

# trolley:2.0

for smart cities

## BOLOGNA IS AN ELECTRIC CITY

20 NOVEMBER 2018 (ing. Fabio Monzali TECHNICAL DIRECTOR OF TPER)



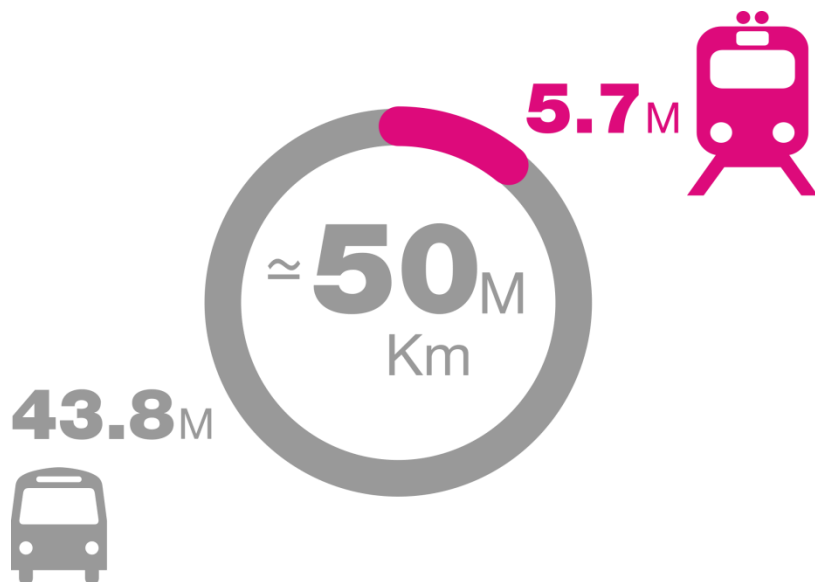
Trasporto Passeggeri Emilia-Romagna



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TPER company



Tper is one of the largest italian industrial groups operating in the transport sector.

The company manages both **urban public and extra-urban road transport** and **regional rail transport**

2500 employees

50 million Km covered by passenger transport , of which **5.7 million on RAIL**



**2.500**  
dipendenti



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railway lines  
operated by  
TPER

**Tper** won the tender for the assignment of the regional railway service of Emilia-Romagna from 2019 for **15 + 7 years** won by TPER and Trenitalia

In addition, **TPER** deals with activities in support of sustainable mobility policies, such as **car** and **bike sharing** management and the **operational management of parking** and **parking areas**.

**TPER** will manage the **People Mover system** in Bologna



## the trains of TPER

Today Tper carries out the service with 94 trains, of which 35 are electric, as follows:

- 6 Ale (elettric)
- 47 FIAT Aln (diesel)
- 12 PESA Atr (diesel)
- 26 STADLER ETR 350 (elettric)
- 10 loco BOMBARDIER E464 +  
double-decker carriages (elettric)



## TPER BUSES AND TROLLEY BUSES

Overall, the Tper group now has 1107 vehicles.



- 100 buses are electric or trolley buses



- 267 buses are powered by methane



- 55 buses are hybrids



- 685 buses are diesel buses

Compared to architectural barriers, 622 buses are equipped with a platform to facilitate the use of the vehicle by people with reduced mobility. On the other hand, as far as comfort is concerned, 1.107 buses are fully air-conditioned (in detail, about 1.844 seats out of 103.091 overall, less than 2% of the service).

Almost all buses (with the exception of the new Euro 5, Euro 6, Zero Emission Vehicle and EEV) provide for devices to reduce emissions. Overall, there are only 218 vehicles not equipped with such devices, for which however the replacement is expected over time.

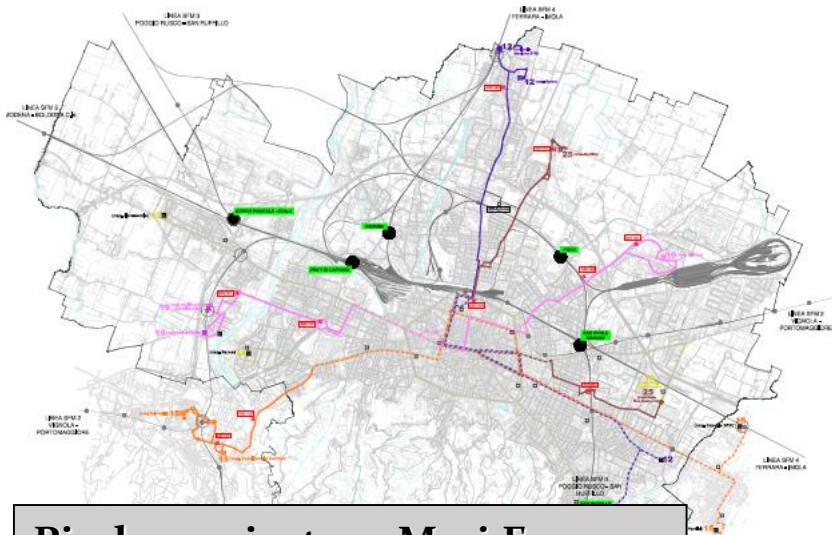




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## new projects for the city of Bologna



**Pimbo project 255 M.ni Euro**



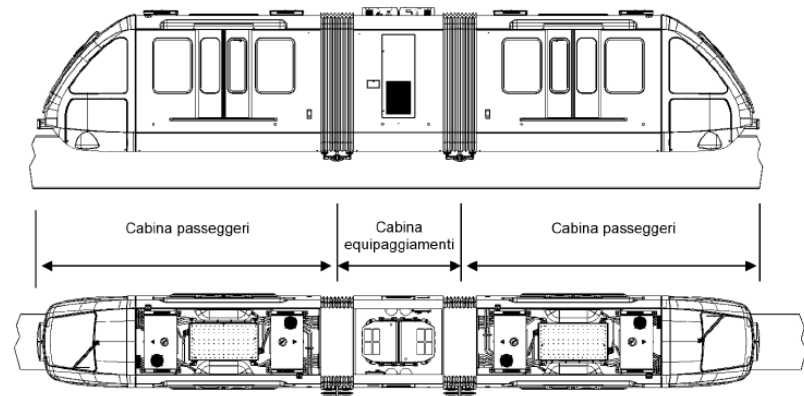
**BoBo project with automatic guided driving trolley Iveco Crealis 182 M.ni Euro**



**Electric Car Sharing  
"CORRENTE" 240 cars**



**People Mover project 102 M.ni Euro**



BoBo PROJECT  
182,2 M.ni Euro

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C A N T I E R E

BOBO

BOLOGNA **PER** BOLOGNA



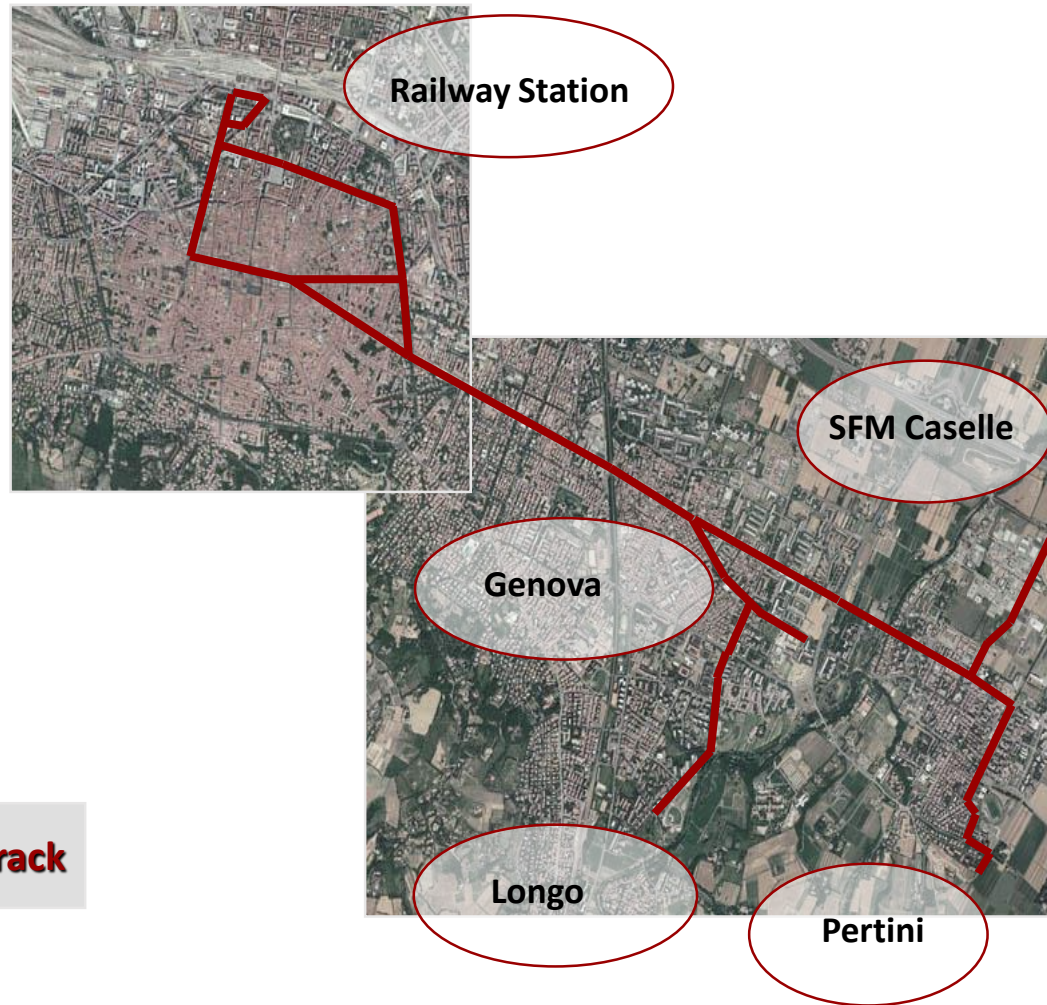
## BOBO PROJECT



**CNH**  
INDUSTRIAL



# Track of the project



## TROLLEY BUSES IVECO CREALIS WITH OPTICAL DEVICES

- The Bologna guided road technology is of the "functional" type (intangible armament).
- The control of the trajectory is performed by electronic / optical devices



Thanks for the attention