

Investments

CNFS

During 2022, the ATM Group made investments of approximately 85.6 million euros (including investments by Metro Service A/S), of which approximately 63.9 million euros were earmarked for fleet renewal, including extraordinary maintenance for the general tram review.

The investments made by the ATM Group in the three-year period, broken down by macro category, are as follows:

	2022	2021	2020
<i>Fleet renewal</i>	63.9	47.7	112.6
<i>Extraordinary maintenance of the premises</i>	1.9	1.5	1.8
<i>Modernization and upgrading of plants and infrastructure</i>	11.6	14.8	19.5
<i>New technologies for payment and information mobility</i>	8.2	8.7	6.0
Total	85.6	72.7	139.9

The Group makes such investments in order to generate positive effects both for the performance of transport services in terms of *customer experience* - thanks to the improvement of the quality of the service and the relative levels of comfort and accessibility - and for the improvement of the environmental performance and levels of security of the means. In fact, the replacement of older vehicles

by more modern and efficient means will allow the ATM fleet to reduce emissions into the atmosphere from fossil fuels.

As regards the renewal of the Metro fleet, the first half of 2022 saw the invitation to tender for the signing of a framework agreement for the purchase of 46 new trains, 21 of which were destined for the M1 metro line, to replace “*revamping*” trains, and 25 for the M3 metro line, of which 21.5 to replace the part of trains now dated and 3.5 to increase the equipment. The contract for the supply was awarded in September, with the conclusion of the framework agreement and at the same time the signing of the first application contract for the 21 scheduled trains 1; in November the second application contract for the 25 scheduled trains 3 was also signed.

The purchase program for M3 metro trains is part of the line upgrading project, together with the new signaling facility. The renewal projects for M1 and M3 trains and M3 signaling installations will be fully publicly funded.

As part of the “Full Electric” bus fleet renewal plan, ATM concluded a framework agreement in 2019 for the supply of 250 electric vehicles.

The first two application contracts were delivered from 40 (in 2020) and 100 vehicles (in 2021), and two other application contracts were signed in 2022 for a total of 78 vehicles. Deliveries began in December 2022 and will continue in 2023, with a forecast of completion by the end of 2023. The effects of the Covid-19 pandemic and the outbreak of the war in Ukraine have revealed significant difficulties in supplying the Raw materials with batteries and other vehicle components, which is why manufacturers have had to reprogram production activities that would have to be completed by 2022.

The 250-vehicle framework agreement also includes the replacement of the power supply batteries at about half the life of the vehicle, which will replace those installed as original equipment.

Following the allocation of PNRR funds (measure M2C2 – 4.4.1 renewal of buses and green trains - sub-investment BUSES) to the Municipality of Milan, the procedures for the acquisition of a further 310 electric buses were started in the second half of 2022 with the publication of the relevant tender, from 12 and 18 meters.

For the “Full Electric” project, in addition to the supply of the vehicles, it will be necessary to adapt also the spaces for the shelter and the recharging of the vehicles. With regard to the vehicles described above, a 5-year framework agreement was signed for the installation of the columns in the warehouses of Sarca, Giambellino and San Donato depots and the installation of the opportunity chargers at the main terminals of the car service and inside the ATM depots (n.2 at the Sarca depots, N.2 at Giambellino's depot and n.2 at San Donato's depot, which will be activated during 2023). The activities for the installation of the columns in the Sarca warehouse and the installation of 12 opportunity chargers (6+2+4) at the bus terminals of V.le Zara, p.za IV Novembre (Centrale), p.za Bottini/v. Viotti (Lambrate). The activities for the installation of 75 columns in Giambellino have begun and partly completed: The first step (25 columns) was completed in June 2022 and the second step (50 columns) is expected to be completed by the summer of 2023. With regard to the other opportunity chargers, two additional chargers are being installed in Piazza IV Novembre, bringing the resort to 4 plants. Four additional chargers will be installed at the Bisceglie M1 terminal during 2023 and further are being evaluated.

In view of the investments in the “Full Electric” plan and in the pursuit of the “ecological mission”, ATM has signed a contract for the supply of electricity produced from renewable sources, certified Green Energy with guarantee of origin.

The Group's investment strategies in surface vehicles also include the purchase of hybrid vehicles as an intermediate step, both because the market is not yet able to meet the wide requirements of electric buses, and to comply with the regulations, they set time limits on the use of older diesel vehicles.

As far as the supply of hybrid vehicles is concerned, the first application contract for 129 buses was concluded under the framework agreement for 150 vehicles, assigned at the end of 2021 (including full service maintenance extended to the life of the vehicle), which provided for deliveries to be completed by 2022. However, by analogy with the case of electric buses, the manufacturer had to revise the schedule of deliveries, which took the form of the arrival of 63 vehicles between October and December 2022, while the remaining vehicles fell between January and March 2023.

In the first half of 2022, the second 9-vehicle application contract (NET company) was signed, the deliveries of which began in December 2022, with the arrival of 4 vehicles, and the third 21-vehicle application contract (ATM company), including the request to extend the framework agreement to 159 vehicles in total. Deliveries of the latter are expected in sequence to the previous 129 with completion of the supply by April 2023.

In view of the evolution of the bus fleet detailed above, in December 2022, the city bus fleet of ATM S.p.A. consists of: 69% diesel, 18% hybrid, 13% electric⁶. The aim is to have a total of 1.200 electric vehicles running, that will enable the creation of a “Zero Emission Zone” which will allow, on the one hand, a reduction in diesel fuel consumption of 30 million liters per year and, on the other hand, a reduction in CO₂ emissions of around 75,000 tons per year.

With regard to the bus fleet of the subsidiary NET, after the substantial renewal of the equipment in recent years, which has allowed the disposal of obsolete vehicles in favor of Euro 6 diesel engines, an ecological transition to vehicles with a lower environmental impact began in 2022.

The first hybrid buses became part of the fleet under the above-mentioned application contract for 9 vehicles.

For electric buses, in relation to the possible availability of public funding provided by PNRR and National Strategic Plan of Sustainable Mobility, NET was planned, as part of the tender procedure for the new 310 ATM electric buses, the possibility of signing a framework agreement for a further batch of up to 30 electric vehicles.

As part of the renewal of the tram fleet, the framework agreement is in force for the supply of 80 bi-directional trams of 25 meters in length, to be used on the urban and long-distance network. In this context, a first application contract was concluded for 30 trams (10 interurban and 20 urban), the first of which was delivered at the end of November 2022, and two further application contracts for a further 30 urban trams, completing the replacement program for 50 urban trams, which provide for co-financing by the Ministry of Infrastructure and Transport (MIT).

⁶ The percentages are calculated by reference to the vehicle equipment (including vehicles not yet available for the exercise)

The first tram in the series, after delivery, began the period of development and testing at the Precotto depot and on the ATM tram network in preparation for the ministerial test and subsequent entry into service, expected in mid-2023.

In addition, a tender was launched for the purchase of 14 trams of 35 m, fully financed with PNRR funds (measure M2C2 – 4.2 Rapid Mass Transport Development), to serve the future “North Interperipheral” line (line 7). Award procedures are in progress.

As regards the new articulated trolleybuses, under the framework agreement for the supply of 80 vehicles of 18-meter, the second application contract was signed in November 2021 for a further 50 trolleybuses, the first delivery of which took place at the end of 2022. The acquisition is covered by finance from MIT and assigned to the Municipality of Milan.

In the face of additional PNRR financing (measure M2C2 – 4.2 Rapid Mass Transport Development) granted by MIT to the Milan City Council, in the first half of 2022, the process for the application for the extension of the framework agreement and the signing of a third application contract for the supply of a further 10 trolleybuses, which took place in December 2022. Deliveries will be consecutive to the 50 deliveries, as soon as they start.

With these investments and the simultaneous disposal of all the old 12 and 18 meter vehicles, the average seniority of the ATM trolleybus fleet will fall to about 4 years.

The new trams and new trolleybuses purchased will offer customers a better quality of service, in terms of comfort and accessibility; they will be updated to the most modern safety requirements, equipped with anti-collision system and technological systems to allow customers to connect to the network once on board. They will also mitigate the noise emitted in the environment, and thanks to the system of recovery of energy during braking they will guarantee energy savings.

In the context of the renewal of the fleet of vehicles and in the perspective of sustainability, the project for the replacement of diesel service cars by rental electric cars, to be used for the assistance of on-line vehicles, the control of the operation and for the maintenance of the metro and tramway systems, continues. There are 107 cars at full speed and an increase of another 9 is expected in 2023.

The project for the renewal and upgrading (new installation and replacement) of the wheel reprofiling systems of metropolitan trains is also worth mentioning. This intervention requires a specific design and important civil works for the laying of the machinery in the working pits. The project started with the installation of a new and modern turning station at Gallarate M1; Work is still under way to replace the plants of the Gorgonzola M2 and San Donato M3 depots where machines will be installed capable of reprofiling the 4 wheels of a truck at the same time. The project will then conclude with the replacement of the M1 Precotto storage facility.

With regard to the operations on the installations, the project to upgrade the M2 metro line, co-financed by the State at 60%, has been highlighted, which has seen ATM take over from the Municipality of Milan for the financing of the remaining quota. The project concerns the renewal of the electric traction and power supply systems of the Cascina Gobba-Cologno Nord section, whose activities began in 2020 and will end in 2023, and of the Cascina Gobba-Gessate section, whose work had already been completed in 2019.

ATM also carries out, on behalf of the Municipality of Milan, a series of interventions on the infrastructure of municipal property, among which the works related to the renewal of the M2 metro line, and more specifically:

- the complete reworking of the signaling system, the tender of which was awarded in the first half of 2020, was subsequently subject to technical, administrative and legal checks by a third party. These checks, which confirmed the correct management of the tender procedure, allowed the conclusion of the contract in September 2021 and the start of the design activities by the supplier in November 2021. The project aims to ensure a safer and more efficient service management, to increase the frequency of trains and, consequently, to increase the line transport capacity. The work is fully financed by ministerial contributions and by the Municipality of Milan;
- the renovation of the armament. The works, started in the summer of 2021, are aimed at the renewal of some sections of line in which the armament has suffered a performance decay of mechanical components or has been realized with technical solutions that do not allow the expected increase of the driving speed from 70 km/h to 85 km/h. The work is almost entirely financed by ministerial contributions and by the Municipality of Milan.

Finally, ATM is continuing its work on the complete remaking of the M3 metro line, which will contribute to the modernization of the “yellow” line, together with the renewal of the above-mentioned train fleet. The intervention is entirely financed by MIT. In 2021, the tender was launched, which was awarded in April 2022 and is now awaiting the signing of the contract.

In addition, the project to repair the fire-fighting systems of tunnels and stations of the M1 and M2 metro lines has been started. The interventions are co-financed by the Ministry of Infrastructure and Transport and by the Municipality of Milan and are aimed at adapting the existing installations according to the new regulatory references in the field of fire protection, as identified by DM 21/10/2015.

ATM has been commissioned to coordinate all the phases of the activity, from the executive and constructive planning to the supply of the materials and the execution of the works. The work consists in the construction of the subdivision and a new water fire-fighting system in the stations and tunnels of the M1 line between Molino Dorino and Sesto F.S. and the M2 line between Romolo and Crescenzago, as well as in the installation of new fire detection and alarm systems, instead of the existing stations, in 35 stations on the M1 line (Molino Dorino/Inganni – Sesto F.S.) and in 17 stations on the M2 line (Romolo – Crescenzago route). In the second half of 2022, the corresponding authorization procedures were set up for the issuing of invitations to tender and the signing of contracts. Among the investments there is also the revolution of ticketing in local public transport, of which ATM is the leader. The digital transformation of public transport in Milan is now at a turning point in the ticketing mode; in fact, ATM takes a further step forward in the contactless payment revolution. After two years of operation in the metro, the contactless payment system has been extended and installed also on the first bus lines 56, 70 and 73; the extension of this payment method to the car parks is being planned.