Federated decentralized trusted dAta Marketplace for Embedded finance

FAME

D6.3 - Techno-Economic Evaluation and Stakeholders' Feedback

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Definitions

Acronym	Definition
AAI	authentication authorization infrastructure
AI	Artificial Intelligence
AML	Anti Money Laundering
API	Application Programming Interface
ATOS	Atos It Solutions And Services Iberia Sl
AUC	Area Under the Curve
BNPL	Buy Now Pay Later
BPFI	Banking and Payments Federation Ireland
CD	Continuous Development
CDTI	Technological Development and Innovation Centre (from Spanish "Centro para el Desarrollo Tecnológico y la Innovación)
CI	Continuous Integration
CRM	Customer Relationship Manager
CSV	Comma Separated Value files
DAEM	Dimos Athinaion Epicheirisi Michanografisis
EF	Embedded Finance
ESG	Environmental, Social and Governance
EU	European Union
FAME	Federated decentralized trusted dAta Marketplace for Embedded finance
FDAC	Federated Data Assets Catalogue
GDPR	General Data Protection Regulation
IBM	International Business Machines
INNOV	Innov-Acts Limited
IT	Information Technology
JRC	Jrc Capital Management Consultancy and Research Gmbh
KPI	Key Performance Indicator
KYC	Know Your Customer
MC	MC SHARED SERVICES SA
ML	Machine Learning
MOH	Motor Oil (Hellas) Diilistiria Korinthou A.E.
MVP	Minimum Viable Product|Platform
NRS	Norsk Regnesentral
PDF	Portable Description Format
PSR	Project Security Responsible
QA	Quality Assurance

RMSE	Root Mean Squared Error
ROI	Return On Investment
SDK	Software Development Kit
UC	Use Case
UI	User Interface
USD	United States Dollar
XAI	Explainable Artificial Intelligence

Other acronyms and abbreviations not present in the table, are introduced in the text along with their definitions.

Executive Summary

The Federated decentralized trusted data Marketplace for Embedded finance (FAME) project develops advanced Artificial Intelligence (AI) and Big Data technologies to create and manage a data marketplace, with a particular focus on financial services and embedded finance (EmFi). The project aims to facilitate the exchange, monetization and management of data, involving a broad spectrum of industries and financial institutions. Through its seven pilots, FAME explores new business models that use data to innovate financial services, improve efficiency and promote transparency in the European market.

One of FAME's main objectives is to evaluate these pilots from different perspectives, through evaluation modalities that include feedback and analysis from key stakeholders involved. This deliverable (**D.6.3 – Techno-Economic Evaluation and Stakeholders' Feedback**) reports the results of the evaluation of FAME pilot systems and their use cases, providing a detailed analysis based on technical and business indicators.

This iteration of the evaluation is based on a series of stakeholder meetings and workshops held between 2024 and 2025, which provided a comprehensive and up-to-date view of the progress made by the FAME pilots. The results were analyzed in relation to Key Performance Indicators (KPIs) and Technology Readiness Levels (TRLs), along with lessons learned during solution development.

The main aspects covered in the document are:

- **Expansion of lessons learned,** with a summary of the challenges faced by the pilots during the project and the solutions implemented**.**
- **Environmental and social considerations,** with a focus on sustainability aspects applicable to the pilots' different use cases.
- **Comparison of results against initial goals to clearly represent the level of improvement achieved by the pilots.**
- **Evaluation of the Readiness Level (TRL) for each pilot,** an indicator of the maturity of the solutions developed.
- **Validation by regulators,** particularly with regard to regulatory compliance and consumer protection**.**

Overall, the evaluation shows that FAME pilots achieved a high level of stakeholder satisfaction, with particular emphasis on Compliance and Data Interoperability solutions. Pilots oriented to Business-to-Business (B2B) models have shown significant progress in improving resources and internal processes, while those oriented to Business-to-Customer (B2C) models have maintained a good level of efficiency with respect to customer satisfaction indicators. In addition, solutions based on internal processes stand out for excellence in terms of compliance and customer satisfaction.

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1 Introduction

The purpose of this section is to introduce the deliverable and provide a clear and concise overview of its contents. The deliverable concerns the analysis and evaluation of the seven pilots of the FAME project, an initiative to develop and implement innovative solutions based on a data marketplace. This document provides a structured evaluation based on the qualitative and quantitative feedback collected from the pilots and external stakeholders.

1.1 Objective of the Deliverable

The primary objective of this deliverable is to assess the maturity and performance of the seven FAME pilot projects in relation to the target market. The evaluation was conducted through:

1. a questionnaire-based methodology in which the pilot projects responded with qualitative and quantitative assessments, assigning scores on a scale of 1 to 5. These scores were collated across five key dimensions of the Pentagon: Market, Customer, Compliance, Resources, and Technology. Based on these assessments, an Innovation Pentagon was constructed to visualize the overall results of each pilot project.
2. monitoring a series of Key Performance Indicators (KPIs) at the pilot project level.
3. gathering and analyzing feedback gathered through structured stakeholder engagement (e.g., workshops, surveys, interviews).
4. analysis of lessons learned and challenges faced by each pilot project, useful for scaling their solutions in the European market.

1.2 Insights from other Tasks and Deliverables

This deliverable is closely linked to other activities carried out by the individual pilots within the FAME project. Specifically, the results reported here were influenced by the development, implementation, and evaluation activities conducted over the three years of the project. The information in this document is based on interviews, questionnaires, workshops, webinars, and market analyses. Furthermore, this deliverable is based on methodologies and indicators previously developed and implemented in other project tasks, ensuring consistency and alignment with the overall objectives of FAME. The information in this document provides a clear overview and a comprehensive framework for a final evaluation of the achievements of each pilot project.

1.3 Structure

The deliverable is structured as follows:

- **Introduction**: Provides an overview of the deliverable, explaining its objectives, context, and relationship to other project tasks and deliverables.
- **Methodology**: Information collection and evaluation methods. The section is split into Phase 1 and Phase 2, outlining what was collected in each phase and why this two-step approach improves synthesis and comparability (Phase 1: base line & self-assessment; Phase 2: deepening via stakeholder engagement and KPI follow-up). <u>This two-phase division is solely for the purpose of simplifying the analysis of this document; it is not a design aspect or a project constraint.</u>
- **Pilots' Final Evaluation**: Results for the seven pilots, reported in two parts (Outcomes Phase 1 and Outcomes Phase 2).
- **Aggregate Assessment**: Presents the overall assessment results, including average scores and graphical representation of the Innovation Pentagon.

- **Conclusions**: Summarizes key findings from the pilots' assessment and offers recommendations for next steps.

1.4 Outcomes

1.4.1 Phase 1, Phase 2: Introduction, Methodology and Goals

The **Phase 1** of the evaluation process focused on collecting structured and comparable information from each pilot involved in the FAME project. This phase laid the foundation for the analysis of the technological, economic and strategic maturity of the developed solutions, while identifying opportunities for improvement and alignment with the objectives of the FAME marketplace.

A **structured questionnaire** was designed and distributed to all pilots involved in the project. The questionnaire was composed of four main sections:

- **Pilot Workshop Overview**
- **Technical Part**
- **Business Part**
- **Pentagon-Based Questionnaire** key dimensions :

  1. **Market**

  2. **Customer**

  3. **Compliance**

  4. **Resources**

  5. **Technology**

To support the information gathered through the questionnaire, each pilot was also asked to organize a workshop with external stakeholders. The objective was to complement the internal perspective with insights from end-users, partners, and market actors. This external evaluation served to validate, reinforce, or challenge the pilots' self-assessments with qualitative stakeholder input.

Phase 2 builds directly on the foundations laid during Phase 1, with the objective of deepening and enriching the assessment of the pilots' performance within the FAME project. While the first phase focused on collecting self-assessed, structured data on the technical and business dimensions of each pilot—along with a preliminary level of stakeholder engagement—this second phase placed a stronger emphasis on qualitative evaluation through more active and structured stakeholder involvement.

To this end, all pilots were requested to provide a detailed Stakeholder Engagement Plan, broken down into sequential phases. For each phase, pilots submitted specific outputs such as activity reports, meeting summaries, feedback forms, and implementation roadmaps. These contributions were instrumental in enabling a more comprehensive understanding of how each pilot interacted with its ecosystem and leveraged stakeholder input to enhance the pilot's relevance, usability, and impact.

The methodology adopted in Phase 2 continued to rely on structured templates, including the original questionnaire and pentagon-based evaluation model, but was supplemented by concrete documentation and feedback gathered during stakeholder workshops and follow-up activities. This allowed for a more robust and realistic evaluation of the quality, effectiveness, and sustainability of each pilot's implementation.

The goal of Phase 2 was thus twofold: first, to assess the pilots' capacity to engage stakeholders in a meaningful and strategic way; and second, to use the evidence collected to refine the technical-economic evaluation, highlighting the value generated by each pilot in its specific context.

2   Methodology Phase 1

The evaluation approach adopted for this deliverable is based on a structured methodology to assess the maturity and overall performance of the seven pilots within the FAME project. The main objective of the evaluation is to understand the progress and challenges of each pilot, using qualitative and quantitative data collected from key stakeholders.

Each pilot is assessed through a dedicated questionnaire that included both narrative responses and a scoring mechanism, in which pilots provided self-assessments on a scale of 1 to 5 on the five dimensions: Market, Customer, Compliance, Resources, and Technology. The results were then aggregated to calculate average scores for each dimension, forming the basis for the creation of the FAME Innovation Pentagon. This visual representation highlights the pilots' progress over the evaluation period, providing stakeholders with a comprehensive overview of their performance in critical areas.

In addition to the score, the evaluation also considered lessons learnt, challenges faced and overall stakeholder satisfaction. This combined approach allowed for a holistic assessment of each pilot, facilitating comparison between different iterations and identifying areas for further improvement.

2.1   Aggregation Model

The aggregation model used for the 'Techno-Economic Evaluation and Stakeholders' Feedback' deliverable is based on a structured methodology combining data collected from different deliverables and questionnaires provided to the pilots. Data were collected through four different sheets of an Excel questionnaire, each dedicated to specific technical, economic and operational aspects of the pilots.

1. **Data Collection from Questionnaires**

The Excel questionnaire provided to the pilots was divided into four main sections:

- **Technical Metrics**: This section contains questions of a technical nature, aimed at assessing the integration of pilots with the FAME marketplace, with a focus on technological and interoperability aspects.

- **Business Metrics**: This section asked questions related to the economic and business aspects of the pilots. Topics covered included business models, exploitation strategies, data valuation and monetisation, as well as other business activities such as marketing.

- **Pentagon Based Questionnaire**: This sheet forms the core of the Innovation Pentagon-based assessment, with five key dimensions:

  1. Market Section

  2. Customer Section

  3. Compliance Section

  4. Resources Section

  5. Technology Section

Each dimension comprised a series of questions to which the **pilots** and the **stakeholders** responded with both qualitative (descriptions in words) and quantitative (score from 1 to 5) ratings. For each question, the numerical responses were averaged to construct the five dimensions of the Innovation Pentagon.

- **Pilot Workshop Overview**: The last section of the questionnaire provides an overview of the

workshops conducted, including details such as the **title of the workshop**, **date**, **agenda of topics covered**, **duration**, **number of participants**, and **feedback received from the stakeholders involved** (such as banks, blockchain experts, high-level managers, researchers, and other key players). These data were used to enrich the qualitative analysis of the pilots' progress.

Pilot Workshop Overview			
Workshop Title:		**Date:**	dd/mm/yyyy
Agenda: (description of the topics)			
Link to the Event: (if applicable to the event)			
Event type:	**Duration of the event (h):**	**Number of participants:**	
Player involved: (e.g., employees of banks and financial institutions, blockchain experts and consultants, top-level managers, business evelopers, researchers, etc.)			
Feedback from stakeholders involved			

Figure 1: Pilot workshop overview

2. Aggregation Process

The data collected from each of the four sheets was aggregated to provide an overall view of each pilot's performance. The Innovation Pentagon was constructed by averaging the scores for each of the five dimensions (Market, Customer, Compliance, Resources, Technology) based on the Pentagon Questionnaire. The average scores were used to graphically represent the pilot's level of maturity and performance in each of these areas.

This aggregation process allows for a **clear visualisation** of not only current performance, but also the **evolution** of the **pilots** over time, facilitating comparison of progress across iterations.

3. Monitoring Evolution and Stakeholders Feedback

Data collected from the Pilot Workshop Overview was integrated into the evaluation process to provide additional qualitative information. Stakeholder feedback and detailed workshop information contributed to a more comprehensive understanding of the challenges faced by the pilots and the solutions adopted. These inputs were instrumental in enriching the context of the evaluation and providing a more holistic view of pilot performance.

4. Conclusion

The integration of technical, economic, and stakeholder feedback data made it possible to create a robust aggregation model capable of graphically representing the pilots' performance and monitoring its evolution over time. The Innovation Pentagon is an essential tool for visualising aggregated results and providing a clear and understandable picture of each pilot's areas of strength and opportunities for improvement.

3   Methodology Phase 2

Phase 2 for each pilot began upon completion of Phase 1, approximately in early 2025, with EIH sharing a structured roadmap and operational checklist to support pilot projects in planning stakeholder engagement activities. This phase is part of Deliverable D6.3 "Techno-economic evaluation and stakeholder feedback," developed by EIH with the aim of providing a comprehensive assessment of the pilot project's performance, stakeholder engagement, and alignment with the FAME project's objectives and market expectations.

With the launch of Phase 2, the focus shifted to supporting and monitoring the engagement of relevant stakeholders by the pilots. To this end, EIH provided each pilot with a planning template organized into phases, with the aim of structuring the engagement process according to a harmonized methodology. For each phase, pilots were asked to specify the planned activities, objectives, expected outputs, and methodologies adopted (e.g., surveys, workshops, interviews, questionnaires), along with the number and role of the stakeholders involved.

The information collected through the completed templates was analyzed by EIH to evaluate how each pilot's activities were progressing and with the goal to understand how stakeholder interaction was influencing their development trajectory. This process was crucial to assess the market readiness, applicability, and scalability of the solutions developed within the FAME ecosystem. Through this ongoing effort, EIH observed, guided, and supported the pilots in an iterative improvement process, ensuring alignment with the project's core principles and strengthening engagement with relevant market actors.

EIH consolidates the collected material (plans, minutes, questionnaires, models' results, and artefacts) and validates it against the KPI tables to: (i) verify progress against targets; (ii) quantify Before/After deltas; (iii) assess market readiness, applicability, and scalability.

4 Pilots' Final Evaluation

4.1 Pilot #1: FaMLy – Financial Recommendation Engine for Families

Pilot leader: MC

FaMLy aimed to develop a powerful financial recommendation engine for households, using machine learning tools and advanced analytics on a large pool of data collected from Universo's ecosystem. The pilot's goal was to explore how the business could provide personalised advice on everyday household financial decisions, integrating within existing Universo's trusted brand and aiming to support more informed, personalized and sustainable financial decision-making. The work developed on this pilot leveraged data from various Universo assets to profile customers and suggest optimal financial services for them.

Within the FAME framework, the pilot validated how a data-driven recommendation environment, inserted in a financial scope, can cooperate for better decision-making, ingesting heterogeneous data sources (e.g. transactional data, behavioral signals, contextual variables) and transforming them into actionable insights for the business.

Use cases:

1. Recommendation engine for financial decisions in the MC business ecosystem.

2. Consumer interface for families (installment risk).

Main goals:

- Increase and improve the use of Universo's financial products.

- Create a risk model to allow wider access to instalment services.

- Develop and test advanced analytics models capable of aggregating and processing heterogeneous financial data from multiple Universo ecosystem assets.

- Explore the feasibility of machine learning–based approaches to generate personalized financial recommendations.

- Test customer profiling and segmentation techniques to support tailored recommendations of financial services.

Data:

- Profiling of households and individuals based on social, demographic and transactional data.

4.1.1 Outcomes phase 1

4.1.1.1 Technical part

The FaMLy Pilot integrates with the FAME platform by federating data from various sources to improve the accuracy of its financial recommendations. Key benefits of this integration include access to diverse data pools, the use of Explainable AI (XAI) to provide clear and comprehensible insights, and the commercialization of recommendation models. Moreover, the integration enhances data security and encourages data sharing, thus optimizing the overall user experience.

However, the integration faced challenges, particularly concerning legal and bureaucratic issues related to data-sharing authorizations, which caused significant delays in the process. To address these challenges, the team worked closely with the legal department. At the same time, data anonymization and aggregation techniques were employed to protect users' privacy, ensuring that they could not be

identified, thus safeguarding compliance with relevant regulations.

The FAME marketplace is utilized by the FaMLy Pilot to facilitate connections between data producers and consumers. Through the platform, data producers can securely share their assets in compliance with privacy regulations, while data consumers can access these assets to train and enhance recommendation models. The marketplace fosters a trusted environment for data commercialization, promoting innovation and collaboration among stakeholders within the financial ecosystem.

The most useful features of FAME for the pilot's business model include data federation, which allows for the integration of information from multiple sources, enhancing the precision of financial recommendations. Additionally, FAME's Explainable AI capabilities are crucial for generating transparent and understandable insights, improving customer trust. Data anonymization and aggregation techniques are equally vital, ensuring compliance with privacy regulations while facilitating secure data sharing. Finally, FAME's marketplace enables the monetization of data and models, creating new revenue streams and driving continuous innovation.

FAME ensures the protection of the pilot's data and compliance with license terms through robust anonymization and pseudonymization techniques that safeguard privacy and prevent unauthorized identification. The platform's secure data federation capabilities enable controlled access and usage permissions. Furthermore, FAME provides comprehensive audit trails and access logs to monitor data usage and ensure adherence to license terms. Its compliance with GDPR and other regulations further strengthens its capacity to align with legal and contractual requirements, creating a secure environment for data management.

The technological innovations implemented in the FaMLy Pilot significantly contribute to the overall vision of the FAME Marketplace project. By leveraging advanced machine learning algorithms and data analytics techniques, the pilot aims to deliver highly accurate and personalized financial recommendations, aligned with FAME's goal of creating an intelligent and integrated data marketplace. Moreover, the use of advanced anonymization techniques reinforces FAME's commitment to secure and compliant data management. These innovations not only enhance the functionality and security of the platform but also demonstrate its transformative potential in revolutionizing financial decision-making through innovative and secure data-driven solutions.

The main technical challenges encountered during implementation included the harmonization of data formats and resolving inconsistencies across datasets. These issues were addressed through the use of data integration and processing tools, as well as cleaning and normalization techniques. Additionally, data privacy protection posed another significant challenge, which was resolved by implementing anonymization strategies and enforcing strict access control policies, thereby ensuring a high standard of security and privacy throughout the development process.

4.1.1.2   Business part

The FaMLy Pilot's unique selling points align closely with the strategies of Universo and Sonae, leveraging an extensive partnership network that spans multiple sectors such as retail, energy, telecommunications, and restaurants. This allows the pilot to offer personalized and exclusive recommendations tailored specifically for families and the Universo business. Using advanced machine learning and data analytics technologies, the pilot provides customized financial advice, capitalizing on Universo's data resources and expertise. A key focus was given to the protection of user data through strict anonymization and pseudonymization techniques, ensuring compliance with regulations like GDPR, which reinforced the commitment to security and building customer trust. The pilot incentivized data sharing, which not only enhanced the quality of recommendations, but also strengthened customer relationships.

The innovative aspect of the business model lies in the advanced data integration and personalized financial services for families. Rather than relying on traditional financial advisory methods, the

model employs machine learning algorithms to generate personalized recommendations based on a comprehensive analysis of users' consumption habits and lifestyle. Furthermore, the business model stands out by incentivizing data sharing, which improves recommendation accuracy and deepens customer relationships. This approach transforms the way financial services are offered and sets a new industry standard for interaction and personalization.

Stakeholder feedback was collected and integrated into the business model primarily through regular meetings and collaborative discussions with partners and users. Insights from strategic sessions and brainstorming meetings were used to identify stakeholders' needs and challenges. This feedback played a crucial role in defining specific requirements and identifying areas for improvement in the pilot. As a result, adjustments were made to better align with stakeholder expectations, enhancing the integration with FAME and making the processes and data usage more efficient and aligned with market needs. The continuous refinement process ensured that the pilot evolved to better meet demands and optimized its interaction with the FAME platform.

To ensure the long-term financial sustainability of the project, several strategies were considered. Firstly, creating continuous value for both users and partners strengthens the business model and provides a stable revenue base. Efficient monetization mechanisms, such as personalized offers and data-sharing incentives, generate revenue while also enhancing platform adoption. Cost control and process optimization should be key priorities, along with a commitment to ongoing innovation and adaptation to market changes.

The primary revenue streams for the solution are based on the monetization of personalized offers and targeted recommendations. By leveraging advanced algorithms to deliver tailored financial advice, revenue is generated through partnerships with companies offering relevant products and services. Incentives for data sharing not only improve recommendation quality but also create new monetization opportunities.

The following steps in the pilot included the development of the product/service testing and refining various algorithms and strategies to optimize the recommendation model. These models were validated, after multiple interactions, on ongoing feedback and performance analysis between partners, to ensure they provided optimal financial suggestions. Further expansion of partnerships and data sources, namely through FDAC, should also be considered to improve the richness and accuracy of recommendations.

To remain competitive, the FaMLy Pilot will continuously evolve its recommendation algorithms, integrating cutting-edge technologies like AI and predictive analytics. Also, adapting to changes in consumer preferences and market trends will be crucial, with ongoing feedback and data analysis guiding improvements to the customer experience. An agile approach to innovation will allow the pilot, in the aftermath, to respond swiftly to market shifts, ensuring the solution remains relevant and competitive in the long term.

Estimating the value of the data provided through FAME is based on a combination of market analysis and impact assessment. Key factors include data quality, exclusivity, and relevance to buyers' needs, along with the data's potential to inform business decisions and optimize partner strategies. Future plans include leveraging FAME's advanced tools to monitor data usage and performance. These mechanisms, such as dynamic pricing models and licensing options, could potentially help maximize the value of the data and refine distribution strategies based on demand and market trends.

The main risks associated with using FAME for the pilot included data security, regulatory compliance, and technical integration with the platform. Collaboration with legal experts ensures regulatory compliance, with processes tailored to meet GDPR and other relevant regulations.

For the launch of the product/service, several marketing strategies could be used, including digital campaigns via social media, email marketing, and online advertising. Webinars and product launch events could also be further organized to engage potential customers and partners. Collaborations

with industry influencers could help expand reach and enhance credibility, while content marketing strategies such as case studies and educational materials will highlight the product's unique benefits.

The effectiveness of marketing campaigns can be measured through a detailed analysis of conversion rates, user behavior, and return on investment (ROI). A/B testing, for example, could compare different campaign strategies to identify the most effective approach, ensuring continuous optimization of marketing efforts.

4.1.1.3   Stakeholders feedback

As part of the FaMLy Pilot, multiple business workshops were conducted. As part of phase 1, a dedicated workshop was first conducted on 8 December 2024, which involved key stakeholders from various fields related to data analysis and strategic decision-making. A total of seven participants attended, including Data Scientists and Marketing Analysts, who are experts in developing models, extracting insights, and improving product recommendations through the use of advanced analytical tools and AI techniques.

During the workshop, stakeholders emphasized the significant potential of the project, particularly in the development of the recommendation system. They highlighted how the FaMLy Pilot could significantly improve customer segmentation, allowing for more personalized and effective product suggestions. This, in turn, is expected to boost customer confidence and enhance their overall experience with the platform.

Furthermore, stakeholders noted the project's ability to provide valuable insights that could support strategic decision-making. This ability, combined with the tailored recommendations, is expected to strengthen the relationship between the brand and its customers, contributing to higher engagement and customer satisfaction. The feedback gathered during the workshop will be integral in refining the pilot and ensuring it continues to align with the evolving needs and expectations of both users and partners.

Pilot Workshop Overview				
Workshop Title:	WorkShop Fame - Pilot#1		**Date:**	8/12/2024
Agenda: (description of the topics)	Next, we will provide na overview of FAME Project, discussing its goals, scope, and significance. This will be followed by a detailed presentation on Pilot1 and the specific Use case associated with ir. We will then review the current status of the project abd outline the next steps. Following this, we will explain the questionnarie and he evaluation process, providing guidance on how the complete is and its importance. Participants will have time to complete the questionnarie with support available as needed. The workshop will conclude with closing remaks and a Q&A session, where we will summarize the key points.			
Link to the Event: (if applicable to the event)	na			
Event type:		**Duration of the event (h):** 2h	**Number of participants:**	7
Player involved: (e.g., employees of banks and financial institutions, blockchain experts and consultants, top-level managers, business evelopers, researchers, etc.)	The workshop included key stakeholders involved in data analysis and strategic decision-making. Specifically, the participants were: Data Scientists: Professionals specialized in data analysis, responsible for developing models, extracting insights, and training the recommendation engine using advanced analytical tools and AI techniques. Marketing Analysts and Strategists: Experts in market segmentation and customer analysis, focusing on understanding consumer behavior, targeting, and making strategic decisions to optimize product recommendations and improve customer engagement.			
Feedback from stakeholders involved	The stakeholders expressed that the project holds significant potential, particularly in developing the recommendation system. They believe that this system could greatly enhance customer segmentation, leading to more personalized and effective product suggestions. This, in turn, is expected to increase customer confidence and improve their overall experience with the platform. Additionally, stakeholders highlighted the project's ability to provide valuable insights, which could support strategic decision-making and strengthen the relationship between the brand and its customers.			

Figure 2: Pilot 1 workshop overview

4.1.1.4   Pentagon FAME Evaluation Method
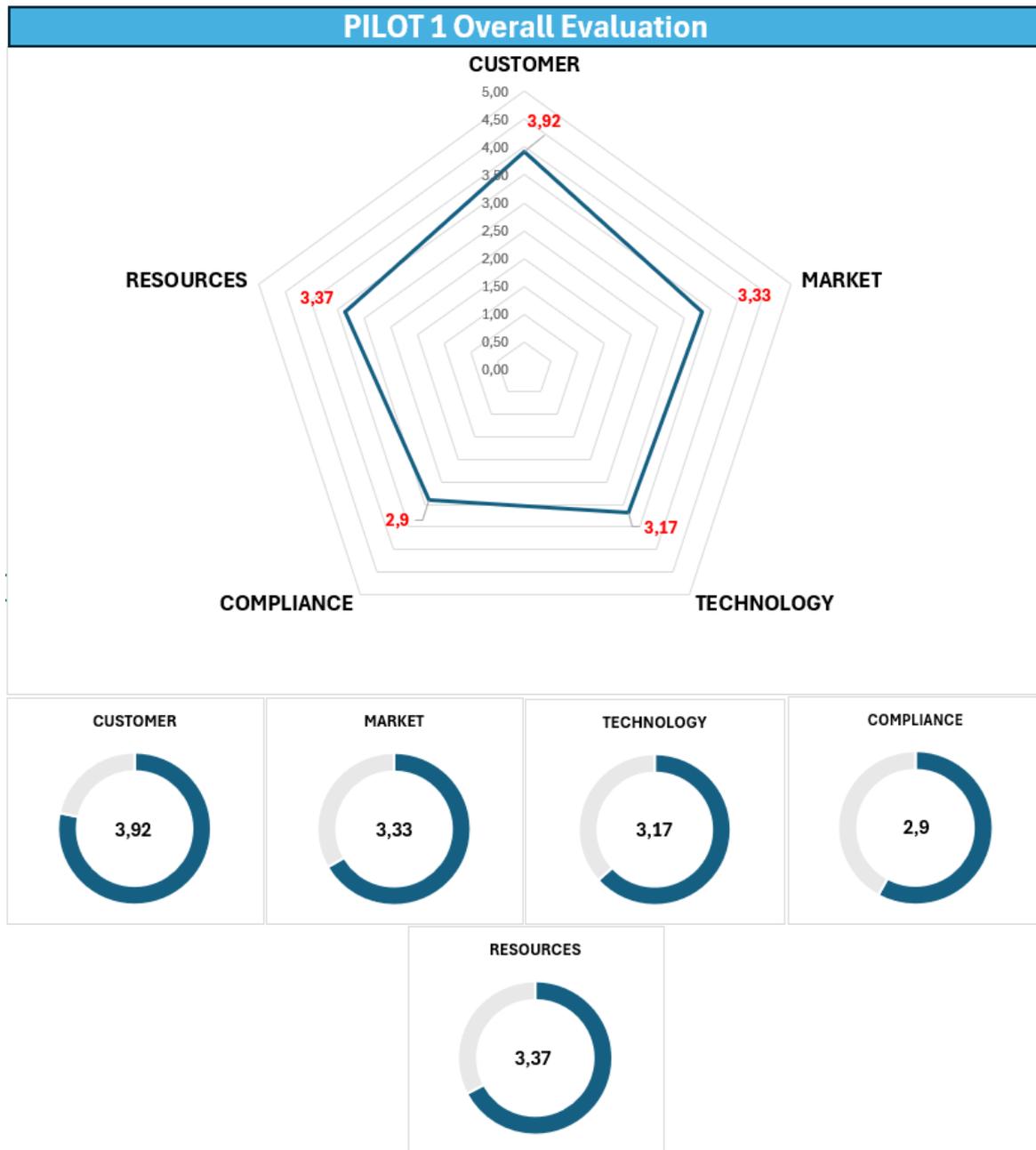
Figure 3: Pilot 1 overall evaluation

4.1.2   Outcomes phase 2

4.1.2.1   Introduction and Goals

The second phase focused on collecting qualitative feedback from the corporate stakeholders involved in Pilot 1, with the aim of better understanding the perceived usefulness of the pilot's outputs and the usability of the FAME Marketplace. In parallel, an attempt was made to identify margins for improvement, also with a view to the future adoption and scalability of the proposed solutions.

To support this assessment, additional workshops were conducted with teams from both MC and Universo, enabling direct interaction with the pilot's results and facilitating structured discussion

around usability, relevance and integration with existing processes. These sessions allowed stakeholders to provide contextualized feedback based on their operational and business realities.

In parallel, this phase aimed to identify potential areas for improvement, as well as key enablers and constraints for future adoption, scalability and exploitation of the proposed solutions within a real corporate environment.

4.1.2.2 Key Performance Indicators

The table below reports the pilot-specific KPIs defined for Phase 2. For each KPI we indicate its description, unit, target, assessment method and category. Two additional columns ("Before FAME" and "After FAME") capture the quantitative baseline and the Phase-2 result, enabling an objective comparison and a clear delta versus target.

KPI Name	Description	Unit	Target	How to Assess?	Category	Comments	Pre FAME (If applicable)	After FAME
Model Performance	Performance measured in standardized metrics such as accuracy, r^2, RMSE, precision, recall, f1_score, roc_auc	Percentage	80% ROC-AUC	Offline model evaluation using validation datasets and standard ML performance metrics.	Business	Models were evaluated in a controlled environment using historical data and predefined validation sets. Model evaluation results remained below the defined target, mainly due to limitations in dataset quality, sparsity and heterogeneity.	-	Below target
Performance increase of ML Models using external FAME Data assets	ROC_AUC Increase by using external data assets	Percentage	5ppp	-	Business	This KPI depended on the integration of external FAME data assets aligned with the pilot's analytical needs. External FAME data assets were not incorporated into the models	-	Not applicable
Number of Analytical Solutions integrated in FAME Marketplace	Number of analytical or ML-based solutions developed, as wells as Data Assets, made available within the FAME Marketplace.	No of solutions / assets	>2	Count of analytical services, data assets or models published and accessible via the Marketplace	Business	Two analytical solutions based on structured financial datasets were integrated into the FAME Marketplace, supporting recommendation and risk detection use cases	-	2
FDAC used	FDAC usage to complement model performance	No of data assets used	>3	Count of data assets retrieved and used from FDAC	Operational	The number of FDAC data assets used remained below the defined target, as the data assets available at the time did not	-	Below target

						present a clear fit with the internal business needs and analytical requirements of Pilot 1. The pilot nonetheless confirmed the technical readiness to integrate FDAC assets whenever relevant datasets aligned with business objectives become available in the ecosystem		
Use cases in production	Use case completion under Pilot 1	No of use cases	=2	Number of use cases completed and validated under Pilot Verification of use case implementation and validation activities.	Strategic	-	0	=2

Table 1: Pilot 1 KPI

4.1.2.3 Stakeholders Engagement Plan

The engagement plan included the organisation of three separate workshops, two of them held at Universo and one held at Sonae MC. Some of these meetings were complemented by follow-up questionnaires, with the aim of collecting further feedback from participants in a structured manner and consolidating qualitative insights gathered during the discussions.

4.1.2.4 Stakeholders involved

Internal stakeholders from both Universo and Sonae MC participated in the engagement activities. The workshops involved operational, analytical and managerial profiles, including teams with direct interest in the pilot's outputs, the integration with existing business processes, and the usability and positioning of the FAME Marketplace within a corporate context. This multi-profile participation ensured that feedback covered both technical and business perspectives.

In further detail:

From Universo, the workshops involved operational and analytical profiles directly connected to the pilot's use cases, including professionals from customer management, CRM analytics, business analysis and data-related teams. These stakeholders contributed with insights grounded in the day-to-day use of financial data, customer profiling and risk assessment processes, and were particularly focused on the relevance, applicability and interpretability of the analytical outputs.

From Sonae MC, the engagement included representatives from the R&D and Innovation, Digital and Incentives areas, encompassing both managerial and senior project management roles. Participants included area leaders, area coordinators and senior project managers, bringing a transversal view on strategic alignment, integration with existing digital initiatives, and the positioning of the pilot within broader innovation and funded-project portfolios.

4.1.2.5   Methodology used by the Pilot

The methodology adopted involved a combination of synchronous (the face-to-face workshops) and asynchronous (the online questionnaire) activities to ensure both qualitative and quantitative feedback gathering. All inputs collected were analysed and consolidated to identify recurring themes, strengths, limitations and opportunities for improvement.

4.1.2.6   Stakeholders feedback

The feedback received has been consolidated into a summary report, which includes:

- evaluations on the usability of the FAME Marketplace.

- comments on the relevance and perceived value of the pilot outputs.

- suggestions for technical and functional improvements.

From the Universo workshops, feedback focused on:

- the relevance of the recommendation and risk models for real business scenarios.
- the challenges associated with data quality, sparsity and availability in specific financial contexts.
- the importance of explainability and interpretability of model outputs for internal adoption,
- and the need to clearly position the FAME Marketplace as a complementary analytics and experimentation environment rather than a direct data-sharing platform.

In parallel, feedback gathered during the Sonae MC workshop reflected a more transversal and strategic perspective. Contributions included:

- reflections on the role of personalized and data-driven models in the future evolution of the retail sector, particularly in supporting more informed and customer-centric decision-making;
- discussion on the conditions required for effective adoption of advanced analytics within large corporate environments, including data governance, integration with existing digital initiatives and organizational readiness.
- key learnings derived from the comparison between the FAME federated data model and the emerging federated data management approach being developed within the Sonae Group, highlighting complementarities, differences and potential future synergies.

4.1.2.6.1   Report-out stakeholders feedback

Overall, stakeholders acknowledged the relevance of the pilot's analytical outputs, particularly the potential of personalized recommendation and risk models to support more informed decision-making in financial and retail-related contexts, when clearly aligned with concrete business use cases.

At the same time, feedback consistently highlighted data-related constraints as a key limiting factor, namely issues of data quality, sparsity and heterogeneity, reinforcing the importance of data readiness as a prerequisite for achieving stronger model performance. The need for explainability and transparency of model outputs was also emphasized, especially in regulated and risk-sensitive environments, where trust and interpretability are critical for internal adoption.

Regarding the FAME platform, stakeholders perceived the Marketplace primarily as an experimentation and analytics enablement environment, rather than a direct operational data-sharing solution, which helped frame realistic expectations around adoption and scalability. Finally, the pilot generated relevant strategic learnings, particularly through comparison with emerging federated data

management initiatives within the Sonae Group, highlighting complementarities and structural differences that may inform future developments.

Overall, the stakeholder engagement plan resulted in clearer alignment between technical outcomes and business priorities, informed the identification of concrete improvement areas for the analytical models, and provided input to guide future exploration and potential scaling of the proposed approaches beyond the pilot context.

4.2   Pilot #2: Embedding Finance Services in a Personalized Citizen Wallet

Pilot Leader: DAEM

This pilot is based on an existing smart parking app (myAthensPass) in the city of Athens. The pilot aims to expand the functionalities of this app into a city wallet offering financial services tailored to citizens, such as managing payments for parking and other public services, including transport and fine payments.

Use cases:

- Personalised payment and loyalty programmes for smart parking.
- Extended payments for multiple services.

Goals:

- Profiling citizens using parking payment data.
- Extend the citizen wallet to services such as transport and fine payments.

Data:

- Citizens' payment and parking transactions' data from the interactions with the app.

4.2.1   Outcomes phase 1

4.2.1.1   Technical part

Pilot 2 builds upon myAthensPass, the City of Athens' operational smart parking application, and extends it towards a Personalized Citizen Wallet supporting Embedded Finance (EmFi) services.

The pilot integrates seamlessly with the FAME marketplace by leveraging its federated cloud environment, enabling secure and compliant data exchange among multiple data providers. This integration focuses on enhancing smart city services, such as parking and personalized financial solutions, through the use of a citizen wallet. By utilizing the capabilities of FAME, the pilot enables the trading and monetization of various data assets, including parking availability data, payment transactions, and citizen profiles. These data assets significantly contribute to improving the accuracy and personalization of the services offered and significantly enriches the value of the pilot's services, enabling dynamic personalization, service bundling and cross-domain insights relevant to mobility and city-wide payments.

The integration provides several key benefits:

- Enhanced Data Accessibility: FAME grants access to a wide range of data assets, enriching the quality of insights and ensuring more tailored services for citizens.
- Regulatory Compliance: The platform ensures compliance with stringent data protection regulations, which is essential for managing sensitive citizen data securely.

- Secure Transactions: FAME's secure and decentralized data trading capabilities, underpinned by blockchain tokenization, safeguard data integrity and foster trust.
- Interoperability: The platform supports seamless integration with various data providers and marketplaces, facilitating a diverse and comprehensive service offering.

However, the process of integration presented several challenges. These included complexities related to data compatibility, which required significant effort to align the data formats and standards of the pilot's services with FAME's platform. Integration with FAME's APIs and infrastructure posed technical hurdles that were addressed through close collaboration between development teams. Additionally, maintaining robust data security and privacy during integration necessitated the implementation of advanced anonymization and encryption techniques. Lastly, ensuring that the integration remained scalable and did not compromise the performance of the pilot's services required innovative solutions, such as optimized system architecture and load balancing in order to avoid performance degradation.

The pilot utilizes the FAME marketplace to connect with both data producers and consumers. On the producer side, it provides data related to smart city services, such as parking data and payment transactions. On the consumer side, developers and service providers leverage this data to create innovative and personalized financial and transport solutions for citizens, thereby enhancing their overall experience.

Among FAME's many features, citizen profiling and data monetization stand out as particularly impactful for the pilot's business model. Citizen profiling, supported by advanced analytics, enables the extension of Embedded Finance (EmFi) services in a highly personalized manner, while the ability to monetize developed EmFi services directly through the FAME platform enhances the economic viability of the solutions.

FAME also plays a vital role in protecting the pilot's data and ensuring compliance with license terms. The platform provides robust data anonymization and encryption, effective access control mechanisms, and tools to enforce compliance with license agreements. Furthermore, the monetization of data assets is facilitated through secure trading capabilities, ensuring that data is handled responsibly and ethically. Tools such as Security Policy Management, federated authentication mechanisms, and Federated Data Access Control (FDAC) are instrumental in preventing misuse of data. Importantly, data is anonymized before being monetized through the FAME platform, further ensuring privacy and security.

The technological innovations embedded in the pilot align closely with FAME's overarching vision. By integrating personalized financial services and real-time data analytics, the pilot enhances the utility of raw data, transforming it into actionable insights and tailored services. It also demonstrates the effectiveness of secure, decentralized data trading, while simultaneously driving user engagement through the delivery of value-added services that elevate citizen satisfaction and involvement.

During the implementation of its solutions, the pilot encountered several technical challenges. Data integration complexity required the development of specialized tools for data mapping and standardization. Scalability issues were addressed by designing scalable architectures and implementing load balancing to handle increasing data volumes and user loads. Ensuring data security and privacy while complying with regulatory frameworks was achieved through the deployment of advanced encryption and anonymization measures. Lastly, achieving seamless interoperability with FAME's platform required thorough testing and iterative improvements to align the pilot's systems with FAME's infrastructure.

In summary, this pilot exemplifies the transformative potential of integrating FAME's capabilities into smart city services. It underscores the value of leveraging advanced technologies to create secure, personalized, and scalable solutions that meet the evolving needs of citizens and stakeholders alike.

4.2.1.2   Business part

The pilot demonstrates significant business innovation by transforming the delivery of urban services through the integration of diverse offerings into a unified citizen wallet. The wallet streamlines transactions and provides personalized financial services, enhancing user satisfaction and engagement. By utilizing the FAME marketplace, the pilot facilitates secure trading of data assets such as parking data, payment transactions, and citizen profiles, creating new revenue streams through data monetization while ensuring compliance with privacy regulations. Advanced analytics and real-time data processing enable tailored recommendations and loyalty programs, distinguishing the pilot with its unique value propositions. These include personalized services, integrated financial solutions, secure and compliant data exchange, and real-time insights.

Stakeholder feedback is critical to refining the business model, and feedback will be collected through surveys, questionnaires, and focus groups with users, clients, and partners. Webinars and online meetings with stakeholders are planned to gather further insights once the integration with FAME is finalized. Initial discussions with municipal employees and other stakeholders have already contributed to design adjustments, prioritizing features deemed most valuable by users. This iterative approach ensures the pilot aligns closely with stakeholder expectations.

Long-term financial sustainability is ensured through diversified revenue streams, including licensing fees for platform use, transaction-based commissions, and future data monetization via the FAME marketplace. Strategic partnerships with local businesses (e.g. mobility service providers) and continuous innovation ensure the solution remains competitive and relevant. The pilot has already conducted an initial implementation with a select group of users, using their feedback to refine the product before full deployment.

The value of the data provided through FAME is being assessed using market research and stakeholder input, with plans to leverage FAME's dynamic pricing tools and analytics to track data utilization, optimize pricing strategies, and maximize revenue generation. Access control mechanisms provided by FAME ensure secure and targeted data distribution. Feedback collected through preliminary discussions has already informed initial refinements, including enhanced usability and better integration with the FAME marketplace.

The primary risks associated with the pilot include the unavailability of key datasets and challenges in leveraging these datasets effectively. These risks are mitigated by identifying alternative sources and securing strategic partnerships to ensure access to necessary data. Metrics to assess the pilot's impact on FAME include user engagement indicators, data utilization rates, transaction volumes, stakeholder feedback, and market penetration.

Marketing efforts focus on municipalities and key stakeholders, with activities such as targeted email campaigns, product demonstrations, social media ads, brochures, and participation in exhibitions. Effectiveness is measured through conversion rates, engagement metrics, ROI, and feedback from users and partners. By integrating secure data exchange, advanced analytics, and personalized services into a unified citizen wallet, the pilot leverages FAME's capabilities to deliver scalable, compliant, and innovative urban services that enhance user engagement and satisfaction.

4.2.1.3   Stakeholders' feedback

The workshop provided valuable insights into the integration of Pilot 2 within the FAME project, focusing on both business and technical perspectives. Stakeholders actively engaged in discussions

on the monetization of existing data and the utilization of emerging Embedded Finance (EmFi) services. From a business standpoint, participants emphasized the importance of introducing and monetizing parking-related data through the FAME platform. Additionally, it was recognized that the newly designed EmFi services could add significant value to municipal operations, enhancing service offerings and efficiency.

On the technical side, a detailed discussion was conducted regarding the technological aspects of the FAME project and its alignment with the pilot's use cases. Participants explored the feasibility of integrating the current back-office parking system with FAME and addressed potential challenges related to data exchange, system compatibility, and user access.

User acceptance was identified as a key factor for the success of the pilot. Given that the primary users of the system are back-office operators managing parking-related tasks, stakeholders underscored the necessity of a user-friendly interface. It was highlighted that simple, intuitive, and precise system functionalities would significantly enhance the adoption of the proposed solutions.

Furthermore, ethical considerations and compliance with regulatory frameworks were a major point of discussion. Stakeholders particularly stressed the importance of data security, privacy protection, and adherence to GDPR and other relevant regulations. Transparency in data usage was recognized as a crucial element in building user trust and ensuring compliance with existing legal frameworks.

Overall, the feedback gathered during the workshop will be instrumental in refining the pilot's implementation, addressing technical and regulatory challenges, and enhancing user engagement. The insights provided by stakeholders will contribute to the continuous improvement of the integration process, ensuring that Pilot 2 aligns effectively with the broader objectives of the FAME marketplace.

Pilot Workshop Overview					
Workshop Title:			**Date:**	17/01/2025	
Agenda: (description of the topics)	1. Presentation pf the FAMEproject 2. Pilot 2 position in FAME project (description of the two use-cases) 3. Implementations progress 4. Questionnaire evaluation procedure explanation 5. Questionnaire completion				
Link to the Event: (if applicable to the event)					
Event type:	Physical Workshop	**Duration of the event (h):**	2h	**Number of participants:**	9
Player involved: (e.g., employees of banks and financial institutions, blockchain experts and consultants, top-level managers, business evelopers, researchers, etc.)	1. Operators of the existing back-office parking system: Experienced employees with a complete business view of the pilot use cases 2. Employees from the municipal police: Employees that are dedicated to the management of the parking areas 3. Technical staff from IT department.				
Feedback from stakeholders involved	1. Business perspective: From a business point of view, the feedback can be organized in two categories: a) monetization of existing data and b) usage of the developing EmFi services. For the first category the main concern is focused on how existing data can be introduced and monetized through the FAME platform, while the designed EmFi services could provide an added value to the municipal. 2. Technical perspective: An extensive discussion was carried out related to the technical aspects of the FAME project and pilot use cases. 3. User acceptance: Since the audience of this workshop is potential back-office users of pilot 2 outcomes, it pointed out that the system usability is a crucial factor. From system management point of view simple and accurate user interfaces will boost the acceptance of the proposed solutions. 4. Ethics and compliance: Stakeholders particularly highlighted the data security and adherence to GDPR and other regulations. Transparency in data usage and privacy protection were emphasized as critical factors for user trust.				

Figure 4: Pilot 2 workshop overview

4.2.1.4 Pentagon FAME Evaluation Method
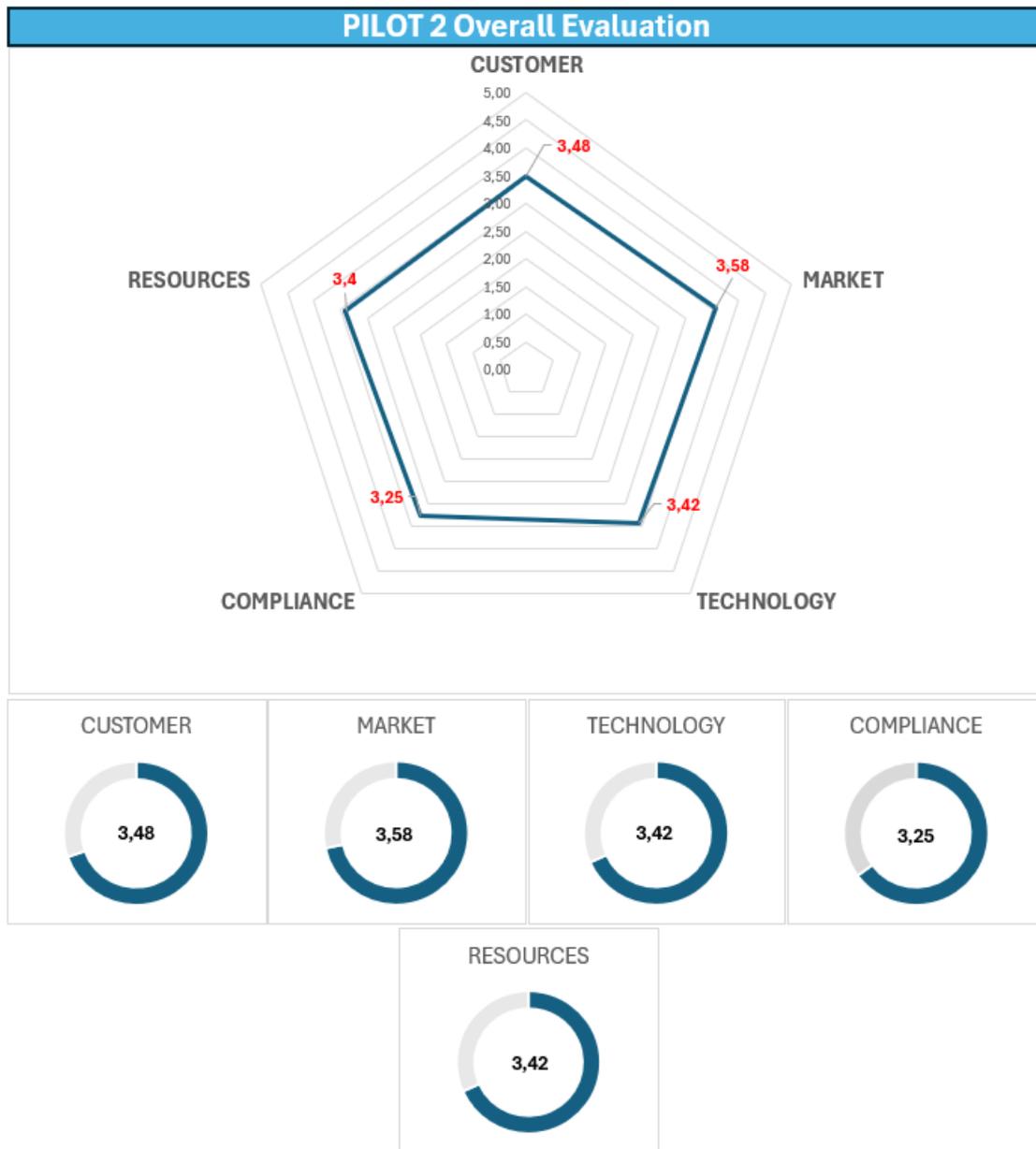
Figure 5: Pilot 2 overall evaluation

4.2.2 Outcomes phase 2

4.2.2.1 Introduction and Goals

Phase 2 (from June to December 2025) aimed to analyse and support Pilot 2 in engaging relevant stakeholders and gathering feedback to improve technical implementation and assess market applicability. The pilot adopted a multi-step plan to ensure alignment between technical outcomes and stakeholder needs, using feedback loops for refinement and final validation. The core objectives are:

- Collect intermediate feedback from actual users (relevant stakeholders) in order to investigate improvements or issues to the developed services.
- Identify operational and organizational requirements.

- Ensure compliance with municipal policy and governance constraints.

4.2.2.2   Key Performance Indicators

The evaluation of Pilot 2, Embedding Finance Services in a Personalized Citizen Wallet, is grounded in a pre-defined set of Key Performance Indicators (KPIs) designed to measure the technical, operational, business, and user-centric impact of the implemented Embedded Finance (EmFi) services. These KPIs capture both quantitative and qualitative improvements resulting from the integration of FAME technologies into the smart mobility ecosystem of the City of Athens.

The KPIs span eight dimensions, covering user engagement, service adoption, data-driven operational efficiency, financial service expansion, and overall citizen satisfaction. Each KPI is assessed through an explicit "Before FAME" and "After FAME" comparison, ensuring measurable evidence of progress and enabling the identification of tangible added value. Data sources include application analytics, system logs, municipal back-office data, and two rounds of citizen surveys collected during the pilot testing phase.

Collectively, the KPI results demonstrate that Pilot 2 not only met but exceeded expectations across all evaluation categories. The introduction of FAME-enabled analytics, personalized mobility services, and EmFi functionalities significantly enhanced user activity, increased the uptake of alternative transportation modes, improved enforcement efficiency, and raised citizen satisfaction levels. Furthermore, the deployment of new personalized services and financial capabilities validates the scalability and market readiness of the Citizen Wallet, confirming its potential for replication in other European cities.

This KPI assessment therefore provides strong evidence of the pilot's maturity, its alignment with FAME's strategic objectives, and its capacity to deliver sustainable, data-driven value for both citizens and municipal operations.

The table below reports the pilot-specific KPIs defined for Phase 2. For each KPI we indicate its description, unit, target, assessment method and category. Two additional columns ("Before FAME" and "After FAME") capture the quantitative baseline and the Phase-2 result, enabling an objective comparison and a clear delta versus target.

KPI Name	Description	Unit	Target	How to Assess?	Category	Comments	Pre FAME (If applicable)	After FAME
User engagement & retention	Analyse active users, track retention rate and frequency of use	Percentage	50% of users, 3 active sessions per week	Application analytics/ survey data	Operational, Business	Achieved - 60% of users, ~3 active sessions per week	Only parking transactions data existed	Multiple EmFi services available
Discount utilization and user benefits (loyalty)	At least 10% of users take advantage of discounts	Percentage	10% adoption	Wallet transactions logs, survey data	Operational, Business	78% of users used discount-related services	No discount or loyalty program available	Target exceeded significantly
Alternative transportation adoption	At least 10% of app users access alternative transportatio	Percentage	10% adoption	usage analytics,	Environmental	-- 45% of users purchased bus tickets	Feature did not exist	Target exceeded significantly

	n data weekly. / loyalty/credits		survey data					
Parking occupancy monitoring	75% accuracy of parking occupancy data	Percentage	75% accuracy of analytics	Analytical validation vs real	Operational, Smart Cities		Estimated ~55% accuracy (legacy system with static rules)	Accuracy reached 82% exceeding the target
Improvement of enforcement	10% increase in resolved parking violations using platform data	Percentage	10% reduction of time of enforcement officers for targeted inspection	Back-office logs, before/after comparison	Operational, Economic	More targeted inspections /enforcement through better geospatial data	Standard manual enforcement & inspection, baseline productivity	Analytics dashboard (Management Service) improved prioritization - ≈12% faster resolution time
User satisfaction	10% increase in app satisfaction rating	Percentage	10% increase in user satisfaction	survey ratings	Operational, Economic	improvement in satisfactions rate achieved	historical satisfaction rate ~3.7/5	4.4/5 satisfaction rate achieved
increase of personalised services (discounts/loyalty etc)	2 personalised services	Number	2 new personalised services	Product inventory	Economic	New modules: Personalised discount/loyalty/profiler/dynamic pricing	No personalized services existed	4 new services delivered
Expansion financial services	Offer new financial services: pay fines, buy bus tickets	Number	2 new financial services embedded in the digital wallet	Service catalogue	Operational, Business	target exceeded	Only parking payments available	3 new services: bus ticket purchase, fine payment, wallet-based cross-service payments

Table 2: Pilot 2 KPI

4.2.2.3 Stakeholders Engagement Plan

The engagement strategy of Pilot 2 was structured into four sequential steps:

- Step 1 (up to M24): Stakeholder identification and mapping of interests and expectations.

- Step 2 (up to M26): An internal stakeholder kick-off meeting (involving 9 internal employees) was held during January of 2025 to present the pilot, explaining use cases and evaluation procedures.

- Step 3 (up to M33): Intermediate feedback from both citizens (pilot testers) and internal staff through testing sessions, workshops, and questionnaires. A selected group of 85 existed users were engaged to test and validate he functionality of the new wallet and the embedded EmFi

services during August – September of 2025. A second workshop with internal stakeholders (12 participants) was held at the beginning of November. The scope of this workshop was to ensure that the new system was aligned with the business needs.

- Step 4 (up to M34): Final workshops with external municipal representatives for result dissemination and co-creation of the next steps. At the beginning of November, a final online workshop was held inviting an external audience (15-20 attendees) of other municipalities to demonstrate the final solution and gather feedback for future commercialization of the solution. Furthermore pilot 2 participated in other two online workshops – FAME showcase workshop at end of November and the EUDATA+ workshop for mobility at the beginning of December – presenting the outcomes of the pilot and the future plan.

4.2.2.4   Stakeholders involved
Pilot 2 involved multiple stakeholder categories:

- Citizens (end users) – engaged through pilot testing of EmFi services and surveys.

- Municipal employees – including IT staff, back-office operators, and municipal police officers.

- External municipalities – through a final workshop to evaluate interest and replication potential.

- Participants from the wider FAME ecosystem attended the November showcase, and from EUDATA+ cluster during the workshop on 1st of December.

Each group was targeted with dedicated materials and activities to collect focused insights.

4.2.2.5   Methodology used by the Pilot
The methodology included:

- Stakeholder mapping based on influence and interest analysis.

- Engagement via app testing, online surveys, live demos, and structured workshops.

- Use of questionnaires and logs from application usage to collect feedback after each session.

- Evaluation dimensions included: technical functionality, user experience, compliance, and monetization opportunities.

4.2.2.6   Stakeholders' feedback
Feedback was collected on four levels:

1. Business Perspective – Stakeholders discussed monetization of existing data assets and the added value of EmFi services.

2. Technical Perspective – Issues and improvements related to technical implementation and usability were shared.

3. User Acceptance – Citizens emphasized the importance of simplicity and accuracy of interfaces.

4. Compliance & Ethics – Data protection, GDPR compliance, and transparency were key concerns for trust-building.

This feedback has been integrated to refine the pilot, improve scalability, and enhance alignment with the FAME project's goals and market orientation.

4.2.2.6.1 Report-out stakeholders' feedback

The engagement rounds conducted in Pilot 2 confirmed a strong and growing interest in EmFi-enabled municipal services, particularly those linked to smart mobility, dynamic pricing, and integrated digital payments. Across all stakeholder groups—citizens, municipal employees, external municipalities, and representatives from the wider FAME ecosystem—participants consistently recognised the potential of the FAME framework to modernise local services and unlock new forms of value from existing data assets.

4.3 Pilot #3: Personalized Collaborative Intelligence for Enhancing EmFi Services

Pilot Leader: BPFI

This pilot aims to demonstrate how the federation of customer data from different sources can improve the accuracy of embedded payment solutions (Embedded Finance). Through the FAME marketplace, service providers will be able to purchase these new data assets and use them to improve their services.

Use Cases:

- Pay Facts-as-a-Service for embedded payments.

- Anti Money Laundering (AML) as a Service.

Goals:

- Create new data assets to sell to financial service providers.

- Develop an AML compliance service to detect criminal activities in payments.

Data:

- Customer payment data, including customer profiles and alternative datasets.

4.3.1 Outcomes phase 1

4.3.1.1 Technical part

Pilot 3 is integrated with the FAME platform through a dedicated roadmap defined by its architectural design. This integration allows the pilot to benefit from the federated marketplace by enabling the sharing of data and solutions provided by different service providers. However, achieving full integration with the FAME ecosystem presented challenges, as the pilot was originally tailored to meet the specific needs of individual firms, while FAME adopts a broader and holistic federated approach. Within the marketplace, Pilot 3 contributes by publishing its solutions as distinct assets, leveraging federated learning to address various user needs. One of the most valuable features for the pilot's business model is the FAME Authentication and Authorization Infrastructure (AAI), which provides a secure and role-based access control framework. This system ensures that only verified users, affiliated with the federation, can log into the portal and interact with the data. In terms of technological contribution, Pilot 3 supports FAME's vision of building a federated market for ideas and solutions by applying federated learning methods. From a technical perspective, one of the main challenges encountered was the integration of diverse services developed across different contexts into a unified solution within Pilot 3. This required careful coordination to maintain coherence and ensure alignment with the overall architecture of the FAME platform.

4.3.1.2 Business part

Pilot 3 introduces a set of unique selling points centered on advanced compliance and intelligence capabilities enabled by Explainable AI, Federated Machine Learning, and energy-efficient analytics. These technologies allow the provision of explainable AML detection and nuanced risk insights, all supported by a blockchain-based marketplace ensuring transparency, trust, and smart contract-enabled pricing. The offering is tailored specifically for Embedded Finance (EmFi) providers, integrating AML tools and compliance-as-a-service features directly into their platforms. The pilot's business model is innovative in how it monetizes compliance and intelligence as embedded services, rather than traditional standalone tools. It introduces a Facts-as-a-Service marketplace, powered by blockchain and AI, which allows for the secure, contextualized exchange of data insights. The revenue strategy combines subscription models, tiered transaction fees, and consulting services, supporting both predictable income and scalability. Feedback from stakeholders is systematically collected through embedded usage analytics, structured engagements, and cross-partner benchmarking within FAME. This feedback has informed adjustments to the business model, particularly in pricing and service bundling. To ensure long-term sustainability, the pilot relies on scalable cloud infrastructure, automation through smart contracts, lean operational models, and strategic expansion into data-intensive sectors. While key revenue streams include subscriptions, transaction-based pricing, and consultancy, white-labelling options are also under consideration. The next development steps focus on finalizing the MVP, validating regulatory compliance, and scaling through the FAME marketplace. To remain competitive, the pilot plans to evolve through enhanced AI features, new premium analytics layers, sector expansion, and ecosystem partnerships. Although pricing models for data are still being finalized, several monetization mechanisms are being explored, including blockchain-based contracts, granular telemetry, and marketplace analytics. Main risks identified include sparse data, security concerns, and uncertain adoption rates—each addressed through mitigation strategies such as synthetic data, audit trails, and flexible pricing. The pilot's impact is measured via usage metrics, monetization rates, and AI performance indicators. Marketing activities are strategically designed around B2B outreach, thought leadership, digital campaigns, and participation in industry events, with effectiveness measured through KPIs such as engagement rates, conversion metrics, and FAME platform activity.

4.3.1.3 Stakeholders feedback

The workshop for Pilot 3, held on July 17, 2024, via Teams and attended by six participants—including representatives from the Irish Payments Council, Deloitte Ireland Consulting (financial services), and the Pilot 3 team—provided valuable insights regarding the positioning and development of the proposed solution. Stakeholders expressed general agreement on the increasing relevance of Embedded Finance within the financial services and payments sectors, highlighting in particular the pressing need for effective information sharing mechanisms, especially in the area of Know Your Customer (KYC). It was noted that several well-established competitors offer integrated service suites, which may appear more attractive than standalone solutions. In this context, leveraging the FAME Marketplace as a shared ecosystem was identified as a key opportunity to enhance Pilot 3's value proposition. Regarding the business model, stakeholders recommended encouraging adoption through flexible pricing approaches such as subscription plans or pay-per-use models, in order to minimize upfront costs and reduce entry barriers. Finally, the emergence of initiatives such as EUDIW—which are expected to introduce relevant identity-related use cases (e.g., customer onboarding)—was discussed, underlining the importance of ensuring that Pilot 3 maintains a clear and distinctive position within this evolving landscape.

Pilot Workshop Overview			
Workshop Title:	FAME Pilot 3 workshop	**Date:**	17/07/2024
Agenda: (description of the topics)	•Overview of FAME •Overview of Pilot 3 proposition & use cases •Discussion & feedback •Discussion Business Model		
Link to the Event: (if applicable to the event)			
Event type: Teams Meeting	**Duration of the event (h):** 1.5 hours	**Number of participants:**	6
Player involved: (e.g., employees of banks and financial institutions, blockchain experts and consultants, top-level managers, business evelopers, researchers, etc.)	•Representatives from Irish Payments Council •Representatives from Deloitte Ireland Consulting - financial services •FAME Pilot 3		
Feedback from stackeholders involved	• General agreement that Embedded Finance is a increasingly important trend in Financial Services and Payments. The Pilot 3 Use Cases are correct and topical. There is a known need for information sharing in particular in the area of KYC. • There are several large competitors offering services in EF space. These will have additional products, allowing them to offer suites of services which may be more attractive than the single competition. Utilising the services in the wider FAME Marketplace could mitigate this to some degree. • The Business Model needs to encourage trials and experimentation. No large upfront cost, but rather a pay per usage and/or a subscription model. • Other developments to consider – the EUDIW initiative will likely have identity use cases which will be used in customer onboarding and KYC. Consideration needs to be given to how Pilot 3 remains distinct.		

Figure 6: Pilot 3 workshop overview

4.3.1.4   Pentagon FAME Evaluation Method
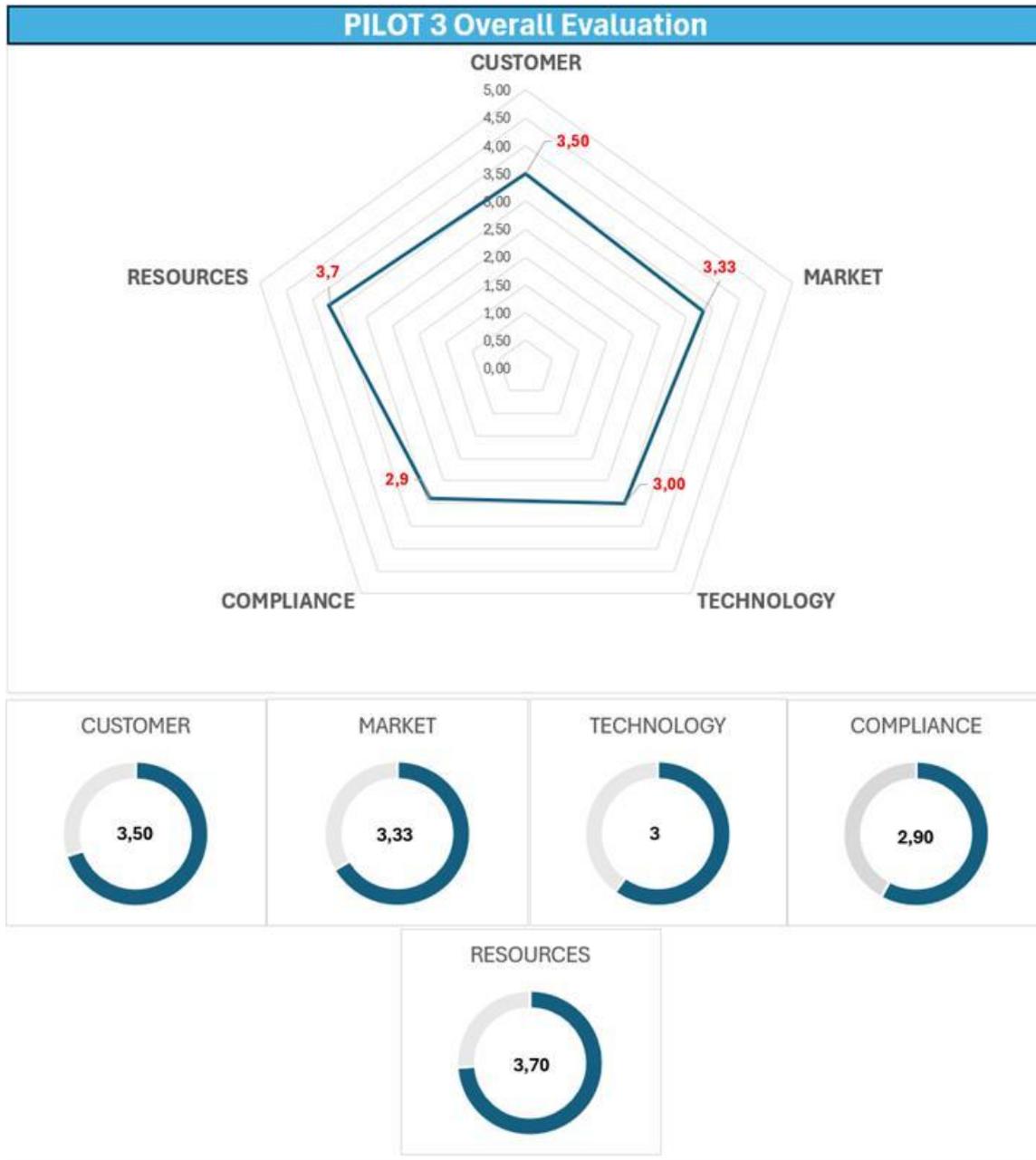
Figure 7: Pilot 3 overall evaluation

4.3.2   Outcomes phase 2

4.3.2.1   Introduction and Goals

During the second phase, Pilot 3 planned a series of activities aimed at involving stakeholders through targeted surveys and dissemination actions. The objective was twofold: to collect feedback on the understanding of and interest in the proposed use cases, and to define a plan for the dissemination and exploitation of the results obtained. This engagement focused on financial and banking stakeholders, particularly those involved in Embedded Finance (EmFi) and compliance services.

4.3.2.2   Key Performance Indicators

The table below reports the pilot-specific KPIs defined for Phase 2. For each KPI we indicate its description, unit, target, assessment method and category. Two additional columns ("Before FAME" and "After FAME") capture the quantitative baseline and the Phase-2 result, enabling an objective comparison and a clear delta versus target.

KPI Name	Description	Unit	Target	How to Assess?	Category	Comments	Pre FAME (If applicable)	After FAME
P3-KPI-01 Applications and Use Cases Definition	A solid foundation for applications and use cases definition. To provide a detailed description of use cases and provide prototypes in specific and demonstrate the results with videos.	2 UC 2 App's	The final goal includes an establishment of online services and last make the application of the use cases marketplace ready	- Use cases specification - Prototype - Demonstrator with video - Online services - Marketplace ready	Non-Technical	The applications and service will be available online and as offering for marketplace.	Unautomated hand-driven application of data not in systemic approach	Automated ease to access easy to use application with data ensamble systemic approach
P3-KPI-02 Data Services Infrastructure	to build services infrastructure. The infrastructure covers 5 distinct activities. Data & Platforms Management. The continuous monitoring tool which covers the whole process for the Pilot is developed along with onboarding CI/CD compliance. The last activity is to provide services using onboarding methods.	2	To provide services Using FAME SDK / Micro-Services and APIs	- Services using micro-services. - Data & Platform management services. - Monitoring tool. - Onboarding CI/CD compliance. - Services using onboarding methods.	Non-Technical	Online services and profile building including the admin module will be deployed using CI/CD methods.	The data service infostructure despite existence were weak and did not facilitate the final goal.	The service infrastructure is built and is in use Marketable for wide variety of usage.
P3-KPI-03 Data Modelling and Processing	The identification of the vocabulary, preparing taxonomy and providing data model logic and physical	>50 1 1 >50 >10	To provide the data model as final product.	- Data sets samples. - Metadata repository. - Data offering catalog. - Query data test.	Non-Technical	The data model will be proprietary following the JRC vocabularies and taxonomies.	The identification of the vocabulary, preparing taxonomy was not existed and providing data model logic and physical	The introduction of an innovative new method of identification of the vocabulary, preparing taxonomy

	annoted data schema.			- Data sharing & exchange.				annoted data schema was not improved upon.	and providing data model logic and physical annoted data schema.
P3-KPI-04 Data / Information Services Platform	Services Platform which includes offering registration for assets offering discovery federated query mode cross-consumption and delivering data transfer.	>10 >10 >20	To provide online services for services validation.	- Offering registration. - Offering discovery. - Semantic query.	Technical Operational	Technically it is possible to use generic semantic engine for semantic queries.	There has been various attempt done by several market place for data but ot sufficiently address the current need in the marke.	A systemic approch in Services Platform which includes offering registration for assets offering discovery federated query mode cross-consumptio n and delivering data transfer was developed and is in use.
P3-KPI-05 Data Smart Services & Visualis ation	Service(s) provided are data management services and online data services visualization.	1 >50 1 >6	To include identification of the vocabulary preparing taxonomy and providing data model logic and physical annotated data schema	- Data model logic & physical - Annotated data schema - Data model and analytic services - Online visualisation service.	Technical Operational	Technical development can be done with graphana or data360 open source.	Smart service and visualization existed before FAME but not in a homogenized way in which FAME provides.	One-of-a-kind data managemen t services and online data services visualizatio n.
P3-KPI-06 Architecture Definiti on	Identifying and orchestrating the components, software elements, tools and data infrastructures to support APIs and services.	1	To design and specify the methods for deploying components, utilities and services.	- Diagram representation . - Functional and Logic diagram. - software components and - software libraries and frameworks.	Technical Operational	Technical deployment can be done following FAME CI/CD.	Several architectures existed in the field mainly attributing to their need and demand.	The components, software elements, tools and data infrastructur es are identifyand orchestrated to support APIs and services.
P3-KPI-07 Trustwo rthiness, Security	to deploy Data protection methods, identity management, access control	1 1 1 1 1	To provide services Using FAME Authenticatio n & Authorisation Infrastructure	- Data protection. - Identity management. - Access control tool. - Platform	Technical Operational	Authenticatio n and Authorisation Infrastructure is fully integrated.	Although several platform provide data protection methods identity management	Data protection methods, an unique and advanced identity managemen t, embedded

& Privacy	tools, platform access control and self-sovereign identity.		Deployment (FAAID including wallet services and APIs.	access control. - Self-sovereign identity.			and access control tool FAME innovation supersedes their achievements.	access control tools, platform access control and self-sovereign identity are developed as FAME signitures.
P3-KPI-08 Data Services Deployment	To deploy data services including identification of the vocabulary preparing taxonomy and providing data model logic and physical annotated data schema and providing data model as final product.	>50 >10 1 1	To include data sets and sample deployment of metadata storage and preparing data offering catalog with query data test performed and last deliver on Cross-Domain Query	- Vocabulary selection - Taxonomy ready - Data model - Query system	Operational	Development is possible using data schemas and financial vocabularies	Data services existed and preceded FAME.	data services including identification of the vocabulary preparing taxonomy and providing data model logic and physical annotated data schema and providing data model as final product were developed and turned into a solid branding for FAME.
P3-KPI-09 Infrastructure Deployment	To provide software and IT infrastructure to run the application and services.	1	To provide local host/ lab test client-server mode and hybrid-developer service mode with industrial cloud environment and testing the scale up to be the last activity.	- Local host configuration / Lab test. - Client-server mode. - Hybri-developer service mode. - Industrial cloud environment. - Scale up test / validation.	Operational	Deployment of the tools/application are possible following standard CI/CD or cloud-based infrastructures.	Precedes FAME	As the solid foundation for FAME software and IT infrastructure were developed to enable running the application and services.
P3-KPI-10 Stakeholders Engagement	To define the number of activities and events that will involve stakeholders including workshops, consultancy with experts and validation	2 >25 >30 >10 1	To execute surveys and questionnaires, workshop and seminar or webinars, including dissemination events such as conferences, booths, etc. and	2 surveys and questionnaires, 2 workshop seminar or webinars, 1 dissemination events such as conferences, booths, etc. and	Operational Business	Activities and events can be organised to achieve these objectives	Preceded FAME	FAME maintain a closed relationship through feedback loop with in-place and potential stakeholders in a unified cooperation

activities/events.		consultancy and expert panel interviews.	2 consultancy and expert panel interviews 1 agreements and/or potential contracts				to deliver excellence.

Table 3: Pilot 3 KPI

4.3.2.3 Stakeholders Engagement Plan

The engagement plan included several activities and meetings, both physical and online, structured around the following key actions:

- A survey targeting over 50 CXOs in the banking sector (both domestic and international) to gather feedback on the EmFi proposition.

- Briefing sessions with FinTech stakeholders to collect feedback on the value and relevance of the specific use cases proposed by Pilot 3, and to gather input on the demo version of the platform.

- A dedicated presentation to the Payments Council of Ireland (comprising 32 large payment processors) to validate the Pilot 3 and FAMP proposition, explore the alignment with product roadmaps, and collect feedback for improving the demo.

- Roundtable meetings with banking representatives to assess the integration of EmFi in their KYC and AML processes and understand the ecosystem of partnerships required to deploy such services.

- A dedicated feedback session with Deloitte Financial Services Consulting to explore potential strategies for the commercialisation of Pilot 3 and future roadmap evolution.

- Participation in **FinTech Nation 2025**, Ireland's largest FinTech event, where Pilot 3 was presented during a panel discussion focused on EmFi innovation and the FAME Marketplace. The event gathered over 320 stakeholders from FinTech and banking, including senior executives (CXO and Head-of-level), providing visibility and engagement opportunities.

  ➢ **FinTech Nation 2025 Conference, 19th September Convention Centre Dublin**

  The end of friction: Embedded finance and the new competitive edge moderated by Gillian Byrne, Head of Payments, BPFI and panel Kaelan Lennon, CEO and Founder, CleverCards; Andrew McKee, Director Digital Banking, Deloitte; and Daniel Szmukler, Director, Euro Banking Association.

  During the panel discussion, several themes closely aligned with the objectives of **FAME Pilot #3** were discussed. Panellists highlighted that the next phase of embedded finance innovation will be driven not solely by smoother user experiences, but by reducing friction in the underlying intelligence and compliance layers. In particular, the discussion emphasised the growing need for shared, trusted data that can be reused across multiple embedded finance use cases, rather than repeatedly rebuilt by individual providers. This reflects **Pilot #3's** *Facts-as-a-Service* model, which enables embedded finance providers to consume pre-validated insights derived from multi-source payment data.

The panel also recognised that AML and compliance processes remain one of the most significant sources of hidden friction in embedded finance journeys. While essential, these controls often slow innovation and customer onboarding when implemented in isolation. The discussion aligned with **Pilot #3's approach of reframing AML as an embedded, API-driven service**, allowing compliance to be integrated seamlessly into digital journeys without compromising regulatory standards. Finally, speakers noted a broader industry shift away from bespoke "build-everything-in-house" models toward the consumption of modular capabilities. This transition—from building infrastructure to consuming trusted services—mirrors the FAME marketplace vision, positioning Pilot #3 as a practical example of how intelligence and compliance can be delivered as scalable services that reduce friction while creating a new competitive edge.

4.3.2.4   Stakeholders involved

The main stakeholders involved were:

- CXOs and managers from the banking and payment sectors, national and international;

- FinTech Nation conference participants (over 300 expert stakeholders).

- Potential users of the EmFi proposal represent the target of future dissemination activities.

4.3.2.5   Methodology used by the Pilot

The activities were divided into three main phases:

- Phase 1 (July–September 2025): Preliminary engagement and surveys targeting CXOs, combined with presentation of early results and gathering of impressions during the FinTech Nation conference.

- Phase 2 (August 2025): Analysis of the collected feedback, definition of a refined implementation plan, and internal communication and alignment.

- Phase 3 (September 2025 – M33): Launch of dissemination activities towards broader market and business stakeholders.

4.3.2.6   Stakeholders feedback

The feedback that emerged during the engagement activities highlighted the following:

- Strong interest in the use cases presented and recognition of their relevance in the evolving landscape of EmFi and compliance services.

- The need to strengthen communication on the practical benefits and concrete deliverables of the EmFi proposal.

- Opportunities to adapt and refine the roadmap based on the suggestions received during meetings and panels.

- A general openness to collaboration and a positive willingness from stakeholders to test and evaluate the solution in real-life conditions.

The stakeholder engagement activities for Pilot 3 provided rich and actionable insights into the evolving commercial and regulatory landscape for Embedded Finance (EmFi), compliance services, and intelligence-sharing models. Across banks, payment processors, and consulting partners, stakeholders consistently emphasised the strategic relevance of data-driven services particularly in AML, onboarding, and customer risk assessment while also identifying practical considerations for adoption.

From a business perspective, participants confirmed strong interest in both the Facts-as-a-Service and AML-as-a-Service propositions, recognising that increasing regulatory pressures and fraud/AML convergence (e.g., AMLR, PSD3/PSR) are heightening demand for explainable, real-time intelligence layers that can plug into existing EmFi ecosystems. However, stakeholders also recommended clearer articulation of the tangible business benefits, including measurable improvements in false-positive reduction, onboarding efficiency, and improved monitoring accuracy.

From a technical perspective, stakeholders appreciated the federated architecture and the role of explainable AI, but stressed the need for:

- simple integration pathways (SDKs, APIs).

- clear deployment architectures for production environments.

- transparency regarding data governance obligations in a multi-party setting.

The market positioning of Pilot 3 was also explored in depth. Stakeholders highlighted the presence of well-established regtech competitors providing packaged AML/KYC suites, suggesting that Pilot 3 should focus on differentiation by leveraging:

- federated data access via the FAME marketplace.

- explainable and energy-efficient AI models.

- cross-domain intelligence sharing not available in legacy point solutions.

Overall, the feedback validated the strategic direction of Pilot 3 while identifying the need for strengthened communication of its unique value and clearer demonstration of operational outcomes.

4.3.2.6.1 Report-out stakeholders' feedback

Pilot #3 demonstrates how Facts-as-a-Service and AML-as-a-Service can be delivered as scalable, trusted capabilities to support embedded finance across Europe. The pilot validated that embedded finance providers require curated, explainable, and decision-ready intelligence, rather than raw payment data or opaque risk scores. By applying federated analytics across multiple payment data sources, the pilot showed how meaningful behavioral insights and AML signals can be generated while preserving data sovereignty and regulatory compliance.

A key outcome was the successful reframing of AML from a standalone, friction-heavy control into a modular, API-driven service that can be embedded directly into digital customer journeys. This approach can improve detection quality, reduce false positives, and support faster onboarding and transaction decisions without compromising regulatory standards. The use of explainability and metadata increased trust among stakeholders, particularly where insights are used in customer-facing or automated contexts.

Stakeholder engagement and live demonstrations were critical in refining the service design. Feedback from banks, FinTechs, and Consultancies which led to clearer fact definitions, tiered risk indicators, and improved integration patterns aligned with real-world workflows. Overall, Pilot #3 confirmed the commercial and operational potential of shared, privacy-preserving intelligence services within the FAME marketplace and positioned the pilot as a strong foundation for scaling trusted embedded finance capabilities across the European ecosystem.

4.4   Pilot #4: The EU Funds Application Process Made Easy

Pilot Leader: INNEUROPE

This pilot aims to simplify the application process for Next Generation EU funds for SMEs and the self-employed in Spain, through a smart platform that facilitates the identification of grant programmes and offers personalised advice.

Use Case:

- Simplified process for applying for European funds.

Goals:

- Matching company profiles with optimal financial products (loans, leasing, financial guarantees).

Data:

- Data on corporate customers, loans granted, cash flow and debt capacity.

4.4.1   Outcomes phase 1

4.4.1.1   Technical part

The integration of the "The EU Funds Application Process Made Easy" pilot with the FAME marketplace is focused on uploading and marketing processed data assets related to beneficiaries of public aid who may require complementary financial products, such as loans or other banking services. Through FAME, these data assets will be made available to financial institutions, offering them the opportunity to connect with potential customers who could benefit from additional financial support. Additionally, INNEUROPE, the entity behind this pilot, plans to leverage specific analytical tools available on the FAME marketplace to enhance the generation of this new service. These tools, provided by other technical developers within the marketplace, will play a key role in refining the data and offering valuable insights to financial institutions.

As the pilot is still under development, certain challenges related to the integration with FAME have not yet been fully encountered or addressed. The development process is ongoing, and further integration efforts are expected as the pilot progresses.

The FAME marketplace is expected to provide significant value to the pilot by offering a platform where high-value data assets can be published and commercialized. The marketplace also offers access to a range of analytical tools that can be incorporated into the pilot's services, enabling more comprehensive data processing and improved insights. These features will be essential for ensuring the pilot's success by streamlining the financial matchmaking process between public aid beneficiaries and financial institutions.

Currently, the license terms and the tools provided by FAME to ensure data protection and prevent misuse have not yet been defined. These aspects will be clarified as the pilot reaches more advanced stages of development.

From a technological innovation perspective, the pilot aims to contribute to the overall vision of the FAME platform by creating a service that simplifies the EU funds application process while providing added value to financial institutions through data insights. However, as the pilot is still under development, it is too early to assess the full impact of the technological innovations that will be implemented.

Similarly, the pilot has not yet encountered significant technical challenges, as the development is ongoing. Any challenges related to data integration, security, or analytics will be addressed in the

later stages of implementation.

4.4.1.2 Business part

The "EU Funds Application Process Made Easy" pilot has identified a unique selling point by addressing a currently unmet need for banks. The service offers financial institutions access to valuable data on beneficiaries of public aid, allowing them to target potential customers who may require complementary financial products. This approach fills a gap in the market, offering banks a new channel to reach clients who can benefit from their services.

The business model innovation lies in leveraging existing B2B partnerships with banks. By commercializing the data assets developed through this pilot, the service will allow banks to enhance their customer acquisition efforts. This innovative approach streamlines the process of matching public aid beneficiaries with relevant financial products, offering banks a more efficient and targeted method for expanding their client base.

As the pilot is still under development, stakeholder feedback has not yet been collected. However, once the service is operational, feedback mechanisms will be implemented to gather insights from users and refine the business model. These adjustments will be based on end-user satisfaction surveys and feedback on new customer acquisition efforts, ensuring that the service remains aligned with market needs.

The long-term financial sustainability of the project will be secured through the commercialization of the data assets and services developed using the FAME marketplace. By generating revenue from these assets, the pilot can maintain financial stability while continuing to expand its offerings.

The primary revenue stream for the pilot comes from the commercialization of the data assets and the new services developed. These assets will be made available to financial institutions through the FAME marketplace, providing a consistent source of revenue as the service grows and scales.

The next steps for the development of the pilot include completing the detailed design phase, followed by implementation, integration, testing, verification, and validation. This process will ensure that the pilot is fully functional and ready for commercialization on the FAME platform.

To remain competitive, the pilot plans to continuously evolve by expanding its data coverage to include information on public aid programs and beneficiaries from additional European countries. This expansion will increase the relevance of the service across Europe, attracting more financial institutions looking to reach potential customers in different markets.

The value of the data provided through FAME is still under evaluation, as the pilot is currently under development. However, it is expected that FAME will assist in determining the appropriate pricing model, ensuring that the data is competitively priced and attractive to potential buyers.

As for tracking and monetization mechanisms, these aspects are still being developed. Once operational, the pilot will use FAME's tools to manage and optimize the distribution of its data assets, ensuring effective commercialization.

Regarding risk assessment, there are no significant perceived risks at this stage. However, to ensure the pilot's success, efficient coordination between the company's IT team and FAME's technical developers will be crucial for a smooth implementation. This collaboration will ensure that all technical requirements are met and that the service is launched without delays.

To evaluate the impact of the pilot on the FAME marketplace, key metrics will include the number of customers downloading or using the resources provided by INNEUROPE. This indicator will help measure the pilot's success in attracting users and generating revenue.

The marketing strategy for the launch of the product will focus on direct engagement with banking entities with which INNEUROPE already has established alliances. These partnerships will facilitate

the commercialization of the new services and ensure a smooth entry into the market.

The effectiveness of marketing campaigns will be measured by the increased number of customers downloading or using the resources provided by INNEUROPE on the FAME marketplace. This metric will provide a clear indication of the pilot's success in reaching its target audience and driving user adoption.

4.4.1.3   Stakeholders feedback

The workshop provided a valuable opportunity to gather external insights on Pilot #4, assessing both its technical and economic feasibility. The format and agenda facilitated a structured discussion, allowing stakeholders to provide meaningful input regarding the integration of the pilot within the FAME marketplace. From a technical standpoint, stakeholders acknowledged the potential benefits of using the FAME marketplace for data exchange. However, concerns were raised regarding the accessibility and ease of obtaining the necessary data compared to traditional contractual agreements between banks and data providers. The consensus was that the process should be as seamless and user-friendly as possible to enhance adoption and ensure that banks fully understand the advantages of utilizing the marketplace.

From a business perspective, stakeholders expressed strong interest in the pilot, particularly regarding its potential impact on banks and beneficiaries of public funding. The facilitation of interactions between these two groups was considered a significant advantage, as past experiences have shown the benefits of streamlining access to funding opportunities. Additionally, concrete suggestions were made regarding potential public funding calls and grants that could be integrated into the database, further enhancing the pilot's value proposition. The feasibility of incorporating these elements will be evaluated in future stages as the solution scales.

Overall, the workshop confirmed the relevance and potential market impact of Pilot #4 while identifying key areas for further refinement. The feedback gathered will serve as a foundation for optimizing the pilot's implementation within the FAME ecosystem.

Pilot Workshop Overview				
Workshop Title:	Maximizing impact: Evaluating and enhancing Pilot #4 for market success		**Date:**	4/12/2024
Agenda: (description of the topics)	1. FAME Project Overview 2. Presentation of Pilot 4 -Overview of the public funding calls/grants considered at this stage. -Key features of the pilot. -Explanation of expected market impact. 3. Roundtable discussion: Consultants' insights -Topics for discussion: (i) Suitability of the public calls/grants under consideration. (ii) Attractiveness of the business opportunity for both beneficiaries and banks. 4. Open discussion -General and specific feedback on the pilot project. -Invitation for spontaneous suggestions and recommendations to maximise the potential of the business opportunity. 5. Closing and next steps -Summary of key takeaways and highlights. -Invitation to join a dedicated communication channel through the teams to share further ideas and suggestions related to the pilot.			
Link to the Event: (if applicable to the event)	https://teams.microsoft.com/l/meetup-join/19%3ameeting_NzA1ODVjZWltNTk1NS00ODAyLThkZDMtY2QyOTUwYzY5ZjAx%40thread.v2/0?context=%7b%22Tid%22%3a%22ba73a9e4-5511-41cf-a43c-0b2cb72aacc0%22%2c%22Oid%22%3a%229c8d711a-62a1-4191-b6a7-a22dd46ac50c%22%7d			
Event type:	Hybrid Workshop: In-Person & Online	**Duration of the event (h):**	1 hour	**Number of participants:**	6
Player involved: (e.g., employees of banks and financial institutions, blockchain experts and consultants, top-level managers, business evelopers, researchers, etc.)	Consultants of the affiliated company (WEGRANT PLATFORM SL) with more than 5 years of experience in advising companies in the access to public funding, as well as acting as liaison in the current integration of the company's platform with some of the largest Spanish banks.			
Feedback from stakeholders involved	The format and agenda of the workshop was effective in getting an external opinion on Pilot #4 to analyse our business from a technical and economic point of view. Among the technical considerations, beyond the operation of the pilot itself, the participating stakeholders understood the usefulness of the FAME marketplace, although some doubts were raised about how easy it will be to obtain this data compared to signing a contract for regular data exchange, as is currently done with banks for other information. All agreed that the process should be as easy and accessible as possible for users in order to be attractive and to make them aware of the benefits of doing it through the marketplace. From a business point of view, there was a consensus that Pilot #4 would be interesting for banks and that it would generate benefits for them as well as for the beneficiaries of the public funding themselves, and some concrete examples were mentioned where this facilitation of contact between banks and beneficiaries would have been very beneficial in the past. Finally, stakeholders gave further ideas for additional public funding calls/grant that could be considered within our database, and for which we will look at the feasibility of incorporating them at a later stage of scaling up the solution.			

Figure 8: Pilot 4 workshop overview

4.4.1.4 Pentagon FAME Evaluation Method
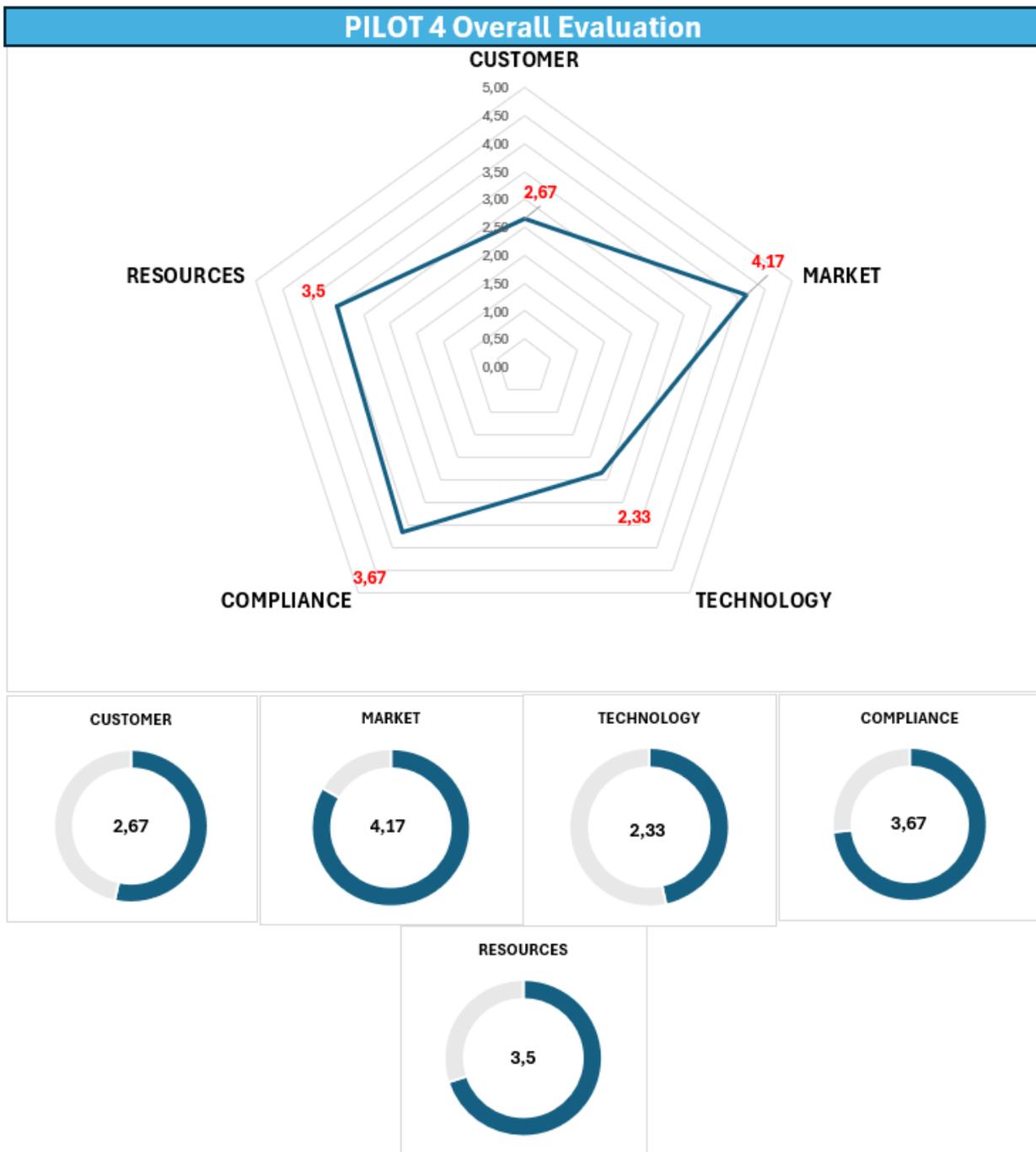

Figure 9: Pilot 4 overall evaluation

4.4.2 Outcomes phase 2

4.4.2.1 Introduction and Goals

The second phase of Pilot 4 (M31–M35, July–November 2025) is focused on validating the usefulness, usability, and strategic relevance of Pilot 4 within a professional banking context. The primary goals are to:

- Collect feedback from both end users and internal stakeholders on the user journey, data acquisition experience, and overall platform value.

- Analyse the feedback and implement functional improvements to the FAME marketplace and datasets.

- Disseminate the results to financial institutions and stakeholders, promoting adoption and scalability of the pilot.

4.4.2.2 Key Performance Indicators

The table below reports the pilot-specific KPIs defined for Phase 2. For each KPI we indicate its description, unit, target, assessment method and category. Two additional columns ("Before FAME" and "After FAME") capture the quantitative baseline and the Phase-2 result, enabling an objective comparison and a clear delta versus target.

KPI Name	Description	Unit	Target	How to Assess?	Category	Comments	Pre FAME (If applicable)	After FAME
Public funding calls considered	Number of calls analysed for recommendations.	Unit	≥4 calls	Monitor and track the calls processed by the system on a monthly basis.	Technical	Ensures diversity of public funding calls for diversified interests of banks	3	3 (different calls than the pre-FAME calls)
Database Entries	Number of unique entries from each public dataset of beneficiaries	Unit	>20	Validate unique records imported from each source.	Technical	Essential to evaluate completeness of information for enriched analysis.	15	33
Processing Speed	Time taken to generate the list of beneficiaries with the corresponding specific recommendations, from the publication of the beneficiaries on the portal of the funding body.	Hour	< 24 hours	Check that the verification script is working correctly and downloading when new data is detected for download.	Technical	Being agile in generating these datasets and making them available through the FAME Marketplace is essential for banks to proactively offer the right financial products at	< 24 hours	< 24 hours

						the right time.		
Recommendations precision	Precision of AI-generated recommendations	% Accuracy	≥ 95% accuracy	Validate accuracy by comparing the generated recommendations with those manually generated by an expert consultant on a representative sample.	Technical	It will allow to assess the reliability of data extraction by the AI-based analytical tool (WP5)	≥ 95% accuracy	≥ 95% accuracy
Entries per Recommendation	Number of unique data entries considered in each AI-generated recommendation.	Unit	≥10 entries per recommendation	Evaluate the number of empty cells against the recommendations.	Technical	Important for assessing data density and quality in each recommendation.	Not applicable.	5 entries.
Revenue per Download	Revenue generated per downloaded recommendation data asset from the platform.	€/Download	As per established business model	Track revenue through download logs and financial records.	Business	Core metric for assessing the commercial viability of recommendation data assets.	Not applicable	Business model established with Pay-Per-Lead model adopted.
User Satisfaction Score	Satisfaction of banks and investors with the recommendation's dataset	Rating (1-5)	≥4	Collect regular feedback through user satisfaction surveys.	Business	Reflects ease of use, relevance, and user experience with the recommendations generated	Not applicable	Preliminary positive feedback received.

Table 4: Pilot 4 KPI

4.4.2.3 Stakeholders Engagement Plan

The engagement strategy was structured into three phases:

1. Feedback Collection (M31) – A hybrid (online + in-person) session with users and internal stakeholders followed by a structured online survey to collect insights on metadata quality, navigation ease, data usefulness, and areas for improvement.

2. Implementation of Changes (M31–M33) – Internal meetings and bilateral consultations with stakeholders to discuss feedback categories and co-develop improvements.

3. Results Sharing & Roadmap (M33–M36) – Online dissemination activities and one-to-one strategic meetings with financial actors to present improvements and co-design future paths for adoption.

4.4.2.4 Stakeholders involved

The pilot involved the following types of stakeholders:

- End users (primarily bank professionals).

- Internal stakeholders (FAME content and development teams).

- External financial stakeholders (banks and financial institutions).

Dissemination activities also engaged public funding intermediaries and consultants for broader market feedback and adoption opportunities.

4.4.2.5 Methodology used by the Pilot

Pilot 4 followed a multi-step methodology:

- Feedback session and survey (M31) to collect qualitative and quantitative data on platform usability, data clarity, and user experience.

- Analysis and thematic clustering of feedback into two improvement domains: a) Marketplace usability (search filters, metadata, asset labelling, transaction flow). b) Content structure and completeness (types of funding calls, relevance, added-value info).

- Co-development of improvement actions with the FAME team: tagging systems, metadata clarity, integration of new funding sources.

- Action plan production with timelines, responsibilities, and updates to supporting documentation.

4.4.2.6 Stakeholders feedback

Feedback from users and stakeholders highlighted the following:

- Strong appreciation for the concept of linking funding data to financial services, but challenges remained in terms of metadata structure and navigation clarity.

- Specific suggestions included simplifying filters, enhancing tagging, and including contextual data for each funding opportunity.

- The final dissemination phase confirmed strong interest from banks and consultants in the adoption of Pilot 4 outputs, especially where integration with internal banking workflows is possible. This is explained further in the report-out below.

- Participants valued the forward-looking roadmap and supported positioning Pilot 4 as a scalable, long-term solution.

4.4.2.6.1 Report-out stakeholders feedback

Product presentation meetings were held with several Spanish financial institutions. In each case, an online session was conducted to introduce the "Grants Awarded" (Pilot 4) product and to invite the banks to participate in a pilot to test the service. For this purpose, a CSV file containing a list of companies that had been awarded grants under the CDTI programme was provided, enabling banks to cross-reference this information with their client portfolios and assess opportunities to offer complementary financial products, such as guarantees and collateral, linked to the awarded grants.

Positive feedback was received, confirming that the pilot delivered favourable internal results and represented a valuable source of commercial leads for their distribution teams. In parallel, tailored briefing sheets were developed for use by bank sales networks, allowing them to approach each company with a specific and targeted offer. Through feedback, it was determined that subsequent development phases to fully integrate with the banks' CRM systems would be beneficial to automate the process. Likewise, some banks had requested further refinement/conditions be applied (e.g., include only financial products with a value exceeding a set amount with the aim of focusing on higher-value commercial opportunities).

4.5 Pilot #5: ESG Scorecard Ranking & Sustainable Portfolio Optimisation

Pilot Leader: KM

This pilot aims to develop an online reporting tool that provides weighted sustainability scores for ESG investments. The data will be standardised and made interoperable through the FAME marketplace, enabling the construction of sustainable financial portfolios.

Use Cases:

- Online ESG reporting.

- Portfolio optimisation.

Goals:

- Facilitate optimal ESG investments.

- Contribute to the sustainability goals of the European Green Deal.

Data:

1. Historical and real-time market price data, financial news and ESG datasets.

4.5.1 Outcomes phase 1

4.5.1.1 Technical part

Pilot #5 integrates seamlessly with the FAME platform by leveraging its sustainable portfolio optimization management and ESG scorecard tools. This integration enhances decision-making processes for sustainability-focused investments, aligning financial strategies with ESG (Environmental, Social, Governance) objectives. By addressing FAME's diverse user base and stakeholder ecosystem, the pilot facilitates access to a broad network of ESG-focused investors, promoting capital flows toward socially and environmentally responsible businesses. FAME's advanced data analytics further enrich the pilot's ability to support sustainable growth, ensuring alignment with modern investment priorities.

One of the significant challenges encountered during the integration was ensuring compatibility between operational data and FAME's system. Additionally, the pilot faced licensing restrictions associated with proprietary ESG scores obtained from sources such as Bloomberg, which necessitated the replacement of these scores with open-source ESG data from platforms like Yahoo or Google. These challenges were addressed by developing APIs and specific data exchange protocols that enable seamless and efficient interaction between platforms.

The FAME marketplace plays a pivotal role in connecting investors with asset producers, enabling access to ESG-compliant investment opportunities. Pilot #5 uses the marketplace to showcase sustainable asset portfolios, schemas, and investment recommendation tables that align with ESG

standards. By doing so, it bridges the gap between financial service providers—ranging from individuals and startups to large corporations—and investors seeking long-term sustainable growth. This pilot also democratizes access to ESG scores and portfolio optimization tools, which were previously inaccessible to many stakeholders.

Among FAME's features, the ESG scorecard stands out as the most valuable for Pilot #5. This feature provides clear metrics for evaluating investments based on sustainability criteria, complementing traditional return-on-investment (ROI) strategies and AI-driven asset selection models. Additionally, FAME's matchmaking and data analytics tools are critical for optimizing asset selection processes, enhancing transparency, and empowering informed decision-making.

FAME ensures data protection and compliance with licensing terms through its robust data governance policies. These include advanced encryption mechanisms and access controls, ensuring that data shared on the platform remains secure. License agreements between stakeholders clearly define data usage permissions, which are enforced by FAME to guarantee compliance. Proprietary ESG data is replaced with open-source ESG datasets, ensuring broad accessibility while maintaining compliance with licensing regulations.

To prevent data misuse, Pilot #5 employs FAME's encryption tools and user authentication mechanisms. Role-based access controls are implemented to ensure that only authorized users can access specific data sets. Additionally, FAME's audit trails provide a comprehensive record of all data interactions, further safeguarding against unauthorized usage and promoting accountability.

The technological innovations implemented in Pilot #5 significantly contribute to FAME's overall vision by advancing the platform's capacity for sustainable investment. These innovations include advanced ESG-compliant financial modeling and automated risk assessment algorithms, which integrate ESG factors into the investment process, making sustainability-based investing more accessible and scalable. Notably, Pilot #5 is pioneering the free provision of ESG scores, rankings, and recommendations within the Eurozone, complemented by training resources and comparison tools.

Key technical challenges encountered include ensuring data accuracy across multiple sources and integrating ESG-compliance algorithms with FAME's infrastructure. To address data discrepancies, the pilot created a centralized repository with standardized formats and regular synchronization in line with FAME's technical guidelines. Integration challenges were mitigated through close collaboration between development teams and real-time feedback loops. To enhance user adoption, the pilot offers training sessions, investment information days, workshops, and other dissemination events through its existing network. Comprehensive documentation and user training further ease the transition to new technologies.

4.5.1.2 Business part

The "Sustainable Portfolio Optimization and ESG Scorecard Integration" pilot offers several unique selling points that distinguish it in the marketplace. These include its comprehensive ESG scorecard ranking system with transparent methodologies, the ability to apply variable ESG weights based on user profiles, and tools for combining ROI and ESG criteria. The pilot also features portfolio optimization based on sustainable investment principles, offering users the ability to view and compare FAME's unique "recipe" of ESG recommendations. Additionally, it facilitates integration of diverse datasets from multiple marketplaces, providing a comprehensive and flexible approach to ESG investing.

The business model innovation lies in FAME's data-driven marketplace for sustainable investments. It democratizes access to ESG data and metadata that were previously inaccessible or prohibitively expensive. FAME adds value by performing advanced calculations and filtering on publicly available ESG data, enriching it with knowledge and decision-making tools. Its use of AI and machine learning optimizes investment portfolios based on ESG criteria, while blockchain ensures secure and

transparent data sharing. Furthermore, the platform fosters partnerships between investors and data providers, creating a network effect that enhances its value proposition for all participants.

Stakeholder feedback is collected through a variety of methods, including leveraging the pre-existing network of clients, vendors, and collaborators, hosting workshops and investment committee days, and conducting surveys, interviews, and focus groups. This feedback is analyzed and integrated into the platform through iterative updates and feature enhancements, ensuring FAME remains aligned with the evolving needs of its users. As a result of this feedback, several improvements have been implemented, such as user-friendly interface enhancements (e.g., sliders for weight adjustments and profiling forms), more dynamic portfolio optimization tools, and the addition of a performance comparison feature. These updates extend beyond the original scope of the project, further strengthening the pilot's utility.

The long-term financial sustainability of the project is supported by diversified revenue streams, including subscription fees for premium users, commissions on investment transactions, and partnerships with financial institutions utilizing the platform's ESG data. Additional income is generated through freemium training programs, monthly ESG recommendation analyses, and portfolio optimization services. Furthermore, the pilot envisions offering enhanced services, such as customizable ESG recommendations, for paid users in the future.

Revenue streams for the pilot include a dual pricing (freemium) model, which offers:

1. Subscription-based access to advanced ESG data and analytics tools.

2. Premium training and personalized portfolio optimization services.

3. Transaction fees for ESG asset exchanges, including rankings, tabular weights, and ROI methodology integrations.

4. Partnerships with data providers and financial institutions for B2B monetization.

5. Customized ESG consulting services for businesses seeking to improve their sustainability practices.

The next steps for development include introducing comparison tools based on external ROI weights, implementing performance tracking features, and expanding ESG data to cover additional European markets. Future enhancements will incorporate predictive analytics powered by AI to offer better investment foresight and personalized recommendations based on user preferences.

To remain competitive, the pilot will continually innovate by integrating emerging technologies, such as AI for real-time ESG risk analysis, expanding its data marketplace network, and offering tailored investment portfolios that adapt to regulatory changes and global trends.

The value of the data provided through FAME is estimated based on its relevance, accuracy, and ability to optimize ESG-focused portfolios. The pricing model includes free access to core data with tiered pricing for advanced analytics, real-time updates, and exclusive data from partnerships. Tracking mechanisms, such as data usage analytics and performance metrics, assess the value and effectiveness of the provided data.

Stakeholder feedback has driven key adjustments to the pilot, including more granular ESG data and faster processing times. Improvements in API connections and support for multiple languages have also enhanced the platform's global usability.

In terms of risk assessment, the primary challenges include ensuring data reliability, mitigating cybersecurity threats, and complying with evolving ESG regulations. These risks are addressed through partnerships with reputable data providers, robust cybersecurity measures, and regular updates to align with regulatory changes.

Key metrics for evaluating the pilot's impact include active user numbers, ESG rankings and recommendations of usage, portfolio performance comparisons, and partnership growth with data providers. User satisfaction and accuracy of ESG rankings also serve as critical indicators of success.

The pilot's marketing strategies include targeted digital campaigns, collaborations with ESG influencers, webinars, and presentations at industry conferences. It leverages FAME's planned hackathons and existing networks of clients and collaborators to maximize visibility. Effectiveness is measured through engagement of KPIs, such as the number of ESG views and portfolio optimization uses, as well as user feedback and partner responses.

4.5.1.3   Stakeholders feedback

The workshop titled "FAME Pilot#5 -From a Marketplace to an End-to-End ESG Scoring Solution" was conducted as an online meeting with around 25 participants. These participants included employees of a bank, internal teams, consortium partners, finance-oriented practitioners, IT developers, and bank managers. The agenda of the workshop was structured around three main points:

1. An overview of the FAME project and its role in creating a European marketplace.

2. The transition from data to an IT end-to-end solution.

3. Portfolio ESG optimization and practical applications.

Pilot Workshop Overview				
Workshop Title:	FAME Pilot#5 FROM A MARKETPLACE TO AN END-TO-END ESG SCORING SOLUTION		**Date:**	21/11/2024
Agenda: (description of the topics)	Demonstration of ESG scoring & portfolio optimisation; transparency and interpretability discussion; configurable ESG preferences; overview of cross-partner ESG methodology (JRC/KM CUbe)			
Link to the Event: (if applicable to the event)	n/a			
Event type:	online meeting	**Duration of the event (h):** 2	**Number of participants:**	~25
Player involved: (e.g., employees of banks and financial institutions, blockchain experts and consultants, top-level managers, business developers, researchers, etc.)	Internal teams, IT developers, bank's managers, consortium partners, finance-oriented practitioners			
Feedback from stakeholders involved	Participants highlighted clarity of the methodology, value of ESG preferences, and usefulness of monthly updated portfolios.			

Figure 10: Pilot 5 workshop overview

The workshop for FAME Pilot#5, held online and facilitated by JRC and KM Cube, gathered approximately 25 participants including internal teams, IT developers, bank managers, consortium partners, and finance-oriented practitioners. The session focused on showcasing the evolution from a marketplace approach to a fully integrated end-to-end ESG scoring solution. During the workshop, JRC and KM Cube presented the objectives of the Pilot's use cases, the achievements reached so far, and the transition from a marketplace approach to a comprehensive end-to-end ESG scoring solution. The session included demonstrations of ESG scoring and portfolio optimization, together with discussions on transparency, interpretability, and the configuration of ESG preferences. Participants also received an overview of the cross-partner ESG methodology and its practical application. Feedback from attendees highlighted the clarity of the methodology, the value of configurable ESG preferences, the usefulness of monthly updated portfolios, and provided important insights for shaping the Pilot's exploitation plan. Overall, the workshop underscored the potential of Pilot#5 to

support more informed and sustainable financial decision-making through transparent, flexible, and regularly updated ESG insights.

4.5.1.4   Pentagon FAME Evaluation Method

Figure 11: Pilot 5 overall evaluation
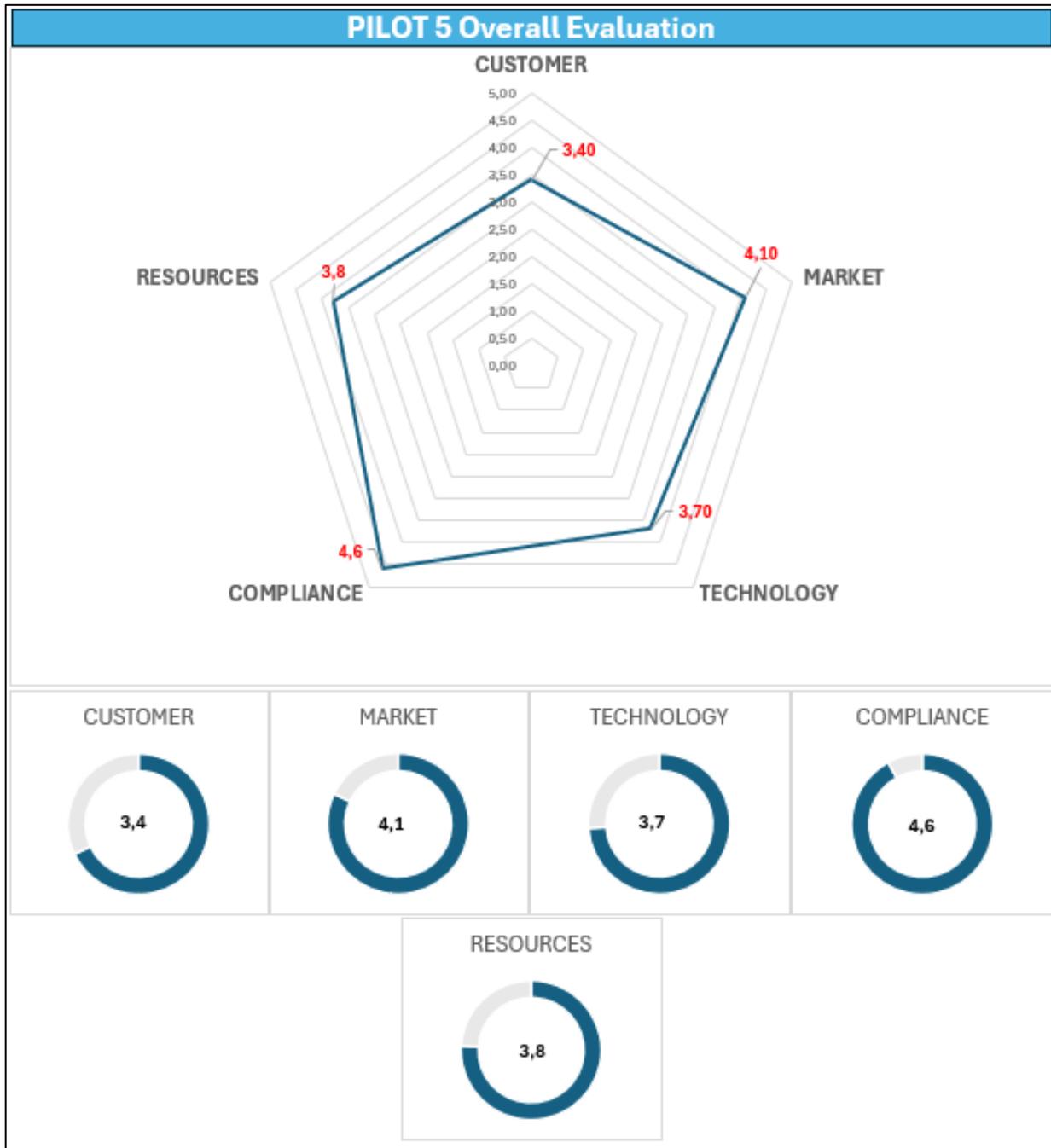
4.5.2   Outcomes phase 2

4.5.2.1   Introduction and Goals

Phase 2 of Pilot 5 (M28–M36, April–December 2025) focuses on assessing and improving the pilot's usability, performance, and value from the perspective of ESG (Environmental, Social and Governance) reporting and optimization. The core objectives are to:

- Collect structured feedback from relevant stakeholders.

- Implement enhancements to the ESG reporting and optimization tools.

- Prepare a roadmap for broader adoption aligned with market and regulatory needs.

4.5.2.2 Key Performance Indicators

The table below reports the pilot-specific KPIs defined for Phase 2. For each KPI we indicate its description, unit, target, assessment method and category. Two additional columns ("Before FAME" and "After FAME") capture the quantitative baseline and the Phase-2 result, enabling an objective comparison and a clear delta versus target.

KPI Name	Description	Unit	Target	How to Assess?	Category	Comments	Pre FAME (If applicable)	After FAME
Stakeholder Engagement (platform and using tool)	Number of stakeholders actively engaged using tool-platform	Count	≥ 30	Measure users-members	Stakeholder Engagement	Increased activity across phases	Limited internal use	35
Stakeholder Engagement (workshops - hackathons-events)	Number of stakeholders actively engaged with the project.	Count	≥ 50	Measure users-members	Stakeholder Engagement	Three engagement rounds completed	Small internal sessions	65
Viewers-Users of ESG Scores		Count	≥ 20 users / ≥ 25 Assets	Measure users-members	Stakeholder Engagement	Demonstration phase	Not available	42
Viewers-Users ESG Ranking Tables		Count	≥ 20 users / ≥ 5 Rankings	Measure users-members	Stakeholder Engagement	Ranking tables explored	Not available	28
Viewers-Users Compare ESG Ranking Tables		Count	≥ 20 users / ≥ 5 Rankings	Measure users-members	Stakeholder Engagement	Comparison used during tests	Not available	25
Viewers-Users of Trainings		Count	≥ 20 users / ≥ 3 Items	Measure users-members	Stakeholder Engagement	Limited content	Not available	22
User Adoption Rate	Percentage of target users adopting the ESG reporting tool.	Percentage (%)	≥ 70%	Measure users-members	Stakeholder Engagement	Early-stage evaluation	Not applicable	Positive qualitative signals
Compliance Rate	Percentage of portfolios meeting defined ESG criteria.	Percentage (%)	≥ 80%	Audit portfolios for adherence to ESG standards.	Compliance - Sustainability	Alignment achieved	Manual checks	Methodological alignment achieved
Portfolio Sustainability Score	Average sustainability score of portfolios using the tool.	Score (0-100)	≥ 70 %	Aggregate scores from portfolios analysed.	Compliance - Sustainability	Improvement observed	Baseline values	Improved relative to baseline

Optimization Efficiency (Better ESG - equal or better ROI - equal Risk)	Improvement in portfolio performance post-ESG optimization.	Percentage (%)	≥ +3% increase yearly	Compare returns before and after optimization.	Performance	Demonstrated performance	Manual scenarios	Demonstrated in pilot sandbox
Variable ESG sensitivity in Portfolio	Variable Percentage of ESG vs ROI in portfolio	Count	≥ 5 levels of percentage	Collect various ESG sensitivity levels	Customisation-Applicability	Fully implemented	Not available	5 levels available
Independent E+S+G Scores presentation	Ability to present custom E,S,G vector	Count	≥ 5 levels of percentage	Collect various E+S+G weights	Customisation-Applicability	Visible in UI	Not available	Available
Independent E+S+G Scores Weightings	Ability for custom weights E, S, G in recommendation	Count	≥ 5 levels of percentage	Collect various E+S+G weights	Customisation-Applicability	Adjustable	Not available	Available
Feedback Score Tool	Average user satisfaction score from tool feedback.	Score (1-5)	≥ 4.0	Collect user ratings through surveys.	User Satisfaction	Showcase results	Not applicable	4.2 / 5.0
Feedback Score Trainings - ESG Data	Average user satisfaction score from Trainings-ESG Data feedback.	Score (1-5)	≥ 4.0	Collect user ratings through surveys.	User Satisfaction	Limited dataset	Not applicable	4.0 / 5.0
Profiling Forms including ESG sensitivity	Include dedicated Profiles of users based on ESG questionnaires	Boolean (Y/N)	YES ≥ 3 profiles	Count Profiles	Customisation-Applicability	ESG preferences implemented	Not available	Yes (3 profiles)
Profiles and Portfolio Types	Different types of portfolio weightings for different profiles	Count	≥ 3 alternatives	Measure Alternatives presented and uploaded	Customisation-Applicability	All styles included	Not available	9 alternatives
ESG ranking tables uploaded-compared	Number of ESG tabular recommendations compared	Count	≥ 3 alternatives	Measure Alternatives presented and uploaded	Expansion potential	Full set available	Not available	9
Portfolio weightings uploaded-compared	Number of Portfolio Weightings compared	Count	≥ 3 alternatives	Measure Alternatives presented and uploaded	Expansion potential	Monthly updates possible	Not available	9

Accept external ROI recommendations to complement FAME ESG weights	Number of alternative ROI algorithms-weights considered	Count	≥ 3 alternatives	Measure Alternatives presented and uploaded	Expansion potential	High-level options	Manual	3
Time to Insight	Average time taken to generate reports and insights.	Hours	≤ 1 hour	Measure time from data input to report generation.	Performance	Reduced dramatically	> 2 hours	< 45 minutes
Frequency to Insight	Average time between reports and insights - full rebalancing	Months	≤ 2 months	Measure Frequency of ESG Table Generation	Performance	Stable process	Irregular	Monthly
Financial News Analysis Accuracy (Signal-Performance correlation)	Accuracy of market sentiment analysis signals from financial news - correlation with performance	Correlation	≥ 50%	Compare and Calculate correlation of market signal with performance	Performance	Early-stage	Not available	Preliminary positive indication observed

Table 5: Pilot 5 KPI

4.5.2.3 Stakeholders Engagement Plan

During Phase 2, Pilot 5 implemented a three-stage engagement process to validate the ESG ranking and portfolio optimisation demonstrator.

- Round 1 – Internal Validation (January 2025): Internal workshops at JRC and KM reviewed the initial ESG scoring workflow, data ingestion pipelines, and ranking logic. Approximately 10–15 internal analysts and practitioners participated.
- Round 2 – Joint Cross-Border Workshop (June 2025): A coordinated JRC–KM online workshop (Germany–Greece) focused on cross-partner alignment, harmonised data interpretation, and refinement of the ESG Intelligence methodology. Around 15–20 participants contributed insights based on thematic questions shared beforehand.
- Round 3 – FAME Showcase Workshop (13 November 2025): The updated demonstrator was presented during the FAME-wide showcase in Madrid/Online, with around 40 participants from internal teams, consortium partners, and finance-oriented practitioners. Input addressed transparency, interpretability, configurable ESG preferences, and the usefulness of monthly portfolio updates.

4.5.2.4 Stakeholders involved

The following stakeholder groups contributed to the engagement rounds:

- Internal analysts and ESG practitioners from KM and JRC.

- Consortium partners involved in data and analytics.

- Finance-oriented practitioners and prospective adopters.

- Participants from the wider FAME ecosystem attending the November showcase.

4.5.2.5   Methodology used by the Pilot

The methodology adopted by Pilot 5 included:

- Workshop-based co-creation and surveys (M28–M31) to collect quantitative and qualitative feedback on tool usability, optimization efficiency, and data/sentiment accuracy.

- Feedback analysis and tool refinement (M31–M33), with implementation of improvements on algorithm accuracy and the interface.

- Documentation of changes in a revised version of the ESG reporting and optimization tool, with a clear action plan.

- Dissemination activities (M33–M36) such as webinars, a final presentation, and roundtables to discuss the roadmap for scaling and integration with external platforms.

4.5.2.6   Stakeholders feedback

Feedback across the engagement rounds highlighted four consistent themes:

- Transparency: Participants valued clarity in ESG score construction and the ability to interpret underlying components.

- Customization: Adjustable weighting of E/S/G factors was considered essential for aligning with internal priorities and client strategies.

- Interpretability: Stakeholders preferred explainable, human-interpretable outputs to support trust and compliance workflows.

- Utility: The Methodology-as-a-Service model and the Generative-AI-enhanced optimisation demonstrator presented in November were viewed as useful for exploring sustainability-aligned investment scenarios.

4.5.2.6.1 Report-out stakeholders feedback

The engagement rounds confirmed strong interest in transparent ESG scoring, customisable weighting settings, and interpretable AI outputs. Stakeholders viewed the updated demonstrator—including the Generative-AI-enhanced optimisation step—as useful for exploratory portfolio analysis. Participants also acknowledged the benefit of harmonised ESG information across partners and its relevance in the broader FAME marketplace context.

4.6   Pilot #6: Embedding Climatic Predictions in Property Insurance Products

Pilot Leader: NRS

The pilot will use climate data and analytics from the FAME marketplace to develop new data assets for real estate insurance, integrating local climate forecasts and advanced risk assessment methods.

Use cases:

- Climate-aware real estate prices.

- VaR (Value at Risk) of an insurance portfolio.

- Analysis of climate-aware alternative portfolios.
- **Goals**:
  - ➢ Calculate climate risk for the real estate portfolio of insurance companies.
  - ➢ Optimize protection against climate risks.

Data:

- Local climate data, real estate prices and historical valuations.

4.6.1   Outcomes phase 1

4.6.1.1   Technical part

The "Embedding Climatic Predictions in Property Insurance Products" pilot integrates with the FAME marketplace by supplying climate-related data in a federated environment. This integration allows the pilot to place data in a centralized location where potential users, such as insurers and financial analysts, are likely to access it. Additionally, FAME offers the potential for layering analytics on top of the dataset, adding value to the raw data by enabling advanced analysis and insights.

One of the primary challenges encountered when integrating with FAME involved aligning the product offering with the capabilities and structure of the FAME catalogue. This required ensuring that the data product provided by the pilot could be effectively listed and accessed within the marketplace's framework. By carefully adapting the product to fit the marketplace's standards, this challenge was successfully overcome.

The FAME marketplace enables the pilot to connect with both asset producers and consumers, facilitating the sale of climate prediction data. It also provides a platform where analytics can be performed on the data, allowing users to derive additional insights and value. This dual functionality enhances the potential applications of the data and supports greater innovation in the financial and insurance sectors.

A key feature of FAME that benefits the pilot's business model is the platform's federated data environment. This structure allows the pilot to securely provide data while ensuring that others can access it under controlled conditions. Additionally, the internal marketplace simplifies the administrative and back-office tasks related to data commercialization, reducing the complexity of managing data access and transactions.

Regarding data protection and licensing, FAME enables the pilot to maintain control over the distribution of its processed climate prediction data. While the underlying data is generated from publicly available sources, the pilot applies proprietary methodologies to create a unique product. FAME ensures that access to this finished product is governed by the terms defined by the pilot, providing a layer of security and control over who can use the data and for what purposes.

The pilot contributes to the overall vision of the FAME platform by offering a novel dataset of critical importance to the financial and insurance industries. By delivering climate prediction data in a federated manner and through the FAME marketplace, the pilot demonstrates how advanced data solutions can be securely shared and monetized in a controlled environment. This supports FAME's broader mission of facilitating the exchange and commercialization of valuable data assets.

From a technical perspective, the pilot faced few challenges during implementation. The main difficulties were related to defining the product offering rather than technological hurdles. By carefully aligning the product with market needs and the capabilities of the FAME platform, the pilot was able to ensure a smooth technical integration.

4.6.1.2 Business part

The "Embedding Climatic Predictions in Property Insurance Products" pilot offers a unique selling proposition by providing a low-cost climate projection dataset that is ready for immediate use. This dataset, supported by robust scientific and statistical methodologies, requires no additional post-processing, allowing users to seamlessly integrate the projections into their climate risk models. This feature significantly reduces the time and resources financial institutions need to spend on further data manipulation, making the product highly efficient and cost-effective.

The key business model innovation lies in the fact that, unlike existing datasets that require substantial post-processing and physical modeling to be usable, this pilot delivers pre-processed data. By doing so, the pilot saves financial institutions considerable time and money, as the climate projections are provided in a format that is immediately applicable to their risk models. This eliminates the need for costly in-house data processing and modeling efforts.

At present, the pilot has not yet developed a method for systematically collecting and integrating stakeholder feedback through the FAME platform. However, as the project progresses, gathering insights from stakeholders will be crucial for refining the business model and improving the pilot's integration with FAME. Similarly, no feedback has been received or acted upon so far to influence changes in the pilot's interaction with the FAME marketplace.

To ensure the long-term financial sustainability of the project, the pilot has invested heavily in the upfront development of its core methodology. Once this initial investment is recouped, future growth will be driven by increasing awareness and expanding the dataset to cover more cities and regions. Since the major costs are tied to computing time, the expansion is not expected to be substantially costly, allowing the pilot to maintain a sustainable cost structure.

The main revenue stream for the solution comes from selling the climate projection datasets. These datasets are in high demand by financial institutions and insurers looking to integrate climate risk data into their models. The pilot plans to expand geographically, offering datasets for additional regions based on demand, ensuring that the product remains relevant and scalable in the long term.

To stay competitive, the pilot intends to continuously evolve its offerings by expanding the dataset to include more nuanced variable types and increasing geographic coverage to a global scale. This expansion will enable the pilot to meet the diverse needs of its customers and adapt to the changing demands of the financial and insurance industries.

In terms of data evaluation and monetization, the value of the datasets is determined by considering the fixed costs required to develop the solution, the pricing of similar offerings from physical modeling providers, and an estimated volume of sales. This analysis has allowed the pilot to establish a highly competitive pricing model that covers fixed costs while keeping subsequent variable costs minimal.

Although specific tracking and monetization mechanisms provided by FAME have not yet been implemented, the pilot is exploring options that will help manage and optimize data distribution in the future.

The pilot has not yet conducted any systematic feedback collection to refine the business model through FAME, nor has it implemented any significant changes based on stakeholder input. This aspect will be addressed as the project matures.

In terms of risk assessment, the pilot does not currently foresee any major risks associated with using the FAME platform. The main metric for evaluating the impact of the pilot on the FAME marketplace is revenue generation, which will serve as a primary indicator of the pilot's success.

As of now, no specific marketing strategies have been planned for the launch of the product. However, marketing actions will likely be developed as the pilot moves closer to commercialization. Similarly,

no approach has yet been determined for measuring the effectiveness of future marketing campaigns.

4.6.1.3   Stakeholders feedback

During the workshop dedicated to Pilot 6, stakeholders expressed a general agreement on the concept of the FAME platform, acknowledging its potential for the financial sector, particularly in the area of climate data projection. They recognized that similar data-sharing mechanisms already exist among financial institutions, such as the exchange of credit data between banks. However, certain concerns were raised regarding the internal marketplace and the currency system embedded within the platform.

Specifically, stakeholders expressed skepticism about the likelihood of employees from corporate departments, such as accounting, adopting a digital wallet. Additionally, there was a lack of clarity on the necessity of implementing an internal currency system and storing assets on a blockchain. The complexity of this technology was perceived as a potential barrier to adoption, especially considering that legal and accounting departments might be reluctant to approve its use solely for data access purposes.

The insights gathered during the workshop highlight the need to enhance communication and understanding of the platform's benefits, particularly regarding security management, usability, and compliance with existing business processes. Addressing these aspects will be crucial in fostering the adoption of the solution by financial institutions.

Pilot Workshop Overview			
Workshop Title:	FAME Workshop -- Pilot 6	**Date:**	5/11/2024
Agenda: (description of the topics)	1. FAME Overview 2. Pilot Presentation 3. Survey 4. Closing		
Link to the Event: (if applicable to the event)			
Event type:	Online	**Duration of the event (h):** 1	**Number of participants:** 5
Player involved: (e.g., employees of banks and financial institutions, blockchain experts and consultants, top-level managers, business evelopers, researchers, etc.)	Two data scientists, two mortgage risk analysts at a major Norwegian, one climate risk analyst at a major Norwegian property and casualty insurer		
Feedback from stakeholders involved	In general, the stakeholders agreed with the concept of the FAME platform. They were positive to the existence of a marketplace for data of relevance to financial institutions broadly and also for climate projection data specifically. They already have similar arrangements sharing, for example, credit data between the banks, but these arrangements occur at the moment on an individual and ad-hoc basis. They were, however, skeptical about the internal marketplace and currency aspect of the platform. They doubted that an employee in the e.g. accounting department would be willing to open a digital wallet and were also confused as to why this internal currency system would be necessary. It was also difficult to explain to them why it was necessary to store assets on a block chain. they universally expressed skepticism that anyone from their legal or accounting departments would sign off on using this type of technology purely in order to gain access to data.		

Figure 12: Pilot 6 workshop overview

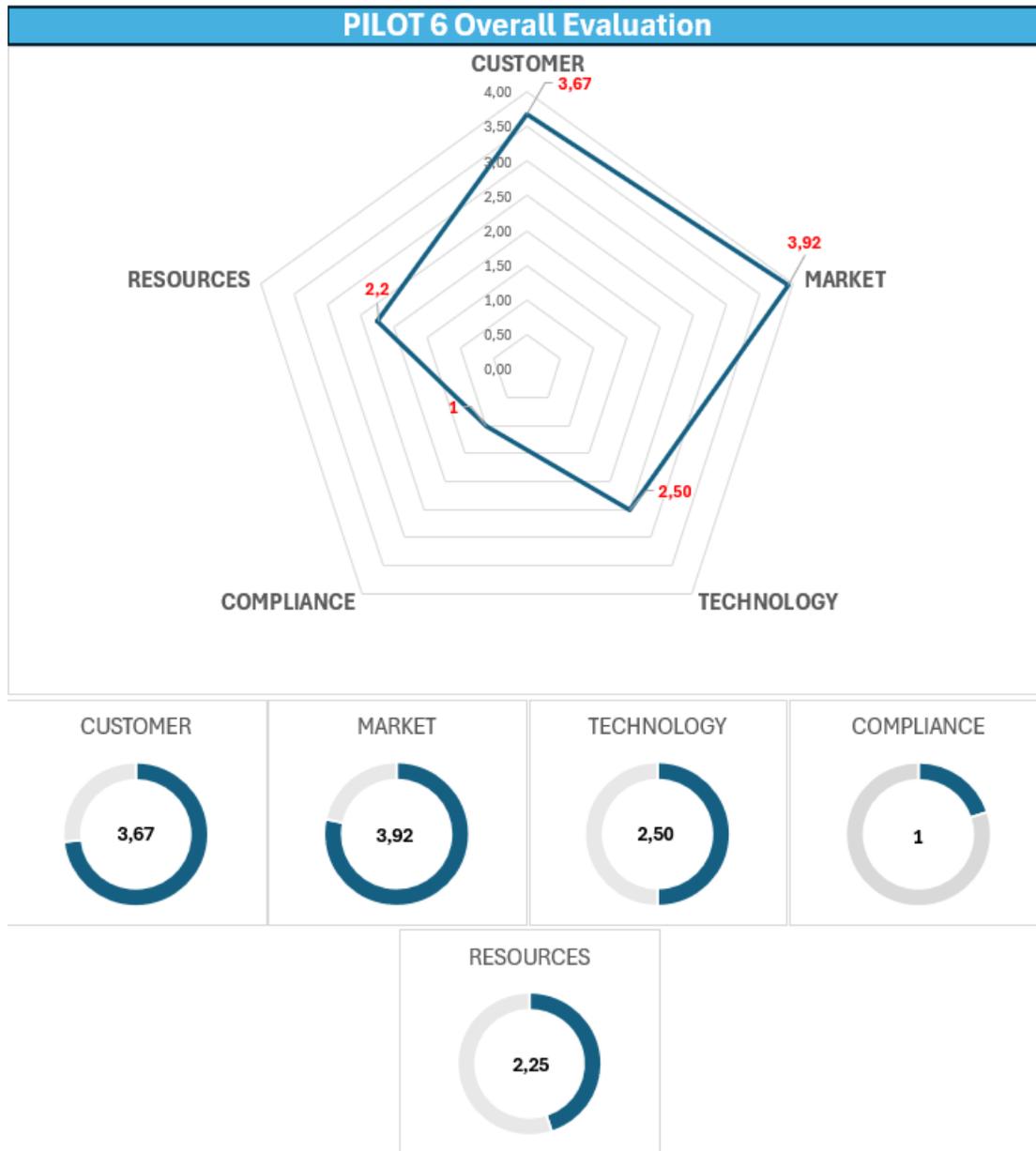### 4.6.1.4 Pentagon FAME Evaluation Method

Figure 13: Pilot 6 overall evaluation

4.6.2 Outcomes phase 2

4.6.2.1 Introduction and Goals

During Phase 2, Pilot 6 initiated a process to collect and integrate stakeholder feedback in order to enhance its climate data product. The main objective was to identify initial critical issues and areas for improvement, adapt the product to user needs, and define a long-term development strategy for integration into the FAME platform.

4.6.2.2 Key Performance Indicators

The table below reports the pilot-specific KPIs defined for Phase 2. For each KPI we indicate its description, unit, target, assessment method and category. Two additional columns ("Before FAME"

and "After FAME") capture the quantitative baseline and the Phase-2 result, enabling an objective comparison and a clear delta versus target.

KPI Name	Description	Unit	Target	How to Assess?	Category	Comments	Pre FAME (If applicable)	After FAME
Cities Climate Projections Uploaded	We will upload climate projections for a number of major European (and perhaps global) cites	Number	20	Count	Data asset creation	These data will highlight the ability to create localized products for climate risk assessment	NA	20
Global Climate Projection Uploaded	We will upload a single global climate projection on a coarse spatial resolution	Number	1	count	Data asset creation	We will also show how to create a data asset that is not region specific	NA	1
Climate Change Indices Uploaded	We will upload a number of climate indices (high level summaries of weather) that can be used to model subsequent weather-related risk	Number	5	Count	Data asset creation	These products enable users to assess changes in various indices. We have ultimately created a heat index for California and a wind damage dataset for Europe	NA	2
Stakeholder workshop and demos	We will discuss this project with practitioners in the banking and insurance industry to get their feedback about this product	Number	3	Count	Workshops	We will hold a number of workshops with various stakeholders to obtain their feedback	NA	3
-Cities P-rojection -Downloads	We will monitor the downloads of our city climate projections	Number	10	Count	Stakeholder engagement		NA	0
Global Projection Downloads	We will monitor the downloads of our global climate projection	Number	1	Count	Stakeholder engagement	-	NA	0
Indices Downloads	We will monitor the downloads of the various	Number	10	Count	Stakeholder engagement	-	NA	0

	indices we have produced							
Academic article submitted	We will submit an academic article that outlines the methodology used to create our climate projection product	Number	1	Count	Academic Dissemination	We have submitted an article to a top climate research journal (HESS), which is currently under review	NA	1

Table 6: Pilot 6 KPI

4.6.2.3 Stakeholders Engagement Plan

Stakeholder engagement was structured around three key activities:

- Stakeholder workshop (M32): a session to present the benefits of the platform and collect verbal feedback.

- Follow-up consultations (M32–M33): product modifications based on the feedback received.

- Discussion of the final product and future opportunities (M33–M36): validation and collaborative planning for future development.

4.6.2.4 Stakeholders involved

Although not explicitly detailed, stakeholders actively participated in at least three phases: the initial workshop, follow-up consultations, and final discussion sessions. It is assumed that participants included platform users, climate experts, and potential data beneficiaries.

4.6.2.5 Methodology used by the Pilot

The methodology was structured into three operational phases:

- Verbal feedback collection during a stakeholder workshop (M32).

- Modification of data products based on the collected input (M32–M33).

- Final product presentation and stakeholder discussion for long-term planning (M33–M36).

4.6.2.6 Stakeholders feedback

The feedback collected highlighted critical issues and opportunities for improvement in the climate datasets. This input was used to refine and adapt the pilot's offering. Moreover, the stakeholder interaction contributed to shaping a long-term plan for delivering the final product via the FAME platform.

4.6.2.6.1 Report-out stakeholders feedback

The results of the workshops confirmed that there is substantial interest in a uniform climate data product for assessing climate risk. Being able to locate this product near to other important financial data products and assuring that these products are uniform can provide climate risks analysts an easier experience when performing their risk analyses. There was some skepticism related to security and compliance issues that the participants agreed would need to be resolved, but it was agreed that with appropriate marketing these challenges could be overcome.

4.7   Pilot #7: Assessing the Quality and Monetary Value of Data Assets

Pilot Leader: MOH

This pilot will assess the quality of industrial data collected by various sensors and cyber-physical systems in oil refineries. An economic value assessment of this data will be created to support monetization and trading in the FAME marketplace.

Use Cases:

- Assessing the quality and price of industrial data.

- Producing value-added assets using FAME tools.

Goals:

- Assigning a quality score to industrial data.

- Creating value-added data assets to be traded in the marketplace.

Data:

- Raw data from sensors (temperature, pressure, vibration) and predictive models.

4.7.1   Outcomes Phase 1

4.7.1.1   Technical part

The Pilot integrates with the FAME marketplace by assessing the quality and value of various types of data assets from MOH (Motor Oil Hellas). This integration allows MOH to utilize FAME's tools for data quality assessment, pricing, and trading, enhancing the pilot's ability to accurately value and commercialize its data. A key benefit of this integration is that it enables MOH to leverage advanced analytics for data valuation and optimize trading processes within the FAME ecosystem.

Despite the advantages, challenges were encountered, particularly in integrating MOH's data assets with the explainable AI algorithms provided by IBM, ATOS, and the energy-efficient analytics tools by LXS. These challenges, mainly related to scalability and code compatibility, were addressed by the technical partners using efficient deployment methodologies, such as containerization, which ensured smooth integration and scalability of the pilot's solutions.

The pilot utilizes the FAME marketplace through a combination of tools and features, including dashboards, Open APIs, Automated Artificial Intelligence (AAI), policy management tools, and the FDAC (Federated Data Access Control) system, which provides explanations for data sharing and data consumption processes. These tools enable MOH to seamlessly connect with both data producers and consumers, facilitating secure and efficient data exchange within the FAME platform.

One of the most valuable features of FAME for the pilot's business model is the machine learning algorithms developed in WP5 (Work Package 5), which are core to the pilot's objectives. These algorithms enable the realization of FAME's vision, delivering the pilot's expectations by improving the accuracy and effectiveness of embedded finance solutions.

In terms of data protection and licensing, FAME ensures that MOH's data remains secure through its Security Policy Management and data federation tools. The data remains within MOH's infrastructure and is shared in a decentralized manner, maintaining control over the data while allowing external users to access it securely. This decentralized approach aligns with FAME's commitment to security and privacy.

To prevent data misuse, the pilot utilizes the FDAC and Security Policy Management tools provided by FAME. The shared data is preprocessed and cleaned using FAME's data quality assessment and energy-efficient analytics tools. MOH's predictive maintenance system operates in a private network, while its data-sharing server for FAME operates on a separate network. Data updates occur on a

monthly basis through an offline process, ensuring that the shared data is consistently refreshed while maintaining security.

The technological innovations implemented in the pilot significantly contribute to the overall vision of the FAME Marketplace. For example, the data quality assessment tool developed for UC1 (Use Case 1) enables informed trading and pricing of various refinery data assets, enhancing transparency and value in the marketplace. For UC2 (Use Case 2), the integration of FAME's energy-efficient analytics on top of existing data assets showcases the value these tools bring to improving data efficiency and performance.

One of the main technical challenges faced during the implementation was ensuring that partners involved in the pilot could effectively consume MOH's data. This required detailed explanations and consecutive meetings to elaborate on specific data attributes. Another significant challenge was the need for the system to ingest, process, and analyze vast amounts of data in real-time. This was overcome by leveraging the online aggregation functionality of FAME's energy-efficient analytics, which supports real-time data processing and analysis.

4.7.1.2   Business part

The pilot "Assessing the Quality and Monetary Value of Data Assets" presents several unique selling points that distinguish it in the marketplace. As the largest refinery in the Balkans, MOH occupies a unique position as a leading data provider in its sector. The pilot facilitates data exchange in a sovereign and secure manner, ensuring governance measures are enforced throughout the process. Additionally, the pilot incorporates advanced data quality assessments enhanced with energy-efficient analytics, offering a distinct advantage in managing and monetizing industrial data.

The innovation in the business model lies in providing a clear roadmap for a successful user story that includes the collection and monetization of highly exclusive and specialized equipment monitoring datasets from MOH's refinery. The pilot promotes data sovereignty, privacy, trustworthiness, and strict alignment with European regulations. By leveraging the FAME platform, MOH is able to transform these data assets into valuable resources, while maintaining the highest standards of security and compliance.

Stakeholder feedback is collected through questionnaires, which allows MOH to gather insights from partners and collaborators to refine the business model. Although no specific changes have been made to the pilot based on the feedback received thus far, this process ensures that feedback mechanisms are in place for future iterations.

To ensure the long-term financial sustainability of the project, MOH focuses on proper dissemination and channeling of the project results to relevant business departments, including IT and operations. By sharing project insights and results with internal stakeholders, MOH ensures that the FAME tools are fully integrated into business processes, which supports continued operational improvements and financial viability.

In terms of revenue streams, the pilot generates benefits primarily by optimizing data processing and improving equipment maintenance through the implementation of FAME's advanced algorithms. These improvements enhance operational efficiency, contributing to cost savings and increased profitability for the refinery.

The next steps for the development of the pilot include expanding the use of FAME's tools to additional MOH data assets. This will enable the refinery to further leverage FAME's capabilities, enhancing both the quality and scope of its data management processes. To remain competitive, MOH plans to continuously update its business data assets, ensuring that its offerings evolve with technological advancements and market demands.

The value of the data provided through FAME is estimated using the data quality assessment (QA) tool developed by INNOV. This tool evaluates various MOH data assets based on objective criteria,

after which the pricing of these assets is established using the accounting module from T4.2. This structured approach ensures that data is accurately valued and monetized within the FAME marketplace.

To manage and optimize the distribution of data, the pilot utilizes the blockchain infrastructure implemented in T4.1, which provides robust tracking and monetization mechanisms. This infrastructure ensures transparency, security, and efficiency in the exchange of data assets across the marketplace.

In terms of risk assessment, the pilot faces several market risks, such as the possibility of improved offerings from competitors, regulatory changes, and technological advancements. Operational risks include potential disruptions to internal processes and platform instability. MOH mitigates these risks through regular market research, a flexible product roadmap, and diversification of product offerings to address market risks. Additionally, robust internal process controls, detailed disaster recovery plans, and a diversified pool of suppliers and service providers mitigate operational risks, ensuring business continuity.

To evaluate the impact of the pilot on the FAME platform, key metrics include the volume of data asset exchanges and the number of pilot-relevant user subscriptions. These indicators will help track the success of the pilot in terms of user adoption and the monetization of data assets.

MOH's marketing strategy for launching its product includes utilizing its well-established network within the energy sector to introduce these advanced applications. The company will target industries such as petrochemicals, renewable energy, and industrial automation through strategic B2B partnerships, participation in industry trade shows, and targeted digital marketing campaigns. These efforts aim to position MOH as a leader in the digital transformation of the petroleum refining industry.

In the long term, the assets developed through FAME should enhance MOH's position as a frontrunner in the digital transformation of the petroleum refining industry. The improvements brought about by these advancements are expected to boost MOH's operational efficiency and sustainability, setting new standards for data monetization and AI-driven process optimization. This will contribute significantly to MOH's presence in the global market.

4.7.1.3 Stakeholders feedback

On 20 September 2024, a workshop was conducted for Pilot 7, titled "Assessing the Quality and Monetary Value of Data Assets," with six key stakeholders participating from various fields. These included engineers from the MOH refinery, data scientists, and business analysts. The engineers, primarily from the predictive maintenance department, provided insights on IoT sensor equipment data, which is crucial for predicting failures and issuing alerts in the refinery environment. Data scientists, specializing in data quality assessment and AI model explainability, contributed valuable technical insights. Business analysts and marketing specialists offered expertise on the commercial aspects of the data assets being developed.

During the workshop, stakeholders highlighted the significant value proposition of the FAME marketplace. They acknowledged that the platform could play a key role in addressing a niche market focused on data sovereignty, security, and regulatory compliance. This was seen as particularly important for industries like refining, where sensitive operational data must be handled with the utmost care.

The feedback received from the stakeholders emphasized the potential for the FAME marketplace to support secure data exchange and monetization in a way that aligns with stringent industry regulations. Stakeholders also identified opportunities for future growth by enhancing the marketplace's capabilities to meet evolving demands in data quality and analytics within the industrial sector.

This valuable feedback will guide further development of the pilot, ensuring that the solutions offered align with market needs while addressing critical issues such as data security and regulatory adherence.

Pilot Workshop Overview				
Workshop Title:	Fame Workshop-Pilot 7		**Date:**	9/20/2024
Agenda: (description of the topics)	1. FAME project presentation 2. Pilot 7 overview and individual use cases presentation 3. Future implementations and following steps 4. Questionnaire evaluation procedure explanation 5. Questionnaire completion			
Link to the Event: (if applicable to the event)	na			
Event type:		**Duration of the event (h):** 1.5h	**Number of participants:**	6
Player involved: (e.g., employees of banks and financial institutions, blockchain experts and consultants, top-level managers, business evelopers, researchers, etc.)	In the workshop stakeholders took part from various fiels: Engineers from MOH refinery: The operators from the predictive maintenance department whose tasks include assessing the quality of the collected IoT sensor equipment data, critical for predicting failures and raising alarms in the refinery. Data scientists: Professionals specialized in data quality assessment and AI model explainability. Bussiness analysts and marketing specialists: Professionals with expertise in the manufacturing section.			
Feedback from stackeholders involved	The stakeholders identified a significant value proposition as far as concerning the FAME marketplace. It could potentially cover a market niche interested in data sovereignty, security and regulatory compliance.			

Figure 14: Pilot 7 workshop overview

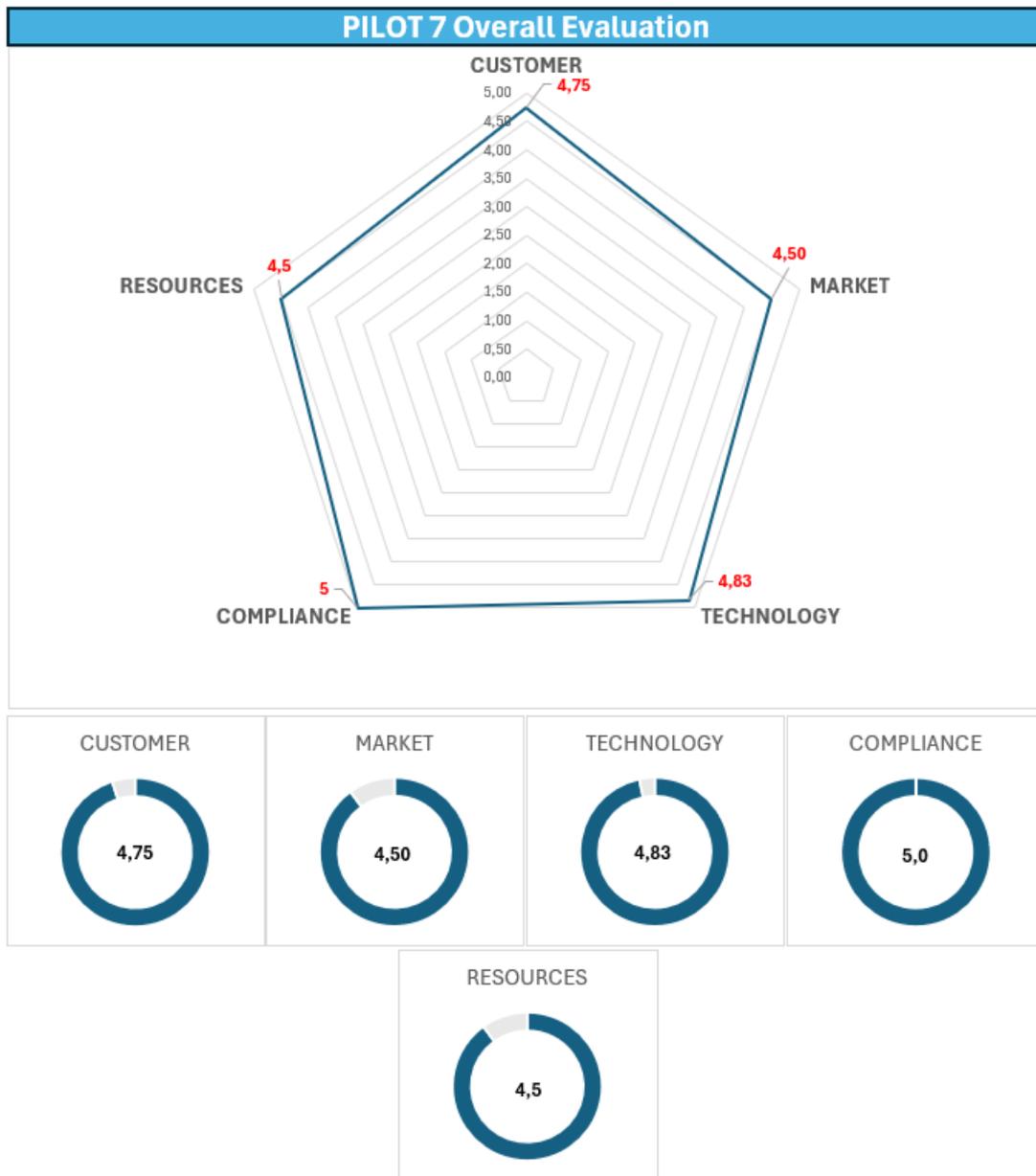### 4.7.1.4   Pentagon FAME Evaluation Method

Figure 15: Pilot 7 overall evaluation

4.7.2   Outcomes Phase 2

4.7.2.1   Introduction and goals

The second phase of Pilot 7 focused on the evaluation and refinement of the pilot implementation through a structured stakeholder engagement process. The aim was to collect direct feedback, assess progress, identify critical issues, and plan the next steps for broader adoption.

4.7.2.2   Key Performance Indicators

The table below reports the pilot-specific KPIs defined for Phase 2. For each KPI we indicate its description, unit, target, assessment method and category. Two additional columns ("Before FAME"

and "After FAME") capture the quantitative baseline and the Phase-2 result, enabling an objective comparison and a clear delta versus target.

KPI Name	Description	Unit	Target	How to Assess?	Category	Comments	Pre FAME (If Applicable)	After FAME
Data Asset Development Efficiency	Measures the number of secondary data assets developed from primary data assets.	Number	>=2	Calculate the ratio of secondary data assets to primary data assets over a specified period.	Data Asset Utilization	The secondary data assets will be created by using FAME tools and will be of value for the end users (as in Pilot#7)	na	4
Data Assets Traded	Tracks the volume of industrial data assets successfully traded within a specific timeframe.	Number	>=3	Sum the total number or value of data assets traded within the reporting period.	Data Asset Monetization	Monetary leverage existing siloed datasets through FAME	na	na
Algorithm User Satisfaction	Gauges the satisfaction levels of refinery operators with the usability and effectiveness of the developed algorithms related to QA and XAI tools	Score	>=4 out of 5	Conduct 2 user surveys or satisfaction scores; calculate average rating and analyse feedback trends.	User Satisfaction	We have to ensure that sufficient time for evaluation will be within project's duration	na	4.25
Algorithm Training Material	Measures the number of the produced training materials for the respective algorithms developed	Number	3	-	Knowledge Sharing	Training material/ documentation for the use of (QA, XAI and anomaly detection models)	na	3

<center>Table 7: Pilot 7 KPI</center>

4.7.2.3   Stakeholder Engagement Plan

1. Collect Feedback from Stakeholders (M30): In this phase, stakeholders are engaged through meetings and follow-up surveys aimed at assessing the progress and identifying areas for improvement. The output of this phase includes a comprehensive report summarizing the feedback and an analysis of critical aspects to enhance. The main objective is to capture early signals regarding operational issues and opportunities for improvement during the pilot.

2. Analysis and Implementation of Changes (M30–M33): During this stage, the feedback collected in the previous phase is thoroughly analyzed. Based on this analysis, targeted corrective actions are defined and implemented. The main deliverable is an action plan outlining the modifications applied to the pilot. The objective is to improve the effectiveness

of the pilot through data-driven refinements.

3. Sharing Results and Planning Next Steps (M33–M36): The final phase focuses on dissemination activities to communicate the final outcomes of the pilot. Stakeholders are involved in a conclusive presentation, and a forward-looking action plan is shared to guide future implementation or scale-up efforts. The objective is to maintain stakeholder engagement and gather support for the long-term application of the pilot solution.

4.7.2.4   Stakeholders involved

A total of ten stakeholders participated in the Pilot 7 engagement activities. These individuals came from diverse roles within the industrial sector, including data analytics, IT, maintenance, project management, and business analysis.

4.7.2.5   Methodology used by the Pilot

The methodology included:

1. A dedicated workshop (M30) with stakeholders to collect qualitative feedback.

2. A follow-up questionnaire to identify key areas for improvement.

3. Analysis of feedback and development of corrective actions (M30–M33).

4. Implementation of these actions into the pilot operations.

5. Planning and execution of dissemination activities (M33–M36), aimed at sharing results and encouraging stakeholder involvement in future phases.

4.7.2.6   Stakeholders feedback

Stakeholders provided feedback through the meetings, the workshop and the questionnaire. The feedback was used to identify improvement opportunities and guided the development of an action plan. Final results and recommendations were shared through presentations, supporting further expansion or full implementation of the pilot.

4.7.2.7   Workshop Report-out

The Pilot 7 Stakeholder Workshop, held on June 2025, at the MOH Refinery Facilities in Corinth, Greece, brought together engineers, data scientists, business analysts, and technology partners from MOH and INNOV. The session focused on introducing the FAME project, outlining Pilot 7 objectives, and demonstrating the IIoT Data Quality Assessment and Explainability (XAI) modules. Participants engaged in open discussion provided feedback and agreed on the next steps to further align the project with industrial needs.

Key Points:

- The FAME project's federated marketplace approach was presented, emphasizing data sovereignty and monetization.
- Pilot 7 aims to assess the quality and monetary value of MOH's industrial data assets.
- Demonstrations of the IIoT QA and XAI modules highlighted usability improvements and enhanced interpretability of anomaly detection results.
- The workshop concluded with consensus on the importance of aligning developments with industrial requirements and a commitment to ongoing updates and feedback cycles.

Following the Pilot 7 Stakeholder Workshop, several recommendations and next steps were identified and acted upon. The recommendations were on refining the IIoT Quality Assessment and

Explainability (XAI) dashboards to further enhance user experience, with MOH and INNOV leading these communications with the development team and targeting completion by September 2025. In parallel, the development of comprehensive training modules covering quality assurance metrics, the use of XAI, and marketplace pricing logic was prioritized.

4.8   Showcasing FAME Pilots

As part of the technical-economic evaluation process, ELIS Innovation Hub, in addition to promoting all the activities carried out by the individual pilots, together with Inneurope, the lead partner of WP7, organized and promoted two events involving external stakeholders, both from its own network and from the network of companies involved in the seven pilot projects.

Objective of the two events:

1. Present to external stakeholders the latest advances in integrated finance, data federation, and sustainable financial innovation achieved by the project's seven pilots.
2. Collect participants feedback.
3. Optimize each pilot's initiatives based on participants feedback.

4.8.1   First Event

Title: FAME Pilots Showcase 2025: Advancing Sustainable, Data-Driven Finance

Date: 13th November 2025.

Pilot Involved: 5, 6, and 7.

Pilot focus: introducing groundbreaking innovations in ESG investment tools, climate-sensitive insurance, and industry data valuation.

In this first event, participants explored how FAME technologies enable:

1. Sustainable portfolio optimization and ESG reporting tools.
2. Integrated climate forecasting in property insurance, and
3. An analytical framework for assessing the value and quality of industrial data assets.

Event attendees:

1. Financial institutions and fintech innovators.
2. ESG and sustainability analysts.
3. Insurance and risk management professionals.
4. Data economy and cyberinsurance participants.
5. Artificial intelligence, analytics, and digital finance researchers.
6. Policymakers and EU funding representatives.

4.8.2   Second Event

Title: FAME Pilots Showcase 2025: Exploring Innovations in Embedded Finance

Date: 20th November 2025

Pilot Involved: 1, 2, 3 and 4.

Pilot focus: introducing innovations in AI-driven recommendations, citizen wallets, collaborative intelligence, and public funding facilitation.

In this second event, participants explored how FAME technologies enable :

1. Personalized financial recommendations in business ecosystems.

2. Embedded financial services in citizen wallets.
3. Collaborative intelligence for financial service enhancement, and
4. Automated facilitation of EU funding applications.

Event attendees:

1. Financial institutions and fintech innovators.
2. EU policy and funding representatives.
3. SMEs and startups in digital finance.
4. AI, data federation, and digital service researchers.
5. Stakeholders interested in the FAME Marketplace ecosystem.

4.9 Pilots' TRL (Technology Readiness Level)

Pilot Title	Initial TRL	Final TRL
(Pilot 1) FaMLy – A powerful financial recommendation engine for families	5	7
(Pilot 2) Embedding Finance Services in a Personalized Citizen Wallet	4-5	6-7
(Pilot 3) Personalized Collaborative Intelligence for Enhancing Embedded Finance (EmFi) Services	5	7
(Pilot 4) The EU Funds Application Process Made Easy	5	7
(Pilot 5) ESG Scorecard Ranking & Sustainable Portfolio Optimisation.	6	7-8
(Pilot 6) Embedding Climatic Predictions in Property Insurance Products.	5	7
(Pilot 7) Assessing the Quality and Monetary Value of Data Assets	5	7

Table 8: TRL Evaluation

Overall, the seven pilots start from a medium level of technological maturity (TRL 4–6) and reach TRL 7 or higher, demonstrating a clear progression toward operational deployment.

Most of the pilots (1, 3, 4, 6, and 7) evolve from TRL 5 to TRL 7, moving from validated prototypes to solutions tested in real-world environments.

Pilot 2 shows a more gradual growth (TRL 4–5 → 6–7), highlighting a technological consolidation pathway.

Pilot 5 starts from a more advanced level (TRL 6) and reaches TRL 7–8, approaching full readiness for market adoption.

In summary, the pilots demonstrate a coherent and significant evolution in technological maturity, with results confirming the feasibility, reliability, and practical applicability of the developed solutions.

5   Lessons Learned

5.1   Pilot 1

The implementation of Pilot 1 provided a set of relevant lessons across business, technical and organizational dimensions, highlighting both the potential and the constraints of applying advanced analytics and machine learning in a real corporate financial context.

From a business perspective, the pilot confirmed the strategic relevance of personalized, data-driven models to support decision-making in financial and retail-related ecosystems. However, it also became clear that the value of such models is strongly dependent on their alignment with concrete business needs and operational realities. Exploratory analytics initiatives benefit from early and continuous involvement of business stakeholders, not only to validate use cases, but also to calibrate expectations regarding outcomes, adoption and scalability.

From a technical and analytical perspective, the pilot demonstrated the feasibility of developing and testing machine learning models for recommendation and risk assessment using heterogeneous data sources. At the same time, it highlighted data quality, sparsity and imbalance as critical limiting factors for model performance. These constraints reinforced the importance of data readiness, feature consistency and robust data preprocessing as prerequisites for achieving reliable and scalable analytical results. The pilot also underlined the relevance of explainability and interpretability of models, particularly in regulated and risk-sensitive environments, as a key enabler for trust and internal adoption.

From a data and platform perspective, the experience showed that the value of federated data and analytics ecosystems depends not only on technical interoperability, but also on the availability of data assets that are clearly aligned with internal analytical and business objectives. The pilot contributed to clarifying the role of the FAME Marketplace as an experimentation and enablement platform for analytics, rather than as a direct operational data-sharing solution. This distinction proved important to frame realistic adoption scenarios and to guide future engagement with the platform.

Finally, from an organizational and strategic perspective, the pilot generated useful insights through comparison with emerging federated data management initiatives within the Sonae Group. These learnings helped identify complementarities and differences between external federated models and internal data strategies, informing future approaches to data governance, analytics scaling and cross-entity collaboration.

5.2   Pilot 2

A key lesson from Pilot #2 is that the successful deployment of municipal EmFi services depends on the quality, reliability, and interoperability of operational mobility data. Early iterations showed that providing access to raw parking transactions or fragmented municipal datasets was insufficient for supporting meaningful financial incentives, dynamic pricing, or accurate citizen recommendations. Instead, services required structured, well-documented, and consistently synchronized datasets, enhanced with metadata explaining data provenance, update frequency, technical constraints, and known deviations. Without this level of clarity and consistency, both municipal staff and citizens expressed reservations about the accuracy of recommendations and the dependability of real-time enforcement tools.

The pilot also demonstrated that EmFi-enabled mobility services cannot rely solely on transactional data. Effective municipal decision-making requires contextual layers such as occupancy trends, neighborhood characteristics, mobility demand patterns, enforcement data, and service usage

histories. Integrating these broader contextual elements significantly improved the interpretability of dynamic pricing strategies and strengthened the relevance of citizen personalization features. Municipal police staff, for example, noted that contextual data made enforcement more proactive and reduced misallocation of resources across parking zones.

Another important insight is that stakeholder involvement – particularly of municipal employees – must remain continuous throughout the service design and refinement process. Engagement sessions with back-office operators, municipal police, and IT personnel revealed several mismatches between initial technical assumptions and day-to-day operational workflows. Iterative feedback loops helped correct these gaps by simplifying interface components, adjusting data refresh intervals, and refining workflows for service activation through the FAME Marketplace. Many of the most effective improvements—such as troubleshooting views, high-occupancy notifications, and multi-service citizen history—were direct outcomes of these discussions.

Hands-on demonstrations and training proved essential for building confidence in the new services. Workshops helped employees understand how discount policies, loyalty mechanisms, and dynamic pricing affect both operational processes and citizen experience. These sessions also served as a valuable mechanism for capturing improvement suggestions and identifying areas where additional back-office guidance or automated alerts would reduce workload.

Finally, the pilot highlighted the latent value hidden within municipal data ecosystems. The process of consolidating parking data, ticketing information, mobility datasets, and operational logs revealed inconsistencies, redundancies, and underused information that had previously hindered analysis and decision-making. Integrating these datasets within the FAME framework enabled richer insights, more accurate profiling, and more effective financial incentives. Moreover, discussions with external stakeholders demonstrated that harmonized data practices across municipalities could unlock significant opportunities for regional collaboration, shared innovation, and broader scaling of EmFi services.

5.3   Pilot 3

A key lesson from Pilot #3 is that embedded finance providers derive the greatest value not from raw payment data, but from curated, explainable, and decision-ready "facts" that can be consumed directly within digital journeys. Early experimentation showed that exposing transaction-level datasets or generic risk scores was insufficient for practical use. EmFi providers required structured outputs such as behavioural indicators, risk typologies, and confidence levels accompanied by clear metadata explaining data provenance, analytical assumptions, update frequency, and explainability constraints. Without this transparency, stakeholders expressed reservations about relying on insights for customer-facing decisions or automated workflows.

The pilot also demonstrated that effective AML and risk intelligence for embedded finance must extend beyond single-institution views. Fraud patterns, mule activity, and anomalous behaviours often only become visible when analysed across multiple providers and payment networks. Federated analytics proved critical in enabling cross-entity intelligence while preserving data sovereignty. This approach would improve detection accuracy and reduced false positives, and show the importance of collaborative, privacy-preserving analytics as a foundation for scalable AML-as-a-Service.

Another important insight was that AML and compliance represent a major source of hidden friction in embedded finance journeys. Stakeholders consistently noted that traditional AML processes are poorly suited to real-time, embedded contexts. Reframing AML as a modular, API-driven service, consumable at specific decision points, enabled smoother onboarding, faster approvals, and better alignment with product design, without weakening regulatory controls.

Hands-on demonstrations were critical for building trust and adoption. Live walkthroughs of how facts and AML signals were generated, interpreted, and consumed within EmFi applications significantly increased stakeholder confidence. These sessions also surfaced demand for better integration with existing developer tooling and risk management systems, reinforcing the need for seamless API design and documentation.

Finally, Pilot #3 highlighted the latent value embedded within fragmented payment and compliance datasets. Bringing together transaction data, behavioural patterns, and contextual information within the FAME marketplace revealed inconsistencies, duplicated controls, and underutilised signals across institutions. Harmonising these assets enabled richer insights and demonstrated strong potential for scaling shared intelligence services across Europe, positioning FAME as a key enabler of trusted, low-friction embedded finance ecosystems.

5.4   Pilot 4

One of the main lessons from Pilot 4 is that grant award information becomes truly valuable for financial institutions when it is translated into concrete commercial opportunities. The stakeholder workshop confirmed that banks see clear potential in using awarded-grant data as a basis for proactive client engagement, provided it is framed around financing needs rather than presented as standalone information. Participants emphasized that the usefulness of the service lies in its ability to identify where and when financial products can be offered, making the dataset a practical sales enabler rather than a passive information source.

The pilot further showed that banks prioritize focus over exhaustiveness. Stakeholders indicated that having access to all available grant data is less important than being able to narrow attention to high-impact cases that match internal strategies and thresholds. In this context, mechanisms for filtering, prioritising, and tailoring results to bank-specific criteria were identified as critical for adoption. Discussions also highlighted structural constraints related to public funding cycles, as many grant programs issue awards only periodically. This underscored the importance of broadening coverage to additional regional, national, and European funding schemes in order to maintain a steady flow of relevant opportunities throughout the year.

Feedback from bank representatives also highlighted the importance of speed and clarity in commercial decision-making. The enriched CSV outputs, including proposed financial products and indicative actions for account managers, were viewed as particularly effective in supporting rapid outreach to companies with immediate financing needs. Stakeholders noted that tighter integration with existing CRM systems would further enhance this capability by embedding grant-related insights directly into daily sales workflows and client management processes.

Finally, the pilot demonstrated the value of close collaboration between funding specialists and commercial banking teams. Engagement sessions involving EU funding consultants from WeGrant and Inneürope, alongside bank sales and commercial staff working with SMEs, helped validate assumptions and refine the service from a practical, front-line perspective. Live demonstrations increased confidence in the solution, and the request for additional explanatory materials following the workshop reflected both internal interest and readiness for broader internal dissemination. These interactions confirmed the pilot's potential to scale as a commercially oriented data service within the FAME framework.

5.5   Pilot 5

A key lesson from Pilot #5 is that high-quality curation and transparent structuring of ESG data are essential for producing trustworthy ESG reporting and portfolio optimization outputs. During

development, it became clear that providing raw ESG indicators or unverified external datasets is insufficient. Users require well-organized, normalized, and documented datasets, supported by metadata that clearly explains scoring methodologies, data provenance, aggregation processes, temporal validity, and known constraints. Without this level of clarity, user trust in both the ESG scores and the resulting portfolio recommendations is significantly weakened.

The pilot also demonstrated that ESG analysis cannot rely solely on numerical metrics. Meaningful decision support requires contextual layers such as regulatory disclosures, sector-specific sustainability risks, company climate commitments, and qualitative sustainability reports. Integrating these contextual elements substantially improved interpretability, reduced misclassification of assets, and supported more nuanced portfolio construction. In particular, analyses of assets from JRC and KM Cube revealed that incorporating company-specific sustainability disclosures alongside standardized ESG metrics led to more accurate and actionable portfolio recommendations.

Another important insight is that ongoing stakeholder involvement is essential throughout the development cycle. Engagement sessions with financial analysts, sustainability officers, and IT teams highlighted areas where ranking behaviors, report formats, or optimization outputs initially misaligned with real-world needs. Iterative feedback loops made it possible to refine weighting schemes, adjust default filters, and improve visualization components. These interactions were crucial not only for technical accuracy but also for ensuring usability, since many refinements emerged directly from stakeholder experience with existing ESG evaluation workflows.

Hands-on training sessions played a central role in successful adoption. Role-specific workshops focused on investment profiling, ESG score interpretation, and scenario testing helped users build confidence in the tools and understand how personal preferences or regulatory constraints influence portfolio results. Training also served as a practical mechanism for gathering improvement suggestions. Several enhancements, including clearer explanation layers for score components and improved reporting templates, originated directly from user feedback gathered during these sessions.

Finally, the pilot revealed significant hidden value within fragmented ESG data sources. The process of consolidating regulatory datasets, sustainability disclosures, market data, and proprietary indicators exposed redundancies, inconsistencies, and underused information. Integrating these sources into a unified pipeline created new analytical capabilities, improved ranking consistency, and enabled stronger cross-sector comparisons. The combined analysis of assets from JRC and KM Cube particularly highlighted the benefits of harmonized data, demonstrating how integrated ESG insights can support more informed investment decisions and better alignment with sustainability objectives.

5.6   Pilot 6

Overall the primary lesson learned during the development of Pilot 6 was that there is a substantial need for off-the-shelf climate projection products that are ready to use by non-expert risk analysts at financial institutions. Furthermore, these products need to be easy for the users to access and ideally located in a similar location as other data series they may require.

When conducting the case studies in the pilot, it became clear that ease of use and portability were critical components. This is because a detailed analysis requires a degree of flexibility and the analysts may not know, ahead of time, exactly which products they will require. Having a straightforward and easy to understand climate projection data product enable related analyses to be quickly executed.

Interactions with stakeholders served to confirm the usefulness of the data and approach in general. Financial analysts tasked with performing climate risk analyses are required to build general analytic pipelines. The intention of these systems is not to answer a specific question regarding a single asset's climate risk, but more to answer questions about a broad range of risks on demand.

The stakeholders therefore confirmed that a climate projection data product which has already been statistically post processed and downscaled, would be highly useful, especially if this product was located along other relevant data series. They expressed some concerns related to issues of compliance that would have to be addressed, especially regarding security of the service and longevity of the product, but in general they were highly positive.

5.7   Pilot 7

Effective trading of industrial IIoT data - and derivative secondary assets - depends fundamentally on high-quality curation and robust metadata. Pilot 7 found that simply offering raw sensor data is insufficient: datasets must be well-structured, cleaned, and enriched with supportive metadata, such as explanatory files. These should document data provenance, sensor calibration, operational context, and any known data gaps or issues.

For services like predictive maintenance, it is not enough to use process sensor data alone. Historical maintenance records are essential for model accuracy and trust. The pilot learned that including information such as equipment service logs, parts replacement dates and detailed maintenance reports leads to substantial improvements in analytic results and model performance.

Another important takeaway is that active stakeholder engagement - across engineering, IT, maintenance, business, and operator teams - is vital for both technical success and adoption. Passive or late-stage feedback proved ineffective: the best outcomes came from involving stakeholders in iterative cycles throughout model development.

Workshops and regular feedback meetings allowed stakeholders to identify operational needs, correct misaligned model behavior (such as false positive anomalies) and ensure the system fit real-world workflows. For example, operations and maintenance specialists provided context that dramatically improved accuracy in predictive models and operators helped tune alerts to be actionable, not noise.

Hands-on training programs - tailored to roles (operations, engineering, management) - proved critical for successful adoption of predictive models and analytics. These programs went beyond documentation, including practical workshops using real data and simulated events.

A structured feedback process followed training, allowing stakeholders to suggest improvements based on their daily use. Three major model improvements resulted directly from user suggestions, such as more context-aware anomaly detection and clearer alert explanations. This ongoing feedback cycle kept users engaged and models well adapted to evolving operational realities.

Finally, a deeper analysis of MOH's existing data silos - across operational systems, maintenance archives, unstructured text - revealed significant, previously unexploited value.

6 Aggregated Evaluation

The aggregated evaluation of the seven FAME pilots combines three main sources of evidence:

Evidence source	What it measures	Typical output in this section
Innovation Pentagon	Market/Customer/Compliance/Resources/Technology maturity	Average scores + qualitative interpretation
KPIs & Before/After deltas	Quantitative performance change	KPI trend, deltas, achievements vs baseline
Stakeholder engagement & lessons learned	Adoption readiness, usability, perceived value	Pain points, enablers, requests, roadmap inputs

Table 9: Main source of evidence

Overall, the portfolio confirms a high level of stakeholder satisfaction, with particularly strong appreciation for solutions that improve compliance, data interoperability and internal process efficiency. B2B-oriented pilots tend to show greater improvements in internal resource utilisation and process robustness, whereas B2C-oriented pilots maintain solid performance on customer satisfaction, usability and perceived value of new EmFi services.

From an aggregated standpoint, the pilots can be grouped into two clusters, reflecting both technological focus and market orientation:

- Cluster A – Customer- and citizen-facing EmFi services (Pilots 1, 2, 3, 4) Focus on recommendation, embedded finance in everyday journeys (retail and city services), and data-driven support to SMEs/citizens (e.g. EU funds access, payment services).
- Cluster B – Risk, ESG and industrial data services (Pilots 5, 6, 7) Focus on ESG portfolio optimisation, climate-risk datasets and industrial/IIoT data valorisation, relying heavily on analytics, data curation and advanced modelling.

This clustering is consistent with the workshop-based analysis carried out across the pilots and provides a useful lens to interpret the techno-economic performance of the FAME ecosystem.

6.1 Clustering of Pilots'

Both clusters rely on advanced AI/analytics and secure data-sharing capabilities, but they emphasize different combinations of these components:

- Cluster B leverages the same backbone (federated access, secure trading, analytics) to price risk, evaluate assets and support strategic decisions, especially in ESG, climate and industrial contexts (Pilots 5–7).

Cluster	Description	Pilots	Orientation
A – Customer & citizen-facing EmFi services	exploits marketplace, federated data access and explainable AI mainly to personalise services and recommendations for households, citizens and SMEs	1, 2, 3, 4	B2C / B2B2C / mixed
B – Risk, ESG & industrial data services	leverages the same backbone (federated access, secure trading, analytics) to price risk, evaluate assets and support strategic decisions, especially in ESG, climate and industrial contexts	5, 6, 7	Mostly B2B

Table 10: Clusters

6.1.1 Technology

Across all pilots, several recurring technological patterns emerge:

- Federated data access and interoperability: All pilots rely on the FAME marketplace and its federated cloud environment to access, share and commercialise data assets, ensuring interoperability across heterogeneous datasets and providers (financial, mobility, public sector, industrial).
- Advanced analytics and AI (incl. XAI and Federated ML): Pilots 1 and 5–7 strongly rely on machine learning and optimisation models (e.g. recommendation, ESG scoring, climate projection analytics, predictive maintenance) and, in the case of Pilot 3, on federated learning methods and Explainable AI for compliance and AML services.
- Data governance, privacy and compliance by design: Pilots systematically exploit FAME capabilities for anonymisation, encryption, access control and GDPR-aligned processing, which are particularly critical in citizen-facing (Pilots 1–2) and compliance-related services (Pilots 3, 4, 5, 6).
- Marketplace-based monetisation and asset packaging: Most pilots evolved from standalone prototypes to marketplace-ready data services, exposing datasets, models, or "Methodology-as-a-Service" offerings (e.g. ESG scoring, climate projections, IIoT data packages) that can be traded via FAME.

Pattern	One-line description	Pilots where most critical
Federated data access & interoperability	Federated access to heterogeneous datasets via marketplace	All (note: different domains)
Advanced analytics & AI (incl. XAI / Federated ML)	Recommendation/optimization/risk models; explainability & FL where relevant	1, 3, 5–7
Governance, privacy & compliance by design	Anonymisation, encryption, access control, GDPR-aligned processing	1–2; 3–6

Marketplace monetisation & asset packaging	Datasets/models/methodology-as-a-service exposed as tradable assets	Most (esp. 5–7)

<div align="center">Table 11: Technology patterns</div>

Taken together, the technological assessment shows that the pilots significantly advanced their TRL and integration with FAME, moving from isolated use cases to reusable components aligned with a common reference architecture.

6.2   Target

From a market perspective, the pilots can be positioned along the B2C–B2B spectrum, often with mixed or B2B2C models:

- Primarily B2C / citizen-facing:
    - Pilot 1 (FaMLy – households and retail customers).
    - Pilot 2 (citizen wallet for city services).
- Mixed B2B/B2C and B2B2C:
    - Pilot 4 (banks and SMEs/self-employed beneficiaries of EU funds).
    - Pilot 5 (ESG tooling for analysts, with indirect impact on end-investors).
- Primarily B2B / institutional and industrial:
    - Pilot 3 (EmFi providers and financial institutions – Facts-as-a-Service, AML-as-a-Service).
    - Pilot 6 (financial institutions and insurers using climate data).
    - Pilot 7 (industrial stakeholders trading IIoT-derived data assets).

This mapping confirms the workshop-based clustering: Pilots 1–4 gravitate around customer/citizen journeys and front-end EmFi services, while Pilots 5–7 primarily support professional users, analysts and industrial stakeholders through advanced data products and analytics.

6.2.1   B2B

B2B-oriented pilots (3, 4, 5, 6, 7) demonstrate strong progress in:

- Internal process efficiency and resource utilisation, e.g. streamlined workflows for EU funds data ingestion and beneficiary matching (Pilot 4), or industrial data curation and predictive maintenance processes (Pilot 7).
- Decision support and compliance, such as AML-as-a-Service and KYC-related analytics (Pilot 3), ESG scoring and portfolio optimisation (Pilot 5), and climate-risk assessment for property insurance portfolios (Pilot 6).
- Monetisation models for data and analytics, ranging from subscription and pay-per-use to Methodology-as-a-Service and trading of curated datasets through FAME.

Stakeholder feedback from banks, regulators, ESG practitioners and industrial users confirms the relevance of these services, while also stressing the importance of clear value propositions, transparent pricing models and frictionless integration into existing enterprise environments.

6.2.2   B2C

B2C-oriented pilots (mainly 1 and 2, with spillovers from 4 and 5) focus on improving the experience and outcomes for end users:

- Pilot 1 enhances household financial decision-making through explainable recommendation models integrated into a trusted consumer app.
- Pilot 2 extends an existing smart parking app into a broader city wallet, enabling citizens to manage multiple local services (parking, transport, fines) with personalised offers and loyalty schemes.

In these pilots, the evaluation highlights:

- good performance on customer satisfaction and usability indicators.
- strong interest from municipalities and corporate partners in replicability and scalability.
- the need to further simplify user journeys and communication around data usage and consent, to consolidate trust and adoption.

6.2.3   Market sentiment and demand outlook

To complement the pilot-level evaluation, this section summarises external evidence on market sentiment and demand for FAME-like services in both B2C and B2B segments. Recent surveys and market studies confirm a strong appetite for embedded finance, data-driven financial services and ESG/climate analytics, indicating that the pilots are aligned with high-growth and high-priority areas for financial institutions, corporates and citizens.

6.2.3.1 B2C / citizen-facing sentiment

Several recent surveys show that European consumers are increasingly receptive to embedded finance and integrated digital journeys:

- A 2023 survey of 3,007 European consumers in the UK, Belgium and Germany found that two in five (40%) consumers will only stay loyal to brands that offer embedded banking products such as Buy Now Pay Later, and 37% are more likely to use BNPL and flexible payment options due to the cost-of-living crisis.
- A separate study on embedded finance usage in Europe reported that 41% of consumers turn to embedded finance primarily for increased accessibility, and around 31% favour it because of additional benefits such as loyalty programmes and payback schemes.
- A 2024 consumer study found that while 71% of consumers still trust banks to deliver regulated financial services, nearly half also trust super apps, e-commerce platforms, retailers and utilities to provide these services, suggesting that non-financial platforms can credibly host embedded financial offerings.
- McKinsey analysis of European auto finance shows that around 40% of consumers already prefer online channels to finance a car purchase, and surveys across six European markets indicate that consumers expect to use more integrated financing solutions across most retail categories.

Taken together, these findings indicate that roughly 40–50% of European consumers are already open to, or actively using, embedded finance features, and that convenience, accessibility and integrated experiences are key drivers of adoption. This external evidence is consistent with the positive feedback observed in:

- Pilot 1 and 2, where households and citizens value personalised, context-aware financial services integrated into existing digital journeys (retail app, city wallet).
- Pilot 4 and 5, where SMEs and end-investors benefit indirectly from more transparent, user-friendly access to funding and ESG-related information.

These trends suggest that there is a clear and growing market for FAME-like B2C and B2B2C offerings, particularly when embedded in trusted non-financial platforms (retailers, city services, utilities).

6.2.3.2 B2B / institutional and industrial sentiment

On the B2B side, the market shows very strong momentum around ESG data, climate risk analytics and data marketplaces, which directly underpins Pilots 3–7:

- The ESG investment analytics market is estimated at USD 1.84 billion in 2025 and expected to reach USD 3.72 billion by 2030, with a CAGR of about 15% over 2025–2030.

- A Bloomberg/Adox ESG Data Acquisition & Management Survey found that 92% of executives at financial institutions plan to increase their ESG data spending by at least 10% year-on-year, and 18% expect to increase it by 50% or more.

- Another industry survey reports that around three-quarters of retail banks plan to increase spending on ESG initiatives, and almost 20% plan to increase it significantly, confirming ESG data as a strategic priority.

In parallel, the markets for climate data analytics and data marketplaces—highly relevant for Pilots 5, 6 and 7—are expanding rapidly:

- The climate data analytics market is estimated at USD 1.61 billion in 2025 and expected to reach USD 5.65 billion by 2030, corresponding to a CAGR of roughly 28.6%.

- The global data marketplace platform market is valued at about USD 1.46 billion in 2024 and projected to reach more than USD 8.3 billion by 2033, implying a CAGR of over 20% driven by data monetisation and demand for high-quality datasets.

These figures are directly aligned with the focus of Pilots 3–7, which build on FAME to deliver:

- ESG and climate risk analytics for financial institutions and insurers (Pilots 5–6).
- IIoT-based industrial data services and data monetisation scenarios (Pilot 7).
- compliance-related analytics (Facts-as-a-Service, AML-as-a-Service) for financial institutions (Pilot 3).
- structured access to funding and public programmes for banks and SMEs (Pilot 4).

The external market evidence thus indicates that financial institutions, asset managers and industrial players are actively increasing their investment in ESG/climate data and advanced analytics, reinforcing the business rationale for the FAME pilots in these domains.

6.2.3.3 Implications for the FAME pilots portfolio

In summary, external market research shows that:

- B2C and B2B2C segments already exhibit strong demand for embedded, convenient and personalised financial services, with around 40–50% of European consumers willing to use embedded finance products and many ready to reward brands that offer them.

- B2B segments—especially in ESG, climate risk and data marketplaces—are growing at double-digit CAGRs, with more than 90% of financial institutions planning to increase their spending on ESG data and many banks ramping up climate-related analytics and risk management capabilities.

Against this backdrop, the FAME pilots can be seen as concrete, early implementations in markets that are already signalling strong and sustained demand. The positive sentiment documented by external studies reinforces the techno-economic viability of the pilots, supporting their potential for replication, scaling and long-term sustainability beyond the project.

6.3   Internal Processes Results

From an internal process perspective, the pilots converged on a common engagement and improvement cycle: planning, feedback collection, analysis, implementation of changes, and dissemination.

Key cross-pilot findings include:

- Structured stakeholder engagement as a core internal workflow
  All pilots defined multi-phase Stakeholder Engagement Plans (workshops, surveys, bilateral meetings) and integrated the resulting feedback into roadmaps and design decisions. This applies to internal corporate stakeholders (e.g. Universo, Sonae MC, municipal staff, ESG analysts, insurance practitioners, industrial engineers) as well as external partners and prospective adopters.
- Maturation of data governance and curation processes
  Pilots 5–7, in particular, report significant learning regarding data curation, metadata quality and documentation. Curated ESG, climate and IIoT datasets—with clear provenance, methodology descriptions and explanatory documentation—emerge as a prerequisite for trust, reuse and monetisation.
- Embedding FAME into existing organisational processes
  Pilots 1–4 worked to align FAME-based services with existing banking, retail and public-sector workflows: e.g. integrating recommendations into established digital channels (Pilot 1), embedding city wallet functions into municipal operations (Pilot 2), positioning EmFi/AML services within current compliance and KYC processes (Pilot 3), and incorporating EU-funds data into bank commercial pipelines (Pilot 4).
- Capacity building and training as adoption enablers
  Several pilots (notably 5 and 7) emphasise the importance of hands-on training, role-specific workshops and iterative feedback cycles to ensure effective uptake of new analytics tools and data products within organisations.

To complement the qualitative findings above, Figure 16 provides a consolidated snapshot of the overall FAME evaluation across the five Innovation Pentagon dimensions (scores on a 1–5 scale).

The histogram reports the average score across all pilots, highlighting stronger results in Market (3.85) and Customer (3.63), solid performance in Resources (3.51), and comparatively lower—though still positive—scores for Compliance (3.33) and Technology (3.28), pointing to areas where further maturation and harmonisation efforts can deliver the highest impact.
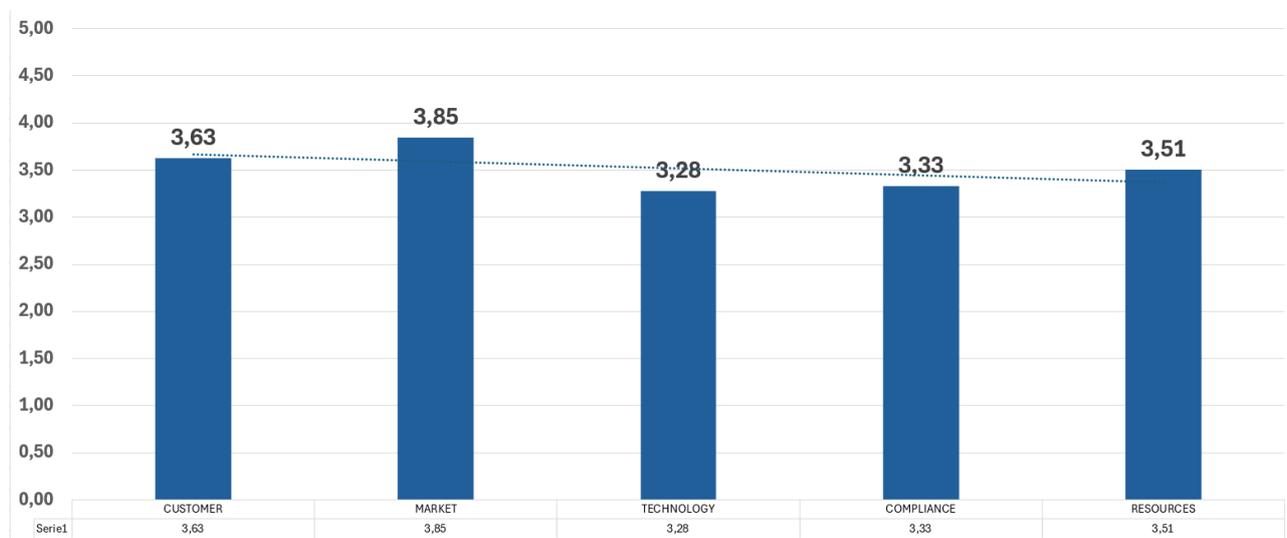

Figure 16: FAME overall evaluation

7   Conclusions

The techno-economic evaluation conducted in D6.3 demonstrates that the FAME pilots have significantly progressed in terms of technological maturity, market readiness and organisational integration, while validating the underlying marketplace and data-sharing concepts across heterogeneous domains.

From a technical perspective, the pilots successfully integrated AI, advanced analytics, federated data access and secure trading mechanisms into concrete use cases. The Innovation Pentagon confirms robust performance in Technology and Compliance dimensions, especially for pilots focused on regulatory processes, ESG and risk management.

From a business and market perspective, pilots demonstrate viable monetisation paths (data-as-a-service, methodology-as-a-service, subscription and pay-per-use models) and clear value propositions for both B2C and B2B segments. B2B pilots, in particular, exhibit strong improvements in internal processes and resource utilisation, while B2C pilots maintain solid results in customer satisfaction and usability, with promising opportunities for replication in new geographies and sectors.

Overall, the evaluation confirms that the FAME pilots provide convincing evidence of the techno-economic feasibility of a federated European marketplace for financial, mobility, climate and industrial data. The results indicate:

- a solid technical foundation and increased TRL for all pilots.
- sustainable and scalable business models for most use cases.
- high perceived value from stakeholders, especially regarding compliance, data interoperability and decision support.

These findings support the continuation and scaling of FAME outcomes beyond the project's lifetime, including further industrialisation of selected pilots, extension to additional markets and the refinement of governance models for data trading and embedded finance services in Europe.

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