



EUROPEAN CENTRAL BANK

BANKING SUPERVISION

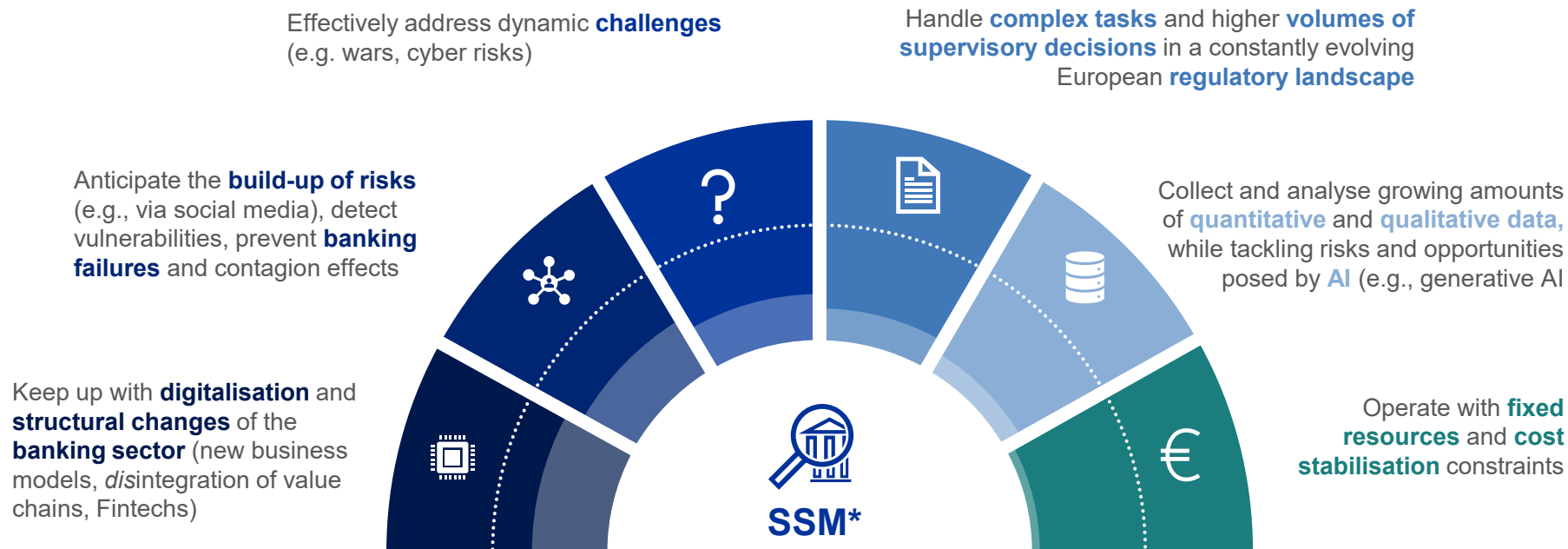
The use of AI technology for banking supervision



14 November 2024

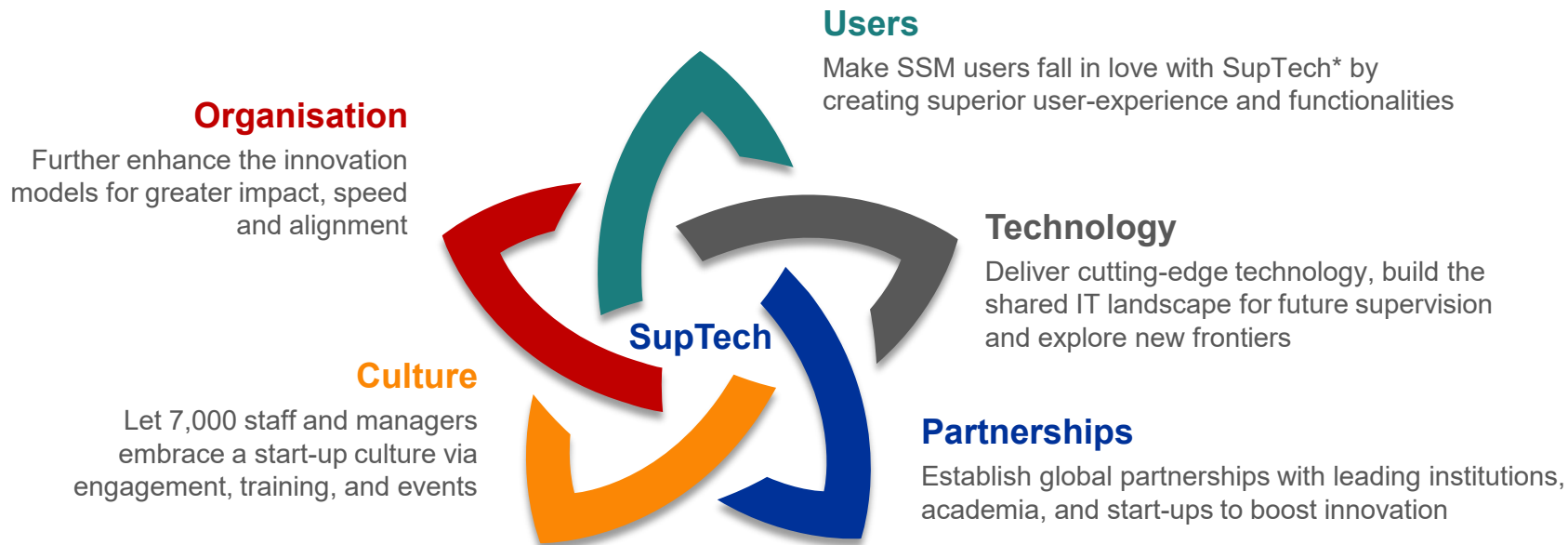
Guido Vero, Team Lead, SupTech Section, ECB

Accelerating digitalisation is a necessity for European banking supervision due to several pressing challenges



(*) Single Supervisory Mechanism

In response, in 2021, the Supervisory Board has defined a digital agenda for the whole SSM to lead the change and implement cutting-edge tech



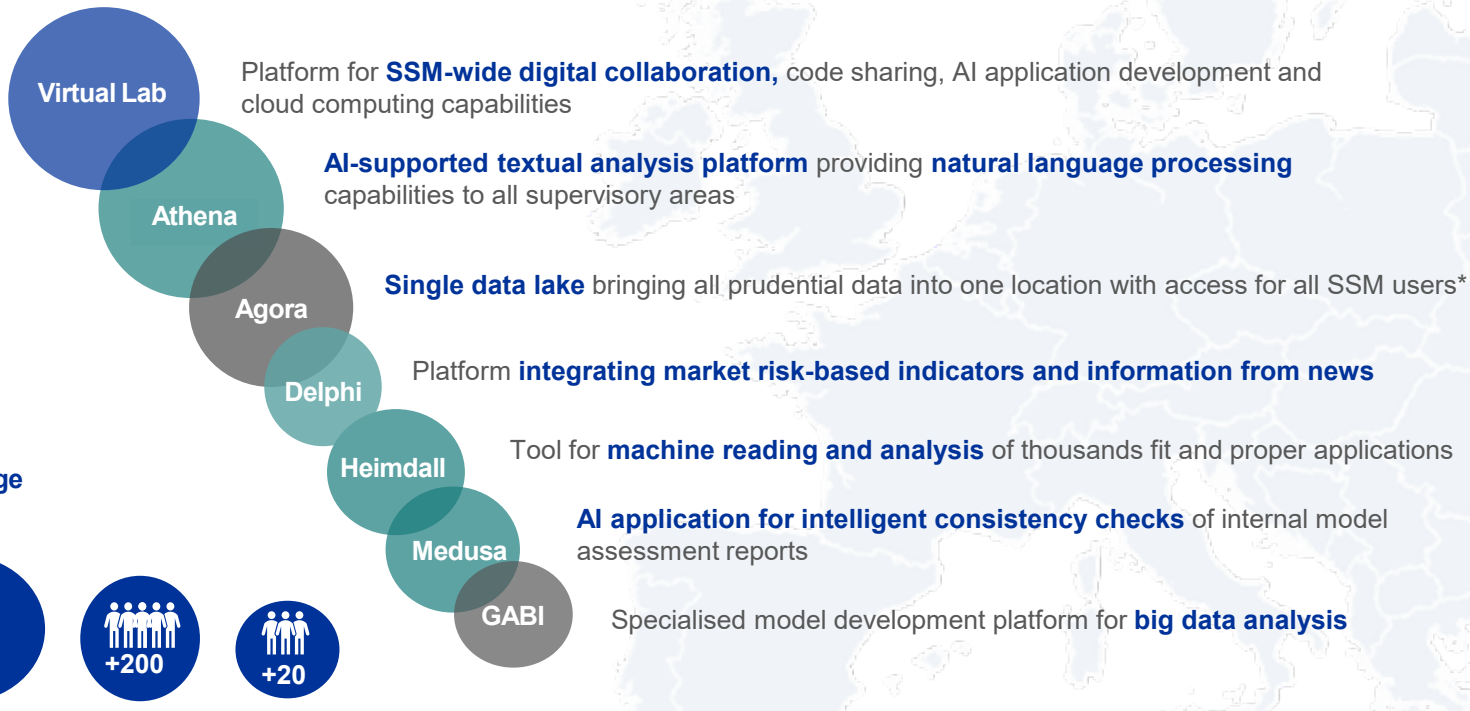
(*) Supervisory technology



This resulted in the delivery of tools and platforms available across ECB and NCAs/NCBs that seek to address existing business needs

Impact clusters

- Digital collaboration
- Textual analysis
- Advanced analytics



Targeted SSM user coverage

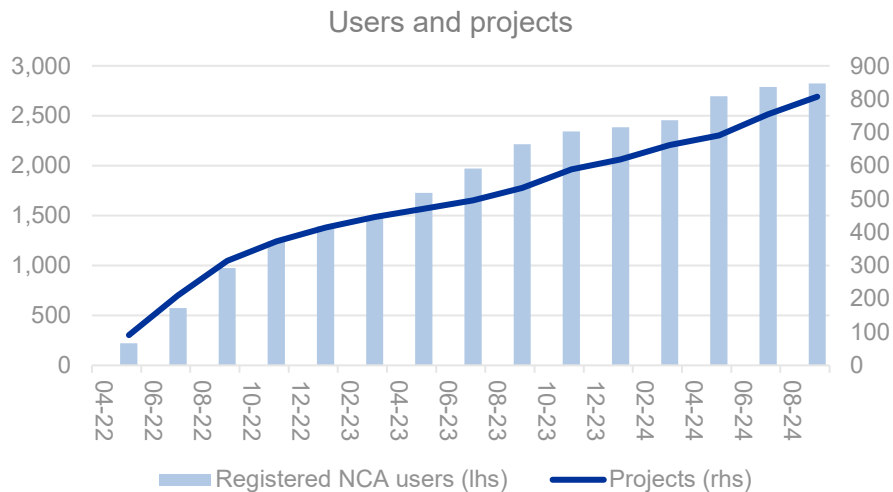


*Agora could serve as an enabler of many AI applications which leverages on the power of big data

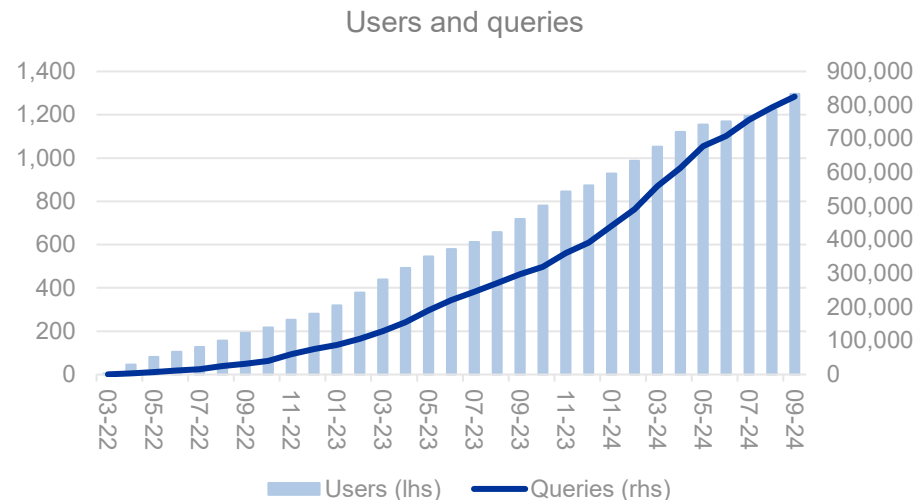


As an outcome, SupTech tools are in high demand, showing steady growth rates across all SSM users

VIRTUAL LAB



AGORA

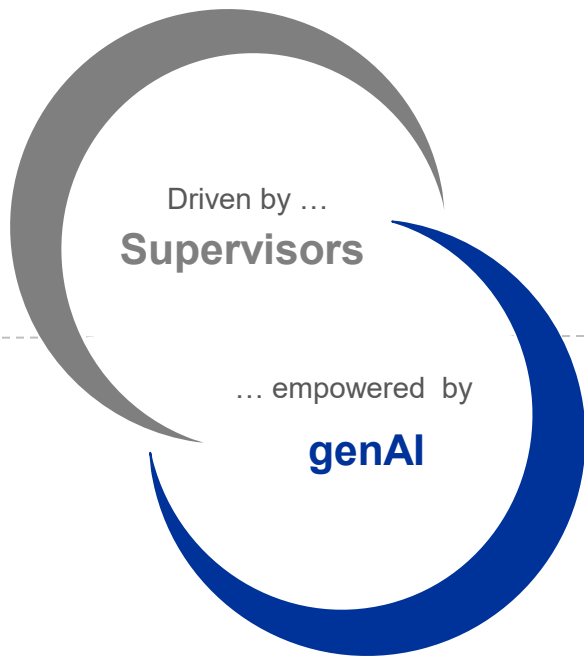


Note: Registered NCA users are reported here as all ECB users have already been onboarded. Projects refer to individual project spaces set-up in the Virtual Lab (incl. 118 workspaces for JSTs) Last observation refers to beginning of May



With our significant investment in AI until now, the development of GenAI represents a logical next step

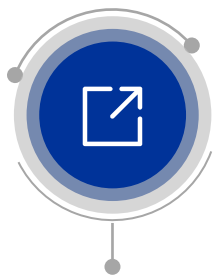
SSM genAI vision



- Make final decisions
- Stay always in a loop
- Review and approve the work
- Provide suggestions
- Help draft input to texts
- Assist with analyses



Our analysis shows that GenAI can support supervisory work by providing dedicated functionalities



Questions - answers & summarisation

Allowing supervisors to **“chat” with specified documents** and extract relevant information but also provide summaries and key points



Generating drafts & fill documents

Providing a **first draft of a document** or generating a template that follows a requested structure



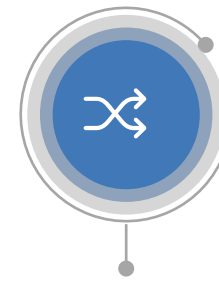
Advanced pattern matching and prediction

Supporting compliance checks (e.g. comparison of documentation vs regulation)



Generating code

Assisting in programming by producing code in various languages (e.g. SQL R, Python, etc.)



Miscellaneous

Providing **advanced search capabilities** and **data classification** throughout and within our document base



Technology

Guardrails are being put in place to ensure safe and effective implementation

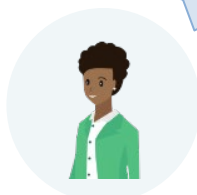
I'm worried that...

... I will **leak confidential ECB data** by using GenAI



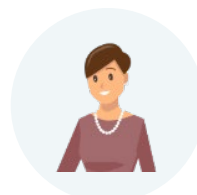
- **IT security assessment conducted**
- LLMs are available in **ECB-controlled environment**
- **Zero-retention policy** implies no training of external LLMs on ECB data

... the GenAI will give me a **bad answer**



- Extensive **experimentation will be conducted before deployment** to ensure quality
- **RAG* pipelines** will be set-up to improve accuracy
- **Curated prompts** will be provided with AI expert support

... GenAI will make my job **obsolete**



- Humans in the loop
- AI will be used as a **support** tool
- **Supervisory judgement remains key**
- **Training and upskilling** is planned to ensure GenAI is safely used

... there are too many **risks** to leverage LLMs safely



- The ORC approved its use and ORC **risk register** was **updated**. No new risks or root causes were identified.
- **Thorough risk assessment** of new use cases will occur in their **ideation stage** and linked to ORC register

* Retrieval Augmented Generation is an information retrieval process that optimizes an LLMs output by providing the model with relevant context

We focus on people to realise the full value of our tools



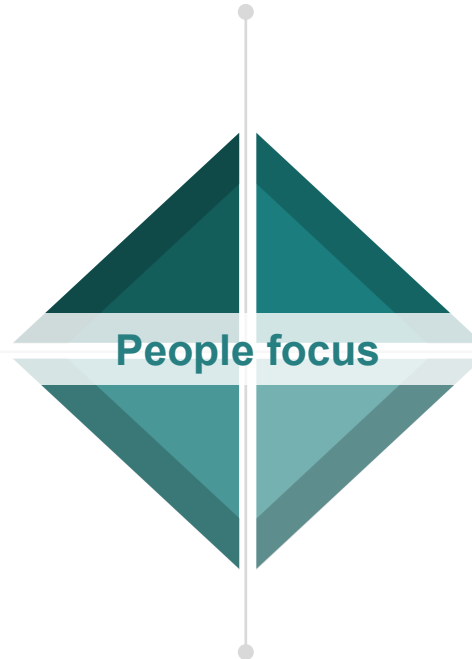
Impact measurement

Set impact, usage metrics and **OKRs** for each tool to **pinpoint bottlenecks and identify areas for improvement** based on user journeys and behavior



SupTech champions

Establish **ambassadors to foster awareness** and support the usage and development of SupTech tools



One-click initiative

Provide intuitive and consistent experience across all IT systems and tools, focusing on **ease of use for supervisors**, putting them at the core



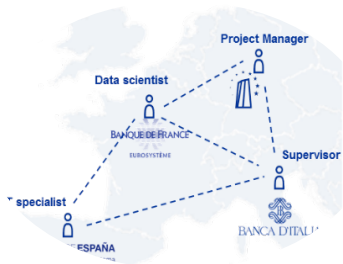
Engagement strategy

Raise awareness and increase user base of tools via targeted initiatives such as **roadshows** to SSM BAs and NCAs and **people-oriented** trainings



Key objectives are to **increase the usage** and fully **realise the value** of existing **SSM IT tools**

A key success factor for our digital innovation so far has been the close collaboration across European banking supervision



- **Interdisciplinary innovation teams** bring together supervision and IT experts from NCAs and the ECB
- Teams **proved to work very effectively and agile**
- **NCA experts join remotely** via 6 – 12 months secondments

NCA secondees that have participated in innovation teams

 Agora - Single data lake	
 Athena - Textual analysis	
 Atlas - tool for decision-making	
 Heimdall - Fit and Proper	
 Interim Stress Test	
 GenAI use cases	
 Medusa – tool for internal models	
 NAVI - Network Analytics	
 Virtual Lab	
 Robotics Process Automation	
 TIDE – Liquidity Warning Indicator	
 Speech-to-text	

GenAI Secondment Programme has been launched to advance SSM-wide genAI tools and catalyse AI expertise



Target group:
NCAs &
NCBs



Number of selected participants: 11



Duration:
6-12
months



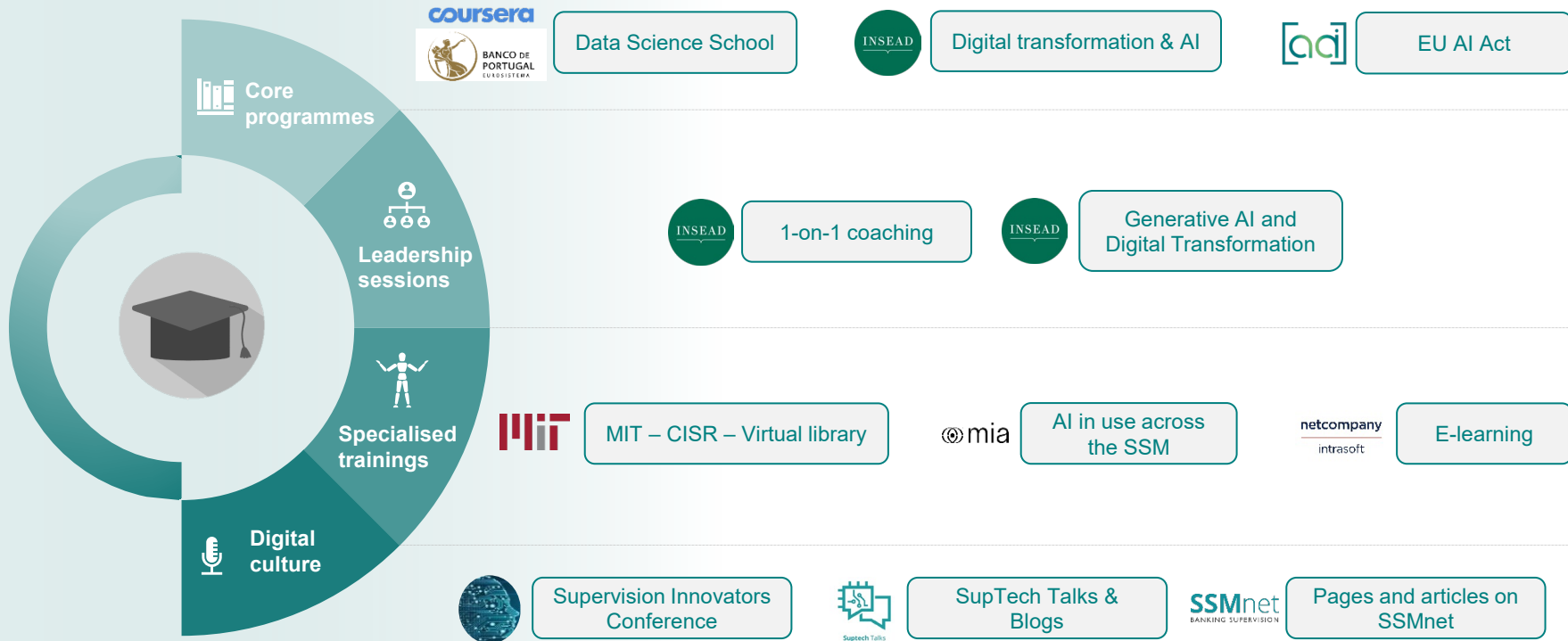
Allocation:
50%-100%
time allocation

Programme Benefits

- ✓ Contribute to the ongoing design and shape of SSM genAI capabilities
- ✓ Catalyse SSM-wide AI proficiency and awareness
- ✓ Foster local innovation at home institutions as well as knowledge sharing via selected participants
- ✓ Strengthen the SSM and the European integration efforts by promoting a one team approach and by sharing common technology



Equally important, high-quality training is provided for all staff levels and 3500 colleagues across Europe have already been upskilled





Nurturing our innovation ecosystem is key to keep abreast of new technology developments and collaboration opportunities

Academia and research

Work with leading academic institutions and research centers



Start-ups

Work with several start-ups 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



As a result of these efforts, the digital transformation led to significant achievements in a short time frame

14 | **SupTech tools implemented** from the SSM digitalisation blueprint

Agora
Heimdall
NAVI



Virtual Lab
Athena
Gabi

3,500+ | **Experts and leaders trained** on innovation and AI via comprehensive training programmes



coursera

4 | **FinTech & RegTech Global Awards** by Central Banking in 4 consecutive years

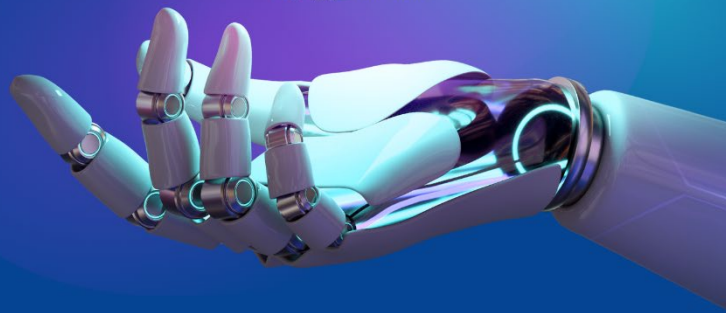




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BANKING SUPERVISION

SUPERVISION AT YOUR FINGERTIPS

 Agora  Athena  Atlas  Delphi  Gabi
 Heimdall  Hermes  Medusa  Navi
 OSI Findings Explorer  RPA  RSI
 Speech-to-Text  SSM SupTech Radar
 Virtual Lab



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