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## ► To cite this version:

Marie Delaplace, Francesca Pagliara, Anne Aguilera. High-speed Rail Station, Service Innovations And Temporary Office Space For Mobile Workers. Transport Research Arena, Apr 2014, paris, France. hal-01098709

**HAL Id: hal-01098709**

**<https://hal.science/hal-01098709>**

Submitted on 5 Jan 2015

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# High-speed Rail Station, Service Innovations And Temporary Office Space For Mobile Workers

## A Comparison France/Italy

Marie Delaplace<sup>a\*</sup>, Francesca Pagliara<sup>b</sup> and Anne Aguiléra<sup>c</sup>

*a Université de Paris-Est Marne, French Urban Institute, Lab'Urba, France*

*b University Federico II, Naples, Italy*

*c Université de Paris-Est, IFSTTAR, France*

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### Abstract

Major investments on High Speed Rail (HSR) systems have been carried out all over the world. The existing and planned lines generate many expectations in served cities in terms of economic growth. In particular, HSR is intended to increase the number of business travellers and to foster economic activity by encouraging the development of offices in and around the railway stations. Using innovation service theories, we show that HSR service can be analysed as service innovations. Based on the case study of France and Italy, we sustain that these innovations can be of interest of both public and private actors in terms of urban renewal. We show that, in these two countries, there is the same kind of "behaviour" with respect to these innovations in terms of producing temporary office spaces in and around rail stations. The result is that HSR stations become working spaces and therefore important "places".

**Keywords:** High-Speed Rail station; temporary office spaces; service innovation theories; mobile workers

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### Résumé

Il existe de nombreux projets de desserte ferroviaire à grande vitesse dans le monde, qui suscitent une multitude d'attentes dans les villes desservies en termes de croissance économique. La grande vitesse ferroviaire pourrait accroître le nombre de travailleurs mobiles et booster l'activité économique en encourageant le développement de bureaux dans et autour des gares. A partir des théories de l'innovation dans les services, nous montrons qu'une desserte ferroviaire à grande vitesse peut être analysée comme un ensemble d'innovations de services. A partir du cas de la France et de l'Italie, nous mettons en lumière que ces innovations peuvent être appropriées par des acteurs privés et publics en termes de renouvellement urbain. Nous montrons que, dans ces deux pays, ces acteurs vont développer le même type d'appropriation de ces innovations en proposant une offre de bureaux temporaires en location dans et autour des gares à accueillant la grande vitesse. Cette appropriation fait des gares des espaces de travail et les conforte en tant que lieux.

**Mots-clé:** Gare TGV ; location temporaire de bureau ; théories de l'innovation dans les services; travailleurs mobiles.

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\* Corresponding author information Marie Delaplace: +0633 171 138  
E-mail address: marie.delaplace@u-pem.fr

The paper is divided into four sections. The first section gives a brief overview of the HSR systems in France and in Italy. The second section of the paper analyses the service innovations associated to HSR regarding the transport system. The third section discusses the forms of appropriation of these service innovations in France and in Italy regarding the provision of office spaces and especially temporary office spaces for mobile professionals in and around the stations. Conclusions are finally reported in the last section.

The development of the High Speed/High Capacity network in Italy is embedded in the wider context of the Trans European corridors. In 2000 Italy had 248 km of HSR line, those from Rome to Florence; around half of those of Germany and Spain and even one fifth of those of France. In 2006 there were 562 km due to the opening of the Rome-Naples and of the Turin-Novara sections. In 2013, 923 kms are in operation. Once the whole HSR project is completed in 2014, most major cities will be connected to the network (Figure 1).

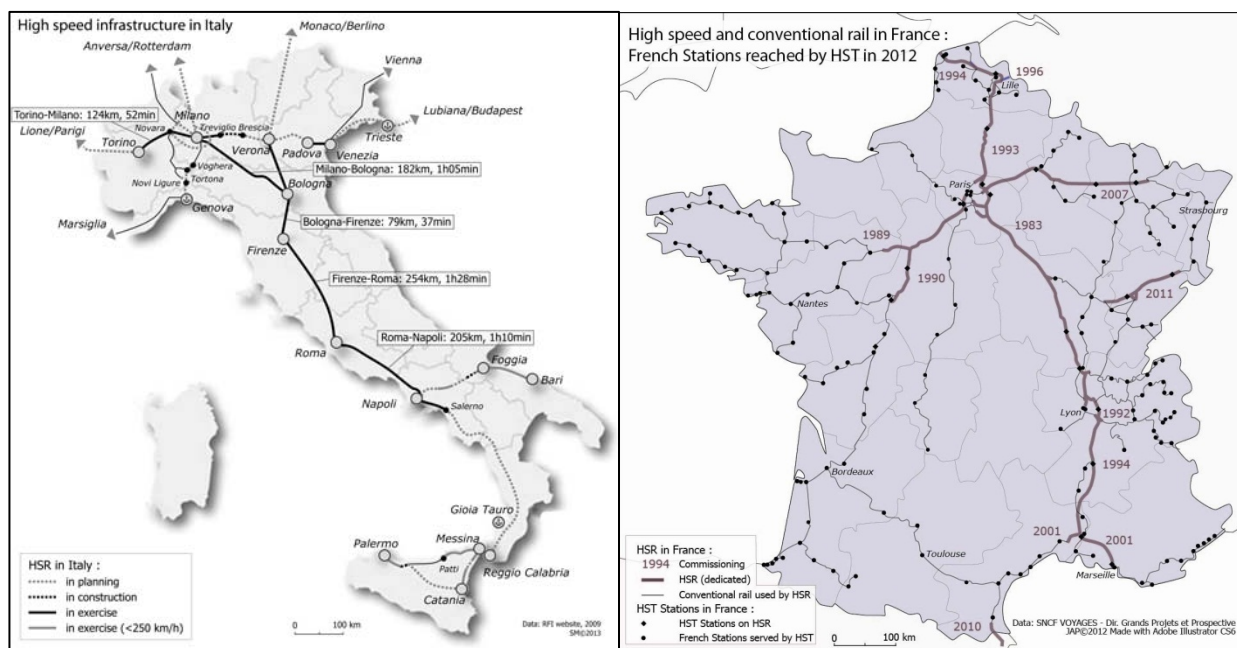


Figure 1: The HS/HC rail system in Italy

Figure 2: High speed lines and high speed rail services in France (Delaplace and al., to be published)



The key objective for the construction that is currently underway is to raise the Italian rail network to the best European standards and to improve its capacity.

The HSR in Italy consists of two lines connecting most of the country's major cities. The first line connects Milan to Salerno via Bologna, Florence, Rome and Naples, the second runs from Turin to Venice via Milan, and is under construction in parts. Lines are designed for a top speed of over 300 km/h. 25 million passengers travelled on the network in 2011. Service is provided by Trenitalia and since April 2012 by NTV. Several projects are underway to expand the system. Plans include both more domestic connections such as to Genova, and new international connections to France, Austria and Slovenia. After the completion of the HSR system there will be a reduction in travel time between the major cities connected of almost 40-50%.

In France, since the opening of the first line between Paris and Lyon in 1981, HSR and train services have been mainly developed through radial axes from Paris. In 2013, the HSL is 2 036 km long (UIC, 2013). In France, HSR network is connected to the conventional rail network, and HST rolling stock is compatible on both networks, allowing a large and direct accessibility of HSR services in the French territory. In France, there are less than 20 HSR stations but about 200 stations served by HST (Figure 2).

### **3. Services innovations associated to HSR in France and in Italy**

Using theories of service innovation (3.1), HSRS can be analysed as improvement innovations (3.2) and incremental innovations with regards to a classical railway service (Delaplace, 2012).

#### *3.1. The theories of service innovation, a useful tool to analyse HSRS*

Besides their immaterial character, what distinguishes the services is their relational character between the provider and the user (Howells, 2010) and this service relation takes place in times and in space. Using the analysis of Gallouj and Weinstein (1997) improved by De Vries (2006), a service can be represented by vectors of technical characteristics, services characteristics and competences of the client and of the provider(s).

The rail service is characterized by technical characteristics ( $T_1, T_2... T_n$ ) linked to the product "train" (the kind of engine of the train - diesel or electric, the power of the train, the braking system, railway cars stabilization system or size). Some other technical characteristics are linked to the infrastructure (type of lines (specific or not) type of railroad (rail gauge, compatibility of the different railroads) or to train station (architecture, centrality, types of rail connection, of intermodality, etc.). Some others are intangible like for instance, methods and procedures to define a schedule that will allow different trains to circulate on the network. The client can himself use tools allowing him to interact with the technical characteristics of the service provider(s). It is the case for example when a client books his train ticket using the Internet with his personal computer. Consequently we must take into account a vector of technical characteristics for the client must be introduced ( $T'_1, T'_2... T'_o$ ), (De Vries, 2006).

The rail service is also characterized by service characteristics ( $Y_1, Y_2... Y_m$ ), called final characteristics which are related to the utilities and how there are perceived by the user (speed, safety or comfort, or in the case of an electric engine, low pollution trains). These final characteristics are also related to additional services such as food, Wifi connection, electrical outlet, etc. and/or in the train station or near it (car parks, car rental, travel agencies, hotels, Newsstands, cash machines, urban and inter-urban transports, etc.). As other services, the rail service is produced in interaction between the provider(s) and the client who both needs some competencies that can be represented as vector of competencies ( $C_1, C_2... C_p$ ), for the provider(s) and ( $C'_1, C'_2... C'_q$ ) for the client(s). Using this framework, we can analyse HST and HSRS as a set of improvement and incremental innovations with regards to the train and to the classic rail service (Delaplace, 2012).

#### *3.2. HSRS, as improvement and incremental innovations*

An improvement innovation consists of improving some technical or service characteristics, and/or some competences, without changing the structure of the system. For example, the value of  $Y_i$  is increased, the competence  $C_k$  or the technical characteristic  $T_j$  is improved.



HSRS is an improvement innovation of technical characteristics (for instance motor power, kind of HSL and HST, etc.). This train circulates at high speed (its definition varies according to authors (over 200km/h, 240 or 250 km/h)), sometimes on specific tracks, sometimes on existing lines.

HSRS can also be seen as an improvement innovation of the final characteristics of services<sup>†</sup>. The commercial speed is improved, reducing journey length. The magnitude of this service innovation will be even stronger as the speed is high. It depends on the technical characteristic of HSTs and/or on infrastructures (Campos, De Rus, 2009); for example, is the service handled on specific tracks or on classical ones?

HSRS can also be analysed as incremental innovations. According to Gallouj and Weinstein, an incremental innovation, is an innovation which corresponds to the addition of one or more new service characteristics ( $Y_4$ , for example), that rises the utility of the agents but again without changing the structure of the system. It is the case when, a new High-Speed Transport Service is supplied to the travellers which use it (for instance the possibility to travel at high-speed and to connect with Wifi at the same time). These innovations which need new technical characteristics can increase the number of users.

More basically, the HSRS adds a new characteristic, in term of modernity, to the traditional rail service that can be described as semiotic in the sense that it conveys a sign to numerous stakeholders of either served or not cities. Like a fashion brand has a specific utility which is to distinguish the person who wears it, the HSRS provides a distinctive sign to the cities, a new image (cf. Bazin and al., 2011, for a review of literature on this subject).

Furthermore, as Bertolini and Spit (1998) have argued a train station as a transport node should ideally also be a significant place in the city. However, this rarely seems to be the case, and the resolution of this disparity, which they refer to as the “node-place” problem, in practice means redesigning what are currently national-to-regional-to-local transport nodes to also function as local pedestrian nodes. This is a complex design task (Cascetta and Pagliara, 2008). But HSRS tends to increase the importance of the train station as a place (cf. also De Jong, 2009, Mannone, 1997), and particularly in our case a place to work.

In this respect, these innovations can be appropriated by private and public actors. They propose to renew the station and its neighbourhoods and, sometimes, some office spaces.

#### **4. Forms of appropriation of HSRS innovations: the case of temporary offices in and around the station**

HSRS gives new opportunities of development for the stations and their surroundings (4.1), particularly in terms of office and corporate real estate programs around the stations (4.2). Classical offices are proposed but also, very recently, temporary office spaces that are provided by different actors like Regus, Buroclub, Multiburo but also smaller ones (for example, RPAD in Reims, France). These temporary offices will meet the growing demand for drop-in workspace from the new breed of flexible worker who is required to embrace a nomadic work style. The providers propose to get a place to work without the costs of a full-time office, to host meetings, sometimes, to use collaborative workspace to bring together mobile workers. And more recently it is in the station that these offices are located. These solutions might allow avoiding unnecessary travel (4.3).

##### *4.1. HSR and the renewal of the station and their surroundings*

In Italy, HS hubs have become centres for services and urban redevelopment. The HS stations in the major metropolitan hubs of Turin, Milan, Bologna, Florence, Rome and Naples have been renovated or built from scratch to designs by renowned architects who have won international competitions. The first new HS station completed was Roma Tiburtina, inaugurated on 28 November 2011. Stations are considered as protagonists of significant urban redevelopment operations and the expression of a new architectural language, and conceived as spaces not only dedicated to railway activities but also meeting and communication places. The restyling of

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<sup>†</sup> It is important to quote that the importance of this innovation also depends on the quality of the previous rail service (cf. *infra*) and of the type of concerned actor: an innovation can be minor for the rail company and great for the client.



Roma Termini and more recently of Milano Centrale stations are pilot projects of the new way of interpreting stations as city squares. The redevelopment of Milano Centrale, centre of urban mobility and a real gateway to the city, also for future visitors to Expo 2015, marks a milestone in the expansion of regional and metropolitan transport and exploits the role of the station as a junction for the new High Speed/High Capacity lines. In Naples, the new High Speed station, designed by Zaha Hadid, built in the municipality of Afragola, will be integrated with the major roads and regional railway lines, which will have new stops. The four-level building will take up 20.000 m<sup>2</sup> Afragola will be a strategic station for domestic and international traffic and it will be a fundamental junction point for the Naples – Bari line (Ferrovie dello Stato, 2012).

In France also, the central stations are renewed on the basis of the existing ones and in some cases new ones are built outside the city<sup>‡</sup>. The magnitude of the renewals depends on the size of the city and on the services. For example, on the South-east axis, for the stations that only benefit from a couple of daily stops, the renewal was minimal whereas some bigger cities with very good services the central station was fully renewed (Dijon, Chambéry) or a new station was built (Lyon Part-Dieu) (Manonne, 1997). Concerning the South West Line, the new Novaxis business center was built near the HSR station (Chevalier, 1997, Bazin and al., 2009, Mannone, Bavoux, 2010). Concerning the North HS Line, a new TGV station and a business centre, EuraLille, were conceived near the existing rail station (Menerault, 1997). More recently, in the case of the East European High-Speed Line, new stations were built near the city (Champagne-Ardenne station) or outside (Meuse TGV, Lorraine TGV), and in bigger cities as Reims, Metz and Strasbourg, the central station was renewed to make it a new place in the city. Around the stations in an urban environment, business park or business centres were built and the district was renewed.

#### *4.2. The development of office and corporate real estate programs around HST stations*

HSRS can give birth to a development of office and corporate real estate programs around the station. The role of the HSR line in the location choice of firms and consequently its role in the attractiveness of served territories has been studied elsewhere (Bazin and al., 2009, Mannone V, 2009, 2010, Willigers and al., 2005).

The real-estate investors get into position in different TGV cities in France: in Tours and Le Mans where the tourangeau promotor Art & Bat (groupe EPRIM) has invested, and in Reims with Lazard, Nacarat, Brooks or Montroyal Immobilier. According to Bazin and al., (2009), the HSR service could reassure investors. In this respect, if the investment decision depends on many elements (expected profitability and so on), some elements are subjective ones, linked to the way the investors understand and analyse the risk of this investment. By producing an image effect in terms of dynamism and modernity, a HSR service can encourage the investors to consider locations that they don't consider before.

Moreover, as we put forward before, the HSR service induces urban renewal around the station. Public actors implement public policies to renew the station district. Therefore these actors give a positive message to the promoters concerning the future use of this district. If the new real-estate supply depends on promoters strategies, they also depend on public strategies (see also Mérenne-Schoumaker, 2003).

In the case of the arrival of a HS train to a city, these actors implement actions in terms of collective infrastructures development, parking creation, and so on. By releasing land due to the reorganization of the station, the HSR service can generate new opportunities in terms of real-estate. And this public policy encourages the promoters to develop a new business real-estate supply, around train station.

It was the case of many promoters which have located business centres around TGV stations in big cities as Lyon Lille or in intermediate cities like Le Mans Reims, etc.. These strategies also encounter those of private actors in partnership with rail manager in the station itself.

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<sup>‡</sup> The outside stations were dedicated to the connexion between French provincial towns whereas central stations are dedicated to the connection with Paris.





#### *4.3. Temporary offices spaces in and around the HSR stations: new work spaces of mobile workers*

Temporary office spaces that can be analysed as service innovations are offered in and around stations (4.3.1). This supply of new work spaces makes the station a new place to work for the growing number of mobile workers (4.3.2). This is the case in France and in Italy (4.3.3).

##### *4.3.1 The development of temporary offices, an analysis in terms of service innovations*

Office rental can be analysed as a service. This service depends on technical characteristics of the office (surface, modularity, equipment, etc.), of the building (location, environmental quality, type of heating, etc.) and of the neighbourhoods (architecture, centrality, design, etc.). This service has also final characteristics related to the office (comfort, connection to the electric network, to the Internet, etc.) and to the building (security, comfort, etc.). Other characteristics depend on the neighbourhood: accessibility by public transport, parking facilities, access to shops and services, etc.). The service is co-produced by a provider (the company which sells the building or the provider itself) and the client itself who participates in the definition of the service and uses it.

If we consider the service innovation analysis then the rental of temporary workplaces (office, meeting room, etc.) can be considered as a set of innovations from the point of view of office & corporate real estate. Indeed it is an incremental innovation because it adds to the rental service new service characteristics that are chosen by the client (secretariat, printer, wifi, catering, etc.). From the customer point of view the service delivery can be considered as a form of externalization of a function of the company which fosters the implementation of innovations in work organization: temporary office rental is indeed characterized by a high flexibility at different levels: modular space and service delivery, simplification of the procedures, technical and administrative supports (Aguiléra, Delaplace and Perrin, 2013).

Additionally temporary office rental in railway stations is also a commercial innovation from relational type (Delaplace, 2012). Indeed it corresponds to the establishment of particular relations between the stakeholders: clients, providers, public authorities, competitors, etc. and here in addition the station managers and the rail operators.

Hence it is also an incremental innovation from the point of view of the functionalities of the stations and especially HSR stations. Indeed if the station is a space characterized by passenger flows, temporary office rental allows mobile professionals to make profits of the time spent in stations and/or to decrease total travel time because they do not have to make additional trips from the station to meet clients, partners, etc.. The meeting can be organized in the station or in its surroundings. Hence from the point of view of the railway station manager, this service is an incremental innovation which contributes to optimize the waiting time spent between two trains. It increases the utility of the mobile professional, whose number is growing especially among managers and executives, because it contributes to increase their productivity. In this respect, HSR stations are very important because the literature shows that executives foster HSR service (Klein & Claisse, 1997).

##### *4.3.2 The new market of mobile professionals*

Physical mobility is typical of certain modern forms of work, in which there is a reduced adherence to predefined locations (Corso et al., 2006, Vilhelmson and Thulin, 2001). This kind of travel is an essential and probably growing component of work activity for a number of professional categories, including some of the self-employed, executives and salespeople, as well as many company directors (Aguiléra and Proulhac, 2012; Haynes, 2010). The reasons behind the increasing demand for mobility are now relatively well identified (Aguiléra, 2008 and 2014): the globalisation of companies and markets, the expansion of multi-facility companies, the introduction of multi-site team working, the growing reliance on outsourcing and partnerships with other companies. These trends have effectively contributed to an overall increase in the need for companies to communicate with geographically remote interlocutors (customers, suppliers, etc.),

It is however difficult to estimate the share of mobile workers. In France the survey by Boboc (2007) estimates that 13% of French workers are nomadic workers (no regular workplace) and 21% are partially mobile (regular workplace + irregular workplace= 15% and home + regular workplace + irregular workplace= 6%). In Italy, the phone survey by Corso et al. (2006) shows that 46% of the firms had mobile employees but that they represented



in general less than 5% of the workforce. Additionally the most relevant group of mobile workers are the sales force, the managers and the technicians (for on-site maintenance).

These data highlight the emergence of new and temporary workplaces also called third places (Felstead, 2012, Moriset, 2011). They correspond on the one hand to a wide range of hybrid spaces dedicated both to private and professional practices (Internet cafes, hotel, airport, rail station, etc.) and, on the other hand, to spaces explicitly dedicated to temporary occupation by professionals: telecentres, co-working spaces and temporary offices for rent (an hour, a day, etc.) which offer specific services (meeting rooms, printers, etc.).

New work spaces, and especially temporary offices for rent, are dedicated firstly to workers who try to decrease commuting distance without working at home where they could suffer from social isolation, and secondly to mobile professionals who try to increase the productivity of business travel by working in good conditions while waiting for an appointment or a transport mean (a train, a plane, etc.) and/or by reducing overall distance travelled by organizing meetings in or near airports and rail stations i.e. in a highly accessible (and often central in the case of rail stations) location.

In this respect, there is a development of temporary office spaces in France and in Italy

#### *4.3.3 The development of temporary office spaces in France and in Italy*

In March 2007, Regus has signed a partnership with Thalys<sup>§</sup>. With this agreement, business men who move between Paris, Bruxelles, Amsterdam and Cologne and who are member of Cybelys Gold program from Thalys, can access to the 950 places of Regus in 70 countries all around the world. With this agreement, Regus clients owning a Network Access card and a ticket Thalys can access to the Thalys Lounge located in the Bruxelles-Midi station. These business men, can access to a working place with many services. The business lounges, offices and meeting room have been designed for them.

In France, in 2011, Gares & Connexions - the subsidiary of SNCF- has chosen Regus to develop projects of business centre in TGV station to make waiting rooms connected working spaces (Aguiléra, Delaplace, Perrin, 2013). Six test stations have been selected: Le Mans which will be inaugurated in the second semester 2013, Lille, Bordeaux in Saint Jean station, Nancy, in the SNCF business centre. In these two last cases, the opening is announced<sup>\*\*</sup>. The aim is to « develop a network of modern and innovating working spaces inside stations to meet the needs of mobile workers » (CP Gares & Connexions - Regus, 2011) and reduce loss of time: « *there is an important demand for these spaces because they polarize flows, but also because they are ideal location for offices, allowing to reduce transport times* »<sup>††</sup>. For instance, the business centre which will be opened in Le Mans would allow to workers in Paris to « *work on place one or two days a week to avoid two hours of transport* »<sup>‡‡</sup> (ESSEC, 2013, p. 76).

In Italy, the development of Flexible work-places in train station emerges with the partnership between Trenitalia and Regus. Regus started in Italy in 1996. Milan Duomo, Torino Street 2 was opened at that time. Milan Montenapoleone at Monte di Pietà Street 21, was opened in 1998 as well as Rome Popolo, at Popolo Square 18, inside the prestigious Palazzo Valadier; following Milan North Park in 1999, Milan Velasca in 2000, Milan Brera in 2001 together with Rome Barberini and Rome EUR. In 2008 new offices are opened in the third Italian city, Turin, as well as their sixth centres in Milan, Carobbio, a few steps away from the main square where the famous cathedral is placed. In September 2013 the Naples Centre will open, exactly inside the HS Garibaldi Railway Station. Since Regus opened in Italy, centres occupancy has always been above 85 % and the trend is still the same. In its centres there are co-working spaces where different companies can share their space. The services offered for mobility workers are business lounges, videoconferencing services, day office services and meeting rooms. Last year Regus was able to report the statistics of the typology of mobile workers using

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<sup>§</sup> <http://www.topmanagement.net/tm.net/f/shared/ShowIInet.asp?ID=26750629&COUNTRY=>

<sup>\*\*</sup> And Amiens which has no high-speed rail service.

<sup>††</sup> Interview of Frédéric Bleuze, ESSEC, 2013, P. 76 (our translation)

<sup>‡‡</sup> Interview of Frédéric Bleuze, ESSEC, 2013, P. 76 (our translation)





their services in Italy. People involved in the chemical industries (13%), in finance (11%), in insurance (11%), in tobacco industries (10%) are the main clients ([www.assotemporary.it](http://www.assotemporary.it)).

In Italy, like in other parts of the world, the Regus Gold Card gives unlimited access to all the facilities of Regus, distributed in 550 cities of 95 countries. It offers business lounge with work areas, free internet access and catering services. Thanks to the partnership between Trenitalia, the Italian State railways company, and Regus, since 2012 holders of Gold and Platinum CartaFRECCIA can have access to the 11 FrecciaClubs of the main Italian stations (number expected to grow in the coming years), even in the nine Regus centers, all within easy reach and in areas of great prestige. The agreement allows those who frequently travel on Trenitalia High Speed trains "Frecciarossa" and "Frecciargento" to enjoy unlimited access to Regus business lounge, as members of the Businessworld program. The benefits of the program include internet access and complementary refreshments in its 1,200 business lounges. Members also receive the discount on the rental of meeting rooms, one-day offices and videoconferencing services. The business lounge areas are reserved and comfortable, located in the central districts of major cities, where you can work at any time of the day. The products and services available include pc, wi-fi, internet, international newspapers, hot drinks, reception and secretarial services, meeting rooms, videoconferencing, pony express and international courier services, printing, photocopying and fax services. The Director of the Division of National and International Passengers Trenitalia, Gianfranco Battisti, hailed the agreement with these words: *"We always want to offer the best to our customers. This new agreement confirms it. Access to Regus business lounge, in Italy and in the world, is a plus because it extends prestigious incentives and benefits to our customers even after they have reached their destination, helping them in their business and in their meetings"* ([www.fsnews.it](http://www.fsnews.it)). According to Mark Dixon (Regus, May 2012) this new generation of business centres in rail station can be analysed as *"an extension of the Regus network to the mobility chain"*.

According to our analysis it is an incremental service innovation from the point of view of business real estate. This innovation allows to meet the growing demand of mobile workers (cf. *supra*). The location in the station adds new characteristics to the office rent: flexibility and modularity of the rent, in many locations, furthermore connected to the HSR network. By locating flexible working places in or around HSR station, these promoters contribute to the creation of a specific model that associates third places and mobile workers.

But beyond the individual interest of worker, and due to the development of business centre in the rail station and especially with the supply of meeting rooms, we can analyse the rail station as a destination for the « Professionnals » (Press release Gares & Connexions - Regus, 2011). The rail station gets new functionality: a working space in itself for mobile workers and therefore an important place.

## 5. Conclusions and further perspectives

This paper focuses on the innovations brought about by HSRS in terms of reduction of travel times, new image for the served cities, etc. Moreover, as airlines slash flights and cut spending in the wake of rising fuel prices, rail travel across Europe is indeed entering into a period of renewal. A journey on HS train Eurostar between London and Paris generates one-tenth of the carbon dioxide produced by an equivalent flight. Rail's city-centre-to-city-centre service is also becoming an increasingly attractive alternative to flying. Research has shown that business travelers are now willing to travel up to four hours on rail because of the increased productivity versus the airlines. Leisure travelers are prepared to go further, using trains on journeys of up to six hours. These concerns are becoming now very common, but our contribution goes even further. We argue that HSRS also lead to other important innovations in rail stations that reinforce HSR stations as "places", according to the Bertolini and Spit's theory. The revolution brought by Regus and other companies deserve attention. It is indeed something that in the past would not have ever happened. Temporary offices for mobile workers placed within the station can modify the professional trip behaviour and change the door to door professional trip.

Further research will focus on testing these hypotheses, by building up a questionnaire to identify the motivations for which mobile workers find these temporary offices appealing. Therefore it will be possible to identify the differences between these business centres nearby or within an HSR station and other business centres.



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