

# RATP Dev

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



## 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

The world **5<sup>th</sup>**

leading actor  
in the public transport  
sector



**€186** million

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

**56 000**  
employees

Over  
**+ 12**  
million  
Passengers transported  
daily

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

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

Genève – Avenches  
SUISSE

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

Londres – Bournemouth –  
Bath – Manchester  
ROYAUME UNI

Nanjing – Macao  
CHINE

ÉTATS - UNIS

PENNSYLVANIE

TEXAS

São Paulo  
BRÉSIL

Alger  
ALGÉRIE

Johannesburg - Pretoria  
AFRIQUE DU SUD

Casablanca  
MAROC

Mumbai  
INDE

Séoul  
CORÉE DU SUD

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.



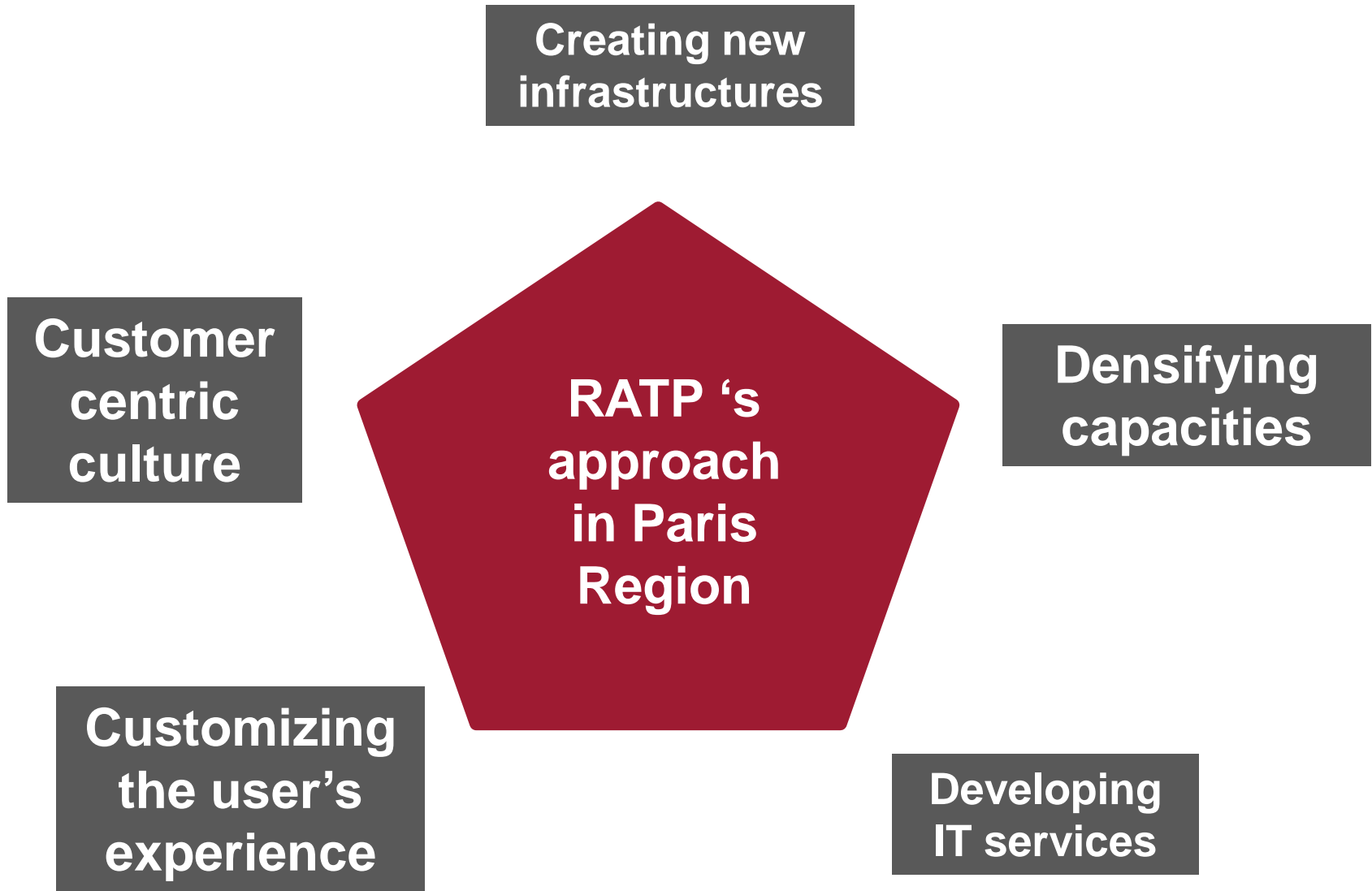


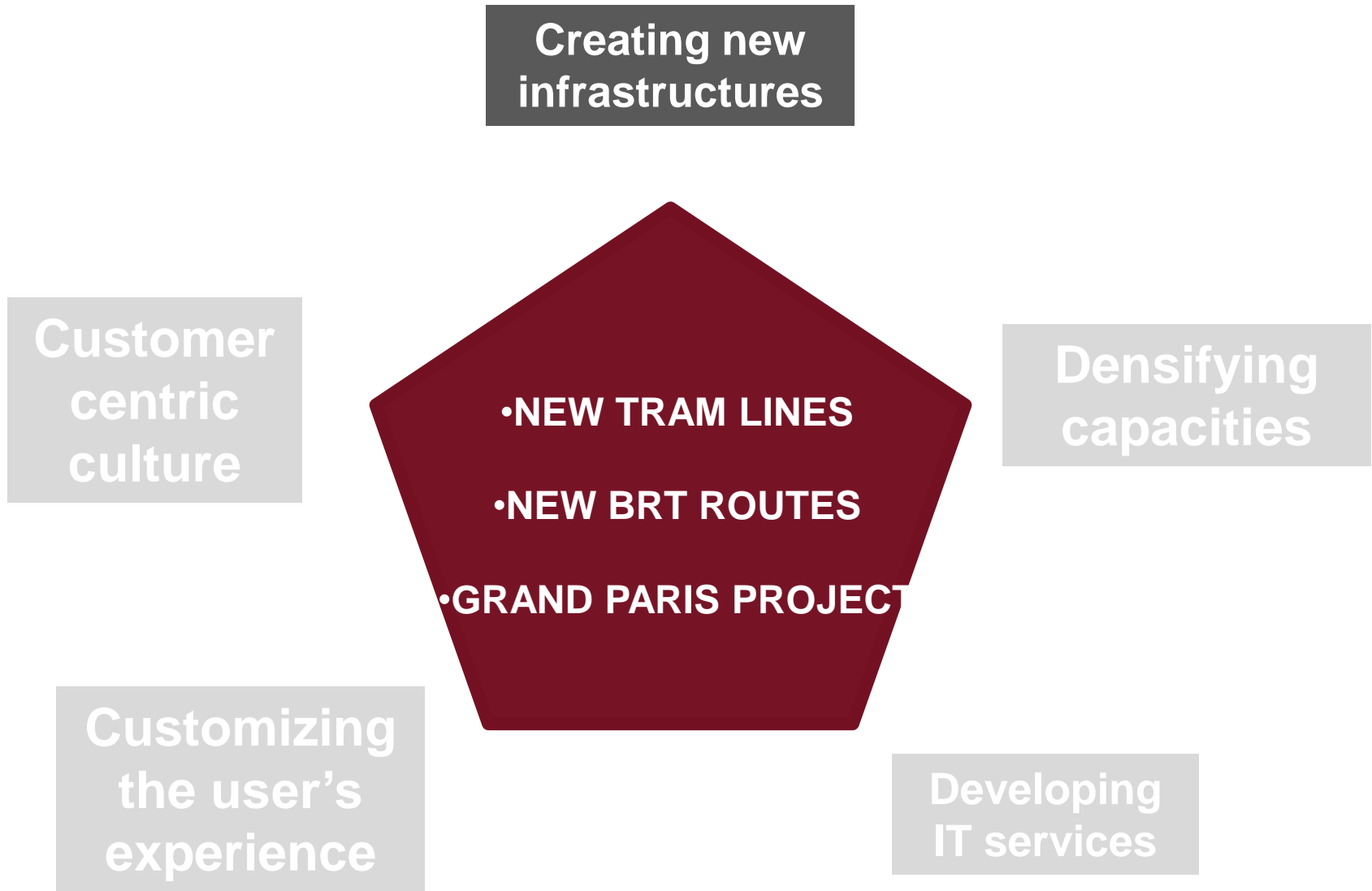
## **The demand and the traffic are still growing**

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

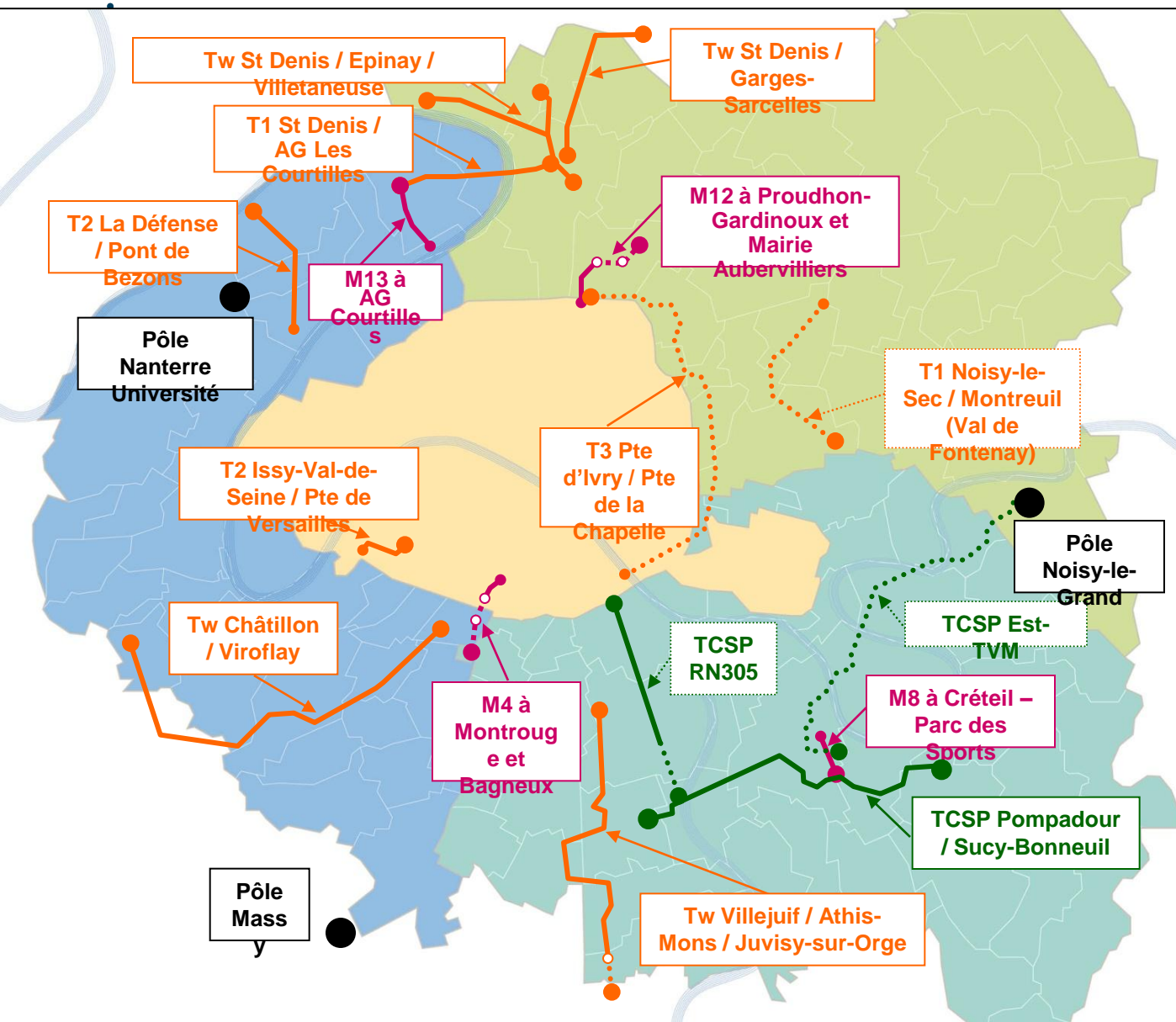
## **2 Challenges**

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





# RATP in Paris TOMORROW



# 75 km of light rail

✓ 5 extensions

✓ 4 new lines

m 10 km of metro lines

✓ 4 extensions

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
<b>T2 extension (Pont de Bezons)</b>	2011	4.2 km	7 more	34 trams	58,500 passengers
<b>T1 extension (Asnières - Gennevilliers)</b>	2011	4.9 km	10 more	10 trams	43,000 passengers
<b>T3 extension (Porte de la Chapelle)</b>	2012	14.2 km	25 more	49 trams	155,200 passengers
<b>T5 (St-Denis – Sarcelles)</b>	2012	6.6 km	16	15 trams	30,000 passengers
<b>T6 (Châtillon – Viroflay)</b>	2012	14 km	21		82,000 passengers
<b>T7 (Villejuif – Athis-Mons)</b>	2013	11 + 3.7 km	18 + 7		36,800 passengers
<b>T8 (St-Denis – Épinay – Villetaneuse)</b>	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

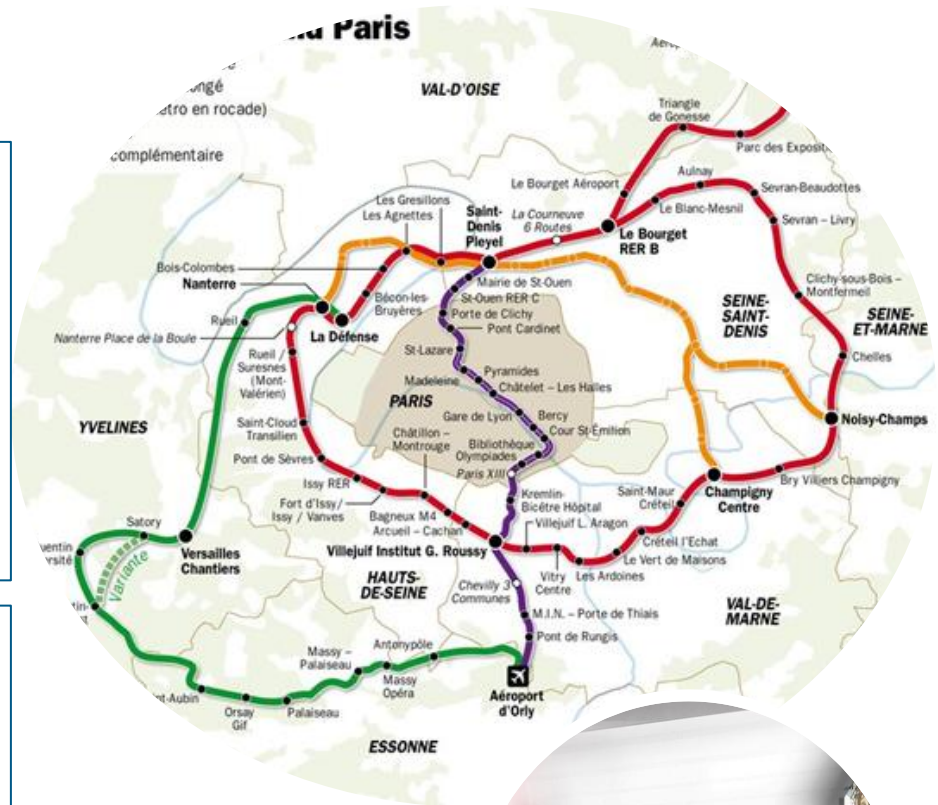
An automated metro 130 km long  
with some 40 intermodal stations

- Promotes suburb-to-suburb mobility
- Relieves network saturation, strengthens coverage

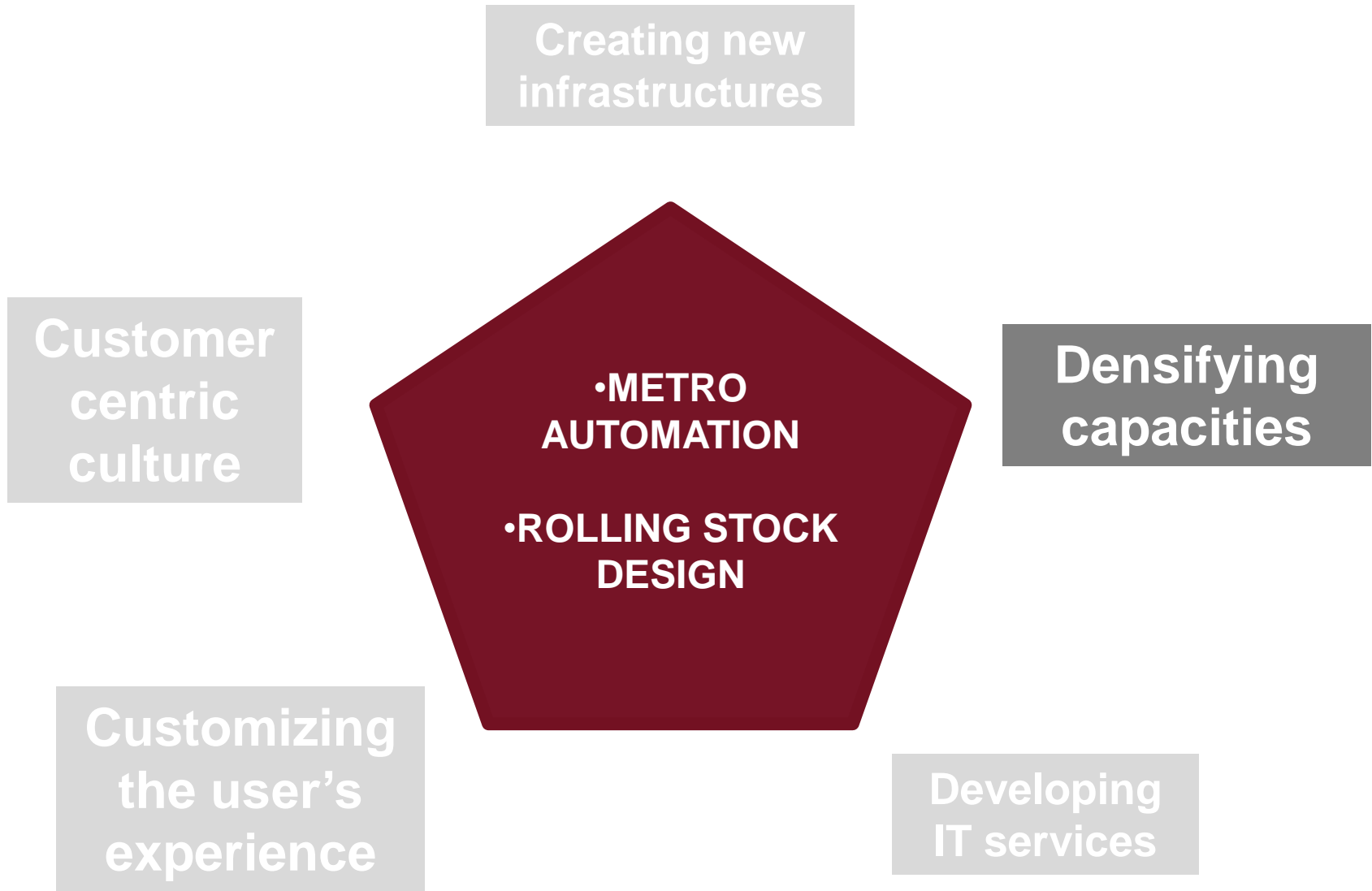
should be operated by 2025,  
A € 35 Bn project.

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







# 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%)

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

	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



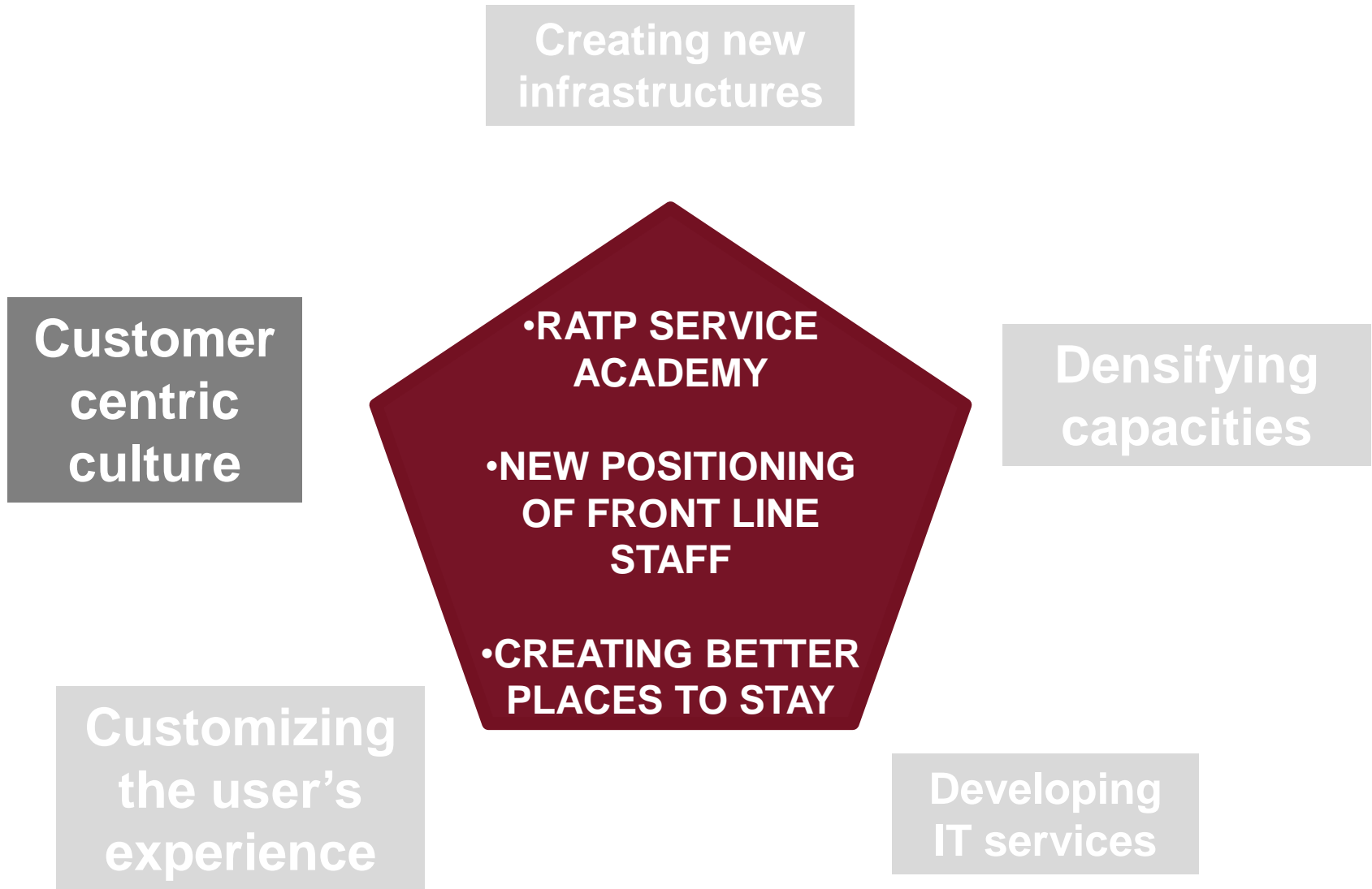


# New rail rolling stock design for more comfort and capacity at peak hours



**From 10 to  
30% more  
capacity**





# 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



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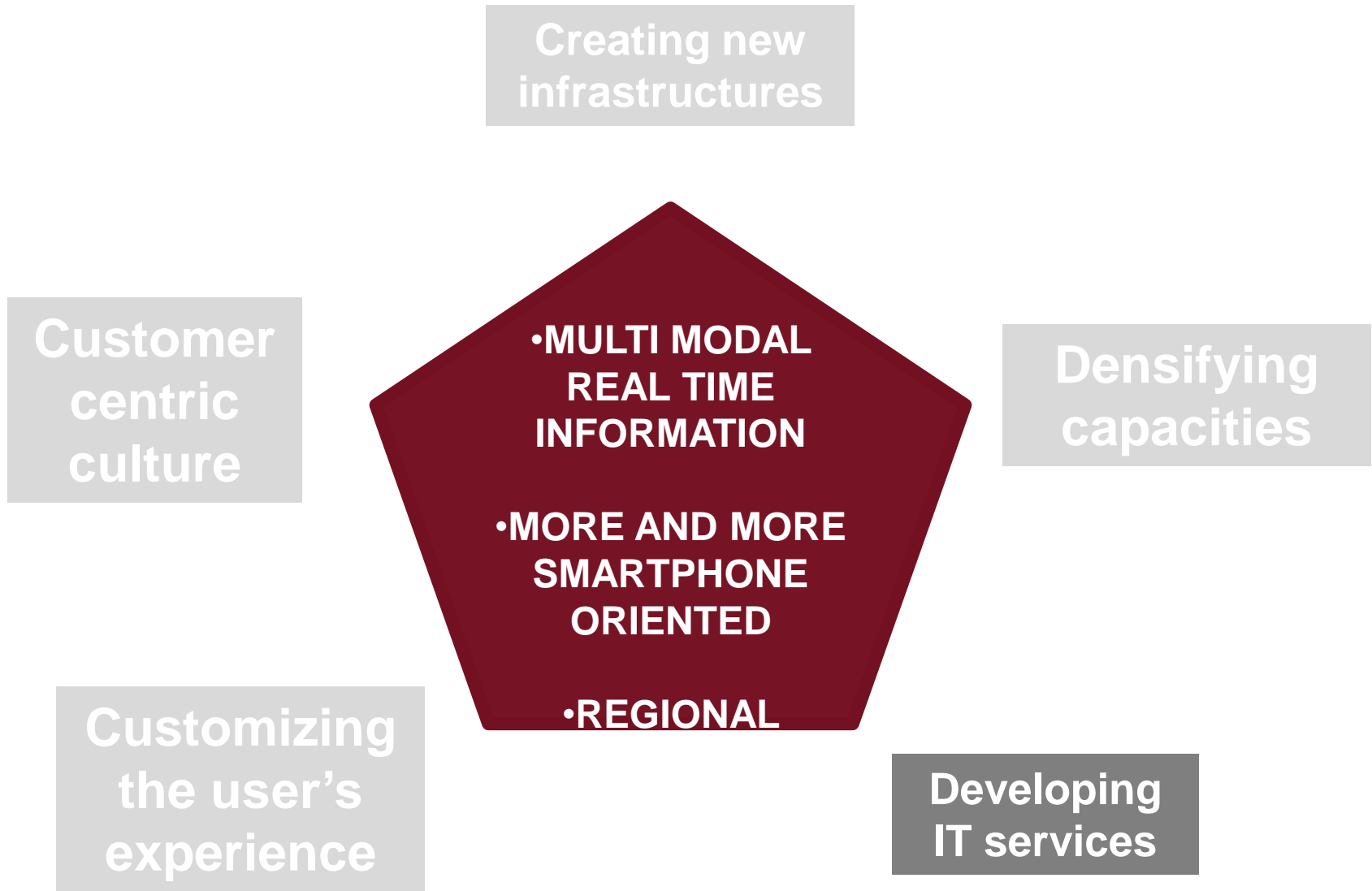
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**Stations and Interchanges** : more open spaces to better connect Transports and cities' activities

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







# Regional integrated ticketing system : The Navigo pass



From a contactless Smart card transport technology



to



Ticket purchase in cash dispensers /partnership with



A multi channel e-ticketing system

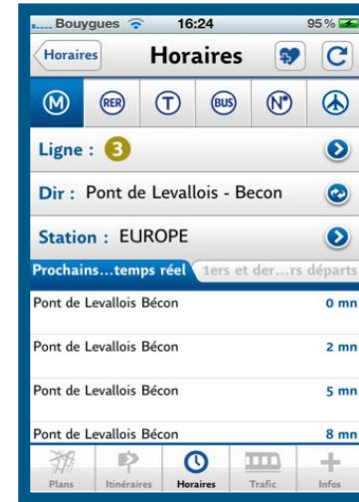


M ticketing using NFC



# Transportation = information

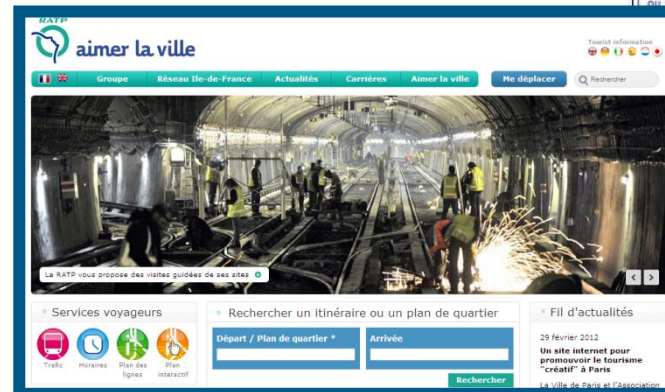
- Reactive passenger information
  - Ahead of time: via the Internet and mobile phones
  - At metro stations, train stations and bus stops, interchanges stations
  - When service is disrupted

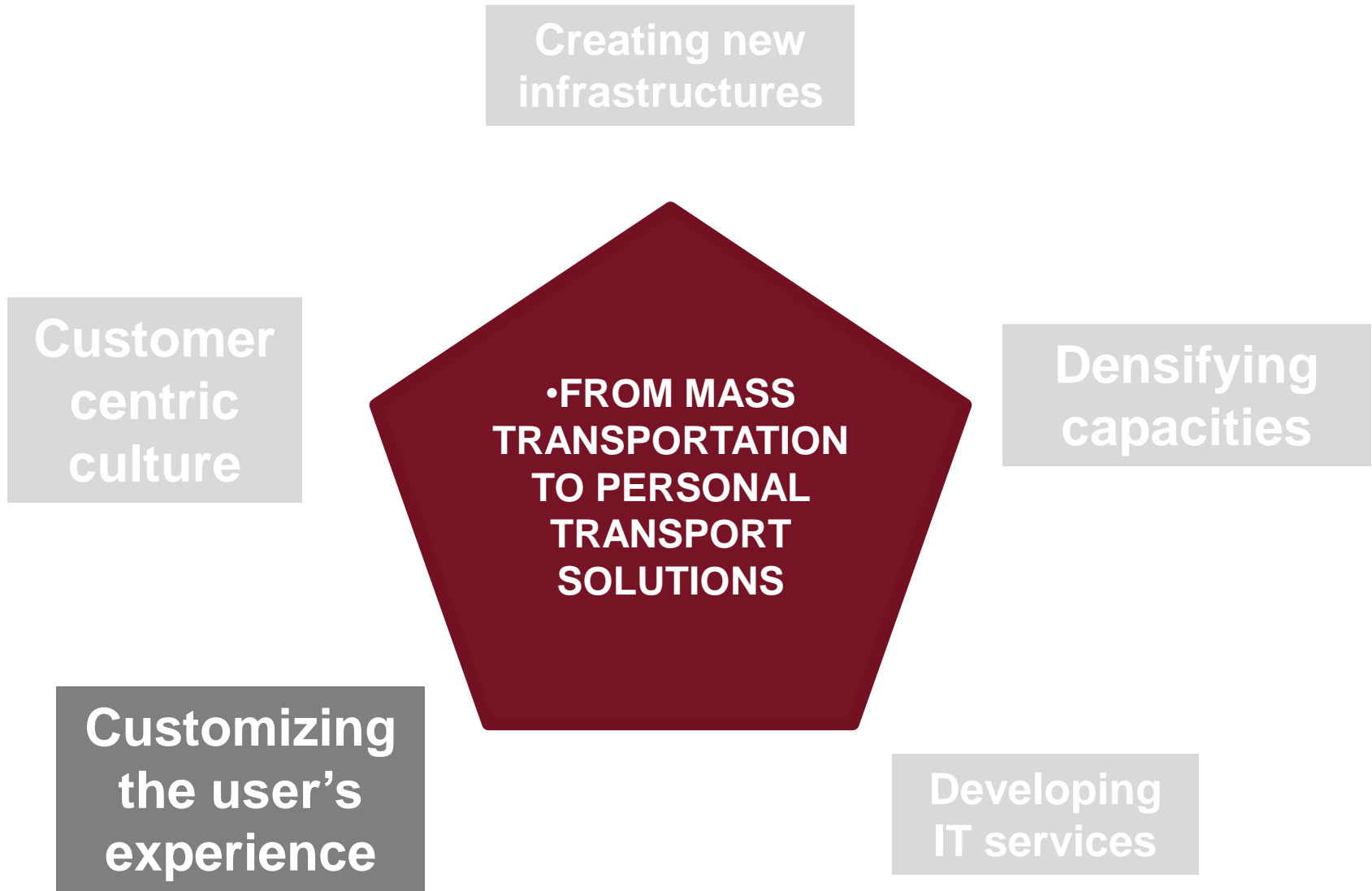


**2D bar codes for  
real time  
information at  
every bus stop**



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







# From mass transport to « my transport » solutions

Using IT's to integrate and personalize 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