

# SmartRacon 2024



Flagship Area 1

Network management planning and control & Mobility Management in a multimodal environment



**FP1 MOTIONAL**

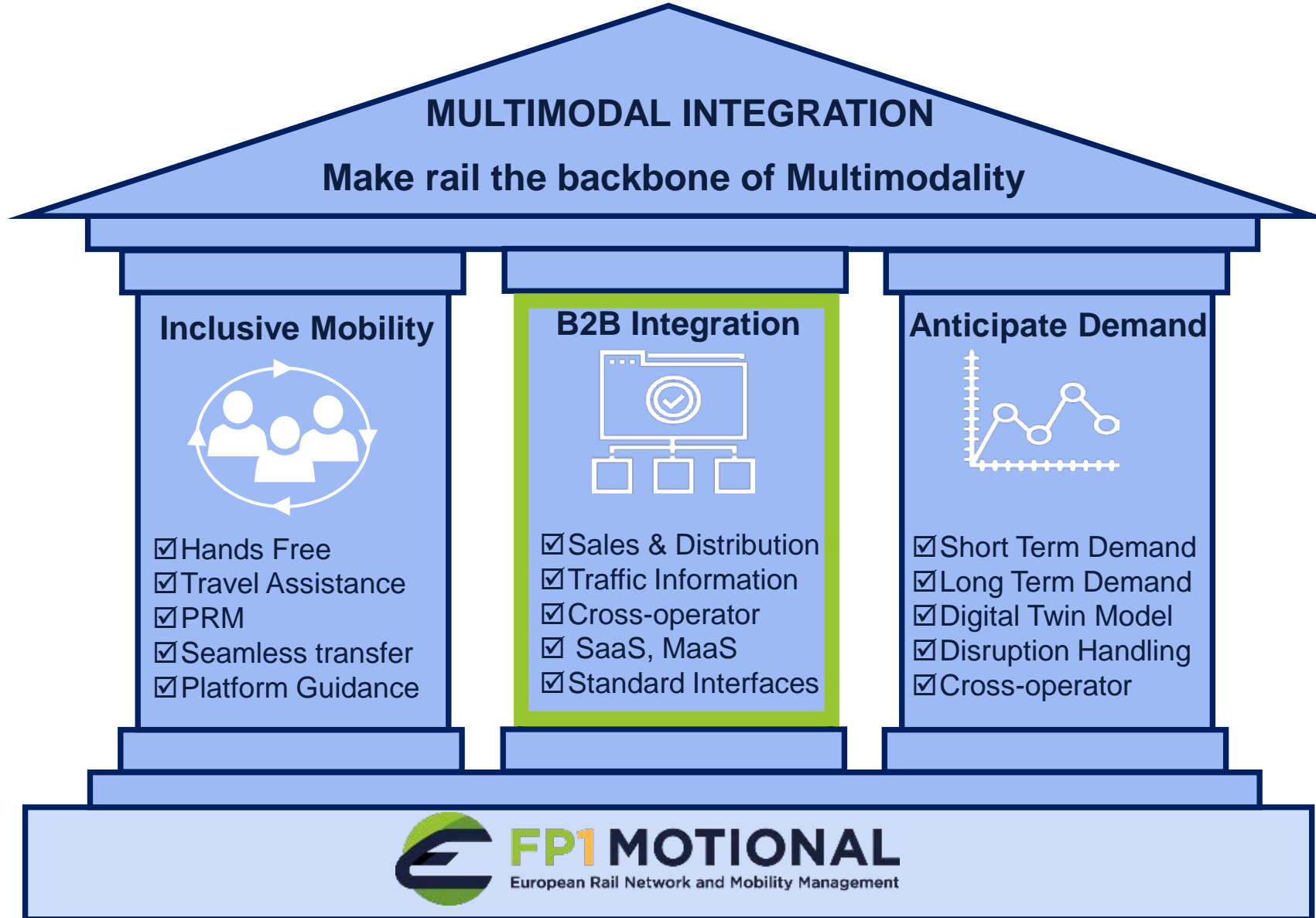
European Rail Network and Mobility Management

**B2B Financial Services as a Key Asset for Rail Integration  
with Other Mobility Modes**

**Nihad BAHRI  
HITACHI RAIL**



# FP1 Work Stream 3 Structure



## Why B2B Integration?

- The development of railway adoption is **key for moving towards sustainable mobility at a large scale.**
- Developing efficient and sustainable transport offers is not only a matter of **providing more infrastructure**, but also of **making existing ones more attractive and convenient to use.**
- Connecting Rail with other mobility modes in urban, sub-urban and rural areas, breaking silos between private and public transport, providing seamless journeys to end customers, solving the First Mile Last Mile burden, .. All of that will **enhance Rail attractiveness.**
- And Multimodal integration is **not achievable without the cooperation between Mobility Providers.**

**B2B Integration is Key!**

# Revenue Repartition, a B2B Service for Multimodality

- Referring to sales and distribution in ground passenger transport industry, there are several solutions and standards **allowing to manage cross selling**.
- However, there are **no or limited cross-accounting solutions** allowing to redistribute the revenue collected at retail channels.
- The general objective is to **make the market smoother and more efficient by centralizing financial flows** and hence preventing participants from making transfers to each party with which they have transacted.

**Make the Market Smoother and More Efficient!**

## Sales & Distribution, Rail as the Backbone of Multimodality

Evolution of Models & Offers

Need for a Trusted and Secure Revenue Repartition

Growing Number of Business Actors



Multiple Offers & Packages



Various Payment Solutions



Manage Financial Flows Smoothly & Efficiently



Deliver Fast Revenue Settlement



Secure and Audit Flows



Foster Green Efficiency



Combine Private and Public



Provide Configuration Flexibility



Integrated Revenue Management is a Key B2B Service for the Evolution of Mobility

# Definitions

## Clearing



*General process allowing an organization to act as intermediary between trading parties, apportion the revenues when applicable & settle accounts*  
*This intermediary body is usually called 'Clearing House' 'Clearing Houses' are commonly used in Stock Market and to promote national and international trade. Mobility may require clearing and settlement functionalities to apportion and settle the revenue between participants*

## Apportionment



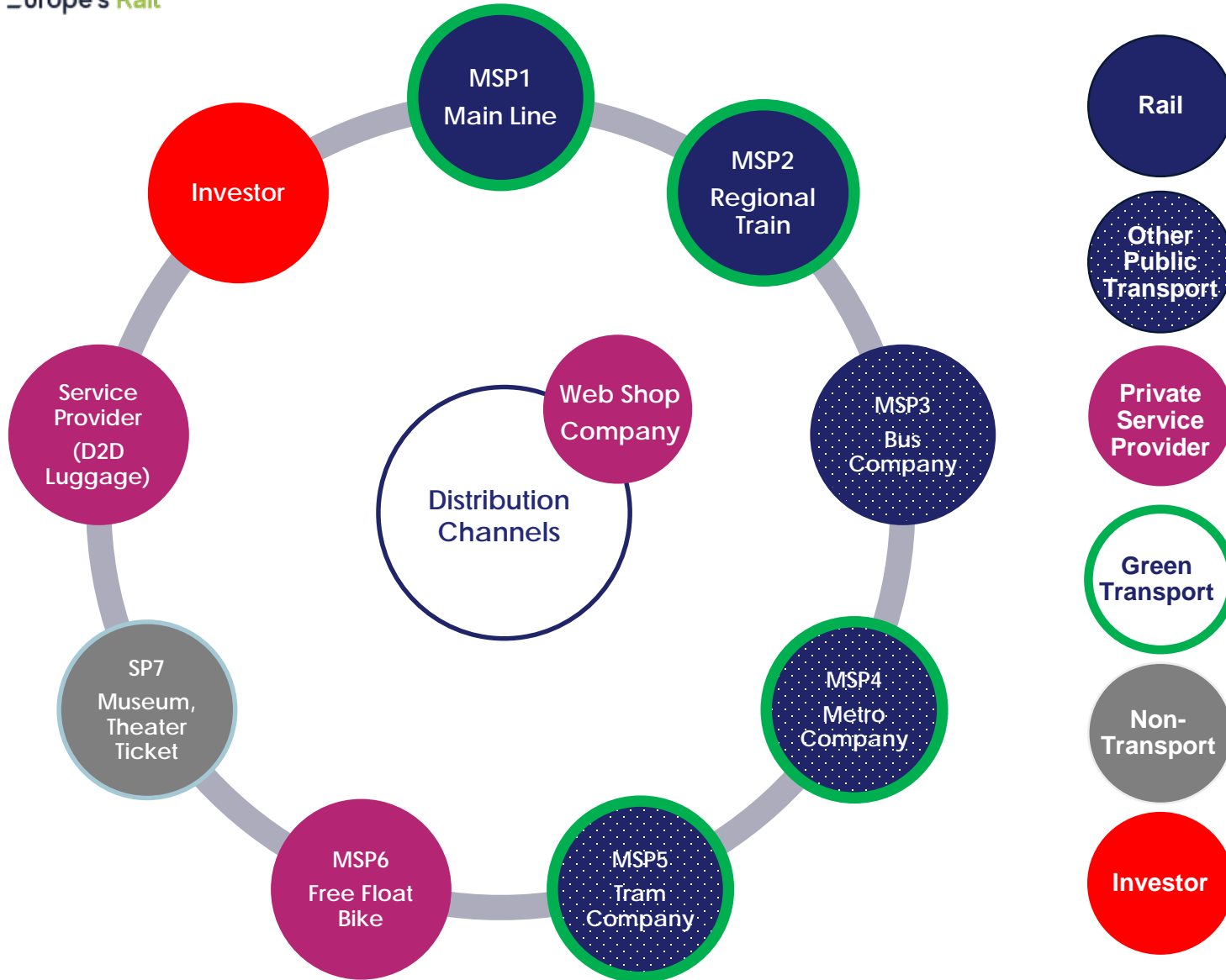
*Apportionment is the business logic for re-distributing revenue*  
*There can be many rules such as the distribution of the price of an inter-modal product based on agreed percentages (e.g. bus-train pass apportioned at 40% to bus operator and 60% for train operator), dynamic distribution based on the use of the service (i.e. apportionment at the expiration of the product), post-payment apportionment based on distance. Also, there can be fees charged on the paid amounts to reward Retailers.*

## Settlement



*Settlement is the transfer of funds between creditor and debtor entities.*  
*The frequency of the process is usually adjusted according to the business needs. Frequency should not be too low as to remain fair to all participant cash flow positions but shall not be too high to minimize the administrative work.*

# Potential Ecosystem (Illustration)



*Rail Operators, Main Lines, Regional Lines.*

*Other Public Transport Operators.*

*Private Mobility Service Providers.*

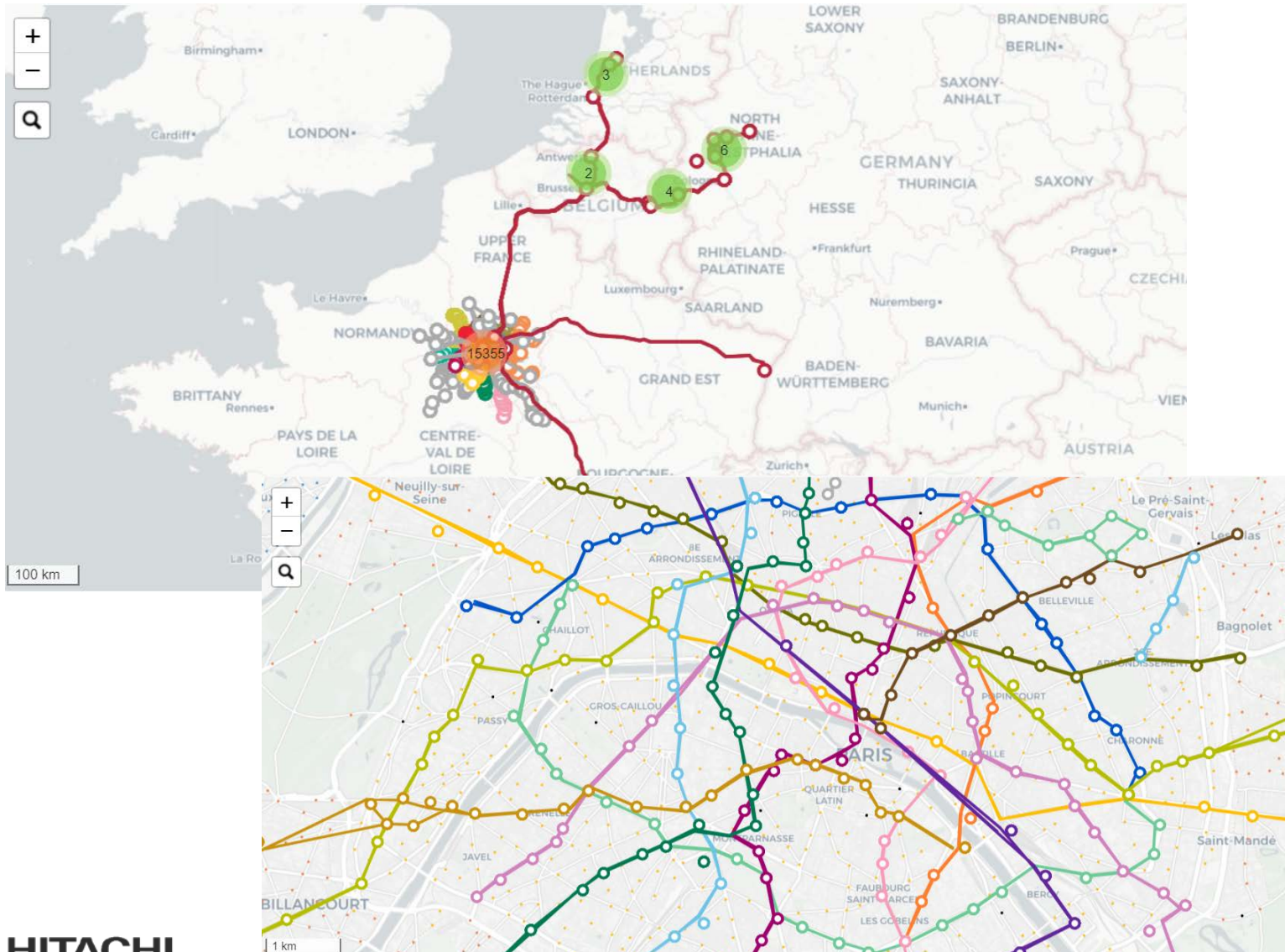
***Green mobility. The business logic can support the development of green mobility by allocating a higher share to providers of low-carbon mobility solutions.***

*Other Service Providers (e.g. entertainment).*

*Private investors could participate to finance the development of mobility.*



# Typical use case - Data

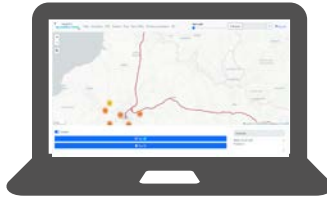


**Eurostar Network** (ex Thalys). GTFS data coming from <https://transport.data.gouv.fr/>

**Paris Area Transportation Network** including metro, bus, tram, urban train, regional train. Coming from IDFM Open Data. <https://data.iledefrance-mobilites.fr/>

# Typical use case - Platform

Multimodal  
Travel  
Simulator



Web Shop



App



## Cloud Platform

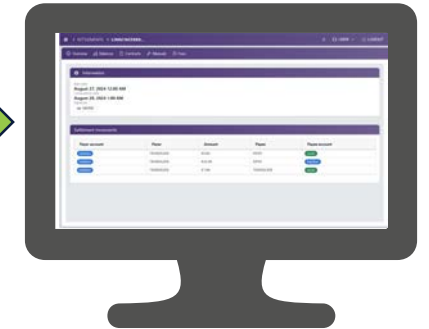


Financial Platform for Mobility Integration



European Rail Network and Mobility Management

- Transaction Processing
- Revenue Management



Operation Portal



Distributed Ledger

# Typical use case

## Mobility Offer Retail



### Purchase of a Multi Service Combo:

- A Eurostar Ticket from Amsterdam to Paris Nord.
- A Paris daily ticket.
- An Adult Museum Ticket.

**Apportionment and settlement of the revenue collected by the distributor to the Service Providers.**

# Typical use case - Mobility Offer Retail

A European passenger traveling from Amsterdam to Paris and visiting the Louvre Museum:

- A Eurostar (ex. Thalys) Ticket from Amsterdam to Paris Nord.
- A Paris daily ticket (Zones 1, 2)
- An Adult Museum Ticket

🛒 Items (3)					
Product	Details	Fee	Unit price	Price	
Eurostar Ticket	12 Aug 2024 - 12 Aug 2024	€0.00	€118.80	€132.00	<a href="#">DELETE</a>
Paris Daily Pass zone (1-2)	12 Aug 2024 - 12 Aug 2024	€0.00	€7.78	€8.65	<a href="#">DELETE</a>
Louvre - Museum Ticket	-	€0.00	€19.80	€22.00	<a href="#">DELETE</a>
Total price				€162.65	
				Inclusive total taxes	€16.27

[CONTINUE SHOPPING](#)
[CHECKOUT](#)

Purchase of Eurostar Ticket, Paris daily pass and Museum ticket is carried out on a Web Shop.

# Typical use case - Mobility Offer Retail

Following the check-out, sales transactions are processed, and the collected amount is apportioned to service providers

Apportionment context	Apportionment name	Validity end date	Product price
Product	O/D Thalys	August 12, 2024 11:59 PM	€132.00

Rules						
Rule "Commission for retailer and product owner"						
Payer account	Payer	Payer role	Amount	Payee role	Payee	Payee account
liabilities	SELECTOUR	Product retailer	€122.76	Mobility Service Provider	Thalys	liabilities
liabilities	SELECTOUR	Product retailer	€6.60	Product retailer	SELECTOUR	assets
liabilities	SELECTOUR	Product retailer	€2.64	Product owner	Thalys	assets

Liabilities after rule	
Thalys	€122.76

Apportionment context	Apportionment name	Validity end date	Product price
Product	Navigo Jour - Zone (1-2)	August 12, 2024 11:59 PM	€8.65

Rules						
Rule "Commission for retailer and product owner"						
Payer account	Payer	Payer role	Amount	Payee role	Payee	Payee account
liabilities	SELECTOUR	Product retailer	€0.43	Product retailer	SELECTOUR	assets
liabilities	SELECTOUR	Product retailer	€0.18	Product owner	IDFM	assets
liabilities	SELECTOUR	Product retailer	€8.04	Mobility Service Provider	IDFM	liabilities

Liabilities after rule	
IDFM	€8.04

Apportionment context	Apportionment name	Validity end date	Product price
Product	Louvre - Museum Ticket	August 13, 2024 9:53 AM	€22.00

Rules						
Rule "Special le Louvre - Commission for retailer and product owner"						
Payer account	Payer	Payer role	Amount	Payee role	Payee	Payee account
liabilities	SELECTOUR	Product retailer	€1.10	Product retailer	SELECTOUR	assets
liabilities	SELECTOUR	Product retailer	€20.90	Product owner	LE LOUVRE	assets

# Typical use case - Mobility Offer Retail

Apportionment rules are configurable. In this use case, there is a fee attributable to the Retailer (Selectour).

Then, and typically at the end of the settlement period, there is a settlement between participants resulting in fund transfers.

