Current trends, benefits, challenges and collaboration in SupTech

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EU Supervisory Digital Finance Academy

Artificial Intelligence and Machine Learning for SupTech

13-16 March 2023, **Part Two - Session 2**

Outline

- What is SupTech

- EBA SupTech report (December 2022)

- Current trends in use of SupTech across the EU

- Benefits achieved with the use of SupTech

- Common challenges identified

- Considerations for authorities

- SupTech areas prioritised by competent authorities

- Supporting collaboration on SupTech

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SupTech* – assisting supervisory process

* [the use of technology-enabled innovation by competent authorities to facilitate and enhance the effectiveness and efficiency of their work]

II. Supervisory Technology: helps to consider wide range of data and makes instant analysis/findings

I. Human supervisor alone: takes time to collect data and make decisions
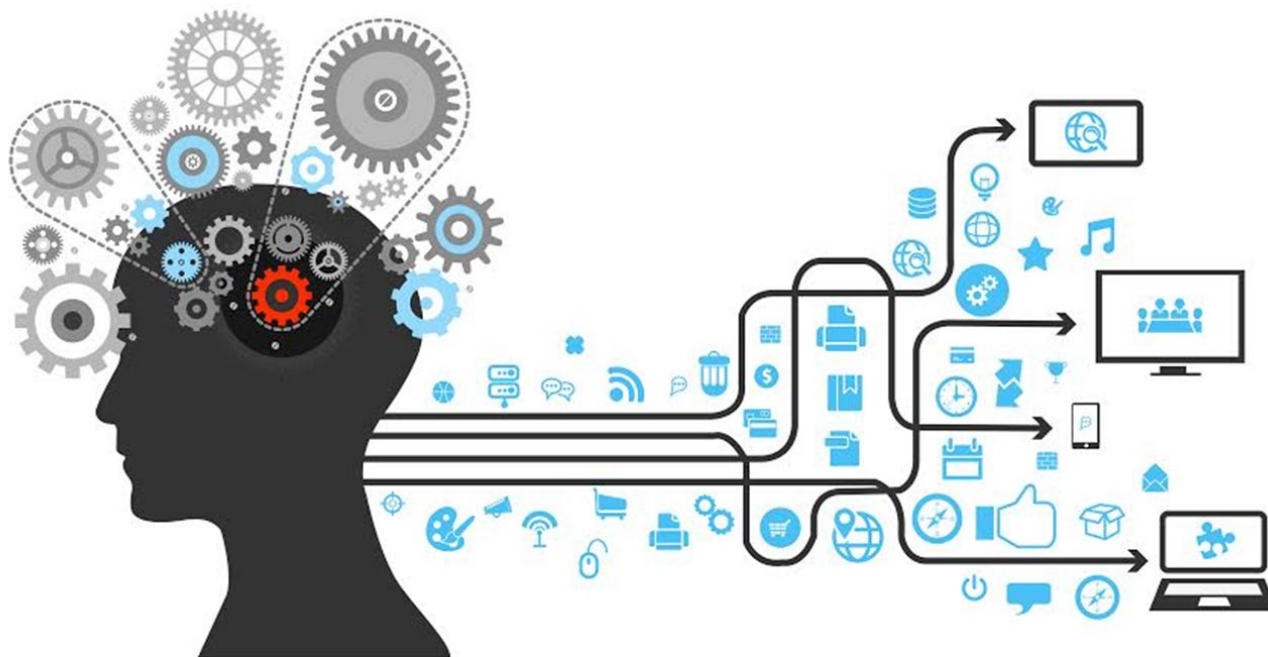
III. Which allows supervision to become:
- ✓ **Timely** – speedy decisions, proactive vs reactive approach
- ✓ **Relevant** – data/evidence based, insightful

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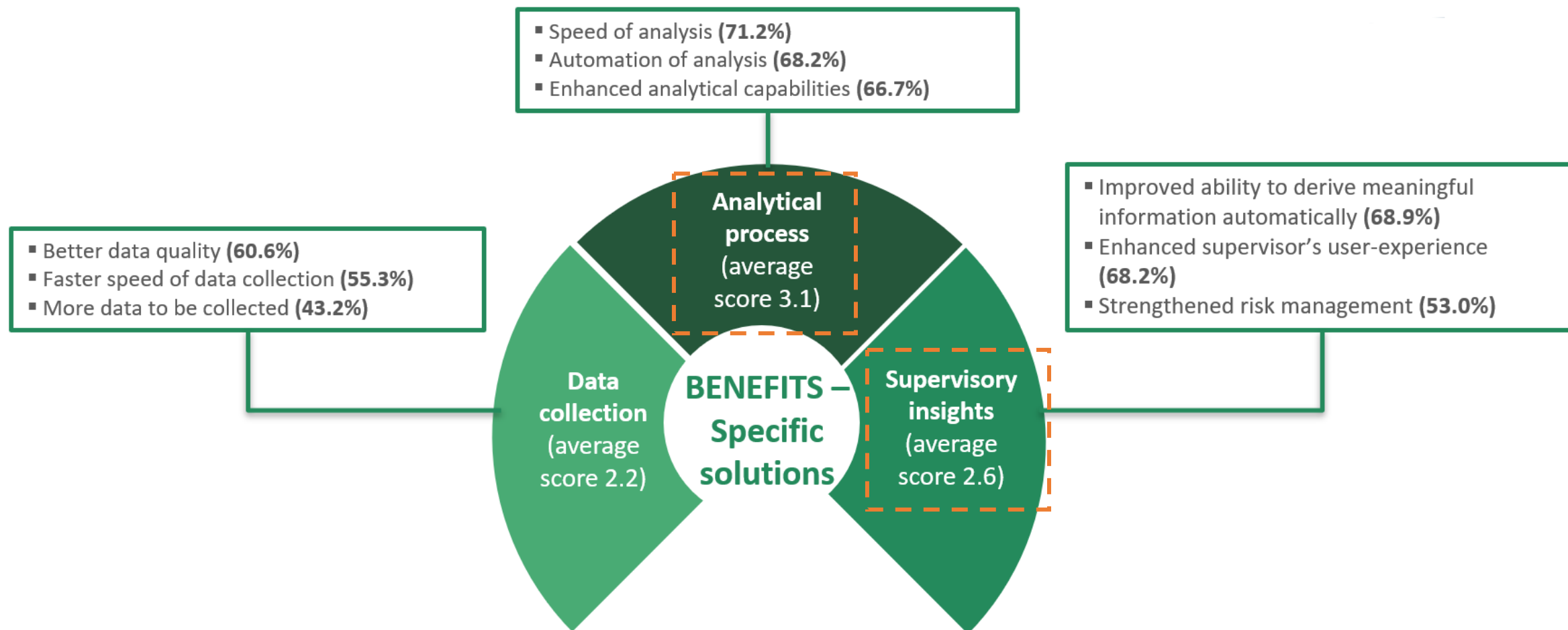# EBA SupTech report (internal)

- **'General part' of SupTech report:**

  1. SupTech landscape across the EU

  2. Main benefits of SupTech

  3. Main issues related to use of SupTech

  4. Changes needed to enable SupTech

  5. Considerations to support development of SupTech among the CAs and address some of issues identified

  6. Next steps to support SupTech development and priority areas identified by CAs

- **Annex - 'Deep dives' into each SupTech category:**
  - Micro-prudential supervision
  - Consumer Protection/Market Conduct supervision
  - AML/CFT supervision,
  - Deposit protection,
  - Resolution (ResTech)
  - Macroprudential supervision

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EBA SUPTECH REPORT

7 DECEMBER 2022

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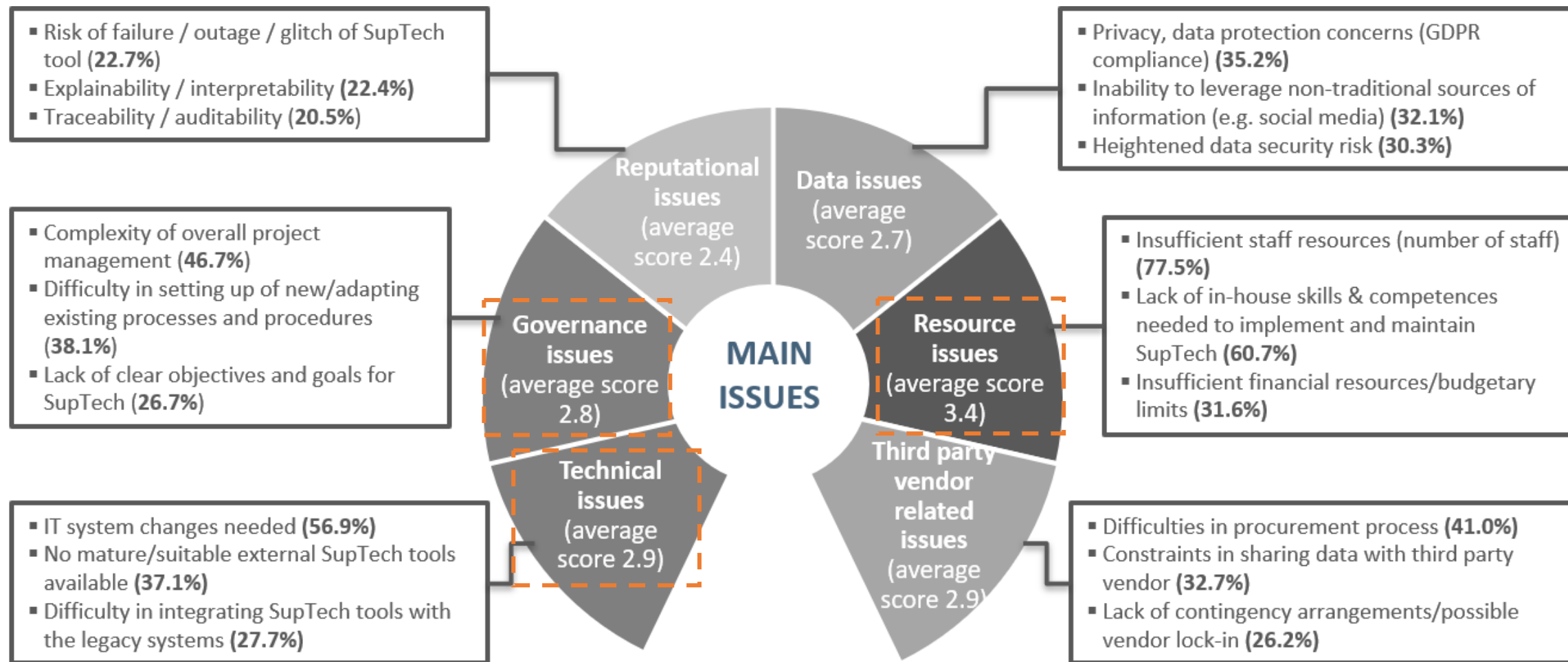
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EBA SupTech report - Key findings

- **More than half of competent authorities in the EU already have or are in the process of developing a strategy or plan that covers SupTech.** There is very strong link between authorities having a SupTech strategy or plan, and the number of SupTech projects being explored or already in use.

- **Overall, competent authorities indicated 553 SupTech tools**, of which 216 are tested and deployed, 163 are in pilot stage and 160 at an idea stage.

- **There has been an increased use of SupTech solutions during the four years** – the majority of SupTech tools described in detail, were launched in or after 2019.

- Technology is leveraged to **support supervisory processes in a broad range of areas** under the EBA remit: **micro-prudential, consumer protection/ market conduct, AML/CFT.** Also in resolution and deposit protection areas.

- **The most common SupTech tools** currently in use relate to i) **data analysis**, ii) **collaboration** within authorities, and iii) regular **reporting**

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Benefits achieved with the use of SupTech

- Speed of analysis **(71.2%)**
- Automation of analysis **(68.2%)**
- Enhanced analytical capabilities **(66.7%)**

- Improved ability to derive meaningful information automatically **(68.9%)**
- Enhanced supervisor's user-experience **(68.2%)**
- Strengthened risk management **(53.0%)**

- Better data quality **(60.6%)**
- Faster speed of data collection **(55.3%)**
- More data to be collected **(43.2%)**

Analytical process (average score 3.1)

Data collection (average score 2.2)

BENEFITS – Specific solutions

Supervisory insights (average score 2.6)

The **average score** of the impact of each broad categories of benefits, i.e.i) Data Collection, ii) Analytical process and iii) Supervisory insights has been calculated taking the average scores of benefits within those categories, as rated by the respondent authorities. Scores used were: 0 - non-applicable, 1 - not relevant at all, 2 - not relevant, 3 - neither relevant nor irrelevant, 4 - relevant, 5 - very relevant;
Percentage indicated next to each benefit shows the % of 132 SupTech solutions (reported in detail in part 2 of the SupTech survey) for which benefit was rated 4 (relevant) or 5 (very relevant).

Common challenges identified

Risk of failure / outage / glitch of SupTech tool (22.7%)
- Explainability / interpretability (22.4%)
- Traceability / auditability (20.5%)

- Privacy, data protection concerns (GDPR compliance) (35.2%)
- Inability to leverage non-traditional sources of information (e.g. social media) (32.1%)
- Heightened data security risk (30.3%)

- Complexity of overall project management (46.7%)
- Difficulty in setting up of new/adapting existing processes and procedures (38.1%)
- Lack of clear objectives and goals for SupTech (26.7%)

- Insufficient staff resources (number of staff) (77.5%)
- Lack of in-house skills & competences needed to implement and maintain SupTech (60.7%)
- Insufficient financial resources/budgetary limits (31.6%)

Reputational issues (average score 2.4)

Data issues (average score 2.7)

Governance issues (average score 2.8)

MAIN ISSUES

Resource issues (average score 3.4)

Technical issues (average score 2.9)

Third party vendor related issues (average score 2.9)

- IT system changes needed (56.9%)
- No mature/suitable external SupTech tools available (37.1%)
- Difficulty in integrating SupTech tools with the legacy systems (27.7%)

- Difficulties in procurement process (41.0%)
- Constraints in sharing data with third party vendor (32.7%)
- Lack of contingency arrangements/possible vendor lock-in (26.2%)

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The **average score** of the impact of each broad categories of challenges, i.e. i) Technical issues, ii) Governance issues, iii) Reputational issues, iv) Data issues, v) Resource issues, and vi) third party vendor related issues has been calculated taking the average scores of challenges within those categories, as rated by the 45 respondent authorities. Scores were: 0 - non-applicable, 1 - not relevant at all, 2 - not relevant, 3 - neither relevant nor irrelevant, 4 - relevant, 5 - very relevant; **Percentage** indicated next to each challenge shows the share of 45 respondent authorities that rated each challenge as 4 (relevant) or 5 (very relevant).

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Considerations for authorities – governance

1	SupTech strategy	CAs to setup a well-defined SupTech strategy that clarifies and fosters SupTech governance
2	Time to production	CAs to keep the scope of SupTech solution as small as possible
3	Data quality	CAs to introduce data quality control mechanisms at strategic and operational level, for example, establish data quality teams, and clear data governance
4	Privacy, data protection	CAs to ensure compliance with privacy and data protection requirements, for example, by involving Data Protection Officers in all stages of the development of the SupTech tool
5	IT system changes	CAs to implement the necessary IT system changes to enable SupTech
6	Overall SupTech project management	CAs to ensure sound SupTech project management, for example, by appointing SupTech project leader, ensuring participation of all stakeholders involved and senior management support
7	Managing SupTech related expectations	CAs to explain and communicate internally how SupTech tools could be used in supervisory process (describe in supervisory manuals/processes, communicate benefits and changes in functionality)
8	Internal collaboration	CAs to ensure involvement of supervisors ('business area'), for example, by making development of a 'business case' a prerequisite before starting any SupTech project, or appointing them as the owners of the SupTech project
9	Facilitating innovation-friendly culture	CAs to consider of a bottom-up approach to facilitate innovation – allocate time for interested staff members to explore various SupTech tools

Considerations for authorities – external focus

| 10 | Procurement process – third party vendors | CAs to streamline and clearly define procurement process for third party vendor service or consider using free open-source software |

| 11 | Monitoring SupTech market developments | CAs to scout SupTech market tools, for example, by hosting SupTech market events |

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Considerations – knowledge exchange and development of skills

| 12 | Collaboration on SupTech across the EU | The EBA to facilitate a comprehensive forum of exchange of views and experience on SupTech tools, not covered by the existing forums, for example at ECB/SSM or BIS Innovation Hub. The EBA to work closely with the SSM SupTech Hub to align the activities to avoid overlaps and duplication of efforts. The EBA to work closely with EC DG REFORM to suggest potential SupTech areas for Technical Support Instrument programme. |

| 13 | Skills, knowledge and training initiatives | CAs to comprehensively assess and plan how to address existing knowledge and skills gaps of staff involved in the development and maintenance of the SupTech tools. The EBA to support targeted training initiatives on SupTech. |

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SupTech areas prioritised by competent authorities

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Identified 'Horizontal' SupTech categories

- **Regular and ad hoc data collection**

- **Data analysis**

- **Media and social media monitoring and analysis**

- **Identification of emerging risks / market surveillance**

- **Processing and analysis** of large unstructured data (e.g. various document analysis)

Identified area-specific SupTech categories

- Micro-prudential: **business model analysis** or **liquidity risk monitoring**

- Consumer protection/market conduct supervision: **complaints handling**

- AML/CFT: **CA risk scoring of i) financial institutions** and **ii) sectors**

- Deposit protection: **automated quality checks of the Single Customer View (SCV) files** and **assessment of the cost of the measures taken** (per Article 11(3) and 11(6) DGSD)

- Resolution (ResTech): **liquidity monitoring and forecast**, **bail-in** (including write-down and conversion) calculation & estimates, **Public interest test assessment**, **No-creditor-worse-off** assessment, simulation of different crisis scenarios to **test the resolution strategy**, monitoring **MREL compliance**

Role of the EBA to support SupTech adoption

Taking into account the identified need to support the development of SupTech among the competent authorities, the role of the EBA is seen as beneficial in three areas:

Areas	Initiatives
1 Knowledge exchange	Facilitation of knowledge and experience exchange on SupTech tools
2 Skills development	EU Supervisory Digital Finance Academy / other training initiatives
3 SupTech-enabling resources	EC DG REFORM Technical Support Instrument / [Potential] Guidance on SupTech

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Role of the EBA to support SupTech adoption (2)

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Taking into account the identified need to support the development of SupTech among the competent authorities, the role of the EBA is seen as beneficial in three areas:

Areas

Initiatives

1 **Knowledge exchange**

Facilitation of knowledge and experience exchange on SupTech tools

2 Skills development

3 SupTech-enabling resources

Three workshops in H1 2023

- (Social) media monitoring tools – 8 February 2023
- Complaints/inquiries handling – 20 April 2023 (TBC)
- Lessons learned from tested but dropped tools – 28 June 2023 (TBC)

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Role of the EBA to support SupTech adoption (3)

EBA's Workshop on SupTech: (social) media monitoring tools

8 February 2023 (online)

Agenda:

- **Singapore MAS** – social media and news monitoring tools

- **BaFin** – development of social media monitoring tool (Reddit)

- **AFM** – webscraping web advertisements

- **Bundesbank** – analysis of risk-related information from newspapers

- **Banca d'Italia** – RepTech: processing information from social networks and web sources for developing "protection reputation indicators" (Twitter and Factiva)

- **ECB** – Athena: Textual analysis via NLP capabilities for supervisory data and news articles

Speakers sharing insights on:

- ✓ Data issues

- ✓ Build vs buy decisions

- ✓ NLP techniques

- ✓ Performance and accuracy

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Future of supervision

Success factors for SupTech adoption:

- Data strategy – **most important**

- People – continuous **education and re-skilling**

- Technology oriented and future proof – **ensure interoperability**

Paperless

Evidence/data based

Better information flow

Thorough insights

Machine readable regulation

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Text To Image - AI Image Generator API (https://deepai.org/machine-learning-model/text2img)