

# RATP Dev

“Using most advanced technologies and pertinent customer services to cope with the growing demand : The RATP approach in Paris



Jean Marc Janaillac – C.E.O. RATPDEV-

## SUMMARY

**1/ RATP GROUP & RATP Dev**

2/ Optimisation of the operations to cope with increasing traffic

3/ Role of automation

4/ Passenger information, ticketing innovation and multimodal approach

5 / Expansion of network

6/ Conclusion

THE RATP GROUP  
“*BRINGING PEOPLE AND  
PLACES TOGETHER*”



# The RATP GROUP in a few key figures

Over  
**+ 12 million**  
Passengers transported daily

**€186** million

in net income  
Group share  
(x 3.7 in 3 years)

**€4,570** billion  
in revenue  
(+19.5% in just 3 years)

The world **5<sup>th</sup>**  
leading actor  
in the public transport  
sector

**56 000**

employees

A presence  
on **4** continents

**AAA**

financial  
credit rating



...

# The expertise of transportation systems

- Operation and maintenance of sustainable transport modes
- Design and infrastructure of transport projects
- Area and spaces management Know How
- Mobility-related services for passengers

- 2 000 experts and engineers -  
- Technical and customers services innovation -  
- More than 100 years serving and operating public transport system -



# RATP Dev

“Smart mobility  
solutions for cities of  
tomorrow”



Paris – Mantes-en-Yvelines – Mantes-la-Jolie – Saint-Quentin-en-Yvelines  
– Antony – Cergy Pontoise - Moulins – Evreux - Bourges – Vierzon –  
Annemasse – Vienne – La Roche-sur-Yon – Charleville-Mézières, Ile de  
France, Val d'Oise Marne, Champagne, Loiret, Yonne ...

FRANCE

Londres – Bournemouth –  
Bath - Manchester  
ROYAUME UNI

Genève – Avenches  
SUISSE

Florence – Modène – Rome –  
Borgo San Lorenzo – Arezzo –  
Belluno ITALIE

Nanjing – Macao  
CHINE

ÉTATS - UNIS

PENNSYLVANIE

TEXAS

São Paulo  
B R É S I L

Casablanca  
M A R O C

ALGÉRIE

Johannesburg - Pretoria

A F R I Q U E D U S U D

Mumbai  
I N D E

Séoul  
C O R É E D U S U D

Hong Kong  
CHINE

# RATP in Paris today

RATP in Paris operates one of the world's largest multimodal networks :

- **14 metro** lines (1 driverless and 1 under automation process)
- **2 suburban** lines (RER A & RER B)
- **3 tram** lines (T1, T2, T3)
- more than **300 bus** lines...

One of the **densest** network in the world, serving 11 million residents concentrated in a 12,000 sq-km area.



## The demand and the traffic are still growing

- Urban sprawling asks for more and more regional /orbital mass transport solutions
- Road congestion, economical restrictions and eco friendly culture are generating modal reports in favor of public transports.

## 2 Challenges

- How to increase routes and capacity , especially during peak periods ?
- How to better serve and satisfy more and more passengers ?



Customer  
centric  
culture

Creating new  
infrastructures

Densifying  
capacities

Customizing  
the user's  
experience

Developing  
IT services

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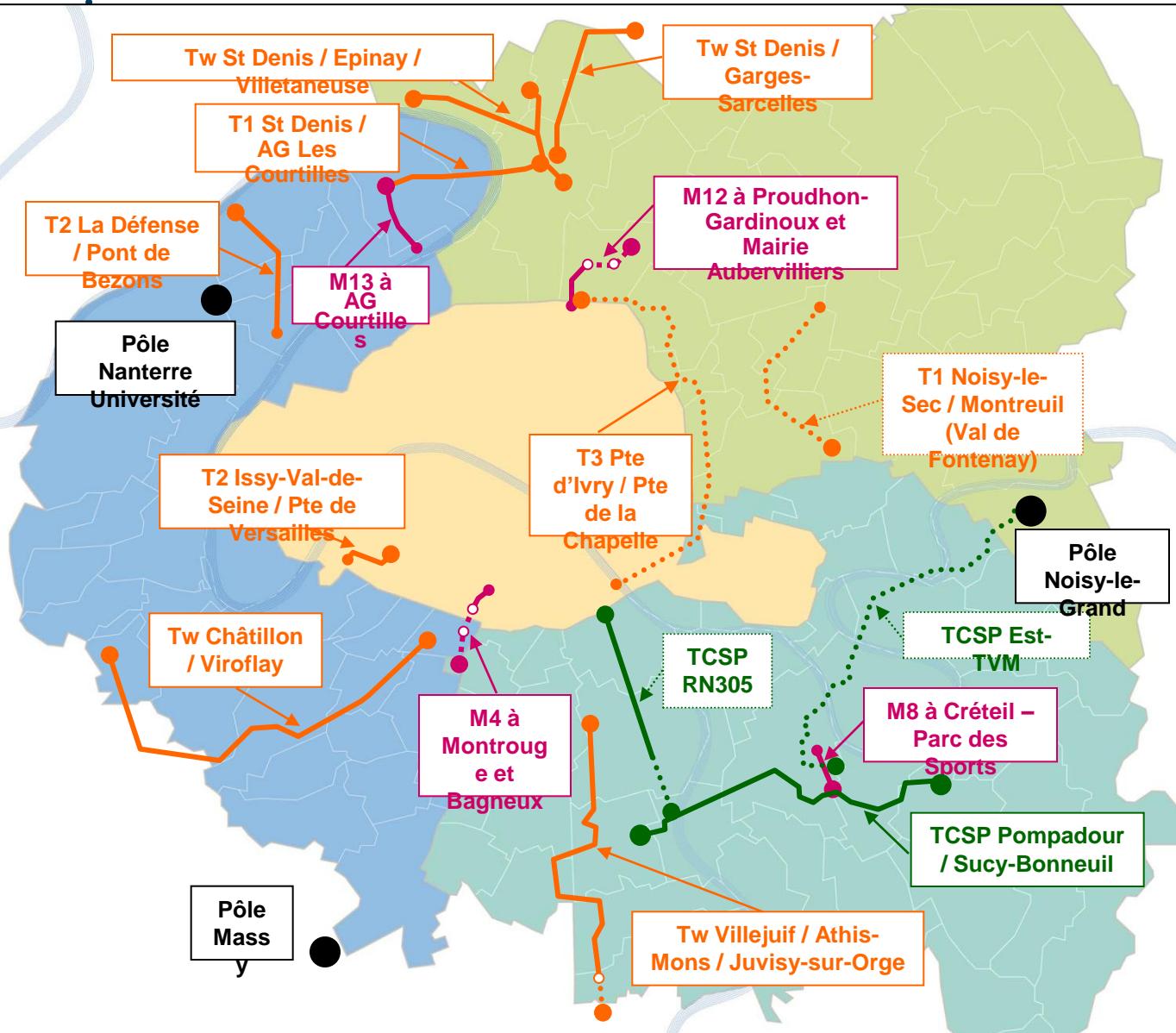
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- NEW TRAM LINES
- NEW BRT ROUTES
- GRAND PARIS PROJECT

# RATP in Paris TOMORROW



**#** 75 km of light rail  
✓ 5 extinctions  
✓ 4 new lines

**m** 10 km of metro lines  
✓ 4 extinctions

**B** 24 km of bus lanes  
✓ 3 new lines

3 Hubs

**A total of 19 projects**



# Tramways in 2013 in Paris



Opening date	Line length	Number of stations	Number of trams	Passengers/day
<b>T1 + T2 + T3 today</b>	33.7 km	60	82 trams	345,000 passengers
T2 extension (Pont de Bezons)	2011	4.2 km	7 more	34 trams
T1 extension (Asnières - Gennevilliers)	2011	4.9 km	10 more	10 trams
T3 extension (Porte de la Chapelle)	2012	14.2 km	25 more	49 trams
T5 (St-Denis – Sarcelles)	2012	6.6 km	16	15 trams
T6 (Châtillon – Viroflay)	2012	14 km	21	82,000 passengers
T7 (Villejuif – Athis-Mons)	2013	11 + 3.7 km	18 + 7	36,800 passengers
T8 (St-Denis – Épinay – Villetaneuse)	2013	8.5 km	17	45,000 passengers
<b>TOTAL Tram RATP Paris in 2013</b>	<b>100.8 km</b>	<b>180</b>		<b>795,500 passengers</b>

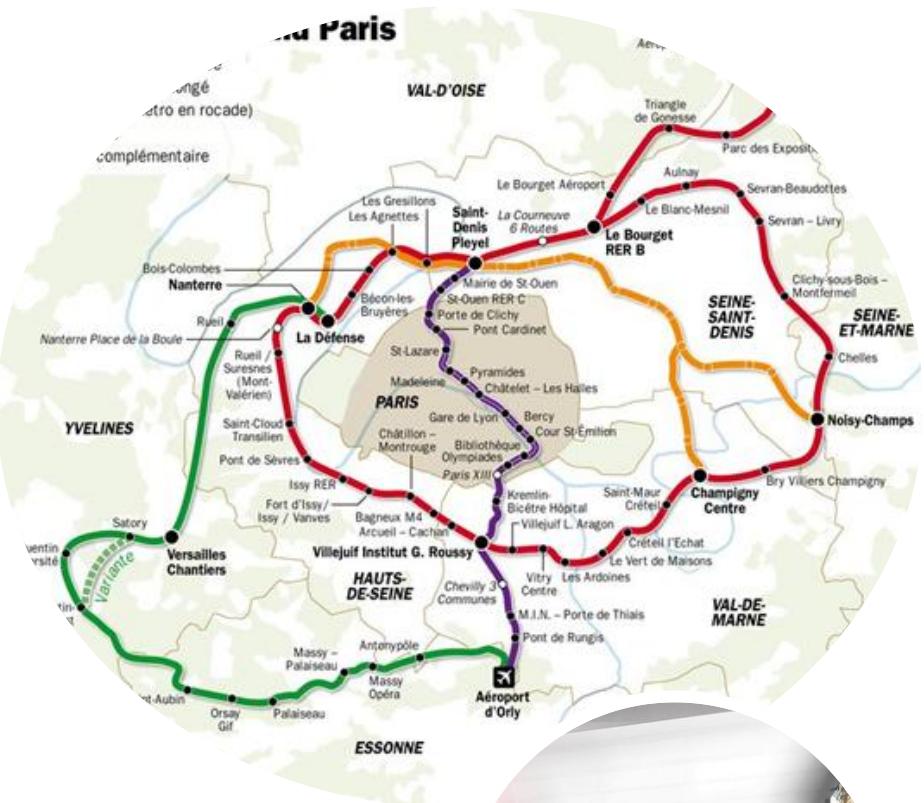
# The Grand Paris project

An automated metro 130 km long with some 40 intermodal stations

- Promotes suburb-to-suburb mobility
- Relieves network saturation, strengthens coverage
- should be operated by 2025,
- A € 35 Bn project.

4 of RATP's areas of expertise to provide project input

- Design and project owner's representative
- Project management for systems and operational aspects
- Infrastructure management
- System operations



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- METRO AUTOMATION
- ROLLING STOCK DESIGN

Developing  
IT services

# Paris driverless metro Line 14 : 1<sup>st</sup> automated metro line

## Lessons of Line 14 / Benefits

**Improved safety**

**Improved headway regularity**

- Standard line = 99%
- Line 14 = 99,8% ( 100% in 2009)

**Limited number of incident /Lost of production**

- Standard Line = 2,5%
- Line 14 = 0,3%

**Improved social economic balance**

Reduction of cost per km.car compared to Standard Line = -30%



- In service for over 12 years
- 8.7 km, 9 stations, 85" minimum headway
- 40,000 pphpd, 500,000 pax /day
- Reliability performance of 100% in 2009
- 98.5% customer approval

# Automation of an existing metro line

## Expected performances

- Higher commercial speed (+4%)
- Saving of a spare train for same offer due to flexibility (+2%)
- => Thus less trains for the same headway = Savings on rolling stock (-6%)
- Trains with higher capacity (no driver's cab) (+6%)
- => Increase of capacity (+6%)
- Reduction of min headway – not used now, spare for the future with additional trains (-20%)

	Line 1 (2012)
	Automatic
Length	16.5 km
Traffic (ppd)	725 000 ppd*
Traffic (type)	Worker/tourists/event
Commercial speed	28 km/h
Rolling stock fleet	49 T
Current headway	105 s
Rolling stock capacity	720 p
Min headway	85 s



Migration successfully started  
decembre 2011 and will be  
fully achieved end of 2012

# New rail rolling stock design for more comfort and capacity at peak hours



**From 10 to 30% more capacity**



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- RATP SERVICE ACADEMY
- NEW POSITIONING OF FRONT LINE STAFF
- CREATING BETTER PLACES TO STAY

Densifying  
capacities

Developing  
IT services

# New design for front line services

**Staff members** : proactive attitude in order to help, inform and better serve customers

« RATP service Academy » to implement this new customer oriented culture



**Stations and Interchanges** : more open spaces to better connect Transports and cities' activities

- Shopping
- Mobility and soft modes
- Culture
- Meeting places

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# Regional integrated ticketing system : The Navigo pass



From a contactless Smart card transport technology

to

A multi channel e-ticketing system



Ticket purchase in cash dispensers /partnership with



M ticketing using NFC

# Transportation = information

- Reactive passenger information
  - Ahead of time: via the Internet and mobile phones
  - At metro stations, train stations and bus stops, interchanges stations
  - When service is disrupted



**2D bar codes for real time information at every bus stop**



**Web and Smartphone apps for information, timetables, traffic**



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• FROM MASS  
TRANSPORTATION  
TO PERSONAL  
TRANSPORT  
SOLUTIONS

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# From mass transport to « my transport » solutions

Using IT's to integrate and personnalize ticketing and information services

The objectives are to get the current customers more loyal  
And to enrich the travel experience

**Loyalty programs**  
About 1,9 Millions yearly pass holders involved in dedicated branded programs to improve their PT usage and change the image



« Plan interactif » (interactive maps), maps centered on every selected point, showing all related PT connections



« j'aime ma ligne » smart phone app (« I love my route »)  
P.O.I., communities served by a metro line



# Solving the challenges of sustainable mobility in liveable cities, requires knowledge and experience

**The main issue is about combination :**

- How to combine the growing demand for transport, especially at peak periods, and the passengers satisfaction ?
- How to deliver more capacity without waiting for years for new infrastructures ?
- How to design, implement and operate new lines with respects of financial pressure ?

**RATP Group is driving metro rail projects and operations in 4 continents**

With the know-how of RATP in paris, it gives RATPDEV a solid, multicultural and diverse experience to work with cities which want to be more attractive and efficient, less congested and polluted.

# THANK YOU