“SECOND – HAND” TRAMS EXPERIENCE OF BRAILA CITY
BRAILA

Situated in South-East of Romania on the left bank of the Danube river at about 100 km far before its flowing into the Black Sea

Braila was for the first time documentary attested in 1368 but “the golden era” started on 1836 when Braila become “porto-franco”.

Due the social and economical development, Braila was the first Romanian city in which on 1888 was used steel concrete and in 1910, the harbour of Braila become the main freight port for Romanian Danube.

Today, here live 316,000 inhabitants on aproximatically 32 sq.kilometers of urban area.
At 5 km south from Braila is located “Lacu Sarat” (“Salt Lake”) resort which is a touristic and balneary attraction since the end of XIX-th century because curative property of the salt water from the lake.

Because the growing of population and economical development, City Hall signed in 1898 a contract with “HELIOS” Koln for execution and put in service the electric tram.

First electric tram has run in Braila in 1900, June 19th on the line Sf.Arh. Square-Bariera Calarasi-Lacu Sarat.

Today, the main public transport operator S.C. BRAICAR S.A. is fully owned by The Local Council of Braila.

The fleet of vehicles used for urban public transport is composed from trams, buses and minibuses.
ROLLING STOCK – EVOLUTION & CHARACTERISTICS

1900 – 12 engine cars
   6 trailers
   2 luggage trailers

Each car had a capacity of 24 passenger
1980’s - biggest transport demand
- more than 100,000 trips daily

45 cars daily (average) in use

48 cars TIMIS 2
10 cars V3A
10 cars TATRA T4R
Mid 1990’s – THREE CHALLENGES:
  - increased maintenance costs due to fleet age
  - excessive electricity bills
  - low passenger comfort in new free market conditions

TWO options: a. New romanian cars
  b. Second – hand cars from Europe

ONE solution : Used cars
1997 - 1998

20 Tatra KT4D – ex. Berlin

Manufactured between 1977-1979

Places for passenger = 156

Average journey in Braila: 750 – 770,000 km

In use = 18 cars

CIVITAS CATALYST Workshop
„Tram - network extension, infrastructure and vehicle maintenance”
25 mai 2011, București
1997

10 MAN Siemens – motor cars
10 MAN Siemens – trailers

Ex. Nürnberg

Manufactured in 1959

Places for passenger = 268

Average journey in Braila: 800 – 850,000 km

In use = 4 motor cars + trailers
2005

10 GT8 (Duewag) – ex. Rotterdam

Manufactured between 1968 – 1970

Places for passenger = 164

Average journey in Braila: 370 – 400,000 km

In use = 7 cars
2008 - 2009

11 E1 (Simmering) – ex. Viena

Manufactured between 1966 – 1968

Places for passenger = 105

Average journey in Braila: 130 – 135,000 km

In use = 8 cars
TECHNICAL CHALLENGES

For MAN, GT8 & E1 – new type of wheel named “Bochum wheel”

- assimilation of new technologies for mounting and unmounting of the steel-tire on the wheel center

Traction voltage – it was modified from 750 VDC at 600VDC

- at the beginning additional electrical resistance was used.
EARNINGS

Reducing maintenance costs due to good condition of the cars.

Reducing energy consumption by approximately 25% due to increased efficiency of start and braking systems and automation existing on trams board.

More comfort for passenger, low noise for the environment.

New image for the company.
CONCLUSIONS

Purchasing second-hand trams are made with very low costs compared with new trams.

Use of second-hand trams can optimize company costs.

Second – hand trams use is effective for marketing purposes when local authorities are unable to make the rail track at the standards imposed by the current trams manufacturers.

It can be a tourist attraction for tram enthusiasts from around the world.
P.S : ANOTHER KIND OF SECOND – HAND TRAM

This tram is restored type H2 and was built in 1910 in Austria by the Graz Simmering company and came into operation at Wiener Linien of Vienna. Has a capacity to transport 22 passenger on seats and 18 stand. Has 4 access doors for passengers and two driver posts. In Braila arrived in August 2008 and was restored in a record time of only 4 months. The number 2008 mark the arrival and its restoration year in Braila.

It is used for groups of foreign tourists as “charter” tram or to participate at City’s celebrations.
Thank you!

Dipl. Eng. Mihai Rusinoiu