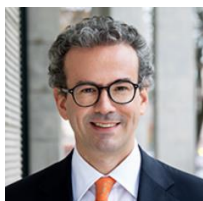


SPRING WORKSHOP SERIES

MILAN – 9 APRIL 2024



TODAY'S SPEAKERS



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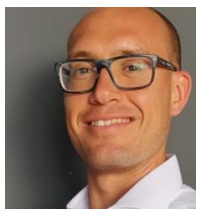
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WELCOME & INTRODUCTION

- Gianrico Giannesi (Chiomenti)

ITALY: MACROECONOMIC OUTLOOK

- Javier Rouillet (Morningstar DBRS)

FIRESIDE CHAT: MARKET DEVELOPMENTS AND FUTURE OUTLOOK

- Marco Angheben (EDW) & Paolo Binarelli (Intesa Sanpaolo)

SUSTAINABLE FINANCE PROJECTS: ENGAGE FOR ESG & GREEN AUTO SECURITISATION

- Gianluca Ginelli & Andrea Bedin (EDW)

THE LATEST DEVELOPMENTS IN STS AND SYNTHETIC SECURITISATIONS

- Michael Osswald (STS Verification International)

COFFEE BREAK

AI-DRIVEN SOLUTIONS FOR FIXED INCOME

- Timo Menzel (BearingPoint)

PANEL: REGTECH/FINTECH APPLICATIONS WITH CREDIT DATA

- Moderator: Marco Angheben (EDW), Massimo Bianchi (Banca Finint), Fulvio Pelargonio (NPL Markets), Marco Masotto (Cardo AI)

BLOCKCHAIN FOR THE ASSIGNMENT OF CREDIT

- Leonardo Mangia (Links Management & Technology)

Q&A, CLOSING REMARKS

WELCOME & INTRODUCTION

GIANRICO GIANNESI, CHIOMENTI

ITALY: MACROECONOMIC OUTLOOK

JAVIER ROUILLET, MORNINGSTAR DBRS

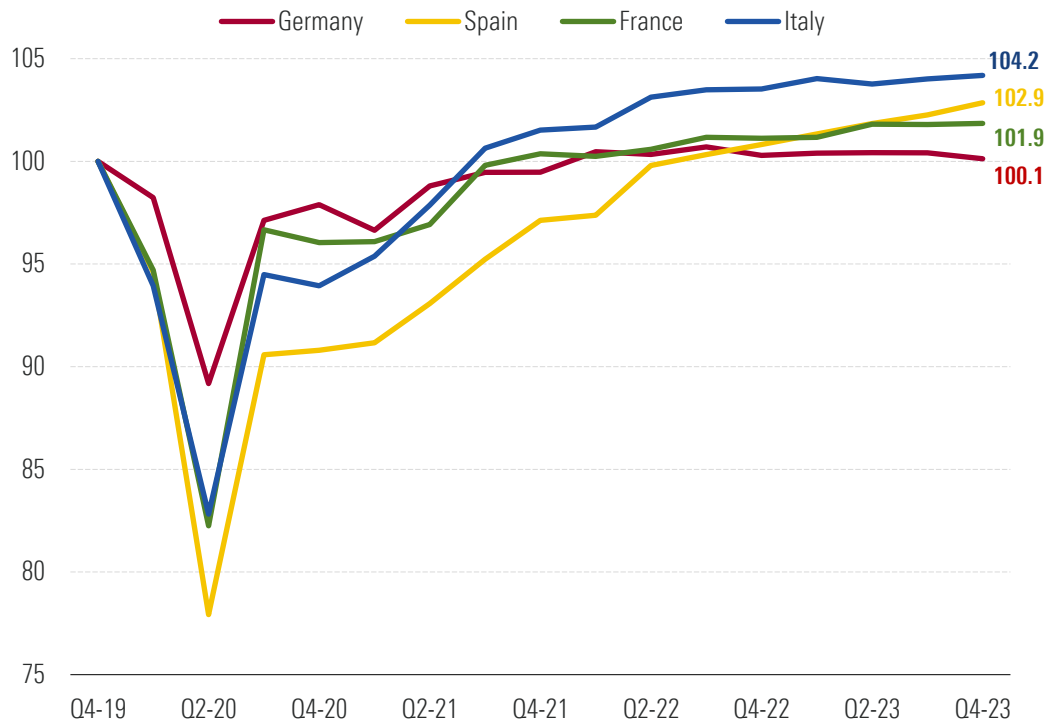
Italy's Economic Outlook



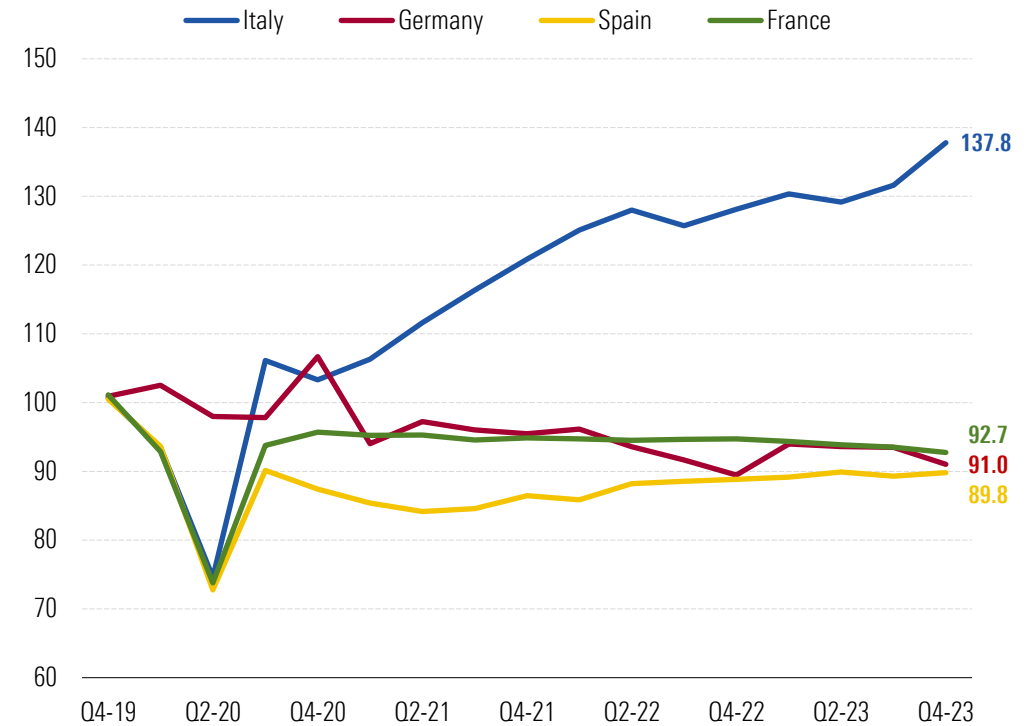
Javier Rouillet
Senior Vice President, Sovereign Ratings
Morningstar DBRS
April 2024

Italy's Economic Recovery Outperformed Expectations and Peers

Real GDP Level (Q4 2019 = 100)



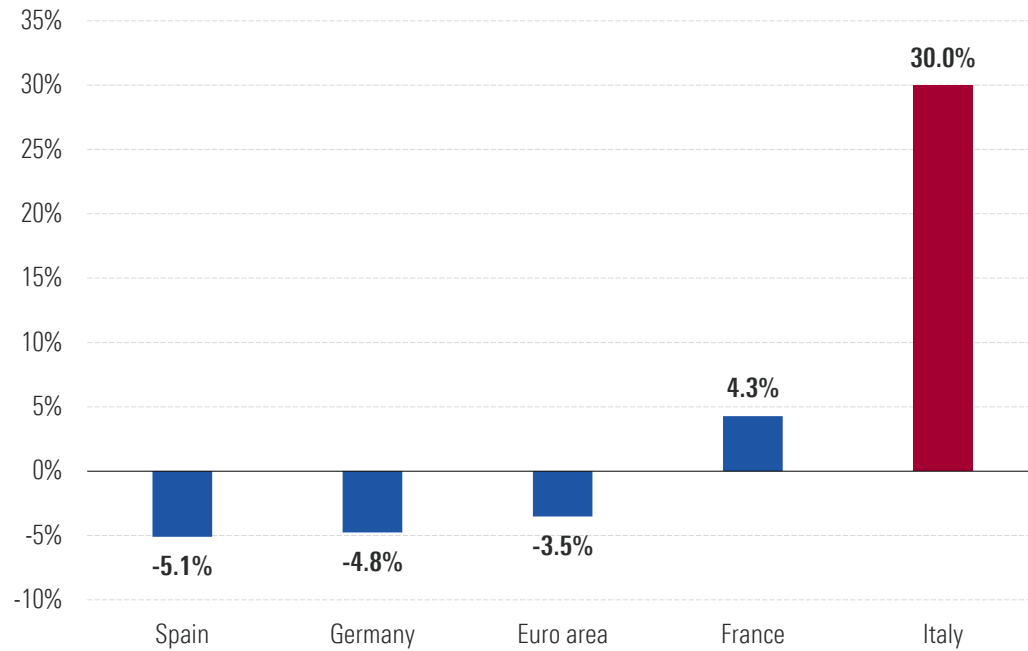
Construction Real Gross Value Added (Q4 2019 = 100)



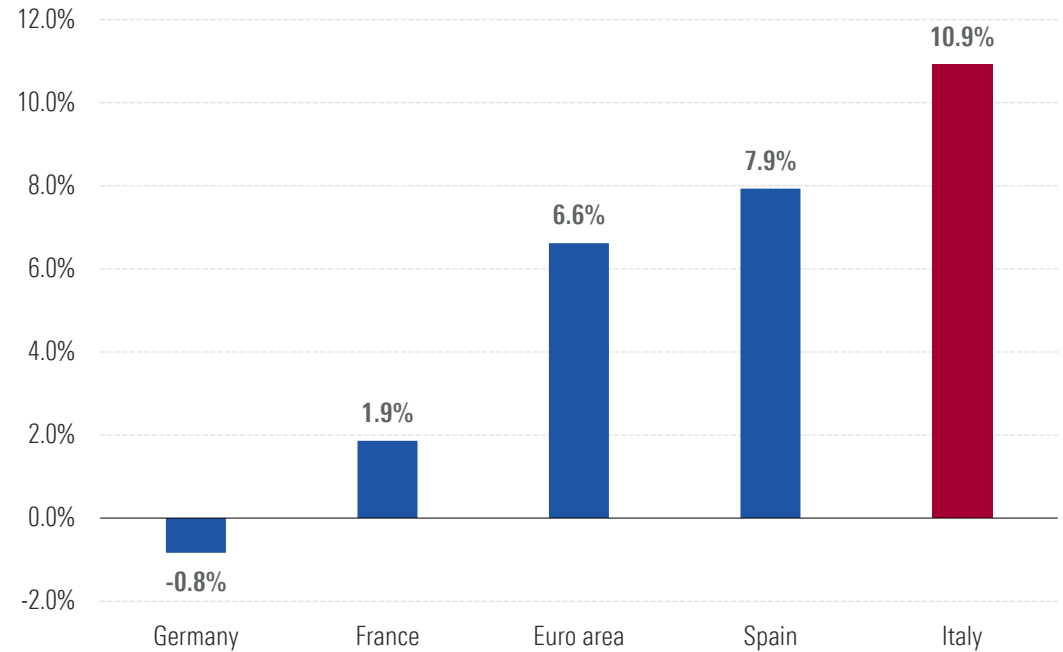
Source: Eurostat, Morningstar DBRS, Haver Analytics.

Remarkable Investment and Strong Export Performance

Real Gross Fixed Capital Formation
(Growth from Q4 2019 to Q4 2023)



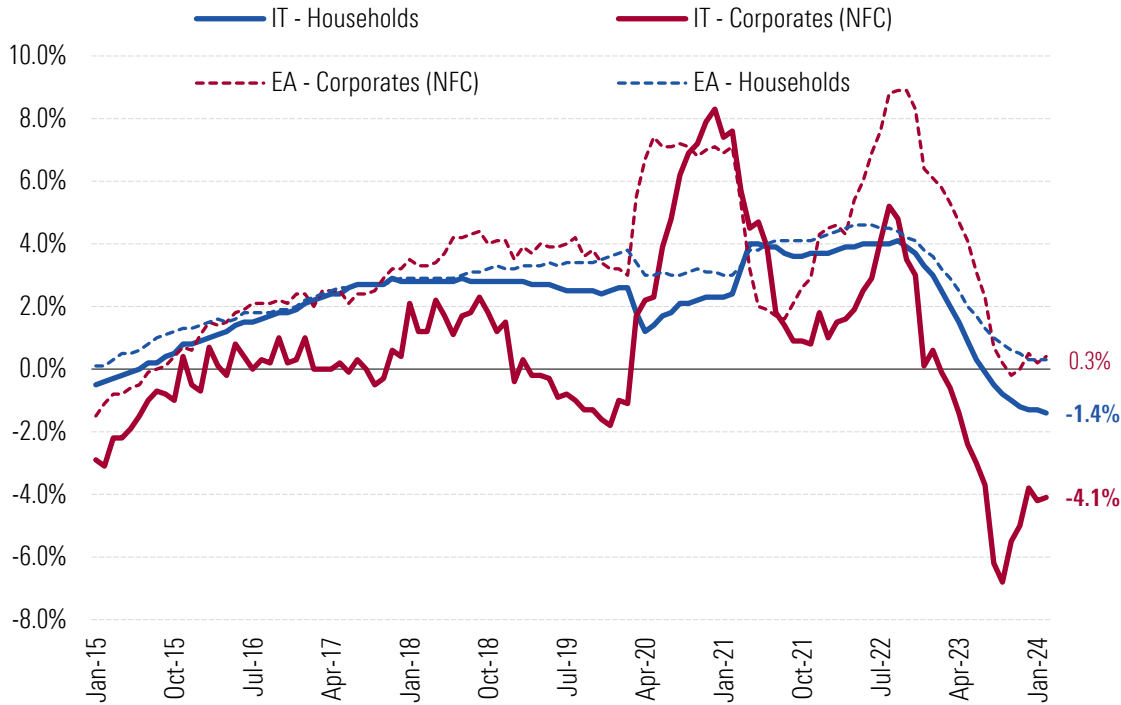
Real Exports of Goods and Services
(Growth from Q4 2019 to Q4 2023)



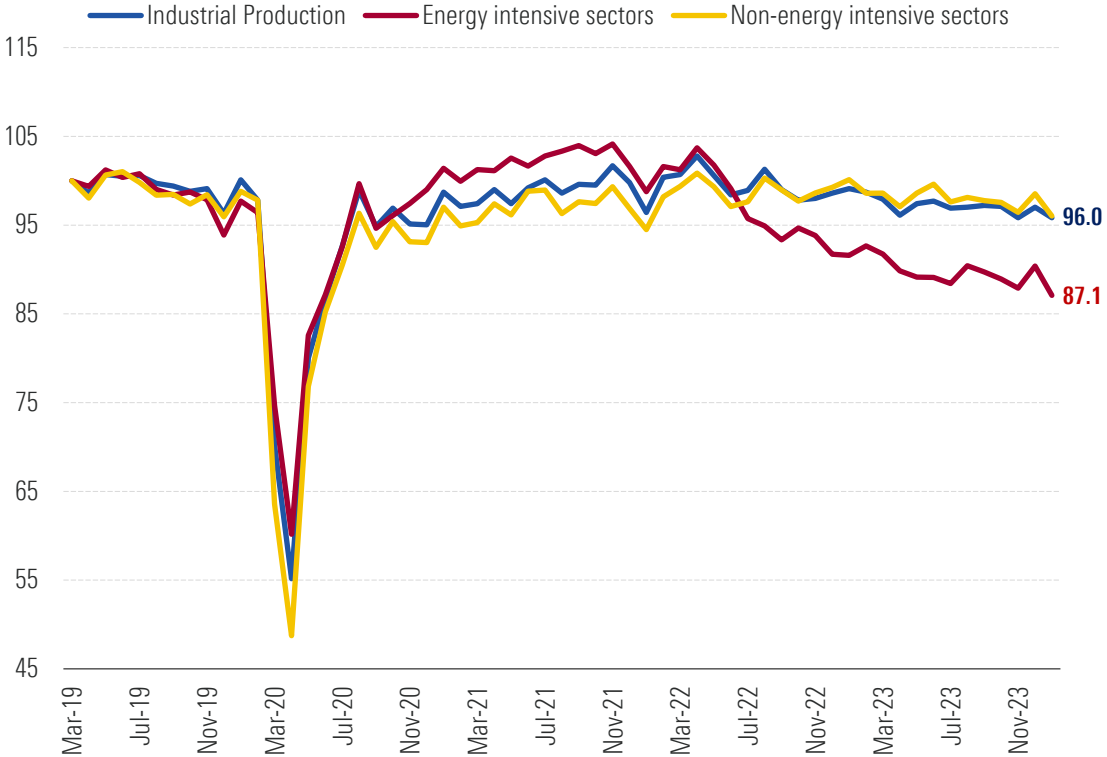
Source: Eurostat, Morningstar DBRS, Haver Analytics.

Tighter Monetary Policy and the Energy Crisis Have Taken Their Toll

Outstanding Loan Growth (YoY)



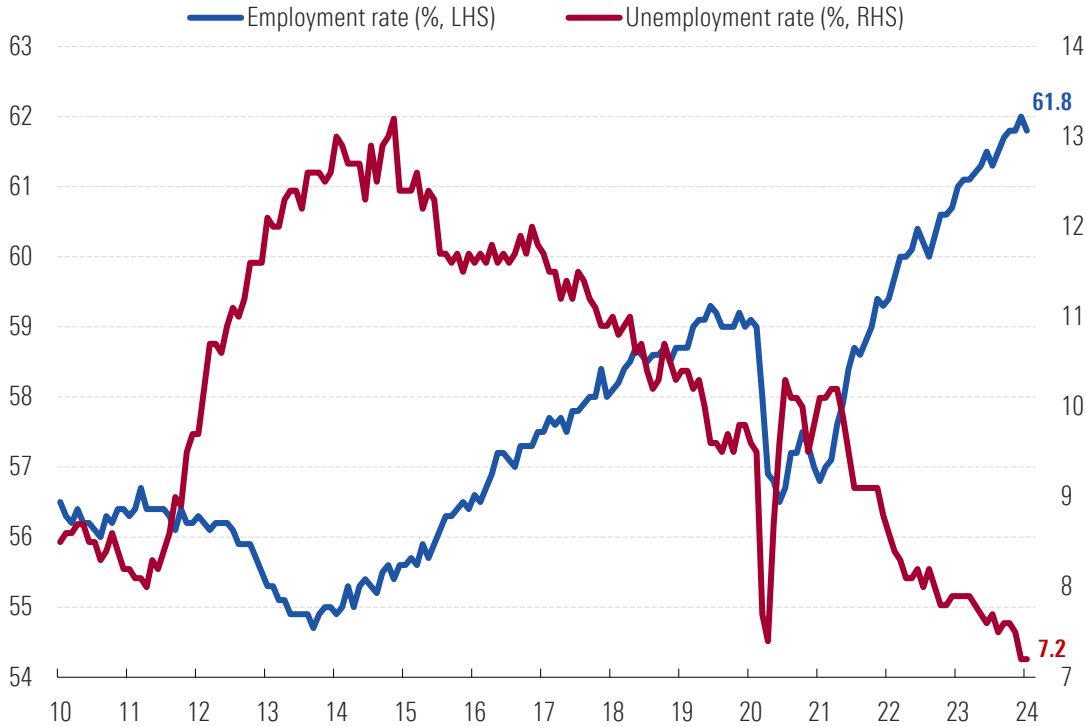
Industrial Production (March 2019=100)



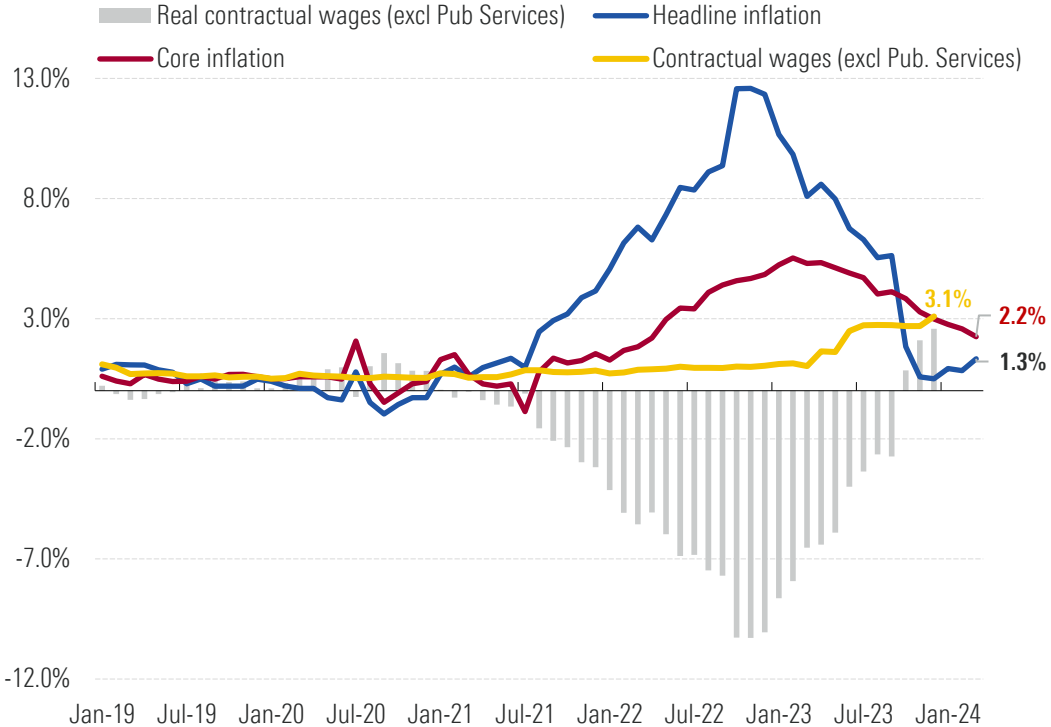
Source: ECB, ISTAT, Banca d'Italia, Morningstar DBRS calculations, Haver Analytics. Notes: Industrial Production is excluding Construction. Energy intensive sectors include manufactures of paper and paper products (C17), of chemical and chemical products (C20), of other non-metallic mineral products (C23), and of basic metals (C24) in the NACE Rev.2 / ATECO 2007 classification.

The Recovery in Households' Purchasing Power Should Support Consumption

Labour Market



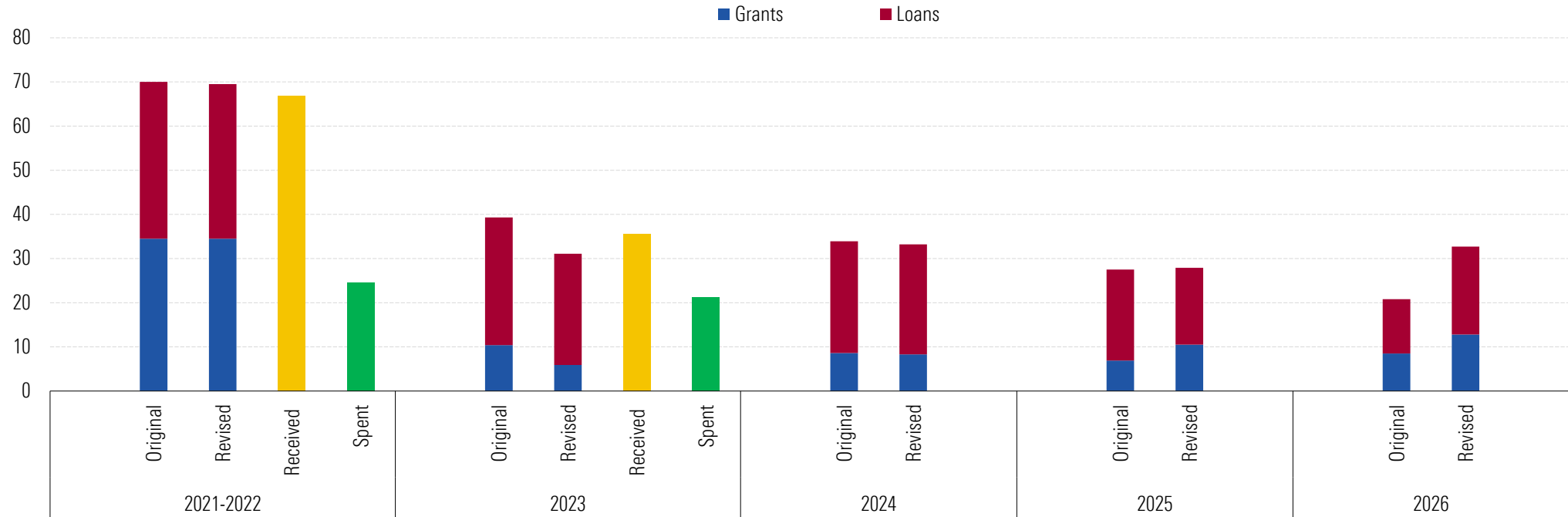
HICP Inflation and Wage Growth (% YoY)



Source: ISTAT, Morningstar DBRS, Haver Analytics. Notes: We calculated the contractual wage growth excluding Public Admin/Defense/Soc Sec, Education, and Health & Social Work, using weights derived from GVA accounts. For real wages we used the following formula: $(1 + \text{Wage Index \%YoY}) / (1 + \text{CPI \%YoY}) - 1$.

Italy's Recovery and Resilience Plan Execution to Support Investment

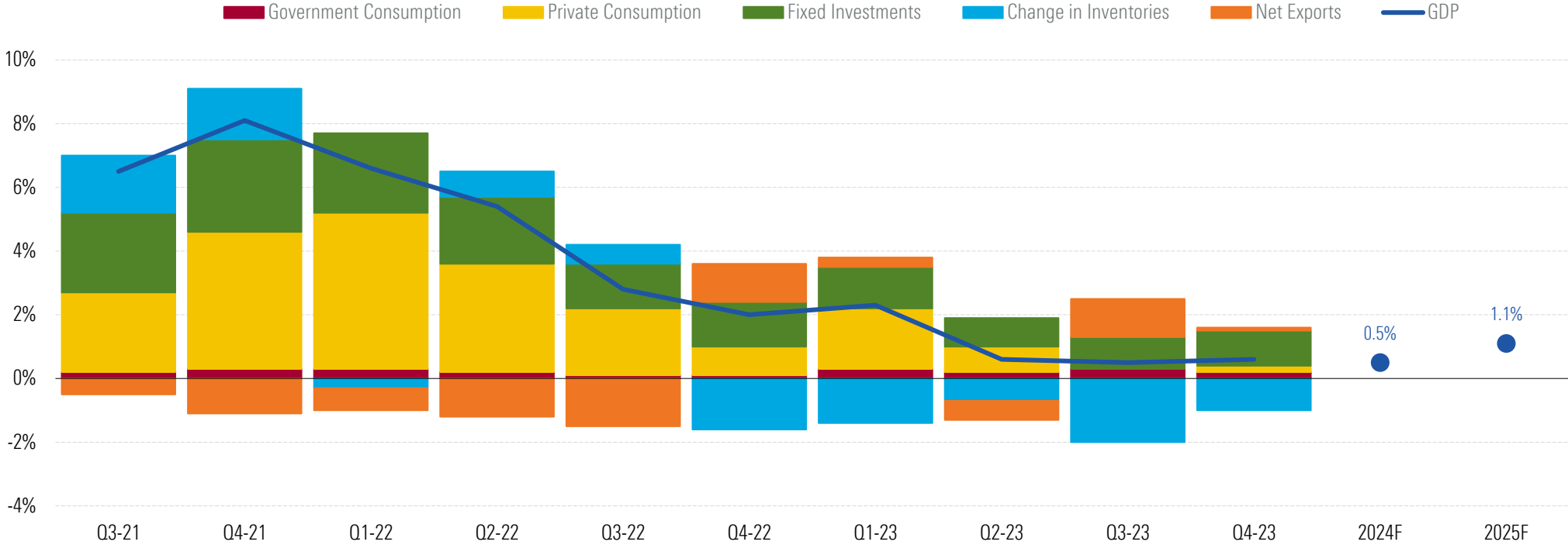
Original and Revised PNRR Amounts (EUR Billion)



Source: Italia Domani (Report N°4 to Parliament on Implementation of PNRR), Morningstar DBRS, Haver Analytics. Notes: Received disbursements include pre-financings.

Italy's Growth Expected to Get Off to a Slow Start Before Gradually Accelerating

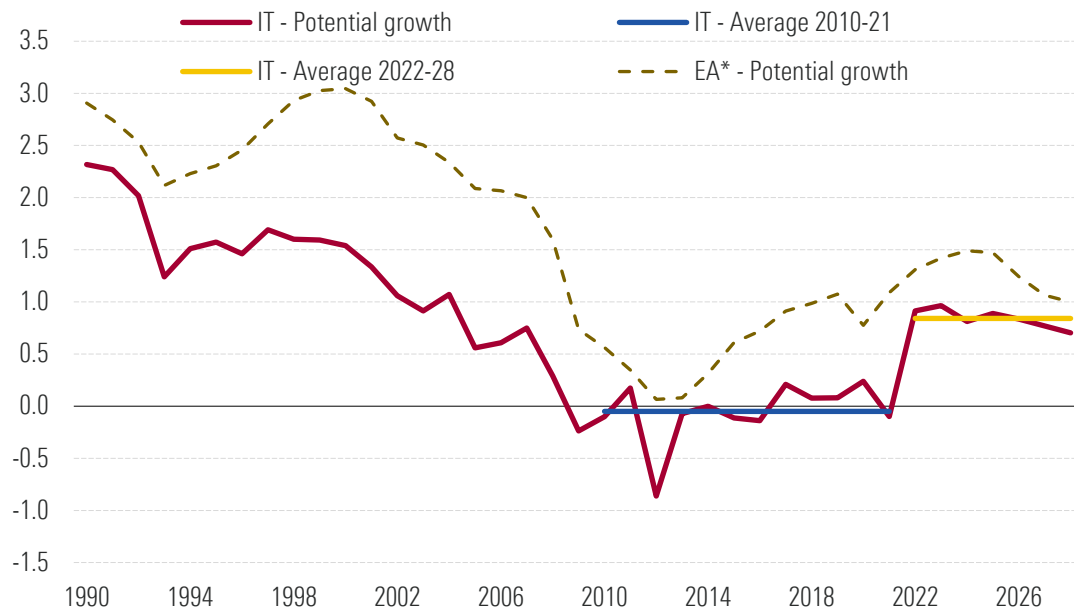
Real GDP Growth and Contributors (SA/WDA, YoY%)



Source: ISTAT, Morningstar DBRS (Macroeconomic Baseline March 2024), Haver Analytics.

Growth Performance Picked Up in Recent Years but Structural Challenges Remain

Italy's Estimated Potential Real GDP Growth (%)



Italy's potential growth has been dragged by:

- Weak productivity growth
- Sluggish capital accumulation
- An aging population and low female participation rate

This calls for reforms and investment to deal with long-term challenges:

- Reforms to address bottlenecks in the judiciary, modernize the public sector, and harness competition
- Investments in infrastructure, digitalization, and decarbonization of the economy

Source: European Commission (EC Output Gaps), Morningstar DBRS, Haver Analytics. Notes: EA* is the average of a selection of EA countries including Germany, France, Spain, Austria, Netherlands, Belgium, Finland, Portugal, and Greece.

Italian Economic Outlook: Things to Watch

- The resilience of the Italian labour market.
- The tug-of-war between Superbonus phase out and Italy's PNRR implementation on investment dynamics.
- The evolution of monetary policy and its final impact on growth.
- The economic developments in Italy's key trading partners (e.g., Germany's manufacturing slowdown).
- The geopolitical developments and their indirect effects (e.g., confidence, commodity prices, and trade flows).

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FIRESIDE CHAT: MARKET DEVELOPMENTS AND FUTURE OUTLOOK

MARCO ANGHEBEN, EDW & PAOLO BINARELLI, INTESA
SANPAOLO

SUSTAINABLE FINANCE PROJECTS: ENGAGE FOR ESG & GREEN AUTO SECURITISATION

GIANLUCA GINELLI & ANDREA BEDIN, EDW

The ENGAGE Templates Version 1.0: EU Taxonomy Compliance for Mortgages



Co-funded by the
European Union





The ENGAGE for ESG Initiative

- The ENGAGE for ESG initiative aims to contribute to the goals of the EU Green Deal, by promoting ESG transparency for residential mortgages.
- The ENGAGE Templates 1.0, released in November 2023, include data elements that allow financial institutions to disclose the alignment of their mortgages with the EU Taxonomy requirements in line with the Substantial Contribution Criteria of the Climate Delegated Act
- The Templates will also enable the assessment of the degree of sustainability for mortgages and the classification of investments for certain mortgages as “sustainable” according to the EU Taxonomy.
- The Templates will be updated and expanded to incorporate the most relevant European sustainability regulations. They will be operationalised through the ENGAGE Portal, a dedicated IT infrastructure currently under development.

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ARTIFICIAL ETHICS



Università
Ca' Foscari
Venezia



How to ENGAGE as a Pilot

1. Request the ENGAGE Templates: <https://forms.office.com/e/td14aYsMQS>
2. Set up a 30 minute one-on-one demo with the ENGAGE team
3. Sign the ENGAGE agreement to receive the sample data submission
4. Submit your ENGAGE Templates (mortgage sample file) into the ENGAGE Portal
5. Receive the ENGAGE report on EU Taxonomy compliance



The ENGAGE Templates Overview

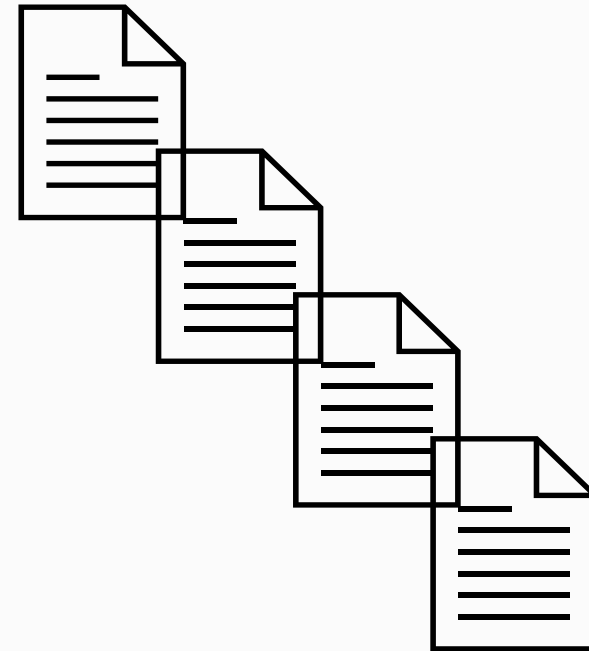
Templates V.1

TEMPLATE CATEGORY	SECTION	FIELD CODE	FIELD NAME	M1-MET element	M2- element	FORMAT	Building level or Minimum level of detail for mapping	Building level 1: Field Optional for the calculation of			
								Minimum element	Section 7.2.1 EP_C class A	Section 7.2.1 Top 9%	Section 7.2.1 Top 5%
EN6 Annex 2: ENE Add-on	Economic Activity Information	EBE01	General Activity Description	YES	YES	(TEXT)		N	N	N	
EN6 Annex 2: ENE Add-on	Building Information	EBE02	Construction Year	YES	YES	(DATEFORMAT)		N	N	N	
EN6 Annex 2: ENE Add-on	Building Information	EBE03	Construction permit application date	YES	YES	(DATEFORMAT)		N	N	N	
EN6 Annex 2: ENE Add-on	Energy Performance Certificate (EPC)	EBE04	Energy Performance Certificate (EPC) Class	YES	YES	(ALPHANUM-10)		N	Y	Y	
EN6 Annex 2: ENE Add-on	Energy Performance Certificate (EPC)	EBE05	Exhaustion or officially produced energy performance certificate (EPC)	YES	YES	(TEXT)		N	Y	N	
EN6 Annex 2: ENE Add-on	Energy Performance Certificate (EPC)	EBE06	Issuance date of most recent available Energy Performance Certificate (EPC) registration	YES	YES	(DATEFORMAT)		N	Y	N	
EN6 Annex 2: ENE Add-on	Energy Performance Certificate (EPC)	EBE07	Energy Performance Certificate (EPC) Validity Length	YES	YES	(INTEGER-6999)		N	Y	N	
EN6 Annex 2: ENE Add-on	Energy Performance Certificate (EPC)	EBE08	Energy Performance Certificate (EPC) Technology	YES	YES	(ALPHANUM-10)		Y	Y	N	
EN6 Annex 2: ENE Add-on	Energy Performance Certificate (EPC)	EBE09	Energy Performance Certificate (EPC) Status	YES	YES	(TEXT)		Y	Y	Y	
EN6 Annex 2: ENE Add-on	Energy Performance Certificate (EPC)	EBE10	EU Equipment Energy Performance Certificate (EPC) Version (EPBD-Regime)	YES	YES	(TEXT)		Y	Y	N	
EN6 Annex 2: ENE Add-on	Primary Energy Demand (PED)	EBE11	Primary Energy Demand (PED) of the building	YES	YES	(INTEGER-6999)					

Guiding Documentation

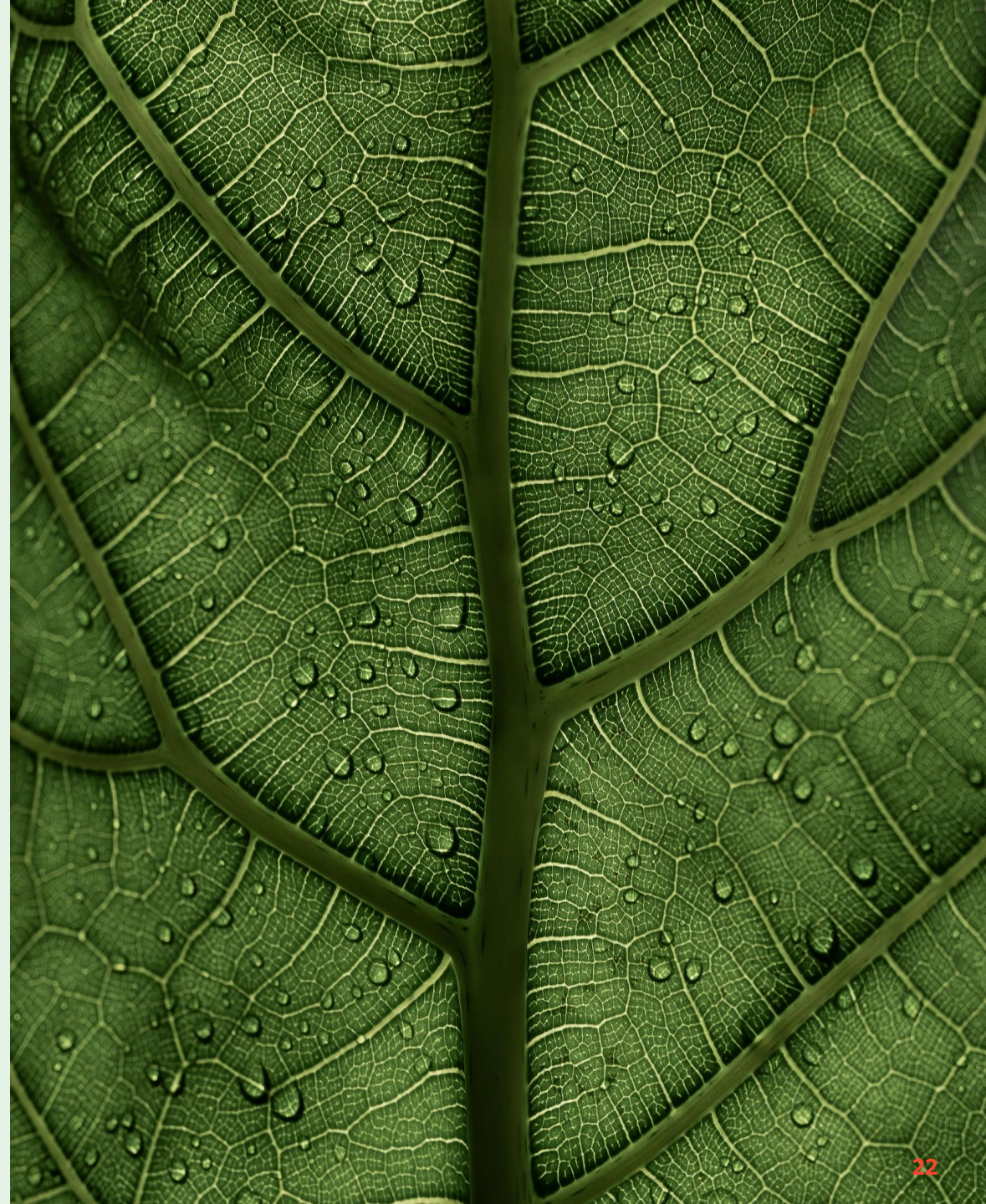


Sample files



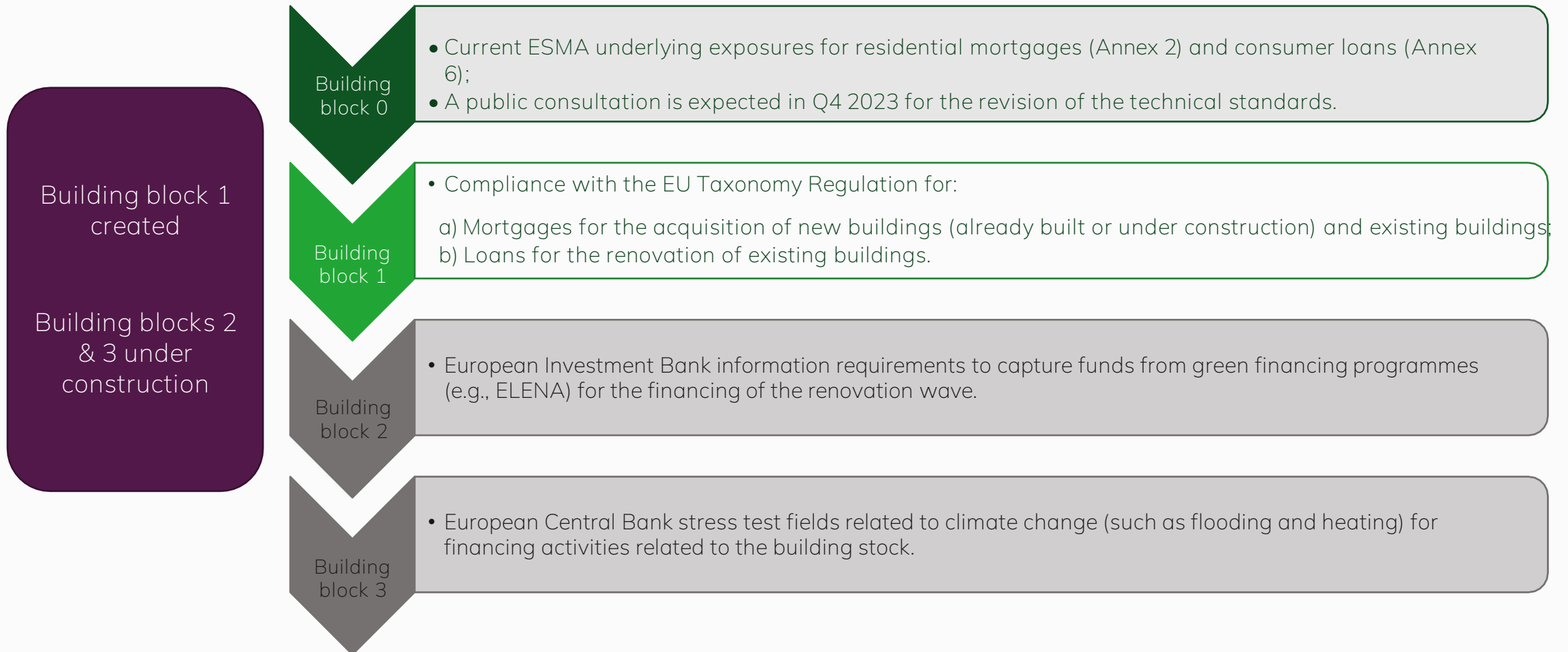


ENGAGE Disclosure Requirements for Mortgages





ENGAGE Templates Structure (1/2)





ENGAGE Templates Structure (2/2)

Information Type	EU Securitisation Regulation disclosure Annex	Field Code Designator	Section	Total # Fields	Data Level	ENGAGE Add-On
Assets	Annex 2 :RRE	RREL	Underlying exposures information section	82	Loan-level	
		RREC	Collateral information section	23	Building-unit level	
	ENGAGE specific (new files)	EREC	ENGAGE Extended Collateral File		Quantitative	Additional information for the checking of SCC and DNSH criteria to identify the relevant energy performance metrics on a building (unit) level.
Documentation & Transaction Structure	ENGAGE specific (new files)	EGFF	ENGAGE Governance File (aggregated information)		Qualitative	Qualitative Information with reference towards Minimum Safeguards, top-15% and other relevant documentation



For a mortgage portfolio only, these sections are relevant, because there is no liability or transaction structure.

The ENGAGE Templates are transaction-agnostic. They can be used for many transaction structures such as ABS, RMBS, covered bonds and mortgage loan portfolios. The ENGAGE Templates are flexible and modular.



ENGAGE Templates Usage

Excerpt of first version of the ENGAGE Templates

- Add-on to ESMA disclosure templates
- First version of the template is based on Substantial Contribution Alignment for the activity Acquisition & Ownership of Real Estate.
- The fields to indicate alignment with the criteria.
- ENGAGE fields are conditional on the section of Annex I of the Climate Delegated Act for which the alignment is checked.
- By applying the filters, you can check the data fields that are applied to assess the criteria.
- We apply a phased approach. Data fields for e.g. renovations and Do Not Significant Harm criteria will be created in the next versions.

Building block 1: Field Optional for the calculation of:

Minimum Safeguards	Section 7.7.1 - EPC class A	Section 7.7.1 - Top 15%	Section 7.7.2 or 7.1 - PED 10% lower NZEB																																																																																																																																																										
<table border="1"> <thead> <tr> <th>TEMPLATE CATEGORY</th> <th>SECTION</th> <th>FIELD CODE</th> <th>FIELD NAME</th> <th>CONTENT TO REPORT</th> <th>NDI-ADT allow</th> <th>NDS allow</th> <th>FORMAT</th> <th>Building block 1: Minimum level of pieces for mortgage</th> <th>Minimum Safeguard</th> <th>Section 7.7.1 - EPC class A</th> <th>Section 7.7.1 - Top 15%</th> <th>Section 7.7.2 or 7.1 - PED 10% lower NZEB</th> </tr> </thead> <tbody> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Building Information</td> <td>EREC2</td> <td>Construction Year</td> <td>Construction year of the building or apartment as per floor-catalogue or other relevant documentation</td> <td>YES</td> <td>YES</td> <td>(DATE/FORMAT)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Building Information</td> <td>EREC3</td> <td>Construction permit application date</td> <td>As described in "Commission Notice on the interpretation and implementation of certain legal provisions of the EU Taxonomy Climate Delegated Act establishing technical screening criteria for economic activities that contribute substantially to climate change mitigation or climate change adaptation and do no significant harm to other environmental objectives" answer 143 for the application of the Taxonomy criteria, the date of the application for a construction permit to determine if the Substantial Contribution Criteria of 7.7.1 or 7.7.2 are applicable</td> <td>YES</td> <td>YES</td> <td>(DATE/FORMAT)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Energy Performance Certificate (EPC)</td> <td>EREC4</td> <td>Energy Performance Certificate (EPC) Class</td> <td>Enter the Energy Performance Class as depicted on the Energy Performance Certificate (EPC) Null Unknown G F E</td> <td>YES</td> <td>YES</td> <td>(ALPHANUM-100)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Energy Performance Certificate (EPC)</td> <td>EREC5</td> <td>Energy Performance Certificate (EPC)</td> <td>Estimated or officially produced Energy Performance Certificate (EPC) Officially produced EPC based on the documentation relative to the specific dwelling obtained with the consent of the property owner or tenant (OPT) Other (OTIR)</td> <td>YES</td> <td>YES</td> <td>(LIST)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Energy Performance Certificate (EPC)</td> <td>EREC6</td> <td>Issuance date of most recent available Energy Performance Certificate (EPC) registration</td> <td>Enter the issuance date of last available Energy Performance Certificate (EPC) registration</td> <td>YES</td> <td>YES</td> <td>(DATE/FORMAT)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Energy Performance Certificate (EPC)</td> <td>EREC7</td> <td>Energy Performance Certificate (EPC) Validity (years)</td> <td>Enter the number of years the EPC is valid for since the registration date. Enter the number of years in integer.</td> <td>YES</td> <td>YES</td> <td>(INTEGER-9999)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Energy Performance Certificate (EPC)</td> <td>EREC8</td> <td>Energy Performance Certificate (EPC) Methodology</td> <td>Enter the name of the calculation method of the Energy Performance Certificate</td> <td>YES</td> <td>YES</td> <td>(ALPHANUM-100)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Energy Performance Certificate (EPC)</td> <td>EREC9</td> <td>Energy Performance Certificate (EPC) Status</td> <td>If applicable in the jurisdiction, the status of the Energy Performance Certificate (EPC) - Building permit (BUPM) - In-use for already existing building (AUBI) - Newly built (NEBU)</td> <td>YES</td> <td>YES</td> <td>(LIST)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Energy Performance Certificate (EPC)</td> <td>EREC10</td> <td>EU-Equivalent Energy Performance Certificate (EPC) Method (EPC) Regime</td> <td>Please select one of the following options - Non-NZEB - NZEB - ZEB - Other</td> <td>YES</td> <td>YES</td> <td>(LIST)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Primary Energy Demand (PED)</td> <td>EREC11</td> <td>Primary Energy Demand (PED) of the building</td> <td>Value of the Primary Energy Demand (PED) for the building as displayed on the Energy Performance Certificate (EPC) This value should be displayed as total primary energy use in kWh/m² per year</td> <td>YES</td> <td>YES</td> <td>(INTEGER-9999)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ENG Annex 2: RRE Add-on</td> <td>Primary Energy Demand (PED)</td> <td>EREC12</td> <td>Primary Energy Demand (PED)</td> <td>Enter, if applicable, one of the following options - Estimated Primary Energy Demand (PED) based on Automated Valuation Model (AVM), desktop or other methodology where there is no verification documentation for the building (ESTM)</td> <td>YES</td> <td>YES</td> <td>(LIST)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	TEMPLATE CATEGORY	SECTION	FIELD CODE	FIELD NAME	CONTENT TO REPORT	NDI-ADT allow	NDS allow	FORMAT	Building block 1: Minimum level of pieces for mortgage	Minimum Safeguard	Section 7.7.1 - EPC class A	Section 7.7.1 - Top 15%	Section 7.7.2 or 7.1 - PED 10% lower NZEB	ENG Annex 2: RRE Add-on	Building Information	EREC2	Construction Year	Construction year of the building or apartment as per floor-catalogue or other relevant documentation	YES	YES	(DATE/FORMAT)						ENG Annex 2: RRE Add-on	Building Information	EREC3	Construction permit application date	As described in "Commission Notice on the interpretation and implementation of certain legal provisions of the EU Taxonomy Climate Delegated Act establishing technical screening criteria for economic activities that contribute substantially to climate change mitigation or climate change adaptation and do no significant harm to other environmental objectives" answer 143 for the application of the Taxonomy criteria, the date of the application for a construction permit to determine if the Substantial Contribution Criteria of 7.7.1 or 7.7.2 are applicable	YES	YES	(DATE/FORMAT)						ENG Annex 2: RRE Add-on	Energy Performance Certificate (EPC)	EREC4	Energy Performance Certificate (EPC) Class	Enter the Energy Performance Class as depicted on the Energy Performance Certificate (EPC) Null Unknown G F E	YES	YES	(ALPHANUM-100)						ENG Annex 2: RRE Add-on	Energy Performance Certificate (EPC)	EREC5	Energy Performance Certificate (EPC)	Estimated or officially produced Energy Performance Certificate (EPC) Officially produced EPC based on the documentation relative to the specific dwelling obtained with the consent of the property owner or tenant (OPT) Other (OTIR)	YES	YES	(LIST)						ENG Annex 2: RRE Add-on	Energy Performance Certificate (EPC)	EREC6	Issuance date of most recent available Energy Performance Certificate (EPC) registration	Enter the issuance date of last available Energy Performance Certificate (EPC) registration	YES	YES	(DATE/FORMAT)						ENG Annex 2: RRE Add-on	Energy Performance Certificate (EPC)	EREC7	Energy Performance Certificate (EPC) Validity (years)	Enter the number of years the EPC is valid for since the registration date. 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Applying the filters, it is possible to check the data fields that are applied to assess the criteria



The ENGAGE Templates References

Section	NACE	Substantial contribution to Climate Change Mitigation of Annex I	Footnote
7.7 Acquisition and ownership of buildings	L68	<p>1. For buildings built before 31 December 2020, the building has at least an Energy Performance Certificate (EPC) class A.</p> <p>As an alternative, the building is within the top 15% of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings.</p> <p>2. For buildings built after 31 December 2020, the building meets the criteria specified in Section 7.1 of this Annex that are relevant at the time of the acquisition.</p>	Not Applicable

7.7.1 – EPC of Class A

7.7.1.A – Top-15%

7.7.2 – 10% Criterium of SCC 7.1

In this version of the template, we focussed on the Substantial Contribution Criteria that are relevant for energy efficient buildings – both existing and new buildings. As we follow a phased approach, we deemed it most appropriate to begin here, with economic activity 7.7 as:

- (existing) real estate tends to be the largest part of the balance sheet of European lending institutions.
- The whole (current) balance of the loan can be attributed towards Taxonomy Alignment or the Green Asset Ratio (GAR) if the TSC are met.
- These criteria are *relatively* straightforward to apply contrary to more challenging criteria such as the TSC for renovation loans and DNSH criteria.
- In addition, it is important that the criteria for new properties can be directly applied to identify and fund energy efficient new constructions.

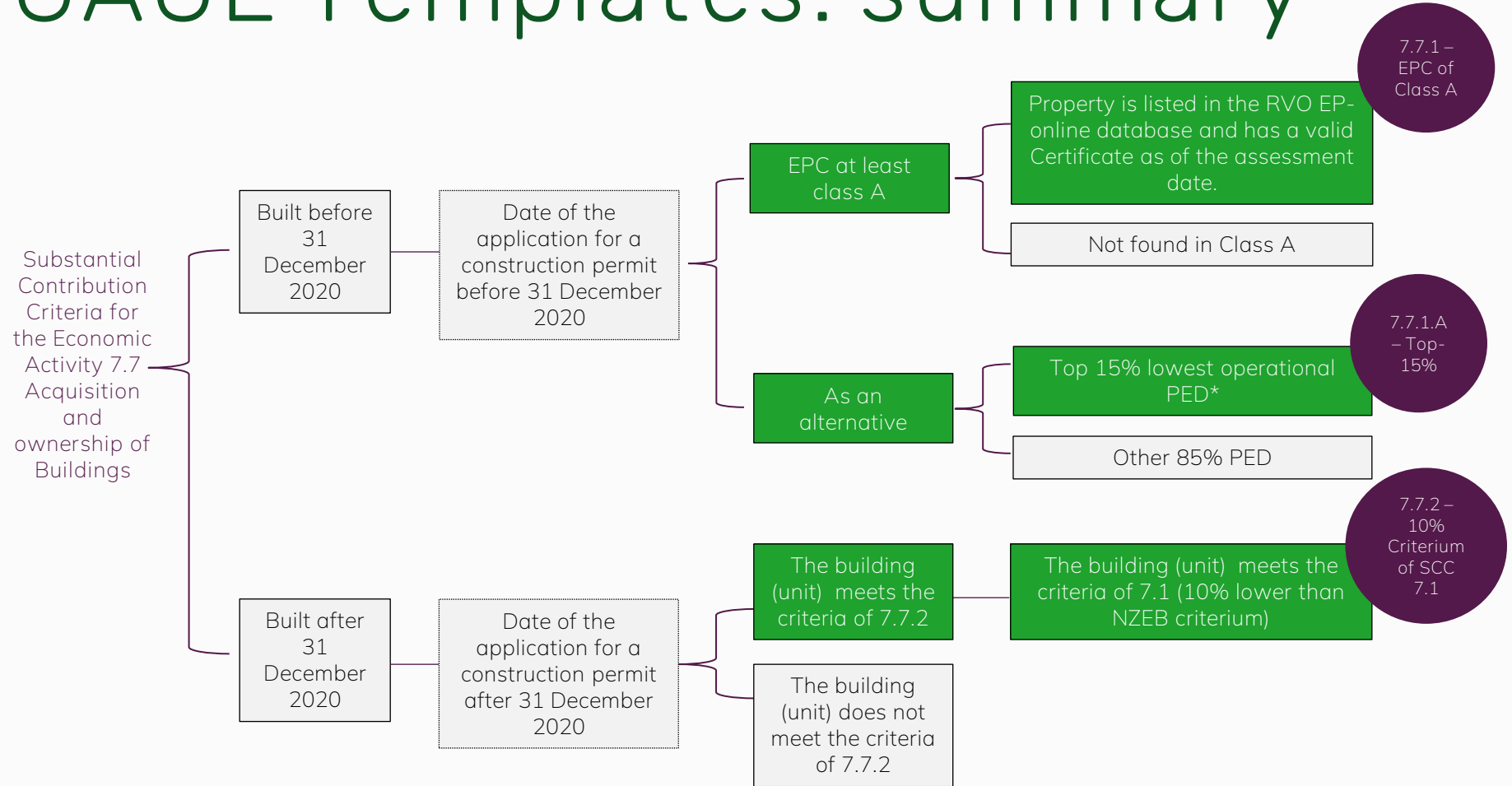
We have divided activity 7.7 into 3 subsections



The ENGAGE Templates: summary

When developing version 1.0 of the ENGAGE Templates, the ENGAGE consortium has considered:

- ✓ The ENGAGE Templates are an add-on to existing market best practices
- ✓ ENGAGE Templates are scalable. Meaning that if in the first phase the focus is on the EU Taxonomy, other elements can be incorporated at a later timeframe.
- ✓ Continuous improvement and innovation: The framework is designed to facilitate continuous improvement and innovation. This includes mechanisms for gathering and incorporating user feedback, as well as staying up-to-date with technological advancements and industry best practices.



The EU Taxonomy is the common denominator of many sustainable finance regulations



ENGAGE Templates: Substantial Contribution Criteria 7.7.1 – EPC Class A

Section	NACE	Substantial contribution to Climate Change Mitigation of Annex I	Footnote
7.7 Acquisition and ownership of buildings	L68	1. For buildings built before 31 December 2020, the building has at least an Energy Performance Certificate (EPC) class A.	Not Applicable

Interpretation:

- At the reporting or assessment date the EPC of the building unit should be of Class A.
- The application date of the construction permit is needed to assess if the building is built before 31 December 2020.
- An EPC of Class A is needed (A, A+, A++, A+++, A++++ also satisfies this condition).
- A certificate should be present with a valid validity date, as of the assessment date, irrespective of the methodology.



Field Code	Field Name
RREL1	Unique Identifier
RREL3	New Underlying Exposure Identifier
RREL5	New Obligor Identifier
RREL6	Data Cut-Off Date
RREL30	Current Principal Balance
EREC1	General Activity Designation
EREC2	Construction Year
EREC3	Construction permit application date
EREC4	Energy Performance Certificate (EPC) Class
EREC5	Estimated or officially produced Energy Performance Certificate (EPC)
EREC6	Issuance date of most recent available Energy Performance Certificate (EPC) registration
EREC7	Energy Performance Certificate (EPC) Validity Length

Key considerations:

- The application date of the construction permit is needed to assess if the building is built before 31 December 2020. For some it is clear that the building was built before 31 December 2020.
- Note Answer 104 of the Q&A: EPC methodologies differ per country or sometimes within a country. Some jurisdictions use energy demand instead of energy consumption. As long as it is an official EPC, this does not matter.



ENGAGE Templates: Substantial Contribution Criteria 7.7.1 Alternative (top-15%)

Section	NACE	Substantial contribution to Climate Change Mitigation of Annex I	Footnote
7.7 Acquisition and ownership of buildings	L68	As an alternative, the building is within the top 15% of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings.	Not Applicable

Key considerations:

- The application date of the construction permit is needed to assess if the building is built before 31 December 2020.
- There are a range of varying estimation techniques available to perform a top-15% study.
- We have facilitated flexibility of the method in the ENGAGE Templates and we have emphasised the message of the European Commission in the Q&A that the methodology should be public and transparent.
- Therefore, we have incorporated the numerator and denominator that is used in the top-15% assessment and some background information in the ENGAGE Templates, so that stakeholders can understand the methodology and study that is applied.



Field Code	Field Name
RREL1	Unique Identifier
RREL3	New Underlying Exposure Identifier
RREL5	New Obligor Identifier
RREL6	Data Cut-Off Date
RREL30	Current Principal Balance
EREC1	General Activity Designation
EREC2	Construction Year
EREC3	Construction permit application date
EREC18	Building unit in top-15% indicator
EREC19	Top15_Explanatory Variable
EREC20	Top15_Object Reference Value
EREC21	Top15_Object Threshold Value
EGFF1	Top15_Document Name
EGFF2	Top15_Document Issuance Date
EGFF3	Top15_Document URL
EGFF4	Top15 Document Geographic Scope
EGFF5	Top15 Numerator
EGFF6	Top15 Denominator
EGFF7	Top15 Methodology Description



ENGAGE Templates: Substantial Contribution Criteria 7.7.2

10% Criterium (1/2)

Section	NACE	Substantial contribution to Climate Change Mitigation of Annex I	Footnote
7.7 Acquisition and ownership of buildings	L68	2. For buildings built after 31 December 2020, the building meets the criteria specified in Section 7.1 of this Annex that are relevant at the time of the acquisition.	Not Applicable



Section	NACE	Substantial contribution to Climate Change Mitigation of Annex I	Footnote
7.1 Construction of New Buildings	F41.1, F41.2, F43	Constructions of new buildings for which: The Primary Energy Demand (PED) ²⁸² , defining the energy performance of the building resulting from the construction, is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council ²⁸³ . The energy performance is certified using an as built Energy Performance Certificate (EPC).	²⁸² : The calculated amount of energy needed to meet the energy demand associated with the typical uses of a building expressed by a numeric indicator of total primary energy use in kWh/m ² per year and based on the relevant national calculation methodology and as displayed on the Energy Performance Certificate (EPC). ²⁸³ : Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (OJ L 153, 18.6.2010, p. 13).

Interpretation:

- The EU Taxonomy requires building units with a construction permit application date after 31 December 2020 to be built according to the NZEB criteria and the PED should be 10% less than the locally applicable threshold value.
- As of 31 December 2020, NZEB should be implemented in the EU according to the Energy Performance of Buildings Directive (EPBD III). As part of this Directive, the PED should be recorded and displayed on the EPC.



ENGAGE Templates: Substantial Contribution Criteria 7.7.2

10% Criterium (2/2)

Section	NACE	Substantial contribution to Climate Change Mitigation of Annex I	Footnote
7.1 Construction of New Buildings	F41.1, F41.2, F43	<p>Constructions of new buildings for which:</p> <p>The Primary Energy Demand (PED)²⁸², defining the energy performance of the building resulting from the construction, is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council²⁸³. The energy performance is certified using an as built Energy Performance Certificate (EPC).</p>	<p>²⁸²: The calculated amount of energy needed to meet the energy demand associated with the typical uses of a building expressed by a numeric indicator of total primary energy use in kWh/m² per year and based on the relevant national calculation methodology and as displayed on the Energy Performance Certificate (EPC).</p> <p>²⁸³: Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (OJ L 153, 18.6.2010, p. 13).</p>

Key considerations:

- The application date of the construction permit is needed to assess if the building is built after 31 December 2020, see answer 106 of the Q&A.
- Assess if NZEB is incorporated in the jurisdiction. Also see answer 105 of the Q&A.
- Answer 109 of the Q&A states: “For the energy threshold, this depends on national regulations, i.e. if the EPC applies to the whole building, or to each apartment. Whichever is the requirement at national level, it should apply for both residential and non-residential buildings. The correct EPC will be provided in any case, in line with the national regulations. For identical apartments, having normally identical EPCs, a limited sub-set can be used. However, if there are different types of apartments, with different EPCs, all types need to be checked.”
- Answer 114 of the Q&A states that the TSC applicable at the time of the building permit should be used (i.e. the date of the complete application for receiving the building permit).
- Answer 115 of the Q&A states that for new buildings, either an EPC (valid for 10 years) or an EPC as-built are valid.



Field Code	Field Name
RREL1	Unique Identifier
RREL3	New Underlying Exposure Identifier
RREL5	New Obligor Identifier
RREL6	Data Cut-Off Date
RREL30	Current Principal Balance
EREC1	General Activity Designation
EREC2	Construction Year
EREC3	Construction permit application date
EREC5	Estimated or officially produced Energy Performance Certificate (EPC)
EREC6	Issuance date of most recent available Energy Performance Certificate (EPC) registration
EREC7	Energy Performance Certificate (EPC) Validity Length
EREC8	Energy Performance Certificate (EPC) Methodology
EREC10	EU-Equivalent Energy Performance Certificate (EPC) Method / EPBD-Regime
EREC11	Primary Energy Demand (PED) of the building
EREC12	Estimated or officially produced Primary Energy Demand (PED)
EREC15	Nearly zero-energy building (NZEB) threshold



ENGAGE Templates: SCC 7.7.2 - 10% Criterium

Section	NACE	Substantial contribution to Climate Change Mitigation of Annex I	Footnote
7.1 Construction of New Buildings	F41.1, F41.2, F43	<p>Constructions of new buildings for which:</p> <p>The Primary Energy Demand (PED)²⁸², defining the energy performance of the building resulting from the construction, is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council²⁸³. The energy performance is certified using an as built Energy Performance Certificate (EPC).</p>	<p>²⁸²: The calculated amount of energy needed to meet the energy demand associated with the typical uses of a building expressed by a numeric indicator of total primary energy use in kWh/m² per year and based on the relevant national calculation methodology and as displayed on the Energy Performance Certificate (EPC).</p> <p>²⁸³: Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (OJ L 153, 18.6.2010, p. 13).</p>

Key considerations:

- The application date of the construction permit is needed to assess if the building is built after 31 December 2020, see answer 106 of the Q&A.
- Assess if NZEB is incorporated in the jurisdiction. Also see answer 105 of the Q&A.
- Answer 109 of the Q&A states: *“For the energy threshold, this depends on national regulations, i.e. if the EPC applies to the whole building, or to each apartment. Whichever is the requirement at national level, it should apply for both residential and non-residential buildings. The correct EPC will be provided in any case, in line with the national regulations. For identical apartments, having normally identical EPCs, a limited sub-set can be used. However, if there are different types of apartments, with different EPCs, all types need to be checked.”*
- Answer 114 of the Q&A states: *“The TSC applicable at the time of the building permit should be used (i.e. the date of the complete application for receiving the building permit).”*
- Answer 115 of the Q&A states: *“For new buildings, either an EPC (valid for 10 years) or an EPC as-built are valid.*



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EREC11	Primary Energy Demand (PED) of the building
EREC12	Estimated or officially produced Primary Energy Demand (PED)
EREC15	Nearly zero-energy building (NZEB) threshold
EGFF10	Environmental Objective



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UPDATE ON CLIMATE DISCLOSURE FOR SECURITISATION

Box 3 – Climate change risk disclosure for securitisation

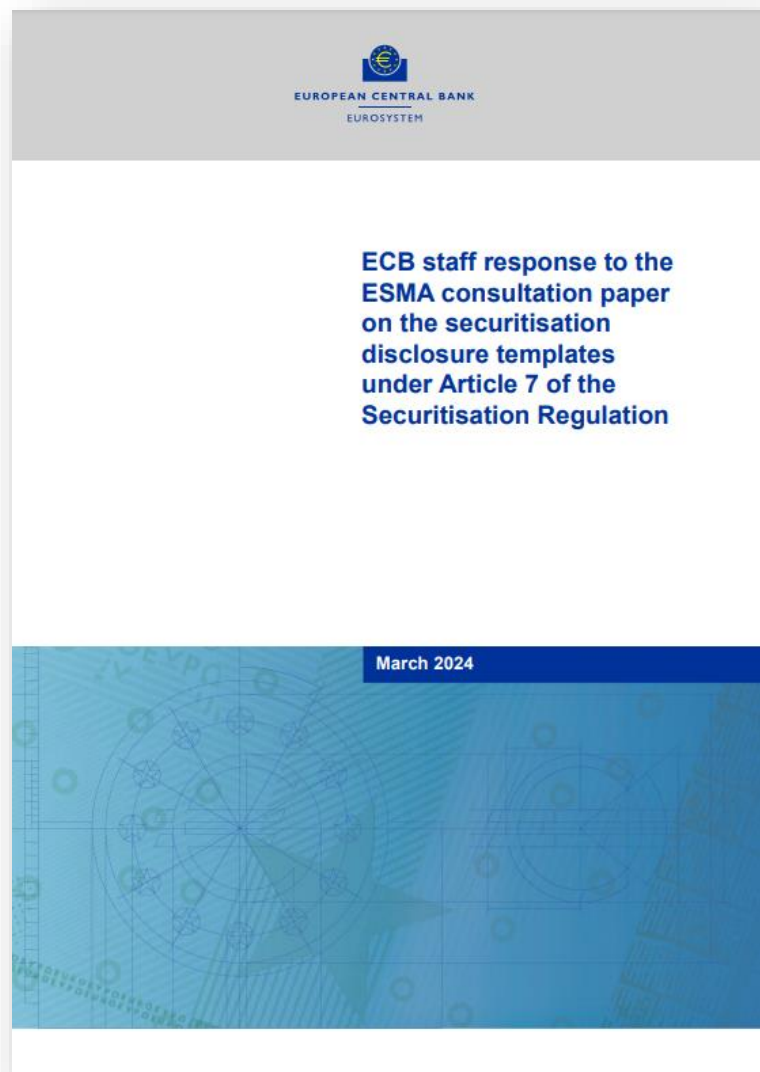
In March 2023, the ECB and the ESAs issued a joint statement¹⁵ on disclosure on climate change for structured finance products, in line with the authorities' commitment to contribute to the transition towards a more sustainable economy based on their respective mandates. The statement notes that structured finance products currently fall outside the scope of the most recent ESG disclosure standards, although some types of underlying assets contribute in a non-negligible extent to GHG-emissions. Consequently, there is a potential need to align the securitisation disclosure framework with the evolving standards in sustainability disclosure. This CP, therefore, presents an opportunity to engage with market stakeholders to explore the feasibility of integrating climate-related metrics, evaluating their associated advantages and costs.

Based on the results of this consultation, ESMA will explore the possibility of incorporating climate-related metrics into the disclosure framework. This holds true regardless of whether the overall outcome of the consultation leans toward streamlining or enriching the disclosure templates. This approach underscores ESMA's commitment to providing investors and other stakeholders with valuable insights into emerging risks associated with securitisation products, including climate-related risks.

- Structured finance products are outside the scope of the most recent ESG disclosure standards.
- In its Consultation Paper, ESMA commits to exploring the possibility of incorporating climate-related metrics into the disclosure framework.
- Of particular relevance is the physical risk associated with the collateral.
- Most exposed to climate change risk are real estate, corporates, and cars.

Source: ESMA Consultation Paper on the Securitisation Disclosure Templates

UPDATE ON CLIMATE DISCLOSURE FOR SECURITISATION



The ECB proposes a set of metrics that align with other EU regulatory criteria, such as the EU taxonomy or SFDR disclosure requirements, with the aim of harmonising the reporting burden for originators.

1. Primary energy demand (kWh/m² per year)
2. Issuance date of the EPC
3. Information on tailpipe emissions for vehicles (gCO₂/km)
4. Annual primary energy consumption of properties
5. Taxonomy metrics and scope 1, 2 and 3 emissions
6. Transaction-level information for green ABS

GREEN AUTO SECURITISATION (GAS)

Goal: Promotion of a 'green' auto ABS market

SPONSORED BY THE



Federal Ministry
of Education
and Research



FOCUS

- securitisation of green auto loans and leases

RELEVANCE

- a green finance mechanism is needed to incentivize purchase of low-emission vehicles via captive and non-captive banks

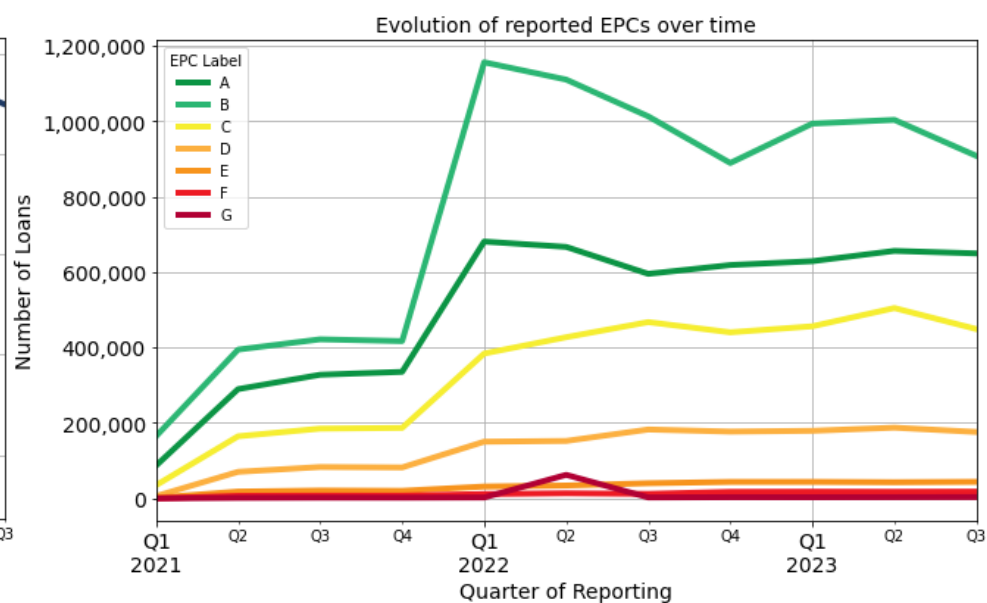
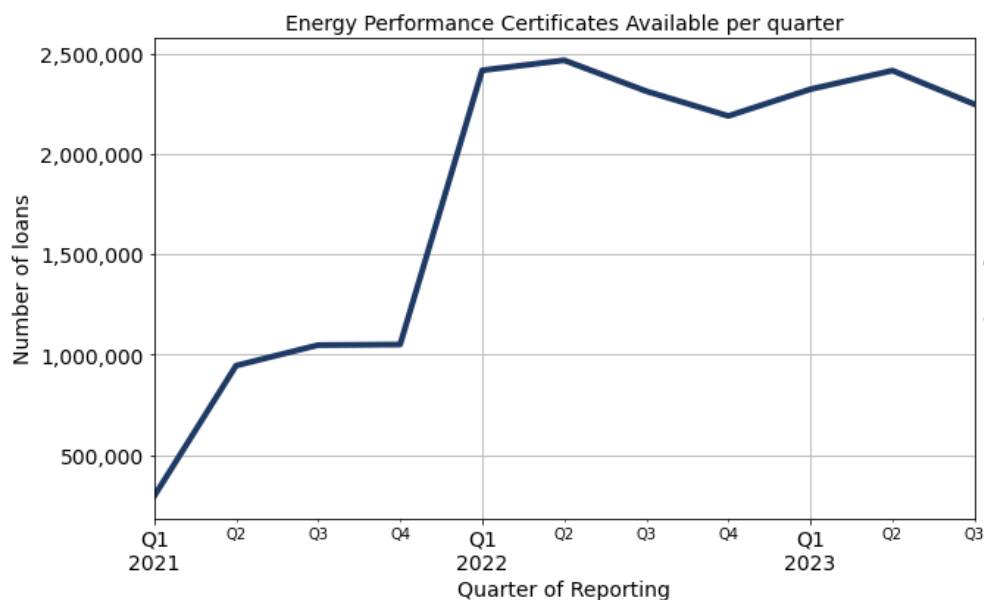
CHALLENGES

- ESG information disclosure requirements are underdeveloped for green securitisation products
- lack of harmonization due to ongoing regulatory framework discussions
- data availability issues

AVAILABLE ENERGY PERFORMANCE CERTIFICATES IN EDW

The percentage of auto loans and leases with a valid EPC is increasing

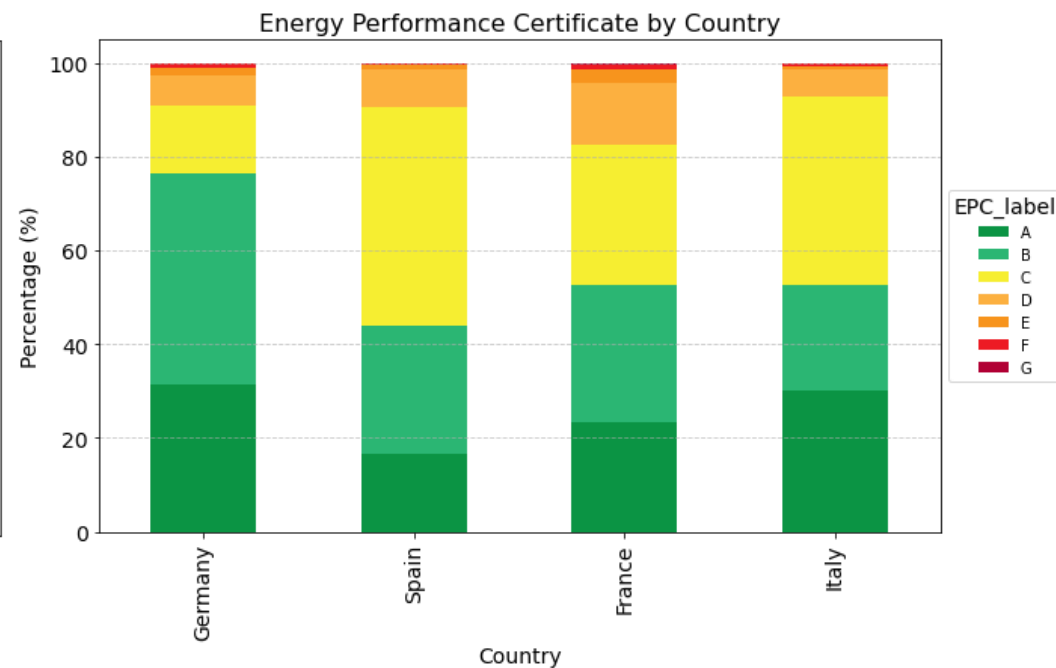
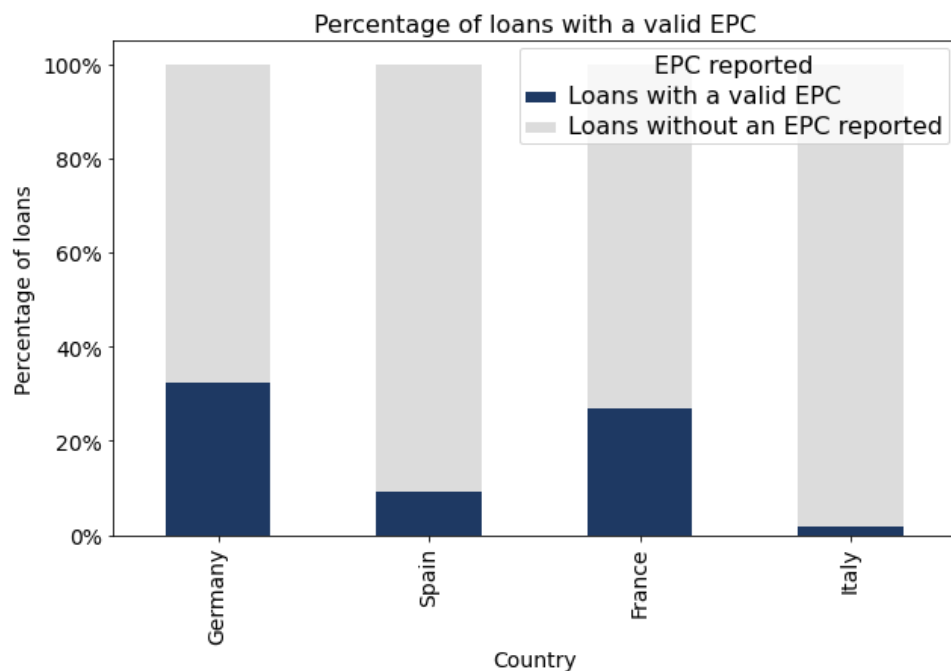
- The percentage of auto loans and leases with a valid EPC is steadily increasing over time - reaching 2.3 million in Q3 2023.
- The increasing trend is driven by cars with better EPC.
- We noticed an increasing trend from issuers to disclose EPC information and from investors to ask for sustainability related data.



Source: EDW data

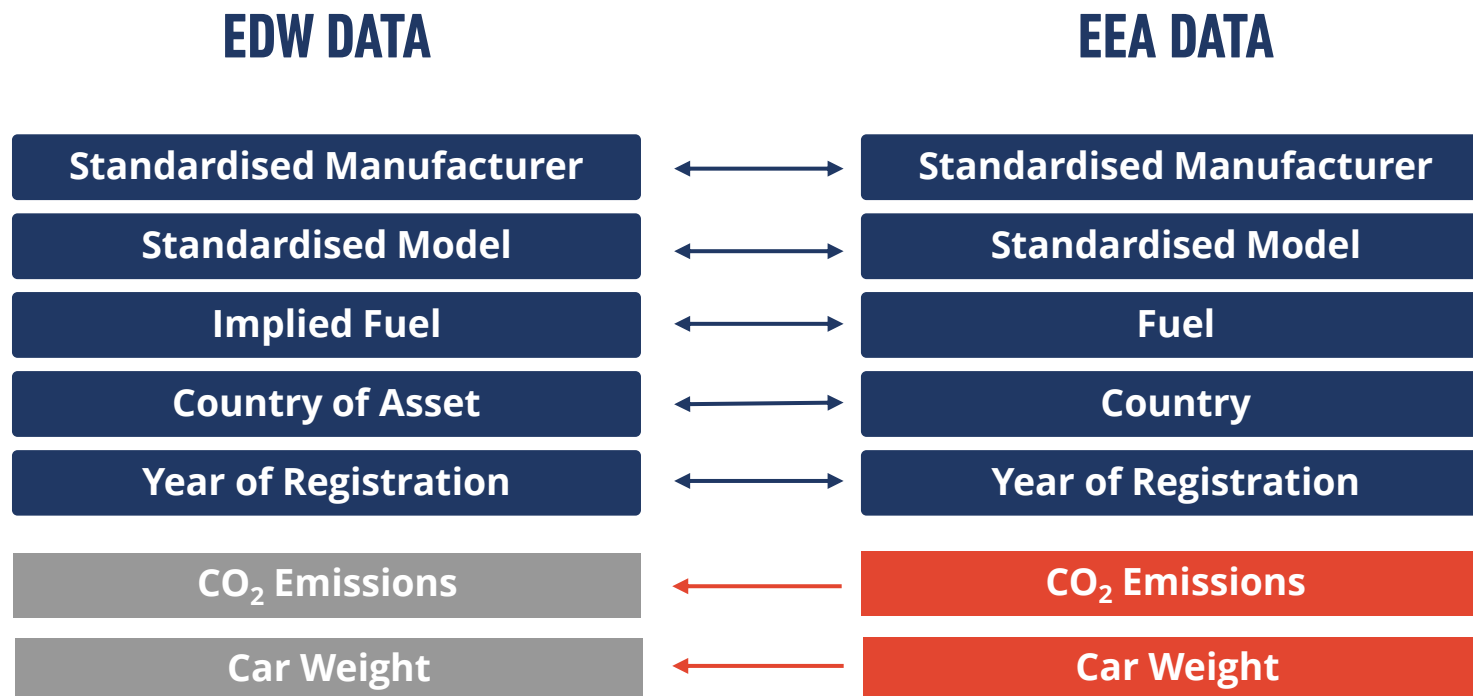
ENERGY PERFORMANCE CERTIFICATES ACROSS COUNTRIES

Germany has the highest amount of Energy Performance Certificates outstanding as of Q3 2023



ESTIMATING CO2 EMISSIONS FOR CAR LOANS/LEASES IN EDW DATA

Matching EDW data with European Environment Agency (EEA) data



Assumptions

- If fuel cannot be implied using available info, the average CO2 emissions of Petrol + Diesel cars for the manufacturer, model, year, and country are used
- For cases where only NEDC standard emissions are available, a factor of 1.2 is used to convert NEDC emissions to estimated WLTP emissions

DATA ENRICHMENT FOR AUTO LOAN PORTFOLIOS

EDW is working with selected partners to enrich their auto loan portfolio with CO2 emission estimates

Original Data	
Manufacturer	Model
TOYOTA	C-HR 1.8 HYBRID LOUNGE MY20
TOYOTA	C-HR 1.8 HYBRID 122CV ACT MY21
TOYOTA	COROLLA 1.8 H STYLE MY19
TOYOTA	COROLLA 1.8 H ACTIVE MY19

Adjusted Data			
Manufacturer	Model	Fuel type	Year of manufacture
TOYOTA	C-HR	Hybrid	2020
			2021
	COROLLA	-	2019

Enriched information
Co2 Emissions
87 g/km
87 g/km
110 g/km
110 g/km

- The algorithm allows for manufacturer and model standardisation
- Relevant information (such as CO2 emissions) are estimated based on manufacturer, model, and year of manufacture
- NB: estimates cannot be used for ESMA reporting purposes as per the Q&A published in February 2023

CO₂ emissions from new passenger cars

CO2 emissions from new passenger cars registered in EU27, Iceland (from 2018) and Norway (from 2019) – Regulation (EU) 2019/631.

Data table explorer | Dashboard

Search term

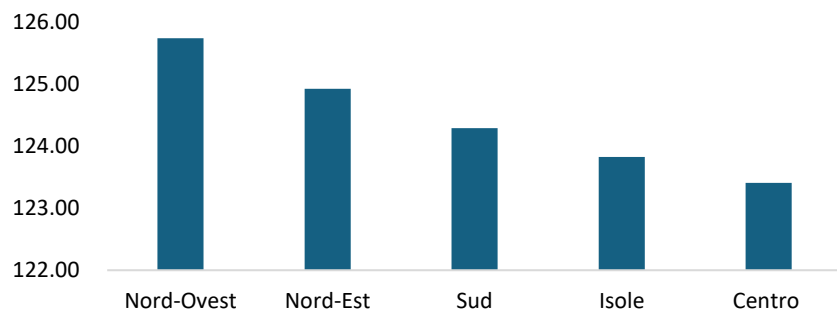
Current filters applied: 4 [Reset filters](#)

Status: Provisional | Registration year: 2021 | Manufacturer name(Match: any): TOYOTA | Commercial name(Match: any): C-HR

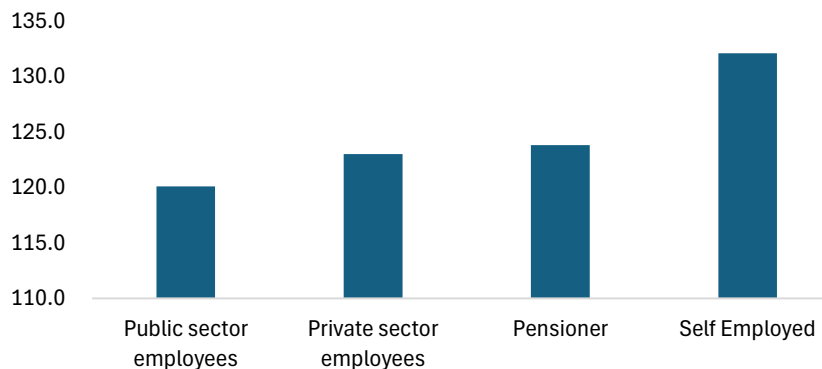
ID	Country	Vehicle family identification...	Pool	Manufacturer name (EU st...	Manufacturer name (OEM ...	Manufacturer name (MS F...	Type approval number	Type	Variant	Version	Make	Commercial name
57576220	MT	IP-0098-JT1-1	MAZDA-SUBARU-SUZUKI-TOYOTA	TOYOTA	TOYOTA MOTOR EUROPE NV SA		E6*2007/46*0338*02	AX1T	ZYX11	ZYX11RAHXKBW	TOYOTA	C-HR
57576280	MT	IP-0098-JT1-1	MAZDA-SUBARU-SUZUKI-TOYOTA	TOYOTA	TOYOTA MOTOR EUROPE NV SA		E6*2007/46*0338*02	AX1T(EU,M)	ZYX11(H)	ZYX11R-AHXXKBW(2E)	TOYOTA	C-HR

AVERAGE EMISSIONS BY AREA AND CITY - ITALY

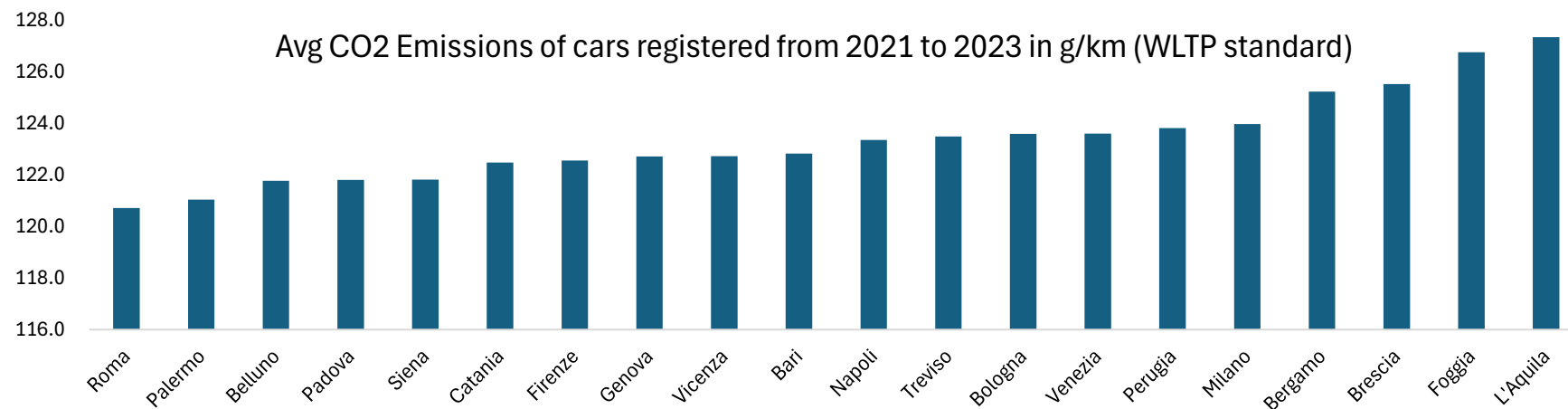
Avg. Co2 emissions by area - Italy - Wltp standards



Co2 emissions by employment type



Avg CO2 Emissions of cars registered from 2021 to 2023 in g/km (WLTP standard)



THE LATEST DEVELOPMENTS IN STS AND SYNTHETIC SECURITISATIONS

MICHAEL OSSWALD, STS VERIFICATION INTERNATIONAL



THE STS VERIFICATION PROCESS
– THE STRUCTURED PATH TO
YOUR SUCCESS.

Latest Developments on STS Securitisations

Michael Osswald

STS Verification International GmbH ("SVI")

European DataWarehouse Italian Workshop, 9 April 2024 (Milano)



THE STS MARKET SEGMENT AND THE ROLE OF THE THIRD-PARTY VERIFIER

Simple, Transparent & Standardised (“STS”) Securitisations

- As part of the European securitization framework, the STS regime has been established in 2019 as a first-class capital market segment with strict and uniform regulation
- The STS label offers access to the widest investor base possible
- Market standard for public securitization, widely used by private securitisations
- STS reduces the capital requirements for investors and originators (for retained senior tranches in synthetic transactions)

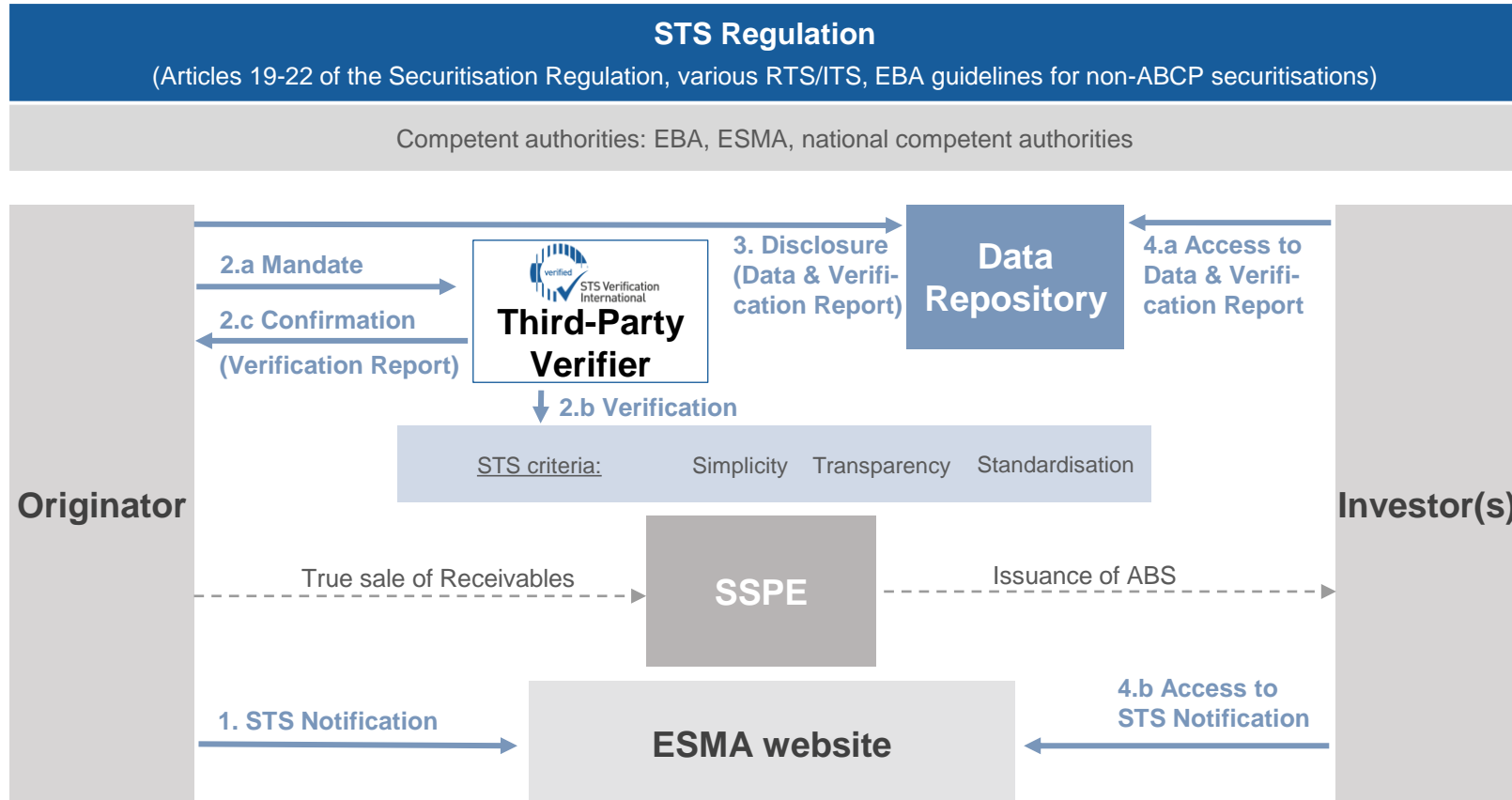


The Role of the Third-Party Verifier (“TPV”)

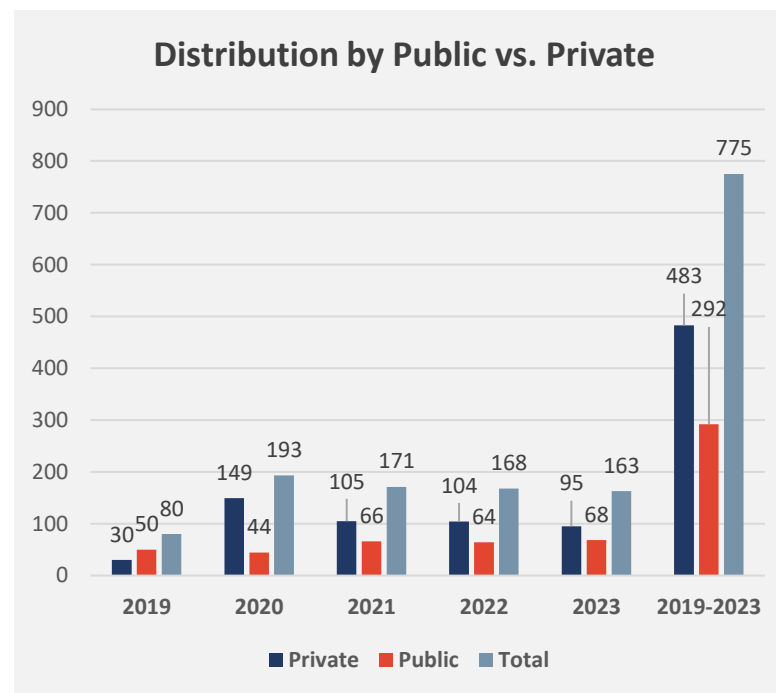
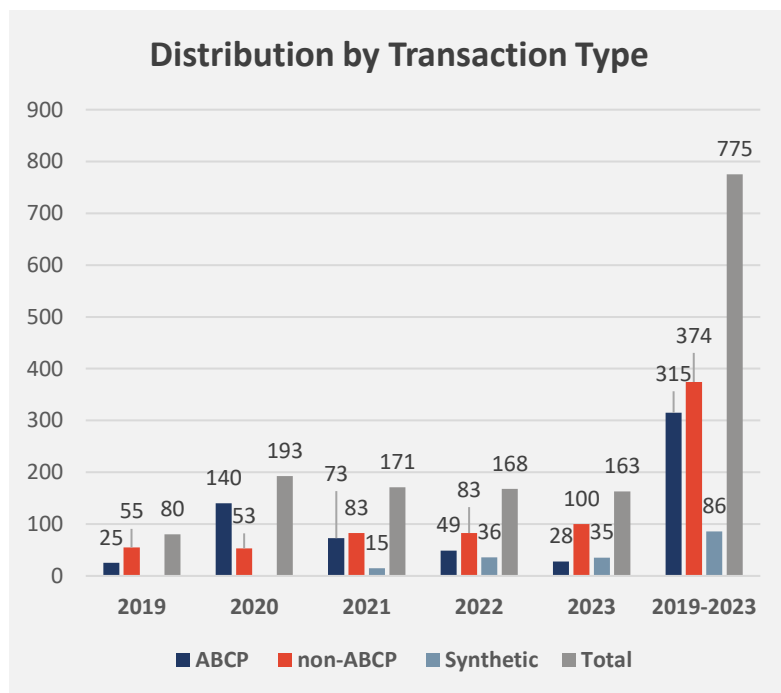


- A Third-Party Verifier can be appointed by the originator, the sponsor or the SSPE to assess, and, where applicable, verify compliance of a securitisation with the STS criteria
- The TPV ensures appropriate interpretation and consistent application of the STS criteria (incl. RTS/ITS and guidelines) during the structuring phase, thereby reducing liability risk for the transaction parties
- The TPV acts as first point of contact for questions and coordinated approach to the competent supervisory authorities

STS NOTIFICATION AND STS VERIFICATION (EXAMPLE OF NON-ABCP SECURITISATIONS)



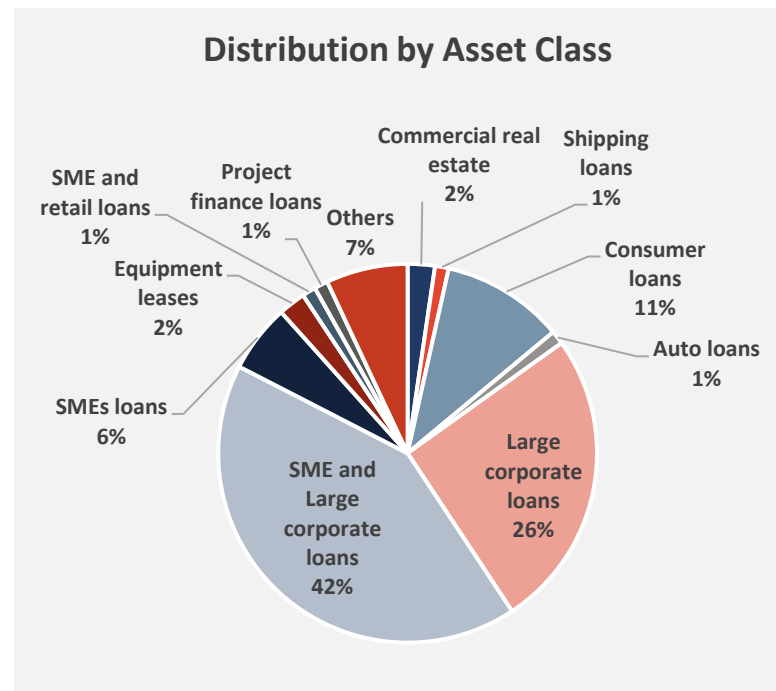
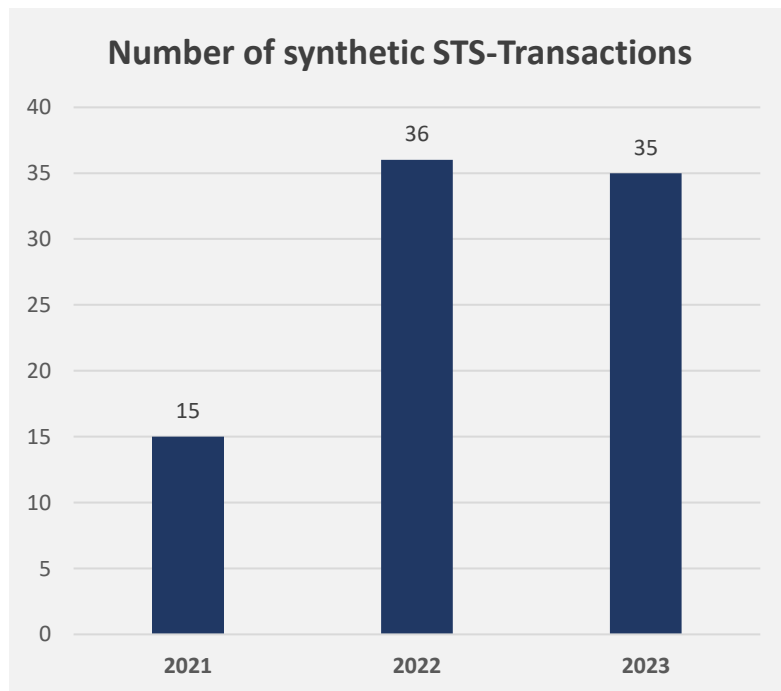
DEVELOPMENT OF THE MARKET FOR STS TRANSACTIONS (2019 - 2023)



*Period 1.1.2019 – 31.12.2023; Source: ESMA Website 12.01.2024, SVI

- Currently 775 securitisations have been notified as STS-compliant (374 non-ABCP vs. 315 ABCP vs. 86 Synthetic, 292 public vs. 483 private transactions)
- STS-compliant transactions can be notified to ESMA as either “public” or “private” transactions, with resulting vastly different level of disclosure

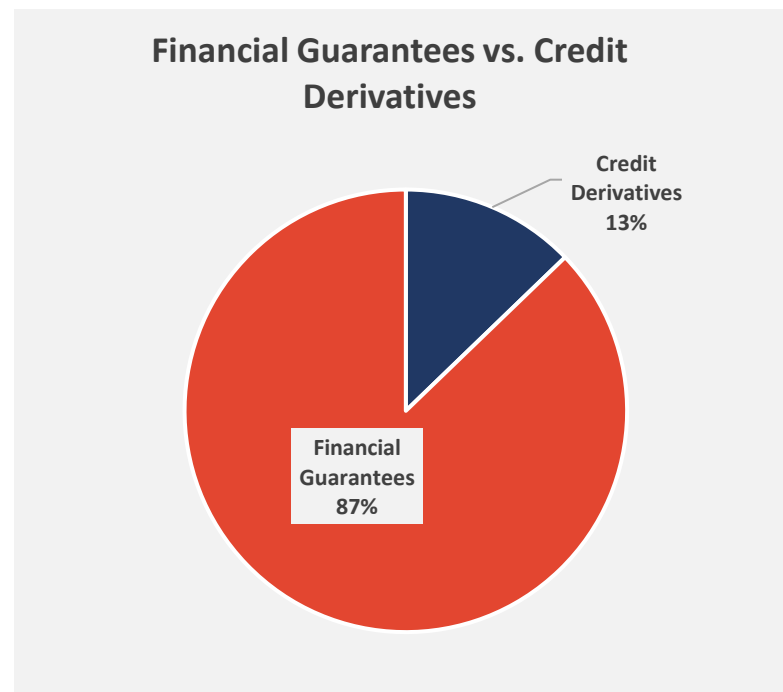
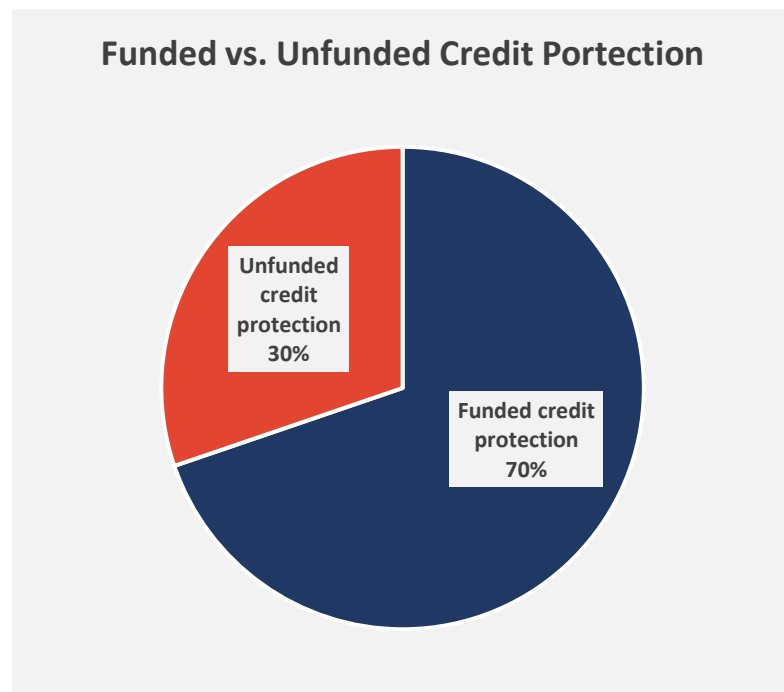
OVERVIEW ON THE MARKET FOR STS ON-BALANCE-SHEET TRANSACTIONS (2021 - 2023)



*Period 6.4.2021 – 31.12.2023; Source: ESMA Website 12.01.2024, SVI

- While April 2021 marked the start of the market for synthetic STS transactions, the two following years have seen a robust development of the market which continues in 2024 YTD
- Large Corporate loan portfolios and mixed portfolios of SMEs and Large Corporate loans are the predominant asset classes for STS on-balance-sheet transactions

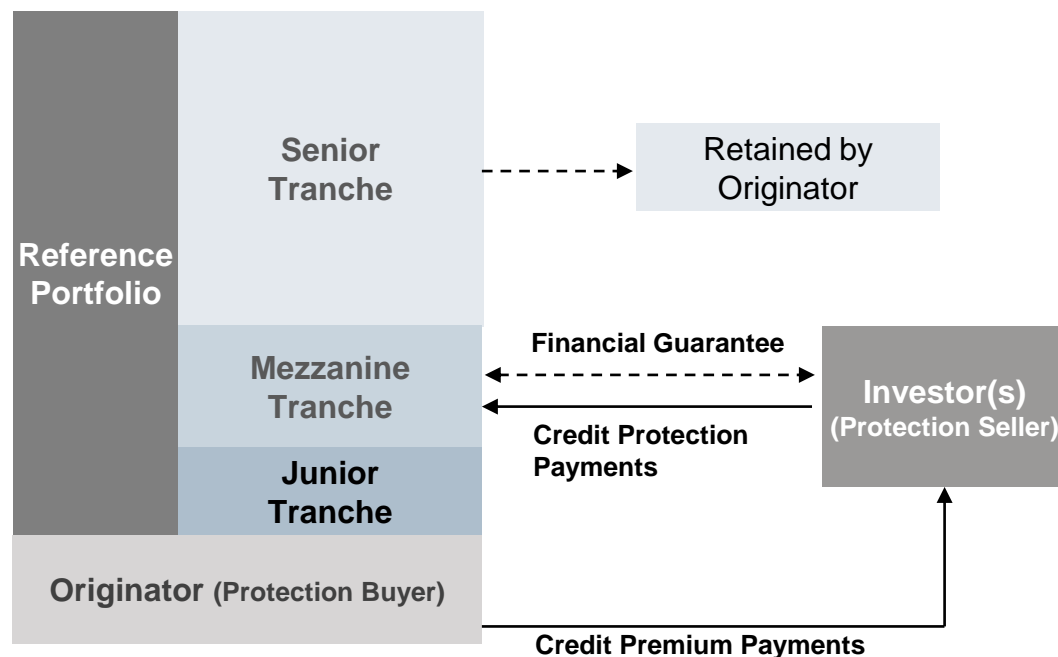
OVERVIEW ON THE MARKET FOR STS ON-BALANCE-SHEET TRANSACTIONS (2021 - 2023) (CONTINUED)



*Period 6.4.2021 – 31.12.2023; Source: ESMA Website 12.01.2024, SVI

- 70% of STS on-balance-sheet transactions have a funded credit protection, the remainder being unfunded transactions with a 0% risk weighted counterparty as investor (EIF, EBRD, IFC)
- Financial Guarantees are the common tool for the risk transfer in STS on-balance-sheet transactions compared to Credit Derivatives (which include CLNs issued directly by the bank)

STS FOR SYNTHETIC SECURITISATIONS – MAIN STRUCTURES - UNFUNDED



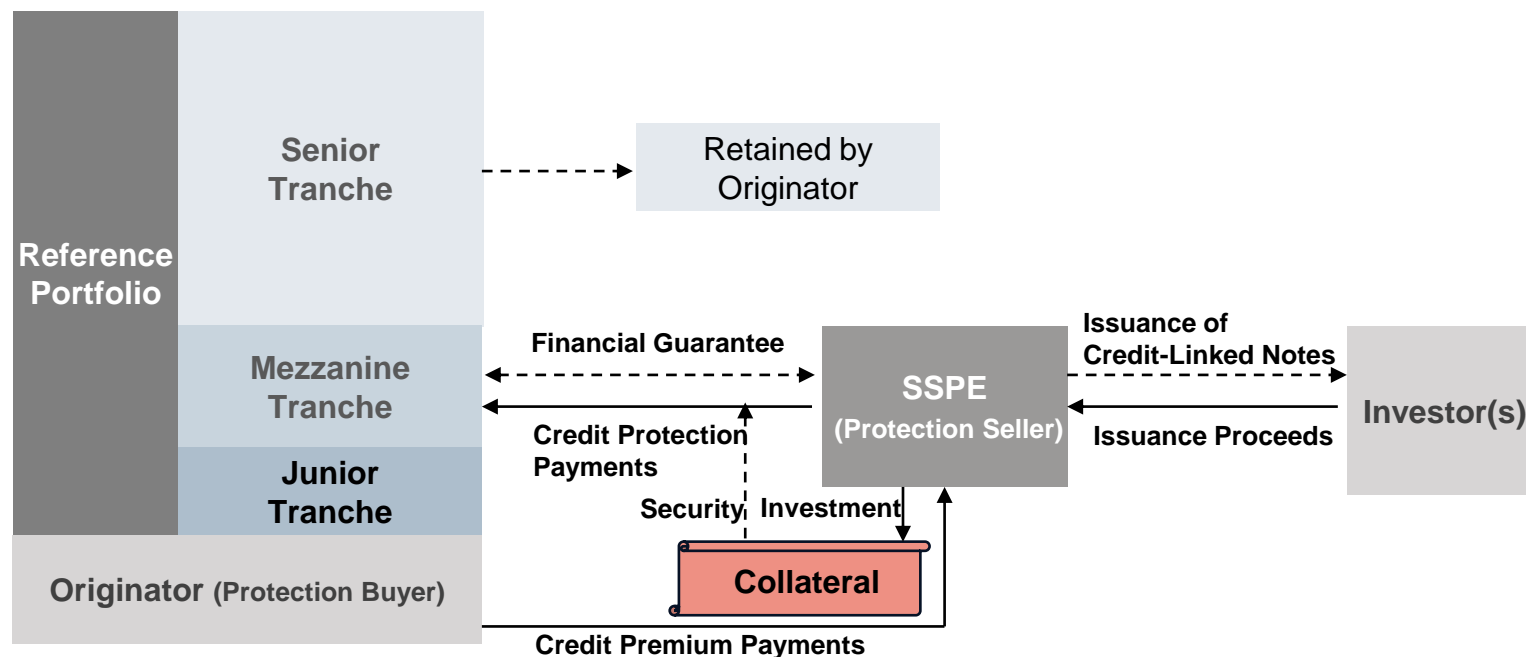
■ Protection Seller

- Must be 0% risk weighted counterparty
- Usually one of the multilateral development banks (EIF, EBRD, IFC, etc.)

■ Collateral

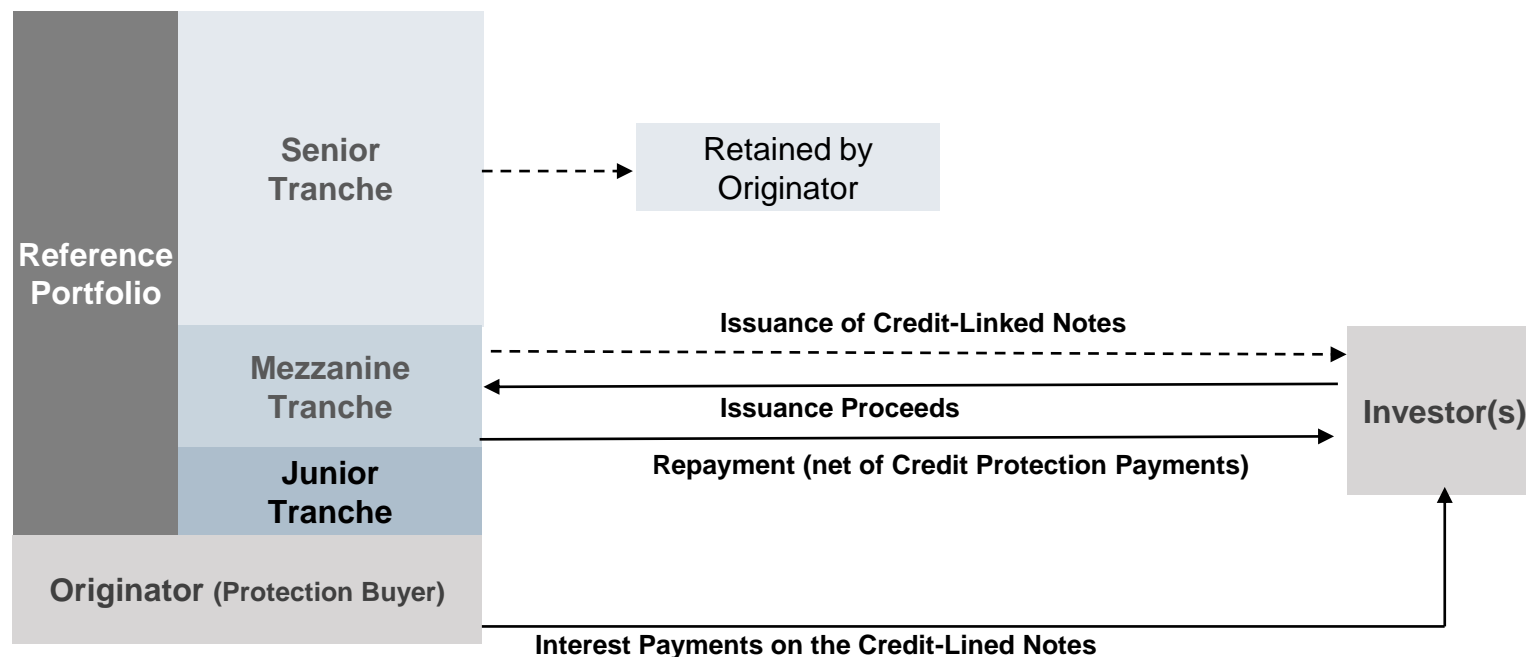
- No Collateral requirements under STS

STS FOR SYNTHETIC SECURITISATIONS – MAIN STRUCTURES – FUNDED WITH SSPE



- **Collateral** in the form of
 - 0% risk weighted debt securities
 - Cash on deposit (at Originator if min. CQS 2; at third-party bank if min. CQS 3)
- **Investors**
 - Usually private investors

STS FOR SYNTHETIC SECURITISATIONS – MAIN STRUCTURES – DIRECT ISSUANCE OF CLNs



■ Structure

- Direct issuance of Credit-Linked Notes by the Originator
- The Terms & Conditions include provisions to allocate losses on the protected tranche(s) to the Credit-Linked Noteholders

■ Collateral

- No Collateral requirements under STS

STATUS QUO OF THE REGULATORY FRAMEWORK FOR STS SECURITISATIONS

Pieces of level 2 and level 3 legislation that apply directly or indirectly to STS securitisations:



- ✓ ■ **RTS on performance-related triggers**
 - Published on 22 March 2024 in the European Journal, effective from 11 April 2024
- ✗ ■ **RTS on exposure value of synthetic excess spread**
 - Final draft dated 24 April 2023
- ✗ ■ **EBA Guidelines on synthetic on-balance securitisations**
 - Consultation paper dated 21 April 2023, followed by extensive consultation between ESAs and market participants during summer 2023 (finalised guidelines expected for Q2 2024)
- ✓ ■ **RTS on the homogeneity of STS securitisations**
 - Published on 15 February 2024 in the European Journal, effective from 6 March 2024
- ✗ ■ **RTS on disclosure templates**
 - ESMA has been asked to improve the functioning of the transparency requirements
 - Consultation paper dated 21 Dec 2023, with consultation open until 15 March 2024
- ✓ ■ **RTS on STS securitisations-related sustainability disclosures**
 - Published by the European Commission on 5 March 2024, but not yet published in the European Journal

STATE OF PLAY FOR SUSTAINABLE SECURITISATIONS

■ Initial Securitisation Regulation (as of 12 Dec 2017):

- Article 22 (4) SECR: Requirement for the originator to publish „**environmental performance data** of the assets financed by residential mortgage loans and auto loans & leases as part of the transparency requirements for non-ABCP, provided that such information is available to the originator and captured in its IT systems
- Reporting of energy performance certificate values for vehicles and buildings, respectively
- Expanded also to synthetic securitisations, see Article 26d (4) SECR

■ Amended Securitisation Regulation (as of 31 March 2021):

- Article 22 (4) and 26d (4) SECR: Option for the originator to „**publish the available information related to the principal adverse impacts of the assets financed by underlying exposures on sustainability factors.**“
- Main benefit: alignment with the sustainability-related disclosures in financial services under the Sustainable Finance Disclosure Regulation („SFDR“)
- Publishing of certain climate and other environmental indicators:
 - RMBS: Share of underlying exposures secured by energy-inefficient real estate assets, greenhouse gas emissions generated by real estate assets, share of real estate assets not having waste sorting and waste recycling facilities etc.
 - Auto ABS: Share of underlying exposures secured by vehicles that exceed a certain CO2 emission level, are non-compliant with Euro 6 emission limits, have a low recyclability percentage or have a low battery recycling rate
- Publishing of one or more social, human rights, anti-corruption and anti-bribery indicators



STATE OF PLAY FOR SUSTAINABLE SECURITISATIONS

(CONTINUED)

■ European Green Bond Standard (EuGB) (as of 20 Dec 2023, applicable from Dec 2024):

- Securitisation bonds are eligible for the EuGB, provided that a prospectus has been published
- Use of proceeds approach at the level of the originator rather than SSPE to avoid that the securitised portfolio needs to be 100% green and enable the originator to use the proceeds to finance green EU taxonomy-compliant investments
- Additional disclosures of the environmental performance of the underlying assets to provide investors an insight on the green vs. brown composition of the securitised portfolio in terms of share of (i) exposures that finance Taxonomy-eligible economic activities, (ii) Taxonomy-aligned exposures, and (iii) exposures that fail to meet the ‘Do no significant harm’ objectives
- Publishing, pre-issuance, of (i) a CapEx plan and a EuGB Factsheet, and post-issuance, of (iii) EuGB Allocation reports and (iv) a EuGB Impact report
- Mandatory use of external verifier to check compliance with pre- and post-issuance requirements



	Non-ABCP	Synthetics	ABCP
Environmental performance data	RMBS (STS) Auto ABS (STS)	RMBS (STS) Auto ABS (STS)	Not applicable
Principal adverse impacts on sustainability factors	RMBS (STS) Auto ABS (STS)	RMBS (STS) Auto ABS (STS)	Not applicable
European Green Bond Standard	All asset classes (STS & non-STS) if a prospectus is in place	Not applicable	Not applicable

COFFEE BREAK

AI-DRIVEN SOLUTIONS FOR FIXED INCOME

TIMO MENZEL, BEARINGPOINT

BearingPoint®

Securitization & AI

A Use Case Beyond Process Automation?



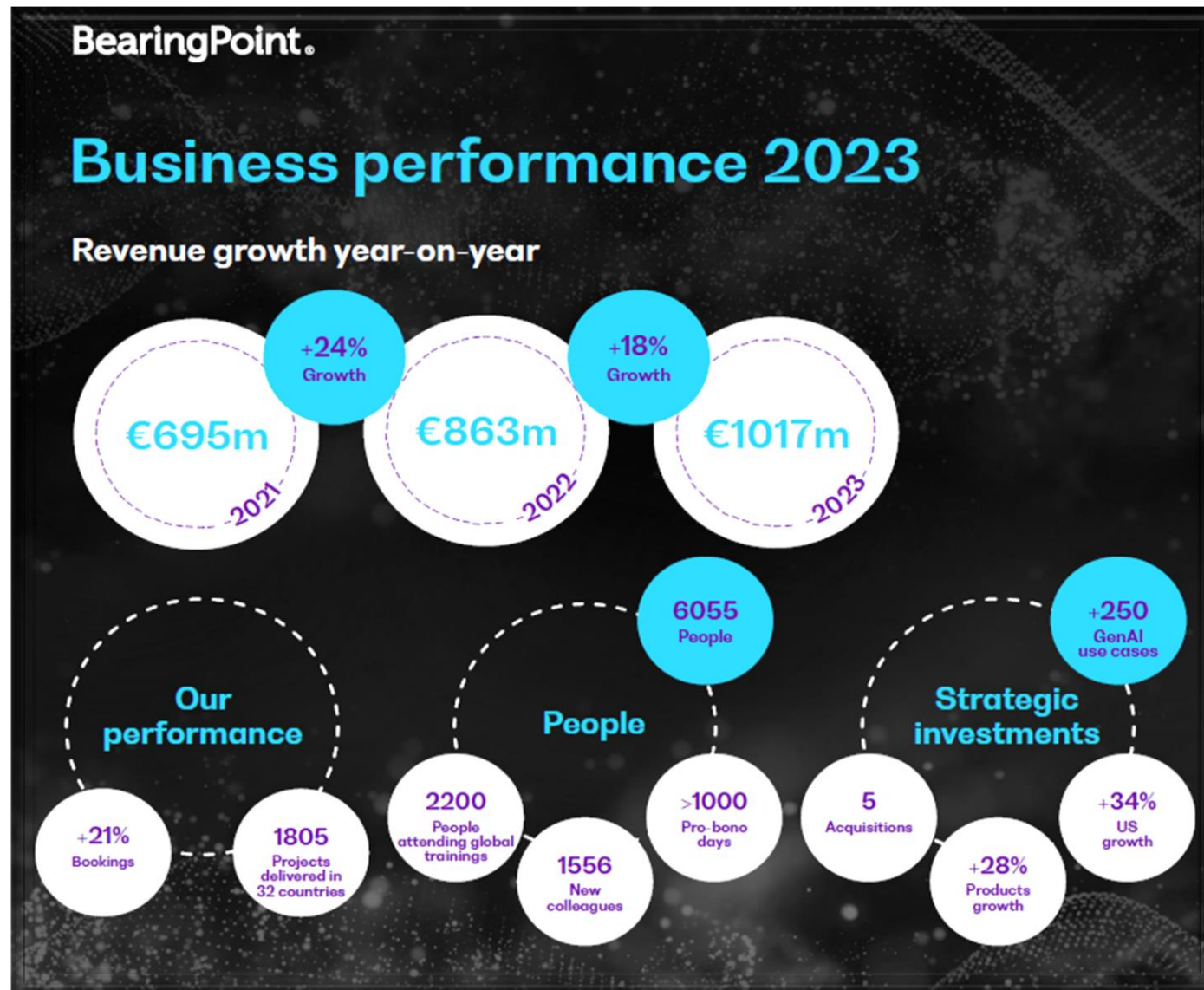
SAP® Recognized Expertise
SAP S/4HANA®



Agenda

1. BearingPoint as a Firm
2. BearingPoint and Asset Based Finance
3. Usecase Operational Excellence
4. Usecase Predictive Insights

BearingPoint's Results for 2023 - a Story of continued Growth

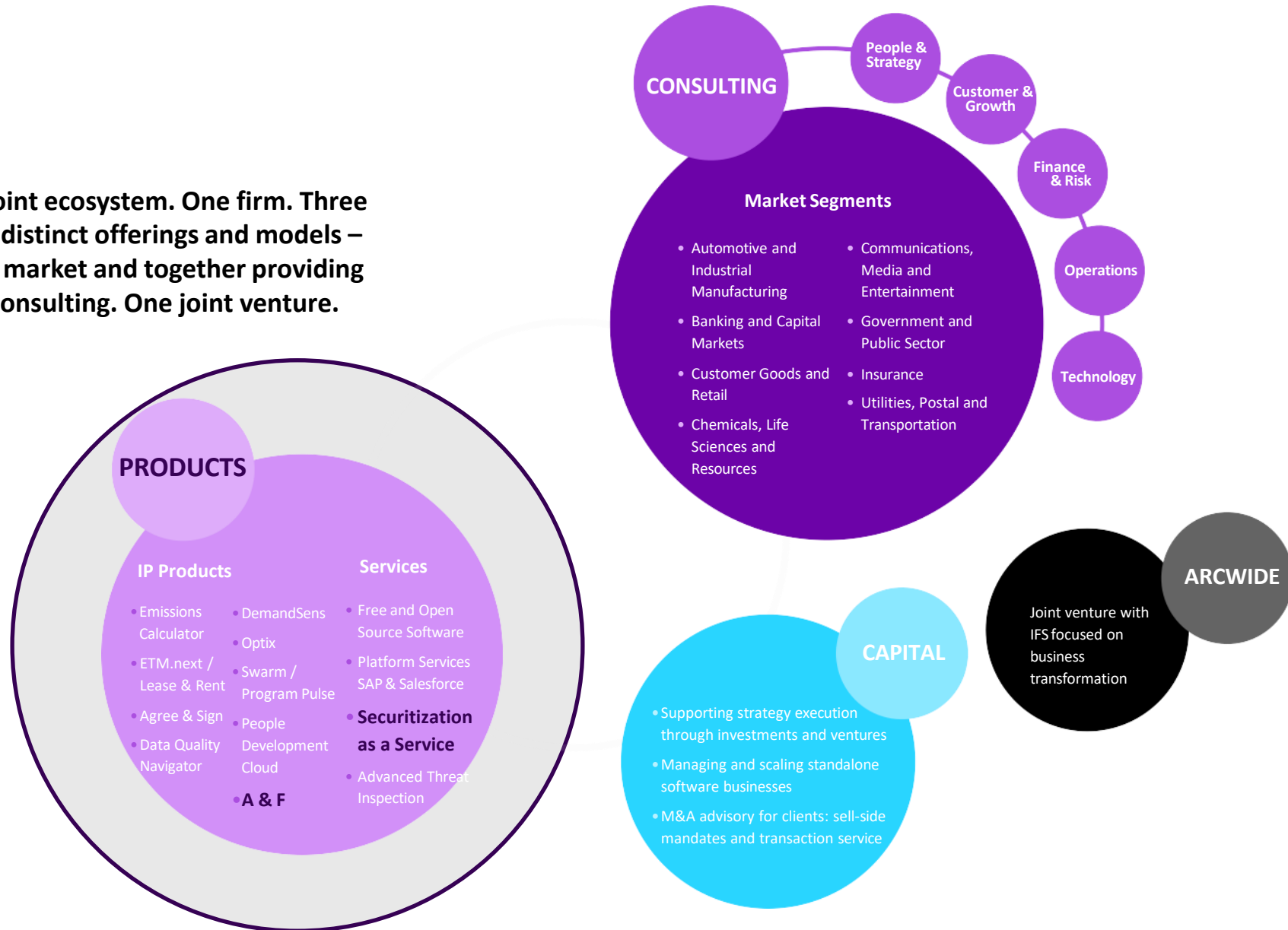


Agenda

1. BearingPoint as a Firm
- 2. BearingPoint and Asset Based Finance**
3. Usecase Operational Excellence
4. Usecase Predictive Insights

A story of unity

The unique BearingPoint ecosystem. One firm. Three business units – with distinct offerings and models – focused on their own market and together providing technology-enabled consulting. One joint venture.



Intelligent Financing Automation around the Globe

Assets & Funding



Available on
SAP Store

- provides real-time, automated support for the securitization of leases, loans, trade receivables
- is open for any other asset class and streamlines the processing of different asset-based funding transactions types.

The solution is available as **Software as a Service on SAP Business Technology Platform** managed by BearingPoint.

Software as a Service



flip the switch!

Temporarily outsource the reporting administration to BearingPoint to increase internal capacities if needed for other tasks or projects.

- Supplier delivers the solution incl. data center
 - On prem installation not necessary
 - Maintenance / Hotline provided by supplier
 - Customer uses the application / solution with its own resources
 - Supplier is not involved in day-to-day usage of solution
 - No software licensing
- **FOCUS BEARINGPOINT: ENABLING THE CLIENT**

Securitization as a Service

- Supplier runs the solution incl. data center
 - On prem installation not necessary
 - Maintenance / Hotline provided by supplier
 - Supplier uses the application / solution with its own resources to produce the defined deliverables
 - Customer provides raw data and transaction parameters
- **FOCUS BEARINGPOINT: RUNNING THE PROCESS FOR THE CLIENT**

BearingPoint's Asset Based Finance Recap for 2023

A story of growth and commitment for our asset based funding approach

Facts & Figures

(as of December 31, 2023)

- Assets under Management: EUR 11 bn (+ 139%)
- New transactions onboarded: 17 (total > 150)
- New clients / total: 16 / 82
- New sellers / total: 78 / 538
- Number of purchases processed: > 3.300
- New team members: 12 total: 21

New Products and Services

- Assets and Funding Management has been launched and is now being implemented for the first client.
- Our ABS offering has been expanded by leases and loans. Further transactions are in setup.
- We introduced the new web frontend for ABS+ providing a state-of-the-art user experience to our clients.

Shaping the Market

- In 2023, BearingPoint joined prominent client and industry networks, showcasing our ambition to not only providing excellent products and services but also actively participating in crucial discussions and developments that shape the future of our clients and markets.

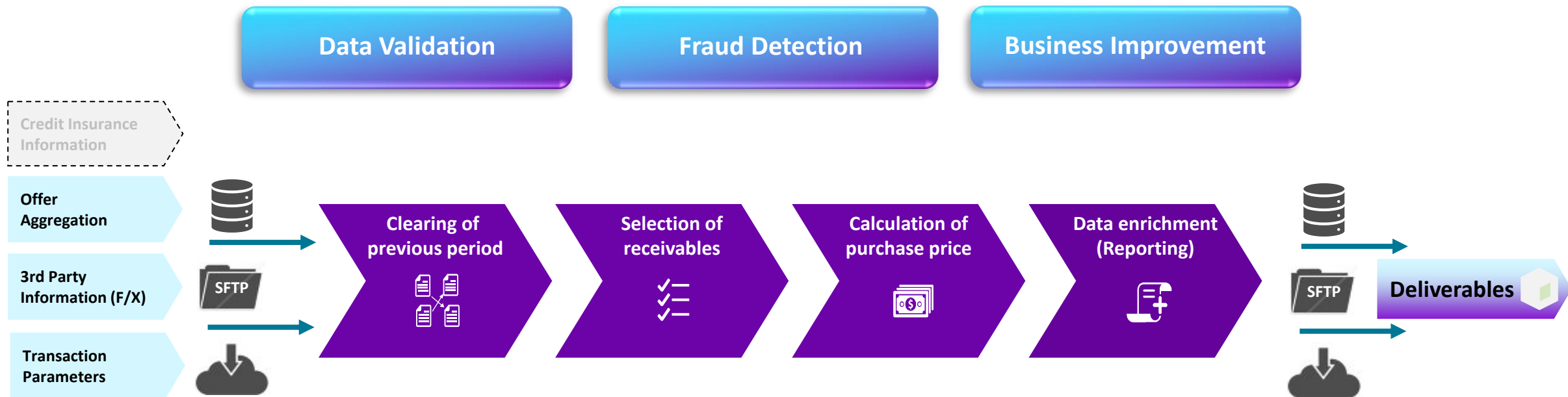


Agenda

1. BearingPoint as a Firm
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- 3. Usecase Operational Excellence**
4. Usecase Predictive Insights

Standard Securitization Process to drive Operational Excellence

Automation of the operational value chain replaces error-prone manual processes and promotes further scalability

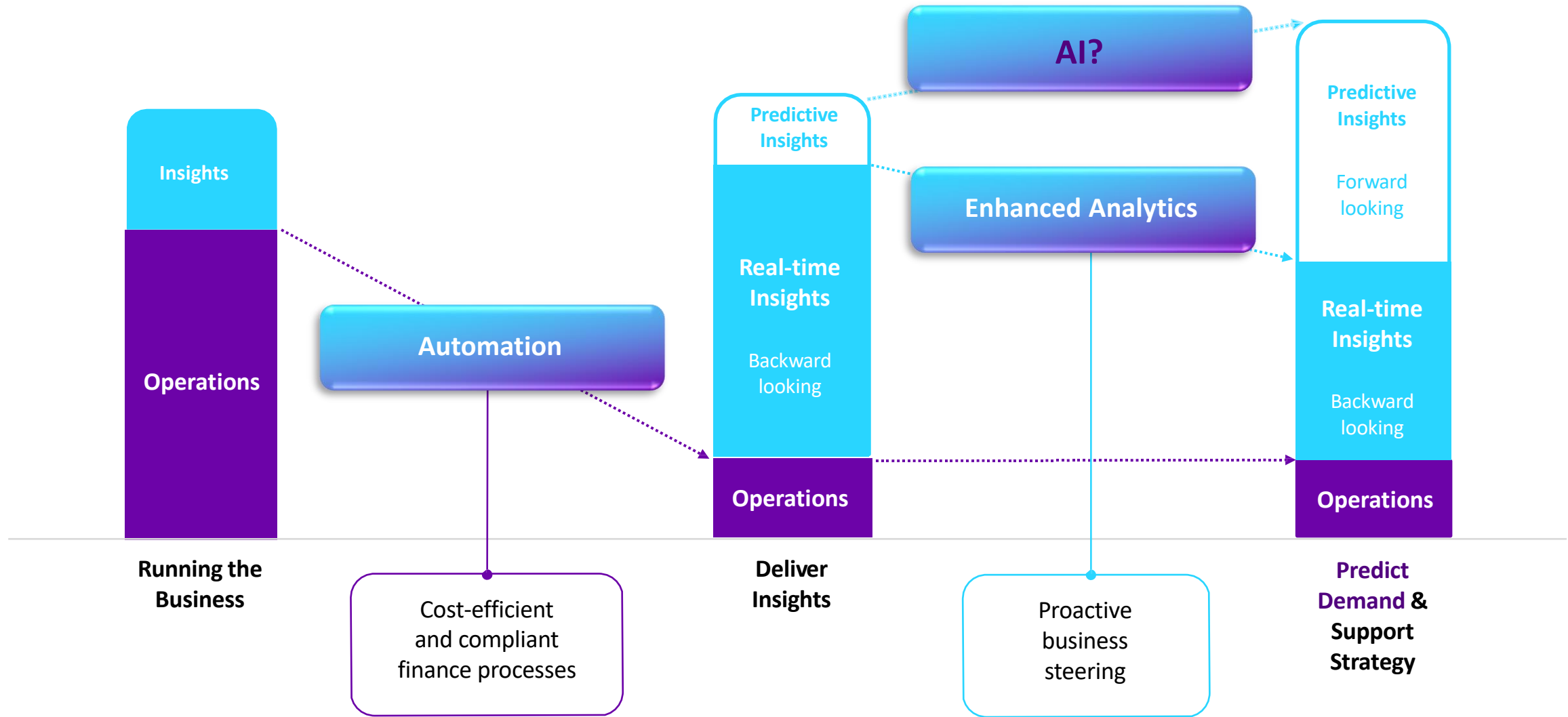


Agenda

1. BearingPoint as a Firm
2. BearingPoint and Asset Based Finance
3. Usecase Operational Excellence
- 4. Usecase Predictive Insights**

Knowing our customers' needs before they actually know?

From daily routine to supporting growth and forward-looking insight



Using AI Securitization can help to become a Digital Champion

Asset based finance contributes with performance data and insights in potential future customer demand

Asset based finance is an integral funding instrument for most of the OEMs



Many of the OEM financial captives are about to face disruptive changes such as circularity



A particular focus lies on considerations as to which future market and customer requirements will drive the demand for vehicles (lease, rent, pay-per-use, handling, monitoring, maintenance, circularity), the digitization of processes as well as the funding of the vehicles

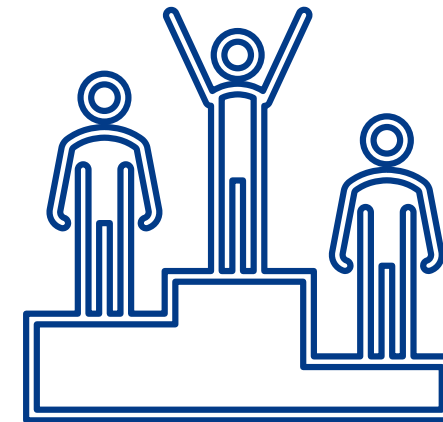


Taking into account relevant dimensions such as

- run the business
- deliver insights
- support the strategy

AI may enable Securitization to add a further dimension

- **predict customer demand above and beyond the financing.**



Digital Champion



Asset based Funding

Assets & Funding Management 4.0

Software as a Service on SAP BTP

Securitization as a Service

Software as a Service or Outcome as a Service



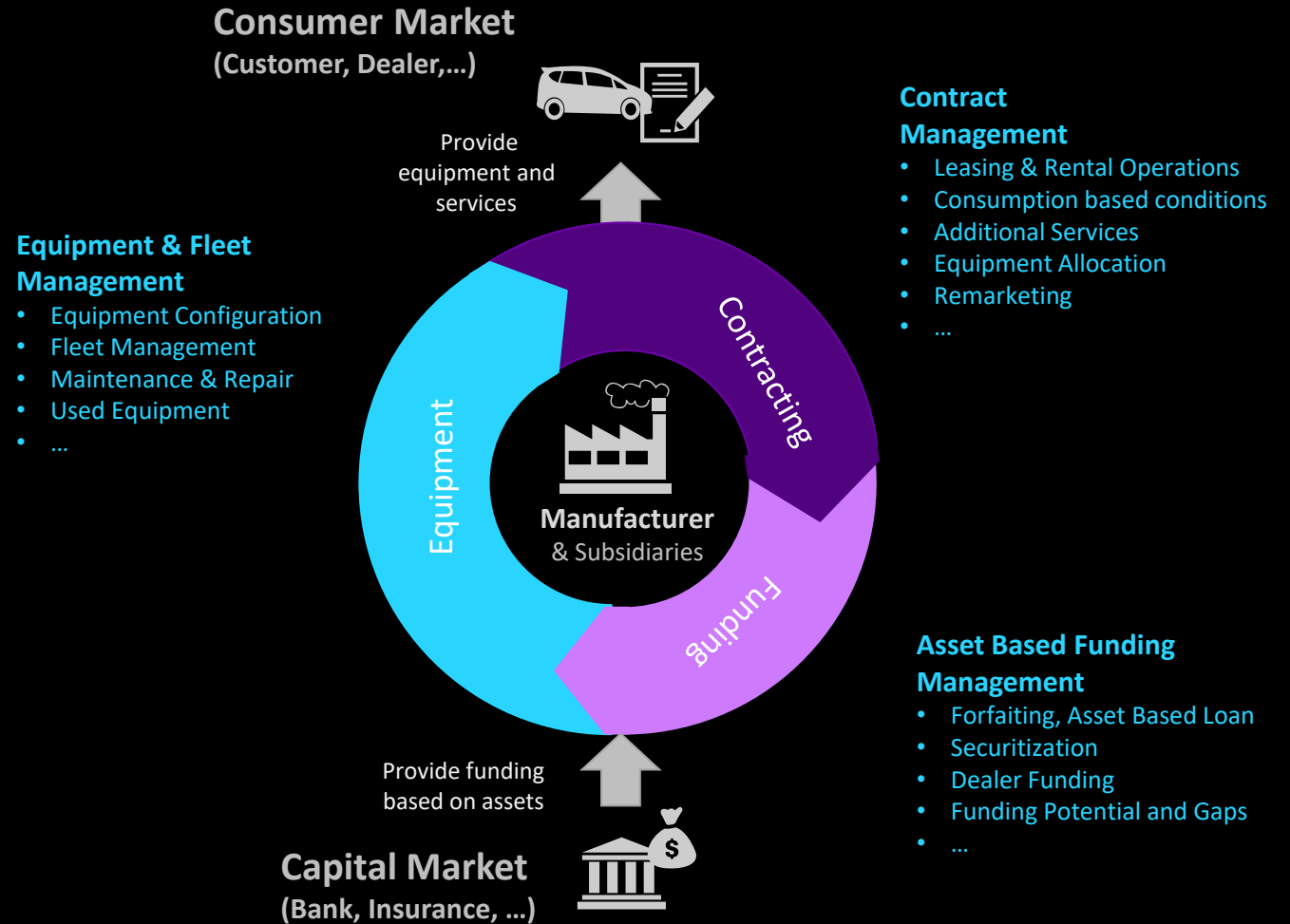
[Asset Based Funding | BearingPoint](#)

Backup

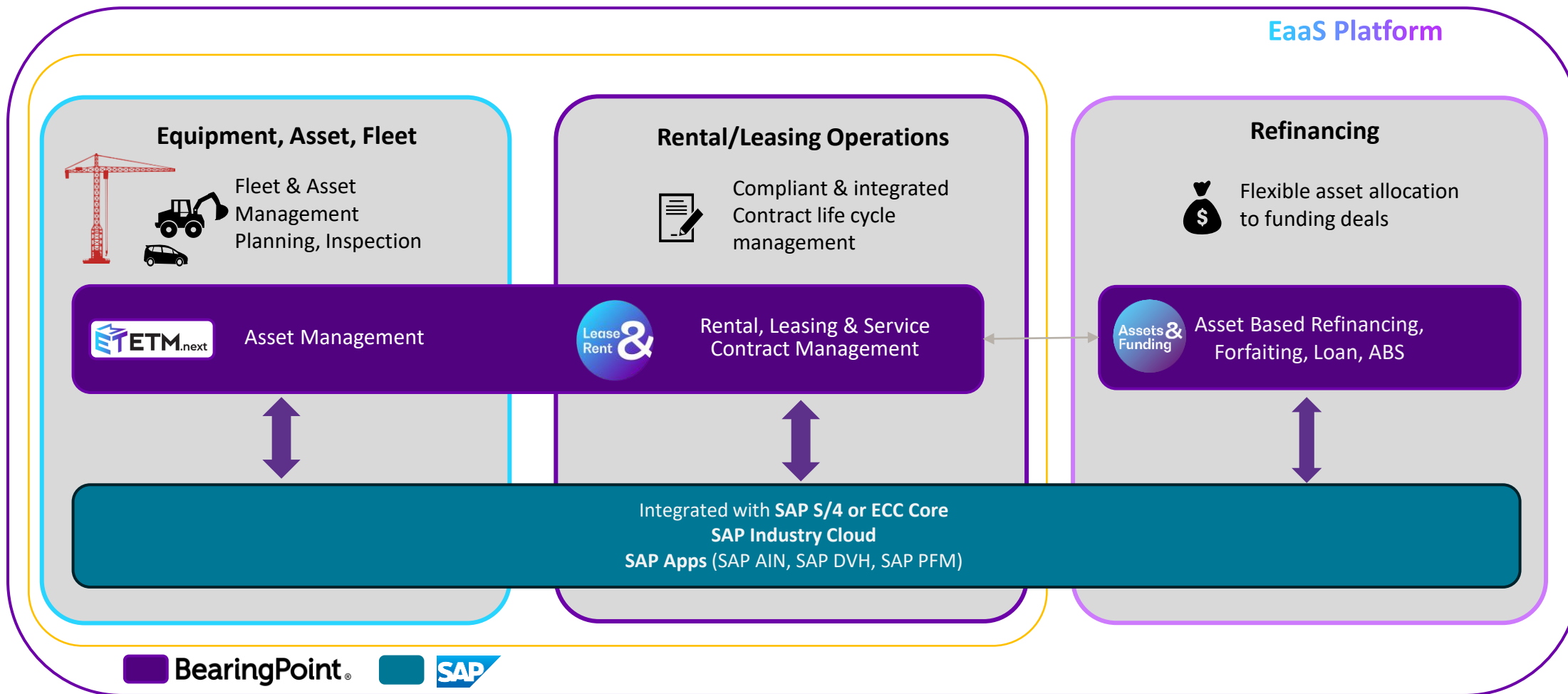
Equipment as a Service - Scenario

Industry Trends

- Customer preferences shifted from equipment ownership to usage.
- “I want it now” – Puts pressure to streamline and automate operational processes and into the customer experience.
- New services on the market or integration into 3rd party service platforms as additional revenue streams.
- Investors and lenders are governed by stringent and regulated capital requirements (CO₂ Emissions, ...).
- Digitalization innovations through modern Cloud Solution (SaaS), IoT, Telematics, Block Chain, AI ...



BearingPoint's EaaS Platform based on SAP Technology



PANEL: REGTECH/FINTECH APPLICATIONS WITH CREDIT DATA

MODERATOR: MARCO ANGHEBEN, EDW
MASSIMO BIANCHI, BANCA FININT
FULVIO PELARGONIO, NPL MARKETS
MARCO MASOTTO, CARDO AI



AUTOMAZIONE DATI E PROCESSI: what does it mean?

L'automazione dei dati è un processo senza bisogno di intervento umano

L'automazione dei dati è un processo che consente alle organizzazioni di raccogliere, caricare, trasformare, immagazzinare, elaborare e analizzare dati senza bisogno di alcun intervento umano

Cos'è l'automazione dei dati? L'automazione dei dati, abilitata dai sistemi di elaborazione dati, è il processo di caricamento, gestione ed elaborazione dei dati tramite strumenti automatizzati di elaborazione dati invece di eseguire manualmente tutte queste attività.

- **Casi d'uso dell'automazione dei dati:** Nel mondo in rapida evoluzione di oggi, ci sono diversi esempi quotidiani di elaborazione automatica dei dati, come ad esempio: Supporto clienti, Supporto da scrivania, Automazione degli ordini di acquisto, Analisi dei dipendenti, Pianificazione di riunioni.
- **Vantaggi dell'automazione dei dati:** L'automazione dei dati offre ottimi incentivi per un'impresa. È una soluzione produttiva ed economica per un'organizzazione in quanto migliora l'efficienza del lavoro e consente di risparmiare sui costi.
- **Come iniziare con l'automazione dei dati:** Adottare una strategia efficace di automazione dei dati attraverso 8 passaggi chiave. L'automazione dei dati è quindi un elemento cruciale per le organizzazioni che desiderano sfruttare al meglio i loro dati, rendendo più semplici e veloci i processi decisionali guidati dai dati.

NB: processo è fondamentale per la sostenibilità aziendale considerando che la sfera dei dati globali è prevista crescere fino a 163 **zettabyte** nel 2025.

L'Automazione Intelligente per l'utilizzo dei Dati

L'automazione intelligente è una tecnologia che combina l'intelligenza artificiale (AI) e l'automazione per semplificare e scalare il processo decisionale all'interno delle organizzazioni.

Come l'automazione intelligente può essere applicata all'utilizzo dei dati:

- **Automazione dei Processi di Business (BPM):**
 - L'automazione dei flussi di lavoro di business (BPM) automatizza i processi aziendali, fornendo maggiore agilità e coerenza.
 - È utilizzata in vari settori per razionalizzare i processi e migliorare le interazioni e il coinvolgimento.
- **Automazione Robotica dei Processi (RPA):**
 - La RPA utilizza robot software (bot) per completare attività di back-office, come l'estrazione dei dati o la compilazione di moduli.
 - Questi bot integrano l'AI e possono gestire attività più complesse.
- **Intelligenza Artificiale (AI):**
 - L'AI utilizza il machine learning e algoritmi complessi per analizzare dati strutturati e non strutturati.
 - Le aziende possono sviluppare una base di conoscenza e formulare previsioni basate su tali dati.

L'automazione intelligente semplifica i processi, libera risorse e migliora l'efficienza operativa, ad esempio

- Un produttore automobilistico può accelerare la produzione o ridurre il rischio di errore umano.
- Un'azienda farmaceutica può ridurre i costi e ottenere efficienza nelle risorse per processi ripetitivi.
- Una compagnia assicurativa può calcolare i pagamenti e soddisfare le esigenze di conformità.

La digitalizzazione dei processi aziendali

La **digitalizzazione dei processi aziendali** è un processo che sfrutta la tecnologia per risolvere problemi di gestione, logistica e organizzazione all'interno di un'azienda. L'obiettivo principale è raccogliere dati utilizzando la tecnologia per migliorare il controllo e il monitoraggio di ogni processo.

Questo può variare dai processi più semplici, come la digitalizzazione dei documenti cartacei o l'archiviazione in cloud, fino a trasformazioni più complesse che coinvolgono interi reparti aziendali

Ecco alcuni vantaggi della digitalizzazione dei processi aziendali:

1. **Riduzione delle operazioni manuali** → Meno errori, più tempo per altre attività e riduzione dello stress.
2. **Efficienza** → Processi automatizzati consentono di risparmiare tempo e risorse.
3. **Miglioramento della comunicazione** → La digitalizzazione facilita la condivisione di informazioni tra i dipendenti.
4. **Accesso remoto** → La possibilità di lavorare da remoto grazie alla digitalizzazione dei processi.

Per implementare la digitalizzazione in azienda, è importante condurre una fase preliminare di studio e analisi sulla «logistica» dei dati all'interno dell'azienda.

Questo coinvolge tutti i lavoratori, con l'obiettivo di scoprire come la digitalizzazione può aiutare l'azienda, identificare i cambiamenti necessari e valutare costi e benefici

La «DATA REMEDIATION»

E' il processo di identificazione, correzione e rimozione di errori o incongruenze nei dati per garantirne la qualità e l'affidabilità per l'elaborazione e l'analisi. Svolge un ruolo cruciale nel mantenere dati accurati e sicuri (!)

1. Finalità della correzione dei dati:

Miglioramento della qualità: la correzione dei dati mira a migliorare la qualità e l'affidabilità dei dati. Affrontando le imprecisioni, l'incompletezza e l'irrilevanza, le organizzazioni possono fidarsi dei propri dati per il processo decisionale.

Conformità e requisiti legali: la correzione regolare dei dati garantisce che i dati rimangano conformi alle leggi, alle politiche e ai regolamenti esterni e interni. Le modifiche alle norme sulla privacy o alle politiche interne richiedono una correzione tempestiva.

Mitigazione del rischio: è essenziale rilevare e correggere le minacce, le vulnerabilità e le violazioni della sicurezza. La correzione dei dati aiuta a proteggere le informazioni sensibili e a impedire l'accesso non autorizzato.

Efficienza operativa: gestendo i dati non strutturati e riducendo i dati ridondanti, obsoleti e banali (ROT), le organizzazioni semplificano i flussi di lavoro e riducono il sovraccarico di dati.

2. Quando è necessaria la correzione dei dati?:

Modifiche legali e normative: con l'evolversi delle norme sulla privacy dei dati a livello globale, le organizzazioni devono adattarsi. La correzione garantisce la conformità alle nuove leggi e ai nuovi criteri.

Condizioni aziendali: le modifiche al software o all'hardware hanno un impatto sui dati. Le fusioni e le acquisizioni introducono nuovi dati, che richiedono controlli di sicurezza.

Errori umani: gli errori accadono sul posto di lavoro. La correzione valuta l'integrità e la sicurezza dei dati quando vengono rilevati errori.

LA VALIDAZIONE DEL DATO

La **validazione dei dati** è un processo fondamentale per garantire che le informazioni inserite in un sistema siano corrette, coerenti e affidabili.

Durante la validazione, i dati vengono verificati rispetto a criteri specifici, come formati, range di valori o regole di business. Se i dati non soddisfano tali criteri, vengono segnalati errori o avvisi per consentire agli utenti di correggerli.

Esempio: per lo sviluppando di un modulo di registrazione su un sito web, la validazione dei dati potrebbe includere:

1. **Validazione del formato:** Verifica che gli indirizzi email siano nel formato corretto (ad esempio, nome@dominio.com) o che i numeri di telefono abbiano il formato adeguato (ad esempio, “+39 123 456 7890”).
2. **Validazione del range:** Assicurati che le date di nascita siano realistiche (ad esempio, non nel futuro) o che i numeri di età siano compresi tra valori accettabili (ad esempio, 18-120 anni).
3. **Validazione delle regole di business:** Verifica che i campi obbligatori siano stati compilati e che le combinazioni di dati siano coerenti (ad esempio, se un utente seleziona “Studente”, allora dovrebbe fornire anche il nome della scuola).

La validazione dei dati è essenziale per garantire l'integrità e l'accuratezza delle informazioni all'interno di un sistema.

RINGRAZIAMENTI

UNO SPECIALE RINGRAZIAMENTO A:

-CHI HA SCELTO DI DISCUTERE DI AUTOMAZIONE 

-CHI CI OSPITA PER LA DISCUSSIONE 

-CHI HA LAVORATO SULLA PRESENTAZIONE  COPILOT

BLOCKCHAIN FOR THE ASSIGNMENT OF CREDIT

LEONARDO MANGIA, LINKS MANAGEMENT &
TECHNOLOGY



EDW 2024 Securitisation Event Series

09 04 2024



Blockchain for credit assignment

LEONARDO MANGIA

Banking & Financial Services Director

EXPERIENCE IN CREDIT GOVERNANCE

Leveraging on our proven experience we identified the need for a secondary market for credit buying and selling based on innovative technologies.



Digital tech for credit
governance



Credit funding know-
how



20+ years in credit
transfer

EIKO – OUR CREDIT FUNDING SOLUTION

Funding-oriented solution for scanning credit portfolios of financial institutions and managing securitisation, Abaco contributions and EIF initiatives.

EIKO is fully integrated with the Bank Legacy System (Information System) to support data collection in compliance with current rules and regulations.

40

Italian banks users

80

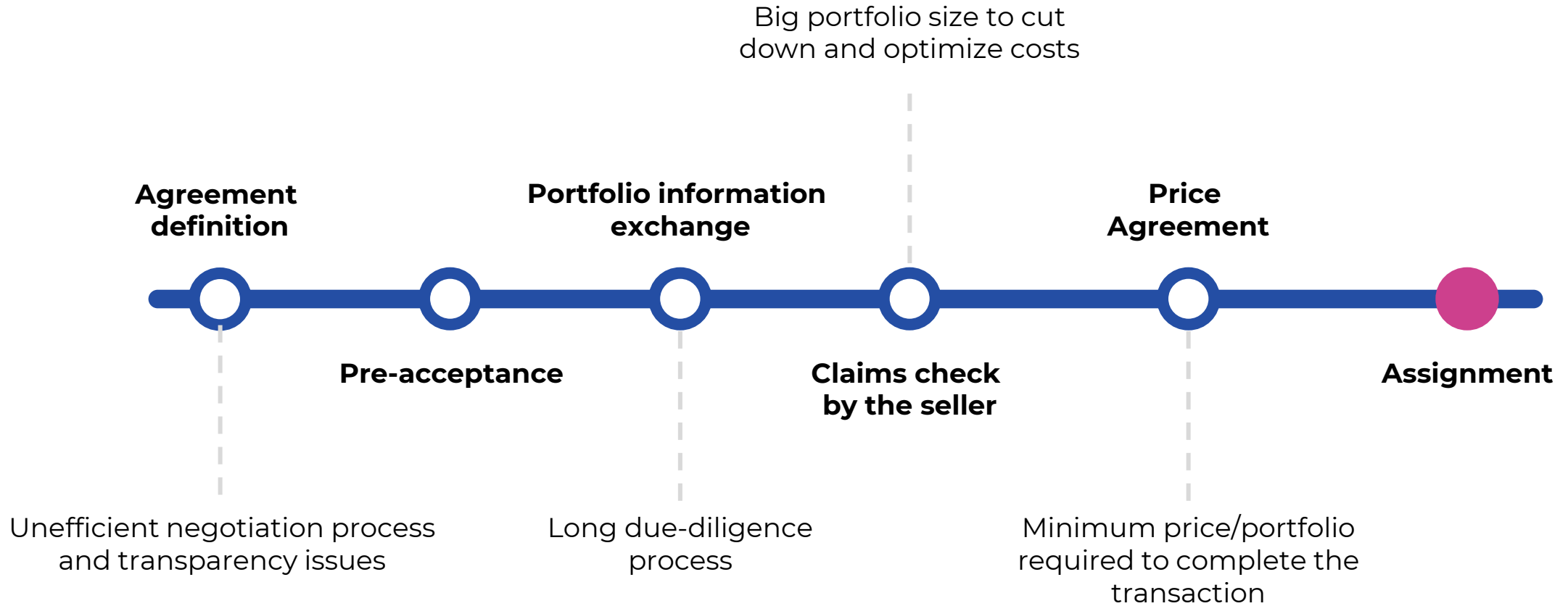
Portfolios under
management

7

Integration with legacy
system



CREDIT TRANSFER (AS-IS PROCESS)



MARKETPLACE FOR CREDIT TRANSFER

Research project for credit assignment innovation using **blockchain** and **cutting-edge technologies**



- **Marketplace** for Credit Assignment operates by leveraging blockchain technology and smart contracts to overcome the limits of traditional bilateral agreements in credit transfer
- **Credit transactions network management:** automatic and reliable check by blockchain nodes
- The new market, monitored and technologically smart, aims to manage the transfer of single credits or small portfolios in a **fast, efficient** and **safe way**

KEY PLAYERS



Banks & Financial Institutions

Sellers and buyers involved in the process



Rating Agencies

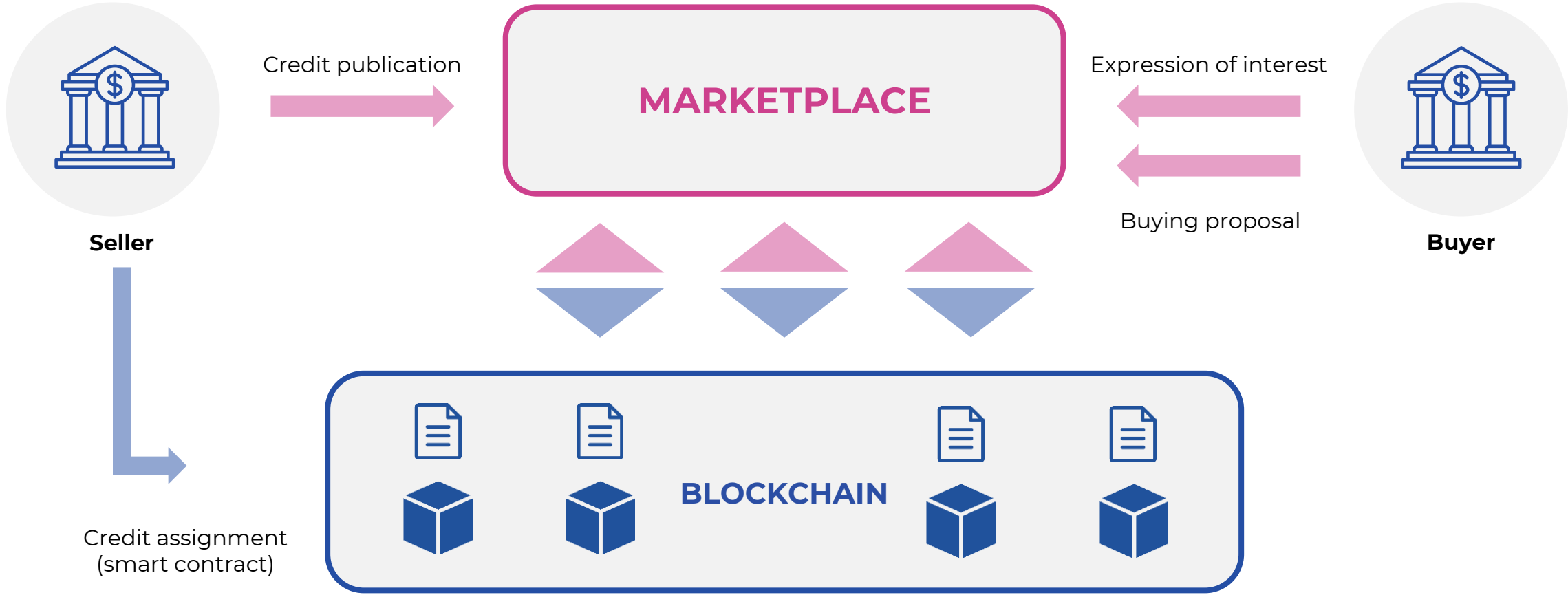
Due diligence, seller document check and portfolio KPI analysis

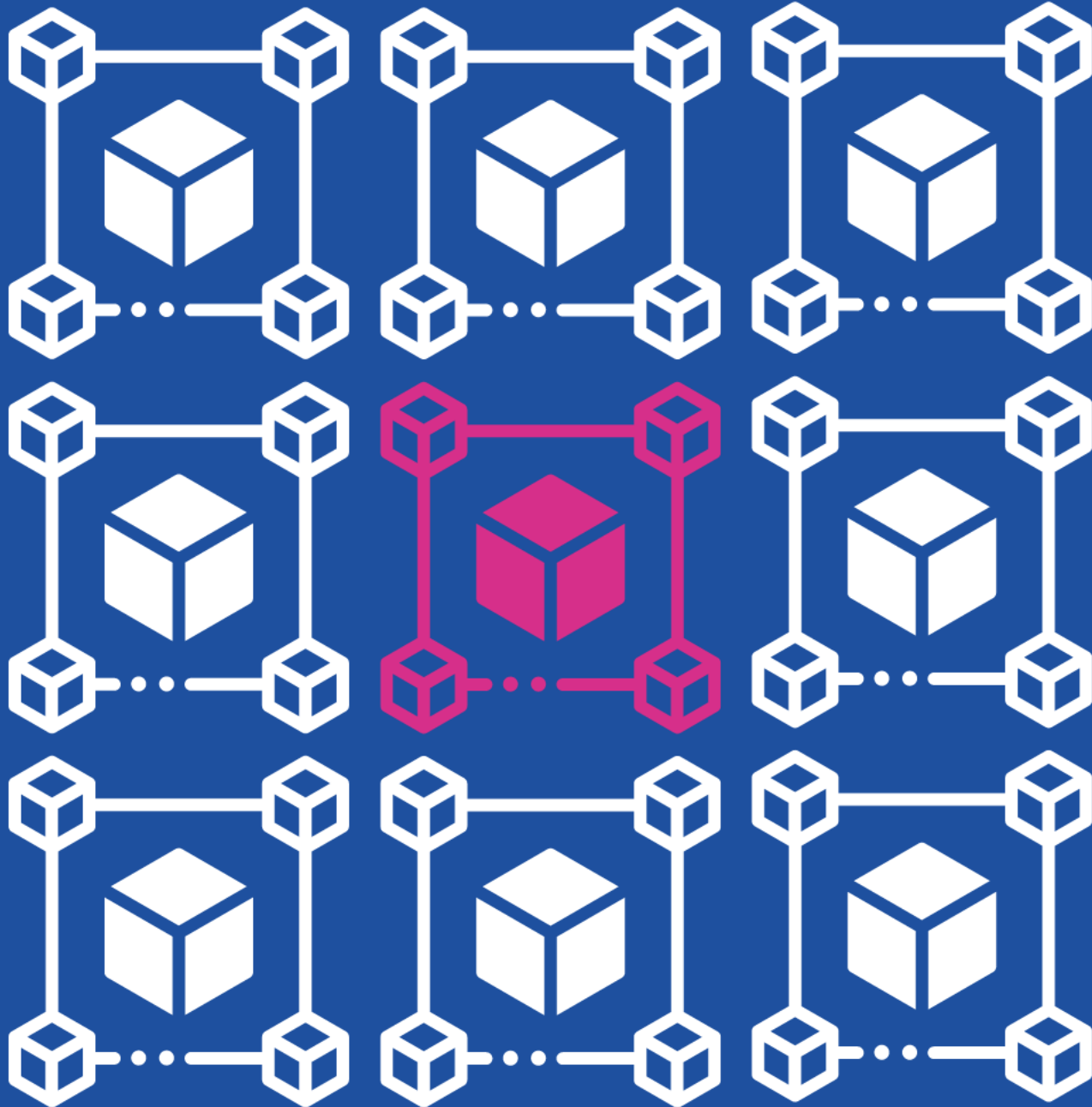


Regulators

Portfolio and transaction check, interaction with sellers and buyers

CREDIT MARKETPLACE AND BLOCKCHAIN

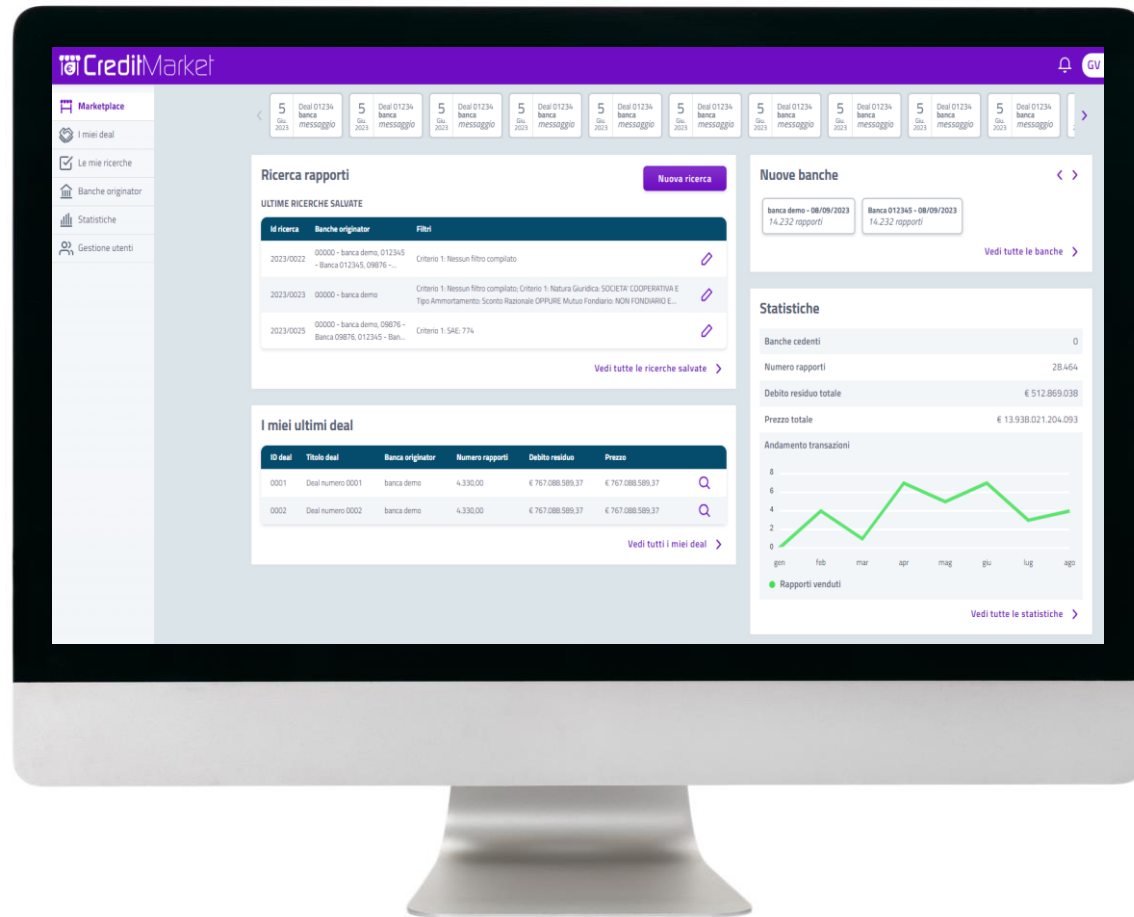




BLOCKCHAIN CHOSEN

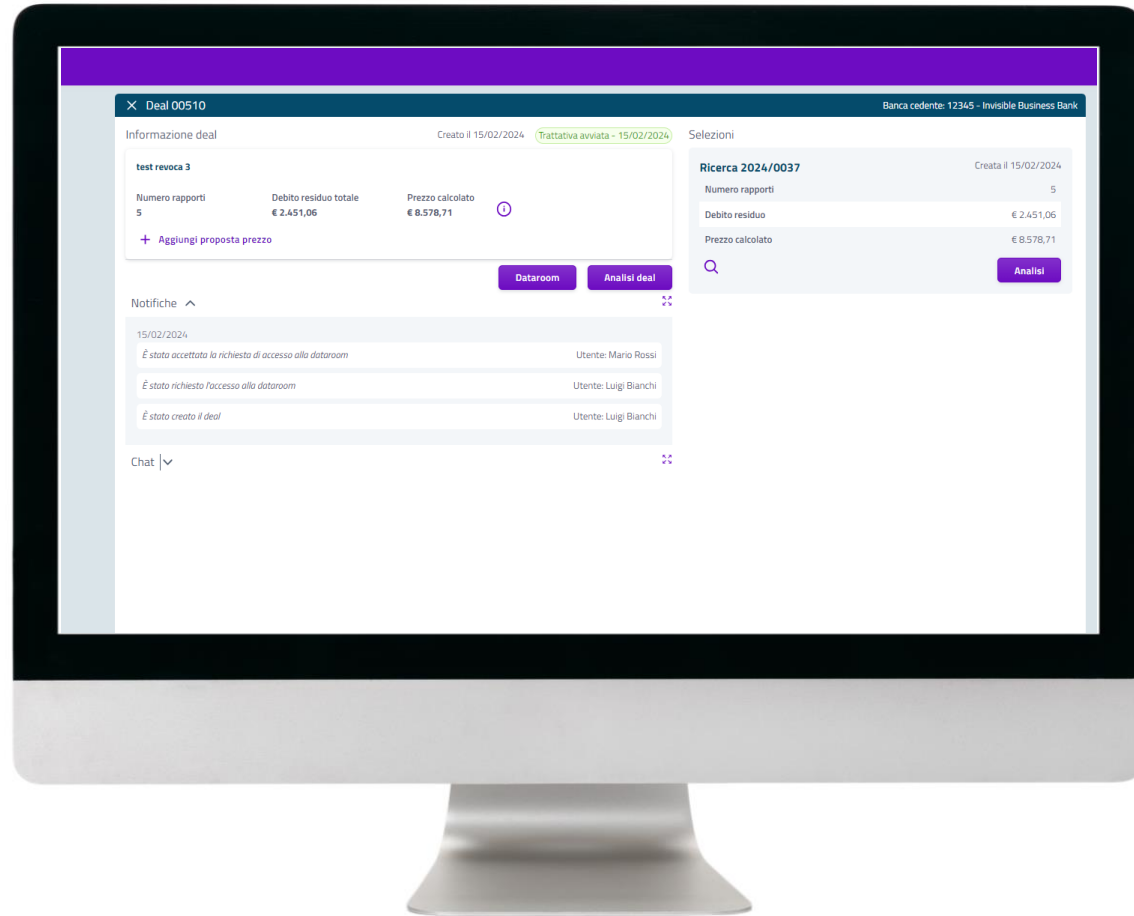
KEY POINTS:

- **Type:** private and permissioned
- **Nodes:** each bank owns a blockchain node
- **Token:** the item is the credit portfolio (non fungible)
- **Ledger:** collection of credit transactions
- **Smart Contract:** agreement for credit transaction



CREDIT MARKET

- New market, regulated and **technologically smart**
- Single loan or small portfolio credit management
- **Fast, efficient** and **secure** transactions



CREDIT MARKET

- New market, regulated and **technologically smart**
- Single loan or small portfolio credit management
- **Fast, efficient** and **secure** transactions

TALENT DRIVES INNOVATION

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