

SE3 - Staff exchange

Real time systems and data management
for planning, integration and control

Praha-Suchdol (CZ)

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Emilia-Romagna Region profile

Emilia-Romagna Region profile

Total population over **4,3 millions**
Surface **22.124 Km²**
9 Provinces
348 Municipalities
40% of total population lives in **13 main cities**



The Regione Emilia-Romagna (RER) is located in the northern part of Italy and has 4.3 million inhabitants. The regional area constitutes of nine provinces and co-operates on several levels in the framework of the LPT and private mobility governance.

EMILIA-ROMAGNA REGION: SNAPSHOT



TEN-T network



POPULATION

4,432,439



LAND

22,445 km²



CAPITAL CITY: BOLOGNA

PROVINCES: 9

MUNICIPALITIES: 348

ENTREPRISES

383,549



GDP PER HABITANT

30,493 €

UNIVERSITIES

5



INDUSTRIAL CENTRES

10

REGISTERED VEHICLES

2,699,973



LPT Passengers /year

300 MLN = 260



DAILY TRIPS

8,927,000



AVERAGE

DAILY TRAVEL [km]

44 km



AVERAGE

DAILY TRAVEL [MINUTES]

66'



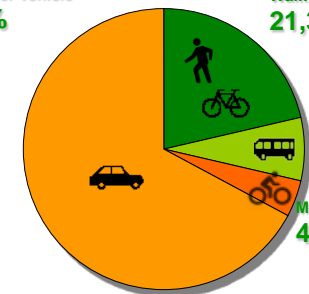
MODAL SHIFT

Passenger vehicle
67,2%

Walk or Bicycle
21,3%

LPT
7,3%

Motorbike
4,2%



Mobility and Transport Councillorship's Competences

The regional Mobility and Transport Councillorship is in charge for:

- ❖ Planning of the infrastructural network and of the road, railway, port, water, air, inter-port, and bus communication systems
- ❖ Planning of regional and local mobility systems
- ❖ Freight and people mobility services
- ❖ Improvement of the urban mobility
- ❖ Managing the Regional Observatory for Road Safety and Education



Emilia-Romagna Region profile

At one level, the region aims at reducing air pollution, so RER allocates incentives to local public transport (LPT) either by contributing to the **bus fleet renewal** or supporting researches, meetings and agreements.

For this purpose RER works together with national and regional research institutes such as Enea, Cnr, Arpa, etc., with the Ministry of Infrastructures and Transport, the regional air, noise and electromagnetic pollution department, local authorities, local mobility agencies and LTP regional companies.

RER strategy aims on one side at progressively creating local public transport fleets made up of **eco-compatible vehicles**, and on the other side – in relationship to urban areas – at supporting modal shift in favour of sustainable mobility and **traffic decongestion** on the main access roads to towns centres (by means of reserved bus lanes and **ITS control systems**).

The low impact technologies on which RER is mainly engaged are CNG, electric and hybrid vehicles. RER is also interested in researches on the use of **alternative fuels** such as hydro-methane and biogas. With reference to electric and hybrid vehicles, RER has promoted them first of all in urban areas since they help to decrease noise and air pollution (particulate).

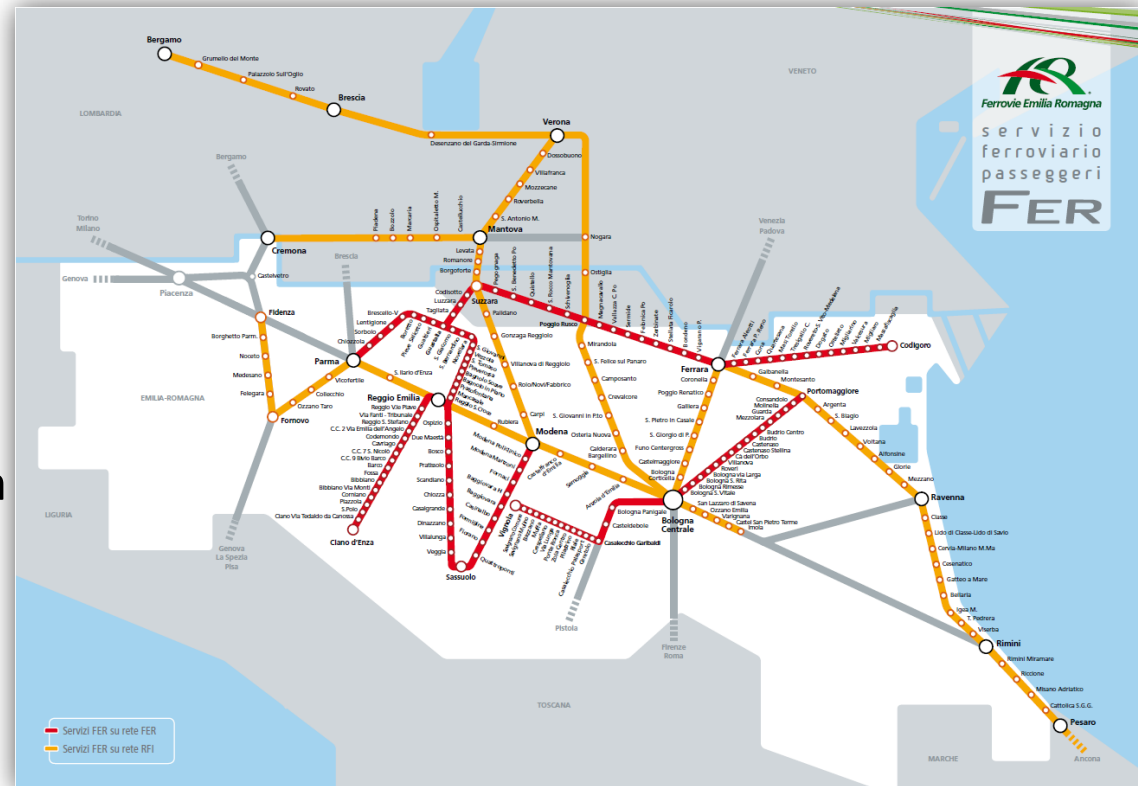
On another level, the RER has carried out large investments to support the greatest inter-modality at regional level since cars held the biggest share of **mobility modal** in the region with a percentage of 67.2% followed by pedestrians/bicycles with 21.3%, then buses with 7.3%, and motorbikes with 4.2%, the region.

For this, the region also invested a lot in both the ticket integration (**Mi Nuovo System**) and in providing the bus / train fleet with **AVM** to retrieve real time data to be used for both fleets management and passengers information (to be implemented in the **Regional Travel planner**, see below). Specific activities are ongoing to provide specific mobility information to mobility impaired users using real time data and specific transport infrastructure.

2020 LPT TARGETS

- Increase of passengers on extraurban trips thanks to the RAILWAY SYSTEM
- Higher commercial speeds
- Service regularity
- Disincentive the use of private vehicles.
- Services rationalization to better integrate railway system
- Renewal of LPT fleets:
 - Trains
 - Buses

Regional Railway network



265 FER railway station

INSTRUMENTS AND POLICIES

Developing other transport systems: taxi-bus, carpooling, car sharing, bike sharing and similar;

- ❖ Promoting use of public transport
- ❖ **Adoption of urban mobility local plans and coordination with the planning instruments (PUT / PUM> PSC / POC)**
- ❖ **Mi Nuovo**: the new regional Integrated fare system, allows to use a "single card" for different transport modes



The overall regional strategy

Investments for modal integration development, service quantity increase and quality improvement

Integration of the services

Fare integration



The GIM Project
Creation of a public information system (bus route control, information at bus stops, etc...)

Infomobility

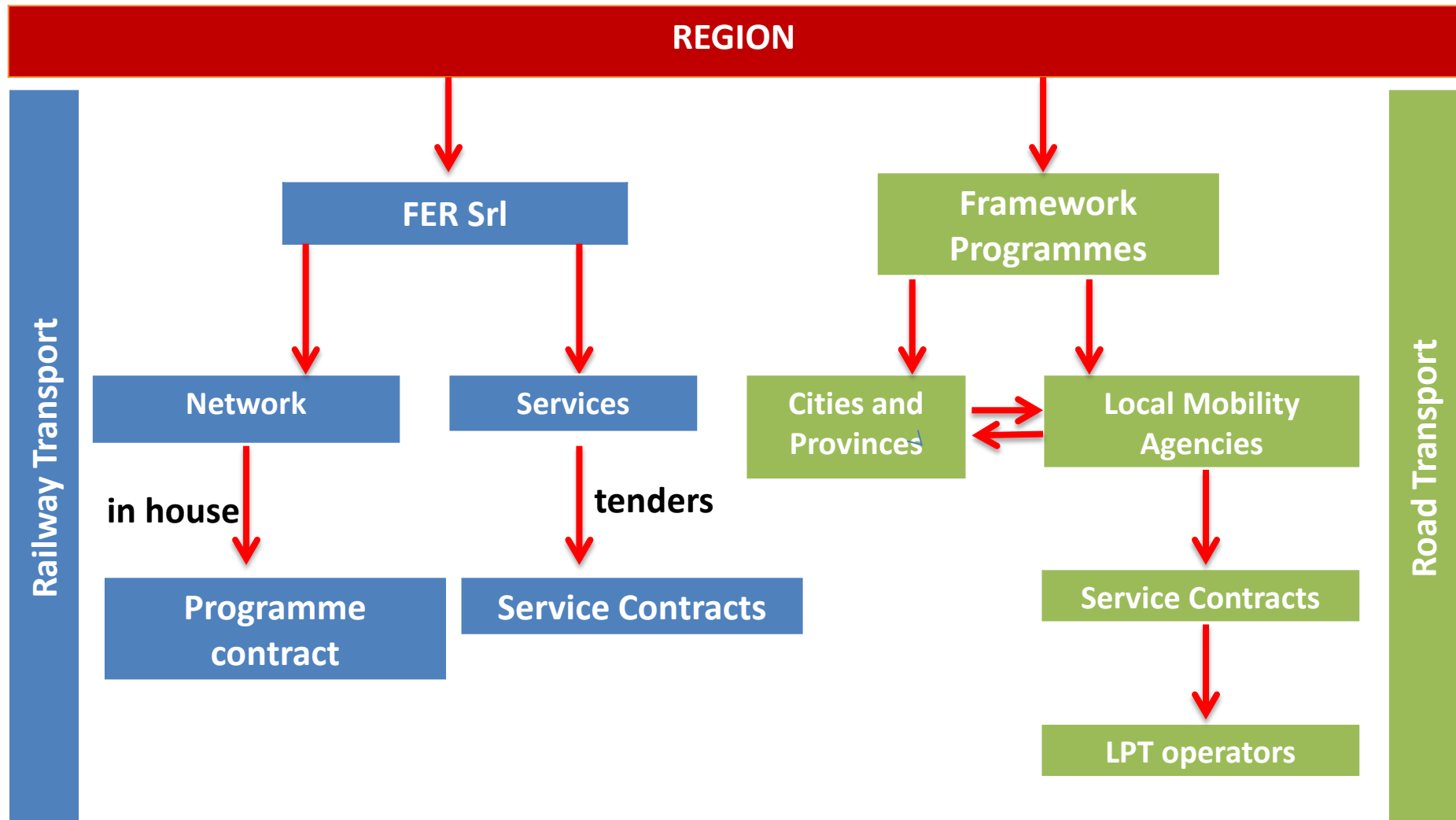
Travel Planner/Google Transit
the LPT integrated timetable

A screenshot of a travel planner interface. It shows a search for a route from 'Viale Aldo Moro, 30, Dologna, DO' to 'via alberto dalla chiesa, rimini'. The interface includes a search bar, a 'TROVA INDICAZIONI STRADALI' button, and a list of suggested routes with icons for different transport modes (walking, bus, train, etc.) and travel times.

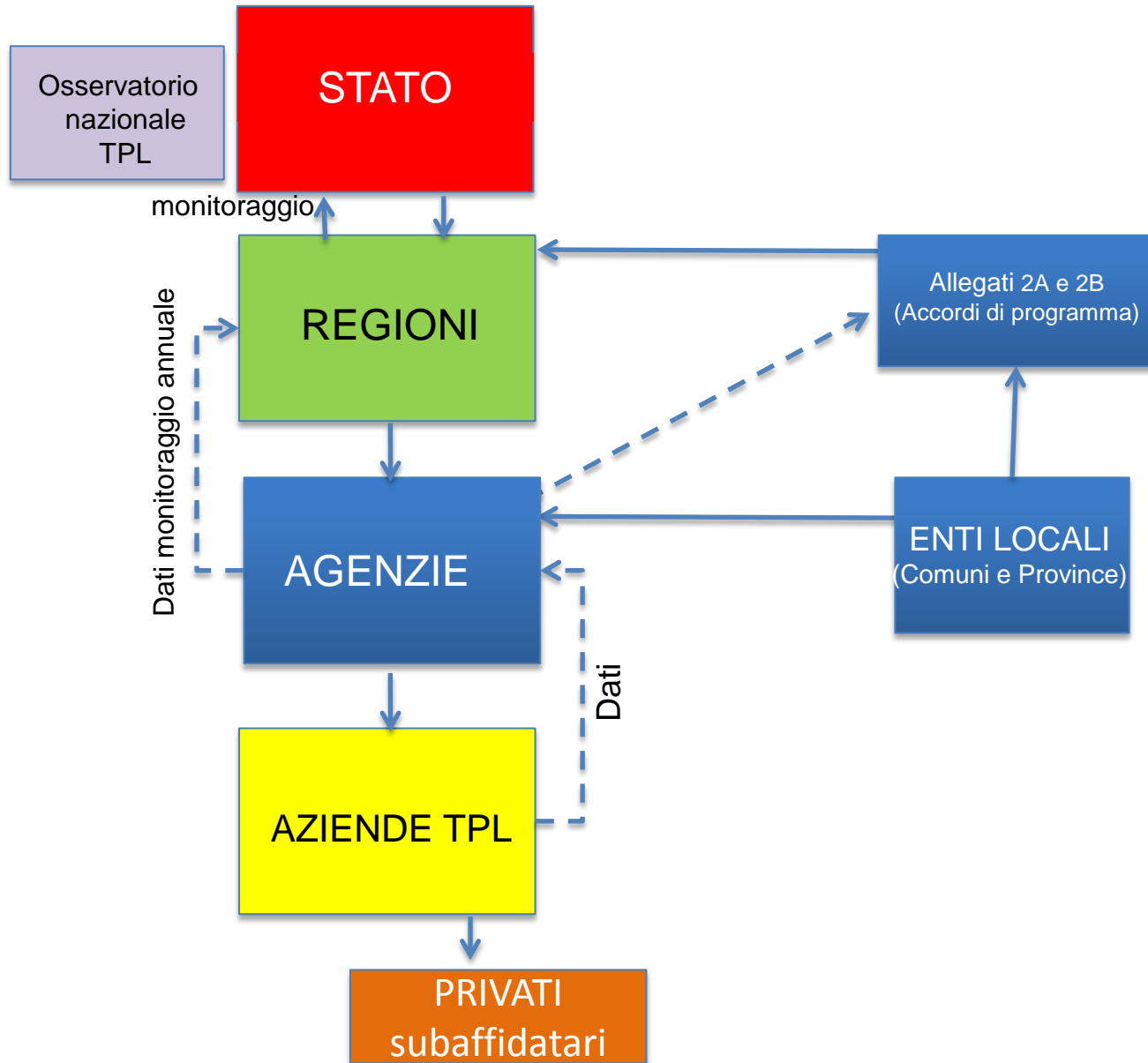
Route	Travel Time
Walking, Bus 35, Train 9, Walking	2 ore 9 min
Walking, Bus 21, Train 9, Walking	2 ore 5 min
Walking, Bus 35, Train 9, Walking	2 ore 5 min
Walking, Bus 35, Train 9, Walking	2 ore 5 min

Project for the railway regional service ICT on board systems on trains and in the railway stations

The governance



Il modello organizzativo per la gestione dei servizi minimi



Compiti della RER:

1. Parte programmatica (Atto di indirizzo, Accordi di programma)
2. Determinazione dei servizi minimi che dà la quantificazione e l'ammontare delle risorse
3. Obbligo del monitoraggio annuale all'Assemblea legislativa regionale
4. Novità: presentazione dei risultati al Ministero (Legge 2013)

Compiti delle Agenzie:

1. Gare
2. Gestione contratto di servizio
3. Controllo del servizio
4. Atti di immissione e dismissione
5. Ricezione e invio dati sul servizio e sulla flotta

Lo sviluppo della "governance" del sistema autofiloviario

Situazione attuale



A: 5 Agenzie per la mobilità

Da: 9 agenzie per la mobilità



Previsione



Lo sviluppo della “governance” del sistema autofiloviario

Il processo di riforma nel settore dei servizi pubblici (art. 25 del D.L. 1/2012, convertita con L. 27/2012) attribuisce alle Regioni il compito di organizzare lo svolgimento dei servizi pubblici locali in **ambiti o bacini territoriali ottimali e omogenei** “*tali da consentire economie di scala e di differenziazione idonee a massimizzare l’efficienza del servizio*”. La Regione ha dato attuazione alla norma attraverso la definizione degli **ambiti sovra-bacinali ottimali e omogenei** corrispondenti ai confini amministrativi delle relative province e ha definito gli affidamenti mediante **procedure ad evidenza pubblica**.

Gli ambiti individuati sono i seguenti:

- ❖ ambito Trebbia – **Piacenza**;
- ❖ ambito Taro – **Parma**;
- ❖ ambito Secchia-Panaro - **Reggio Emilia e Modena**;
- ❖ ambito Reno – **Bologna e Ferrara**;
- ❖ ambito Romagna - **Ravenna, Forlì-Cesena e Rimini**.

In attuazione art. 9, D.L. 95/2012, la RER ha deciso di ridurre le risorse che le Agenzie possono trattenere per il funzionamento.

Evoluzione/aggregazione dei gestori del TPL gomma dal 2012

Prima: 9 Aziende



Situazione attuale: 4 Aziende



Evoluzione/aggiogazione dei gestori del TPL gomma

La Regione è impegnata nella semplificazione del panorama dei gestori operanti nel territorio regionale, attraverso **percorsi aggregativi delle aziende di trasporto. Dalle 9 aziende di trasporto si è passati a 4 nuovi soggetti:**

❖ **SETA SpA:** operante dall'1 gennaio 2012 nei bacini di Modena, Reggio Emilia (tramite fusione con la precedente Autolinee dell'Emilia) e Piacenza (tramite assorbimento della precedente Tempi)



❖ **TPER SpA:** operante nei bacini di Bologna e Ferrara, nata dalla fusione per unione tra ATC SpA con il ramo trasporti di FER Srl; gestisce anche il trasporto ferroviario sulla rete regionale



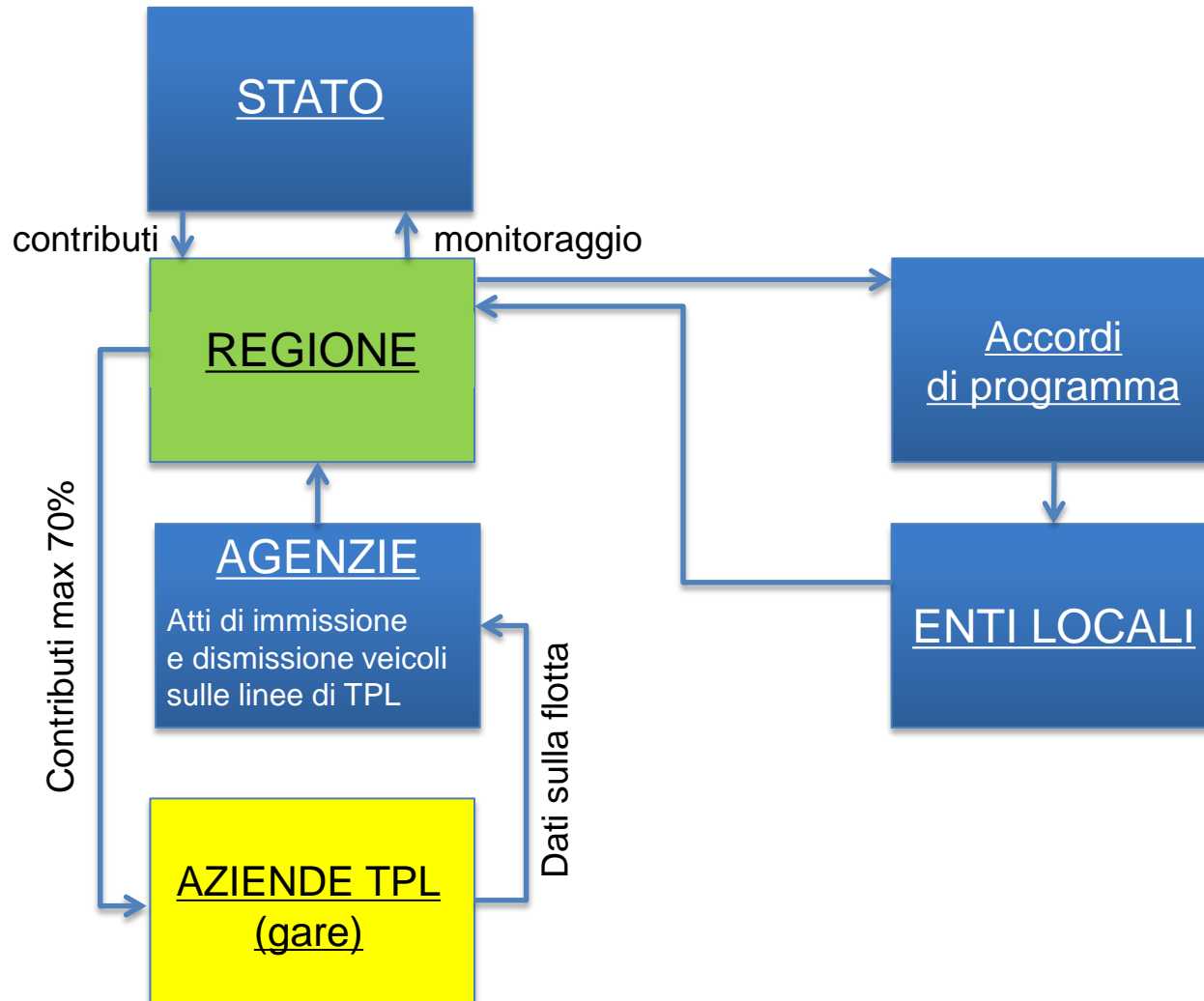
❖ **START Romagna SpA:** opera nei bacini di Ravenna, Forlì-Cesena e Rimini dall'1/1/2012; è nata mediante fusione per incorporazione delle tre aziende storiche di gestione del TPL (ATM Spa di Ravenna, AVM Spa di Cesena e TRAM di Rimini)



❖ **TEP:** unico gestore di scala bacinale, opera nel bacino di Parma



Il modello organizzativo per l'erogazione di contributi regionali per il rinnovo della flotta autobus e filobus



Mi Muovo project

“MI MUOVO”: THE MAIN FEATURES

- ❖ **Regional scale**
- ❖ Shift from a kilometer fare to a **zone system**
- ❖ **Undifferentiated transport mean use**
- ❖ **Contact-less card** valid as encompassing mobility card (i.e. more subscriptions on one card, up to five different subscriptions)
- ❖ One regional **railway train-bus fare based on zone system**



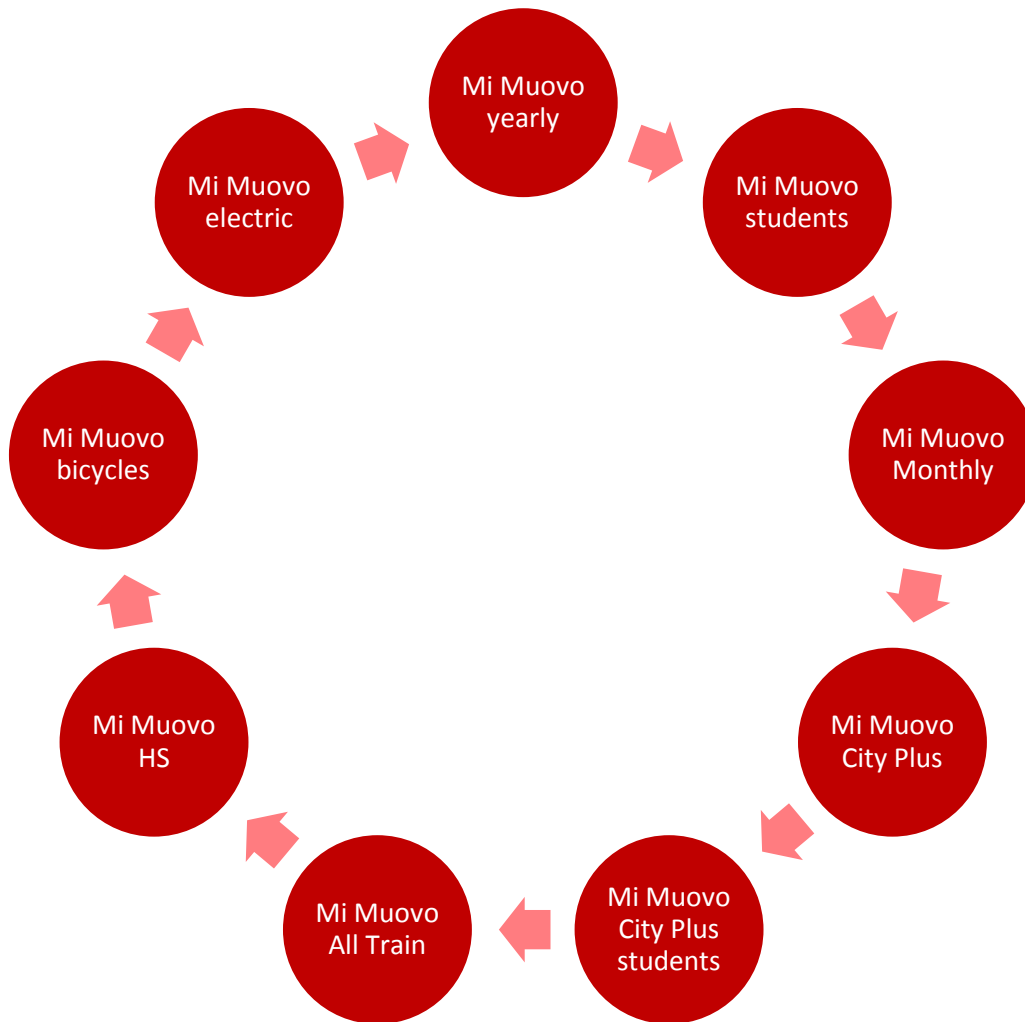
“Mi Nuovo”: THE MAIN GOALS

- ❖ facilitate **users accessibility** and **promotion of the Public Transport** ;
- ❖ guarantee **flexibility and efficiency of the Public Transport for users** also thanks to a ticket pricing more coherent with the service actually used;
- ❖ increase **Public Transport appeal** for users;
- ❖ stimulate **Public Transport demand**.



“Mi Muovo”: THE TICKETS SOLD

L'integrazione tariffaria: “Mi Muovo”



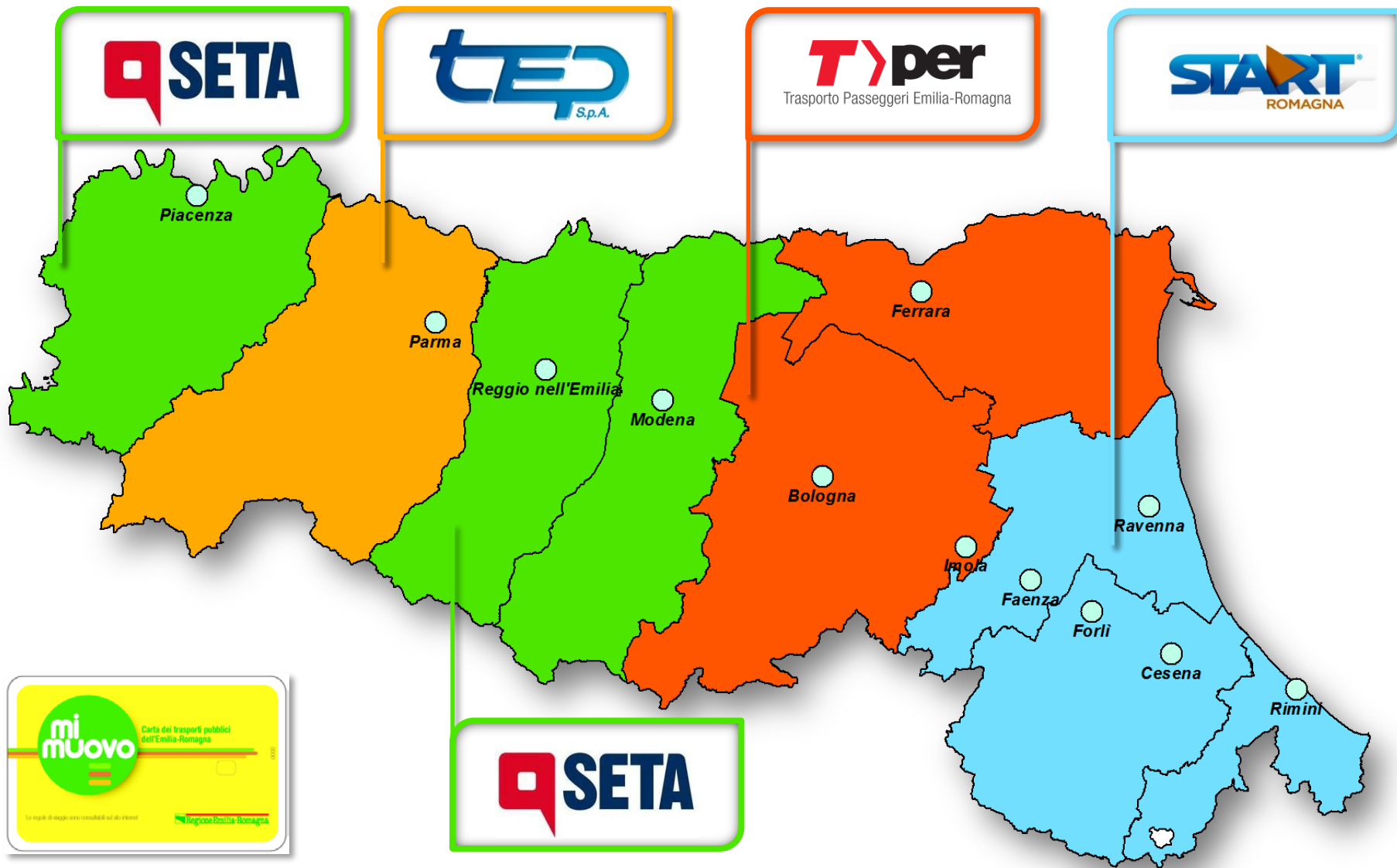
Within the STIMER project, the Regione Emilia-Romagna has developed **several types of integrated subscriptions** to allow the users to use **different transport combinations** (bus, treni, bike sharing, car sharing, ricarica veicoli elettrici) using a single mobility card.

Around 300.000 Mi Muovo cards.
2.500 Mi Muovo Tutto Treno sold

Subscriptions sold in 2013:

- n. **1.417** “Mi Muovo” (1.246 nel 2012)
- n. **2.642** “Mi Muovo students” (2.328 nel 2012)
- n. **5.405** yearly railway (in 2012)
- n. **3.530** yearly railway students (in 2012)
- n. **96** “Mi Muovo City Più” e “Mi Muovo City Più students” (62 nel 2012)
- n. **29.739** “Mi Muovo monthly” (24.772 nel 2012)

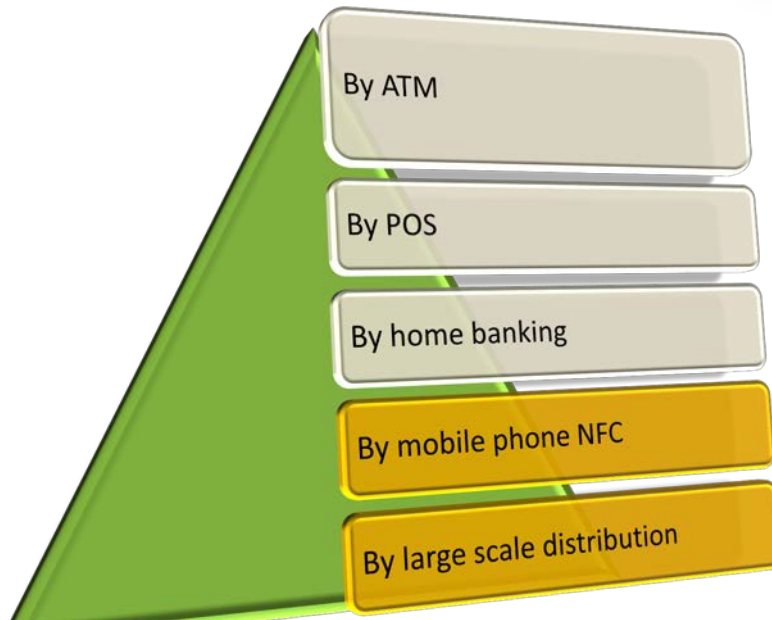
“Mi Muovo”: WHERE?



“Mi Nuovo”: THE SALES NETWORK

“Mi Nuovo” already allows to recharge season tickets chip cards through:

- bank ATMs and home banking
- soon this service will be offered also by supermarket chains and internet and mobile phone companies.



Soon
available

“Mi Muovo”: TECNOLOGICAL DEVICES AND COSTS



E-R INVESTMENTS TO PROMOTE PT



2002

17 Million € (34 Million € of estimated total cost)
0,4 Million € (for clearing system and start up)



2011

1,8 Million € (yearly contribution to operating costs)



2011 - 2014

> 4,0 Million € (8 Million € of costs + Google partnership for Infomobility projects)



2011 - 2012

2 Million €



2011 - 2012

0,65 Million € (2 Million € private investments)

THE ELECTRONIC TICKETING MODEL

The electronic ticketing system is based on:

- The partitioning of the regional area in specific **Fare Zones**
- the use of a **specific formula** to calculate the exact fare
- **NET COST system**
- **Clearing platform** <- soon available



The **Zones Fare system** foresees an high integration between the different LPT modes and a movement (from the origin to the destination point) enabled through a single travel ticket, where the travel price is not depending neither on the type of transportation used nor on the number of transfers from one mean of transport to another.



EXAMPLE OF TRANSFER USING MULTIPLE OPERATORS (FOR USERS WITH SUBSCRIPTIONS)

Example: A person living in Reggio Emilia and working in Bologna (commuting) will use:



- **the bus**: home – Reggio Emilia railway station
- **The train** : Reggio Emilia railway station – Bologna railway station
- **the bus** : Bologna railway station – work place

Without the Mi Muovo card three different subscription would be needed!!!

With Mi muovo:

- Subscriptions are loaded on the same card (easy to use)
- Discount on the monthly (- 30%) and yearly subscription (- 40%). Further discount for students of -8% both for the bus and the train
- More information for the operators based on O/D matrix
- Single recharge for the different subscriptions using different means (i.e. ATM, POS, web, etc...)
- Increased accessibility / flexibility of the offered services
- The users will have to validate their tickets each time they board a new transport mean (not in force yet)

MI Muovo elettrico (I-E Travel)

Emilia-Romagna's challenge to promote electromobility "Mi Muovo elettrico" is Emilia-Romagna's regional electromobility program. This project is based on the two principles: the **interoperability** at regional scale and the **integration** of all the available mobility services.



The Emilia-Romagna Regional Government has signed agreements with all the electricity **providers** operating in the region (ENEL, HERA and IREN), and with the main municipal administrations to set up an **innovative charging points network accessible through the "Mi Muovo" chip card**.

According to these agreements, e-providers are committed to deploy the infrastructure, while Emilia-Romagna's task is to promote the system and involve big private retailers.

Car sharing in Bologna



The screenshot shows the iGuido Car Sharing website. At the top left is the logo "iGuido CAR SHARING". To its right are four circular icons representing the steps: 1. iscrivi (with a smartphone icon), 2. prenota (with a car and Wi-Fi icon), 3. sblocca (with a car and key icon), and 4. guida (with a car and steering wheel icon). Further right are social media icons for Facebook, YouTube, Google+, and RSS. Below the navigation bar is a main banner for "Car Sharing" featuring a white Fiat Panda. To the left of the car is a graphic with a globe and the text "ciclo il nostro ambiente" and "risparmio i tuoi soldi". To the right of the car, the text reads: "Il car sharing è un uso alternativo, più intelligente e più economico dell'automobile. Permette infatti di:" followed by a list of benefits: "- Alleggerire l'impatto ambientale", "- Eliminare costi fissi e variabili", "- Eliminare i costi del carburante", and "- Ottimizzare le emissioni inquinanti".

Scarica l'App per Smartphone



Trova il parcheggio più vicino



Abbiamo sicuramente un parcheggio vicino a dove ti trovi in questo momento, scopri dove:

Città

Indirizzo

Contattaci per saperne di più



Scoprirai quanto è semplice e soprattutto vantaggioso utilizzare il nostro servizio.



Bike and ride/bike sharing

Emilia-Romagna Region aims at **promoting a full intermodality** also by facilitating the bike modal use, in particular improving bicycles access to railways stations and car parks.

Emilia-Romagna's regional government has foreseen to allocate **2 Millions euros** for the development of bike sharing stations mainly in connection with the railways stations in the ten main municipalities which already manage b-sharing services.

The service (implemented through the Mi Muovo card) is currently activated in the following municipalities: Forlì, Cesena, Ferrara, San Giovanni in Persiceto, San Lazzaro di Savena, Scandiano and Parma.



GIM project

GIM (Gestione Informata della Mobilità) Project

Through a national co-financing, and through specific regional framework agreements, local authorities and the main LPT companies of Emilia-Romagna have purchased and installed more than 1000 **AVM systems**.

A total of **7 MEURO have been invested**. Further resources will be deployed in 2014 to complete the deployment of AVM for the whole fleet .

Always through the GIM Project, a **Regional central Traffic control centre (COIM)** has been developed. Through COIM it is possible to have real time information about buses positioning and retrieve other useful info for fleet management.

The agreement with google “Google transit”

The screenshot shows the Google Maps interface with a transit route highlighted in blue. The route starts at Viale Aldo Moro, 30, Bologna, DO and ends at Via Alberto dalla Chiesa, Rimini. The map shows the route passing through the city center, including the area around the Bologna Centrale railway station. The left sidebar displays the search results and suggested routes.

Indicazioni stradali | I miei luoghi

Viale Aldo Moro, 30, Bologna, DO
via alberto dalla chiesa, rimini

Forse cercavi una località diversa: via aberto dalla chiesa, rimini

Aggiungi destinazioni - Mostra opzioni

Partenza ora
19/06/13 - 12:00

TROVA INDICAZIONI STRADALI

Percorsi suggeriti

Icone	Tempo
🚶 → 🚗 → 🚝 → 🚗 → 🚶	2 ore 9 min 12:12 - 14:21
🚶 → 🚗 → 🚝 → 🚗 → 🚶	2 ore 8 min 12:16 - 14:21
🚶 → 🚗 → 🚝 → 🚗 → 🚶	2 ore 9 min 13:12 - 15:21
🚶 → 🚗 → 🚝 → 🚗 → 🚶	2 ore 9 min 14:12 - 16:21

Indicazioni di trasporto pubblico per Via Generale Carlo Alberto dalla Chiesa, Sant'arcangelo RN

RER has signed an agreement with Google to feed a system able to support the users in planning their trips using public transport (bus and train).

The system was implemented in June 2013, it is not providing dynamic information at moment.

It cover all the regional territory

Dynamic Travel Planner

The screenshot shows a web browser window titled "Info Mobilità ER - Windows Internet Explorer fornito da Regione Emilia-Romagna". The address bar displays "http://5.144.184.201/web/ism/trasporto-pubblico". The page content includes the "ER MOBILITÀ" logo, a navigation menu with "HOME", "TRAVEL PLANNER", "TRASPORTO PUBBLICO", "TRASPORTO PRIVATO", "NOTIZIE ED EVENTI", and "SEGNALAZIONI". The main heading is "Trasporto Pubblico" with a sub-heading "Orari mezzi pubblici" and the text "L'orario che consente di programmare i propri". There is a login form on the left with fields for email and password, and a "ENTRA" button. A social media sharing menu is open on the right, listing options like Gmail, StumbleUpon, and others. The Windows taskbar at the bottom shows the time as 9:15.

A **dynamic travel planner** will be developed soon.

Its “dynamic” features will be guaranteed through its interfacing with the COIM

Once operational, the dynamic travel planner will allow users to plan their rail and bus trips with real-time information.

The demo of the dynamic travel planner has been tested successfully in March 2013.

Thank you for your attention

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