nuanced understanding of how suptech can serve as a catalyst for positive change, empowering financial authorities and financial institutions to make informed decisions that drive gender equity. Through collaborative exploration, we aspire to outline actionable strategies that leverage technology for the betterment of gender representation and outcomes within the financial sector.



Greta Bull Director Women's Economic Empowerment Bill & Melinda Gates Foundation



May Abulnaga First Sub-Governor, Office of the Governor Central Bank of Egypt



Juliet Ongwae Senior Suptech Specialist FINRA



Clara Arthur Policy and Ecosystem Specialist UN Capital Development Fund, Ghana



Francesca Brown Director of policy Women's World Banking



Peter McConaghy Policy Advisor Office of the UNSGSA



Soraya Hakuziyaremye Deputy Governor National Bank of Rwanda

SUPTECH: THE PATH FORWARD

In this session we reflect on the rich tapestry of discussions, insights, and breakthroughs that have been shared. In our final session, we will encapsulate the key themes, lessons learned, and the future trajectory for supervisory technology. This wrap-up roundtable summarises the innovative ideas and strategies that have been showcased and chart a path forward, identifying actionable steps and best practices that can be implemented by financial authorities and ecosystem partners globally. We distil the essence of this transformative week into a coherent vision for the future, ensuring that the momentum gained here continues to inspire and guide us in the dynamic landscape of financial supervision.



Anna Wallace SPO Consumer Protection and RegTech Bill & Melinda Gates Foundation



Drew Propson Head of Technology and Innovation Financial Services World Economic Forum



Monica Shelton Director, Regulatory Technology Consumer Financial Protection Bureau



Liezl Neething Divisional Head South African Reserve Bank



Douglas Arner Kerry Holdings Professorin Law The University of Hong Kong



Ines Paez Subdirector Superintendencia de Bancos de la República Dominicana



Francesca Hopwood Road Head of London Centre BIS Innovation Hub



Simone di Castri Co-Head Cambridge SupTech Lab