



EUROPEAN CENTRAL BANK

BANKING SUPERVISION

# SSM digitalisation – from exploration to full-scale adoption

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Central Banking's  
Summer Meetings

12 June 2024



**Elizabeth McCaul**  
ECB Representative to the Supervisory Board

# 1

## Supervision and technology

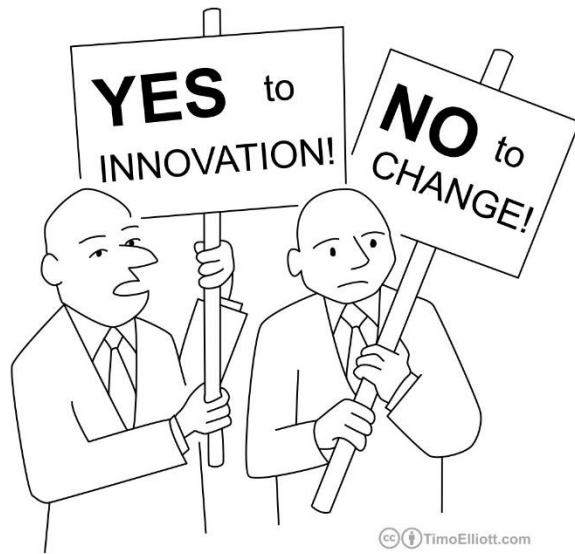
# Technological innovation triggers structural changes in all areas of the global economy, and banking is no exception

- The banking sector is undergoing a rapid transformation, with **new players** entering the market and therefore the financial value chain
- Traditional banks are adopting **new business models** incorporating **fintech intermediaries** in key business processes
- **Banks are using AI to revolutionise** customer interfaces and data management, and to improve credit assessment, customer support and fraud detection
- The **volume of data** used in banking worldwide is **growing at an unprecedented pace** and is expected to grow from tens to hundreds of zettabytes within a few years



# Banking supervisors must therefore adapt through innovation to align with these changes and the new environment

- **Digital innovation** and fostering an **innovation supervisory culture** is **not a choice** for supervisors **but a necessity** to meet new challenges
- **Supervisors** must leverage technology to effectively **manage** growing **data volumes** and new risks stemming from banks' use of AI or new business models
- **Harnessing the power of technology** allows supervisors to remain **efficient** and **effective** in fulfilling their mandate to keep the **European banking system safe and sound**
- At the same time, the ECB is **mindful of the risks** around digitalisation and takes into account the **legal framework** including the upcoming **AI Act**



*“We only have two demands!  
Why don't people just give us what we want?”*

# 2

## Our achievements

# Since 2020 we have driven digital innovation forwards by connecting people, ideas and projects across European banking supervision

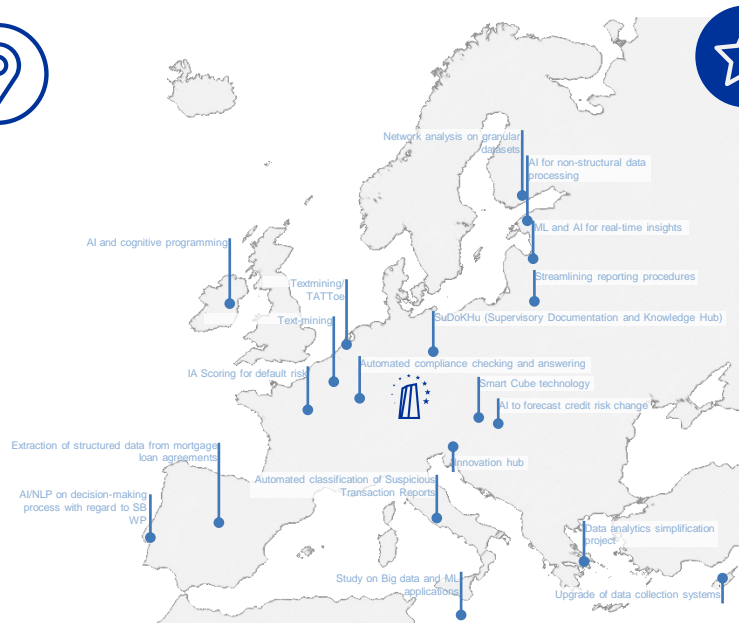
## BEFORE



**Full innovation potential** not used

Multiple projects did not maximise the **full capacity of technology**

**Limited approach** to innovation, **few projects on key technologies** such as AI, RPA or NLP<sup>1</sup>



## TODAY

**Connected people, ideas and projects** across the ECB and the national competent authorities (NCAs)

Innovation is fostered and **benefits and knowledge are shared**

The SSM Digitalisation Blueprint, the first action plan to **deliver digital innovation across European banking supervision**, has been implemented

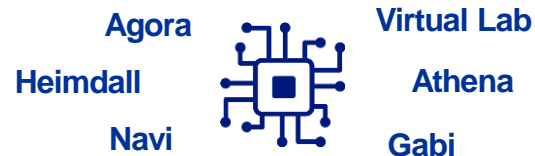
(1) AI: Artificial intelligence  
RPA: Robotic process automation  
NLP: Natural language processing

# The digital transformation has resulted in significant achievements within a short time frame

**14** | **Suptech tools implemented** from a starting point of more than 100 ideas prioritised using a structured innovation management framework

**15+** | **Agile, multidisciplinary innovation teams formed** comprising IT and supervision experts from the ECB and NCAs working together

**2,600** | **Experts trained** in innovation and digitalisation through comprehensive training programmes



**coursera**

# The main result was the rollout of cutting-edge suptech tools to all European banking supervisors



Virtual Lab

Powered by SupTech

Platform for **SSM-wide digital collaboration** as well as code sharing, cloud computing and the development of generative AI capabilities



Athena

Powered by SupTech

**AI-supported textual analysis platform** offering **natural language processing** capabilities to all supervisory areas



Agora

Powered by SupTech

**Single data lake bringing together** all prudential data in one location, with access for all SSM users



Navi

Powered by SupTech

**Graph and network analytics platform** with advanced **visualisation** capabilities for data analysis



Heimdall

Powered by SupTech

Tool for **machine reading and analysis** of thousands of fit and proper applications



Gabi

Powered by SupTech

Specialised model development platform for **big data analytics**

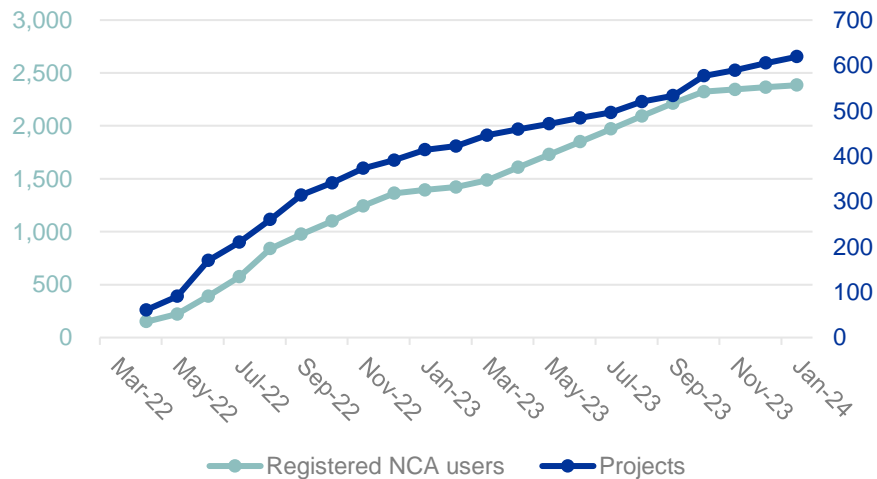


# Suptech tools are in high demand and becoming increasingly popular among European banking supervisors...



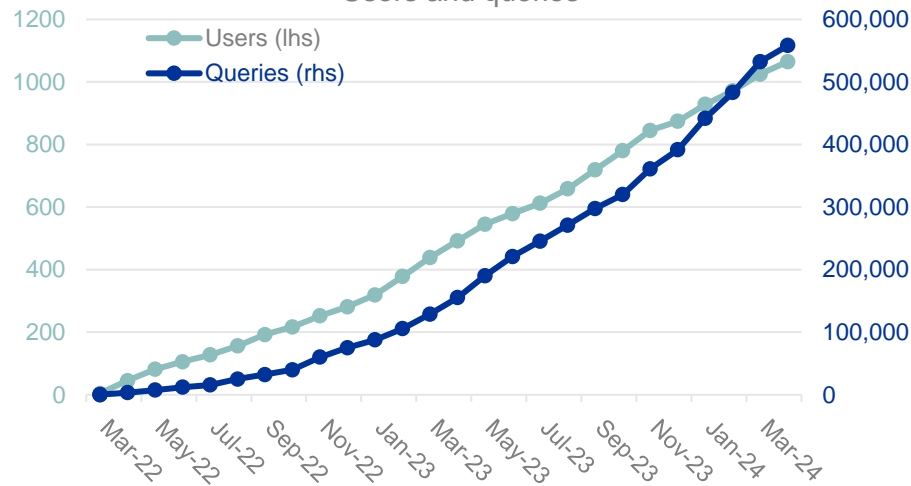
## VIRTUAL LAB

Users and projects

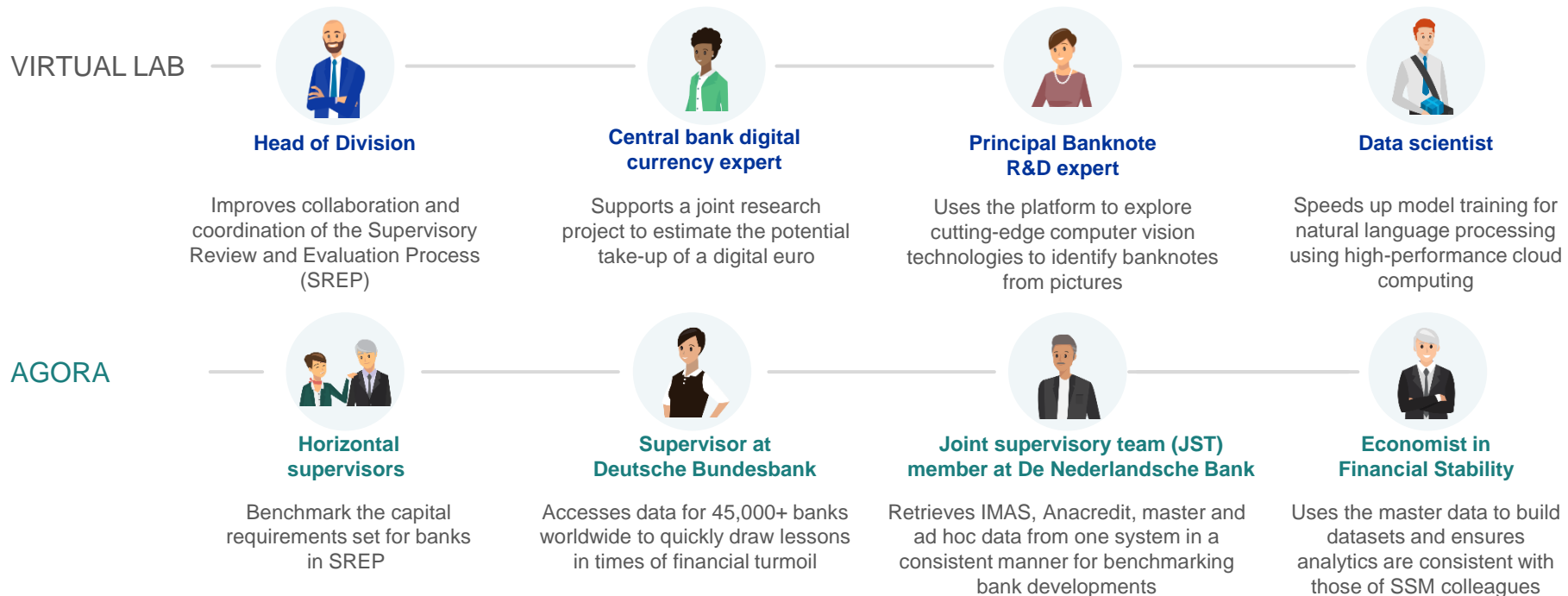


## AGORA

Users and queries



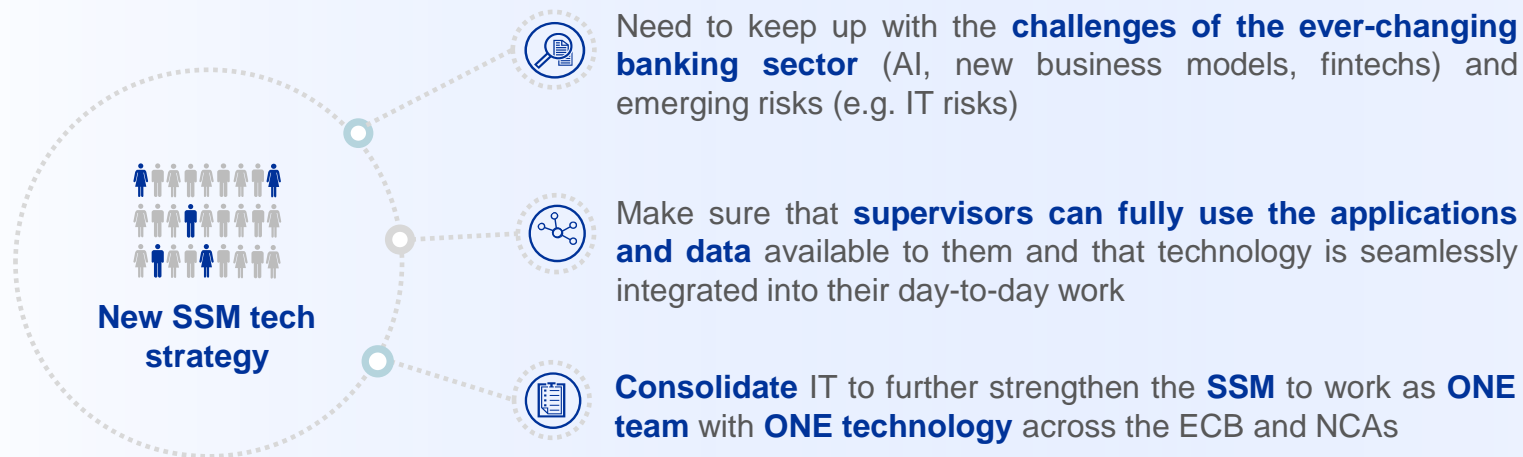
# ...and are having a tangible impact on their daily work



# 3

## The new SSM tech strategy

# Several pressing business needs require further innovation and digitalisation efforts



The new SSM tech strategy connects people and technology to deliver “supervision at your fingertips”

## SSM tech strategy 2024-28

SUPERVISION AT YOUR FINGERTIPS

Core systems and data infrastructure

Supervisory analytics

Technology + People

Process automation and collaboration

Culture

Organisation

Partnerships

# The strategy outlines a comprehensive action plan in line with SSM priorities and objectives

BY 2028

## Core systems and data infrastructure

- ▶ Adapt IT tools to evolving **processes & methodologies** (e.g. update of SREP methodology in core IT systems)
- ▶ Upgrade data infrastructure and consolidate **information exchange** with significant institutions (e.g. Agora upscaling, SSM portal)
- ▶ **Simplify** SSM IT landscape and address barriers for joint work (e.g. enhanced SSM data governance, Olympus project)

Optimise the SSM IT landscape to maximise the impact and use of existing applications

## Supervisory analytics

- ▶ Address **emerging risks** (e.g. IT and cyber risk supervision and climate and environmental risk monitoring)
- ▶ Explore **new datasets** and sources of information (e.g. social media monitoring and non-bank financial institution data analytics)
- ▶ Holistically assess, **consolidate and upscale SSM data analytics** (e.g. streamlined dashboards and repositories, SSM cockpit)

Enhance supervisory risk assessment by augmenting analytical capabilities

## Process automation and collaboration

- ▶ Strengthen **SSM integration and collaboration** (e.g. ECB-NCA's shared calendar and mailboxes)
- ▶ Automate **workflows** and support information searches (e.g. robotic process automation applications)
- ▶ Monitor and adopt **pioneering technologies** (e.g. generative AI support for supervision)

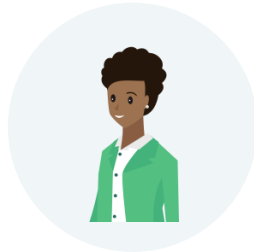
Deliver breakthrough solutions to automate workflows and improve SSM collaboration

# The action plan will increase the effectiveness and efficiency of supervisors using technology accessible with only a few clicks



**JST  
members**

... will connect to a single and integrated **SSM cockpit for everyday tasks**, bundling 80% of the most highly demanded supervisory data and IT services for addressing **supervisory priorities**



**Horizontal  
supervisors**

... will be prompted with new insights powered by **generative AI** and new **SSM data analytics capabilities** following **expert group** recommendations



**On-site  
inspectors**

...will work on an **AI-assisted findings and measures** tool to improve **remediation effectiveness** across all types of supervisory findings



**Regulatory experts  
at supervised banks**

...will exchange all information about their bank through a **single channel**, significantly reducing compliance efforts for their institution

# The strategy also follows a clear, people-oriented approach



## Impact measurement

Use of **key performance indicators** for each tool to **pinpoint bottlenecks and identify areas for improvement**



## Suptech champions

**Ambassadors in all areas to foster awareness** and support the use and development of suptech

## People-focused approach

## One-click initiative

Provide intuitive and consistent experience across all IT systems and tools, focusing on **ease of use for supervisors**



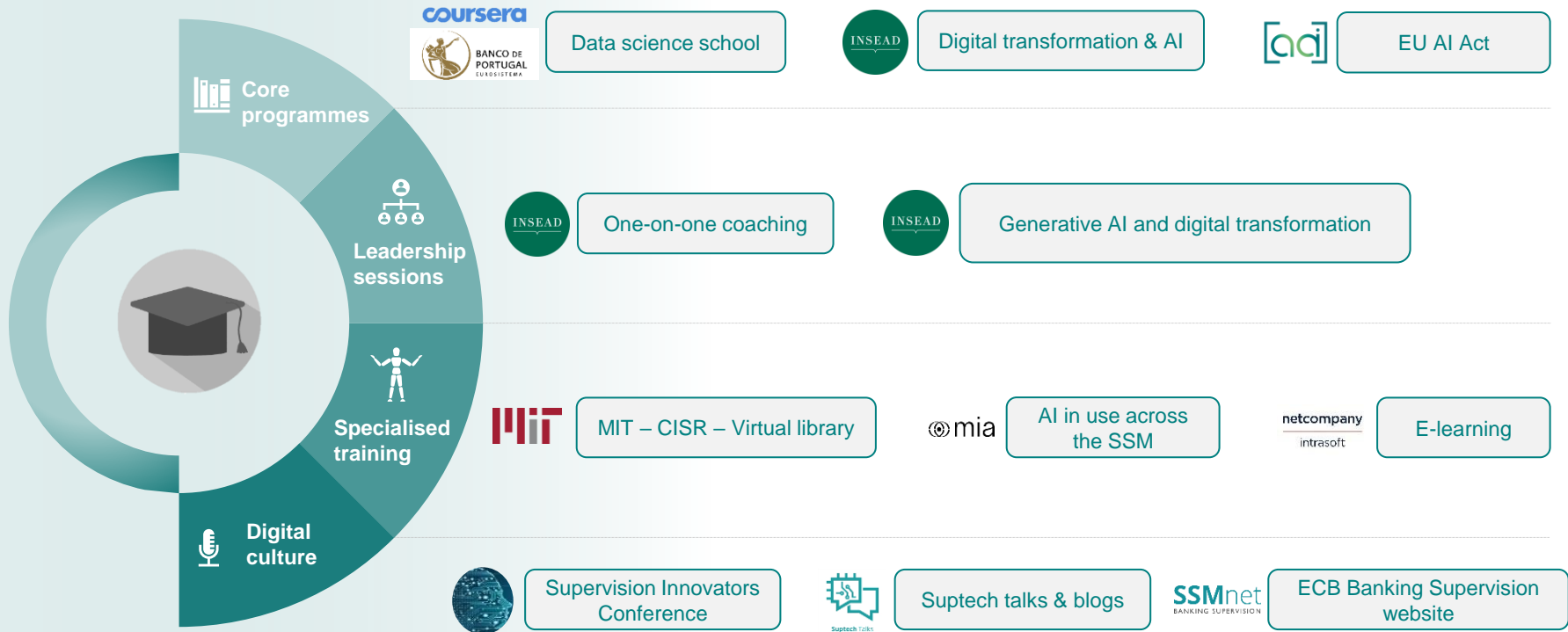
## Engagement strategy

Raise awareness and increase user base of tools through targeted initiatives, such as **roadshows** and **people-oriented** training





# High-quality training and digital culture initiatives are equally important and provided for all staff levels



# Partnerships with peer authorities, industry, academia and startups allow supervisors to leverage the most recent trends and knowledge

## Academia and research

Work with leading academic institutions and research centres



## Startups

Work with several startups to develop tools and studies



## International authorities

Connect to key institutions and innovation leaders in Europe and worldwide



## Industry

Partner with leading players to develop and host cutting-edge tools for supervision



# 4

## Conclusion

# Our digital transformation efforts will pave the way for the banking supervisors of the future

## Augmented data expert

combines prudential data with other sources using AI to derive new insights



Integrated data

AI powered analytics

Suptech

## Agile supervisor

collaborates in virtual teams and works on fully integrated and AI-empowered systems



Single sign-on

Integrated systems

Business orientation



## Citizen technologist

uses latest technologies, leveraging self-built apps to resolve pain points

Cloud-native systems

Low-code



## European banking supervisor

works together with all European banking supervisors based on a common set of tools

Advanced analytics

Modular IT services

## Banking supervisor of the future