Teleworking

By Anne Aguiléra (Public works civil engineer) 6 March 2019

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Short definition

The remote performance of a professional activity away from the company by means of telecommunication tools, at home or in a telecentre.

Long definition

Telework is a way of performing all or part of a given professional activity remotely, away from the company’s premises, and by means of telecommunication tools. These tools ensure that workers are able to access all required resources (both internal and external to the company) to perform their job, but also that they are reachable and that their employers can implement ways of remotely verifying their activity.

While generally speaking telework is commonly associated with working from home, the very broad framework defining this form of activity gives rise, in the academic literature and studies, to many interpretations and typologies. They reflect more or less extensive conceptions of this form of work.

The idea of remote working, away from the company’s premises, has various interpretations. For a long time, telework was only possible from home (such that people commonly assume that telework means working from home) or from a place near from...
home that is equipped for remote working, that may be owned or rented by the employer and, depending on the case, shared with other companies: remote/satellite offices, telecentres (internal or external to the company), co-working spaces (however these are far more regularly used by freelancers than by salaried employees), etc. But in recent years, the rise of mobile or nomadic work, helped by the development of portable communication devices with Internet access, has led people to consider new forms of teleworking which are quite varied, but that all occur in third-places that were not specifically designed for a professional activity: coffee shops, airport lounges, trains, hotel rooms, etc. Some researchers explicitly exclude these forms of remote working from the term telework which would then only apply to the work performed remotely in fixed locations (home, telecentres, etc.), but the confusion remains a common one. There is still debate as to whether these definitions of telework should include freelance work (and therefore co-working spaces), one-time telework, informal telework (the type of work which is not written into the employment contract), or even work done outside of legal working hours (evenings and weekends, for example). More rarely, some typologies include telemanagement (when employees and managers within the same company are located in two different sites) and itinerant work (which is work performed on the customers’ premises).

The kind of telework considered here refers to work performed remotely by an employee in their home or in a telecenter. These are indeed the two forms of telework that carry the biggest societal expectations, first by governments who regard them as means of mitigating the environmental impacts of commuter mobility and congestion as well as developing peri-urban or rural areas that are far from major employment areas, and second by employees who want to minimize their commutes (as they cause fatigue, stress and accidents) and achieve a better balance between their private and professional lives. Businesses could benefit not only from the resulting gains in productivity, but also from the reduced number of on-site employees as they could reduce the surface area of their premises and therefore lower their property and real estate expenses.

And yet, according to official figures, telework still seems to be underdeveloped. This is probably because there are still questions about its real benefits, whether in terms of increasing productivity for businesses, improving the quality of life for employees or reducing greenhouse gas emissions.

**Telework in the law**
Policy-makers are mainly interested in teleworking when it means work performed in fixed locations. This kind of telework dates back to the early 1970s, during a period when the development of ICTs was beginning to be viewed as a way of reducing physical travel. The goal was (already) to address the recurrent problems of rush hour congestion in major cities caused by commuter routes (this is where the term telecommuting, which is often used as a synonym of teleworking, comes from). Teleworking was also sometimes considered as a means to fight the "desertification" of low-density areas, which were too far removed from major employment areas to attract working people. In France, DATAR actually supported several programs to establish telecentres in rural areas in the early 2000s.

1. In the world

With the effective development of digital communication tools, people have recently showed a renewed interest in telework. While the goals of improving transport conditions and reducing automotive nuisances (pollution, accidents, noise, etc.) are still part of the rationale, the emphasis is now placed on the benefits in terms of quality of life (fewer commutes, more flexibility in accommodating private and professional activities), productivity (reduced stress, fatigue, time wasted in transport and absenteeism) and lowering greenhouse gas emissions. Many countries have implemented laws in favor of telework, sometimes with financial incentives as in Germany. In the United States, the government created a federal agency that encourages telework in the public sector. In Europe, the implementation of telework within companies is provided for by the framework agreement of July 16, 2002.

In most cases, the legal framework applies only to teleworking in fixed locations and sometimes only to working from home. Indeed, in the case of nomadic and mobile telework, the social benefits and especially the environmental benefits (in terms of reducing commutes) are less obvious – not to mention that these forms of telework also present employers with specific challenges in terms of insuring work accidents.

2. In France

In France, the European framework agreement of 2002 was enshrined by the national interprofessional agreement (ANI) of July 19, 2005, signed at the time only by the social partners of the private sector. In the public sector, telework was introduced much later,
with the law of March 12, 2012.

In the agreement of 2005, as in 2012, the principles of telework are twofold: telework must be voluntary (the employee requests to work remotely and the employer – public or private – has a right to refuse) and reversible (the employee can choose to end the telework at any time). A new legal framework was established in a law of March 29, 2018, introducing three main changes:

* Teleworking conditions are now defined by a collective agreement negotiated with the unions or by a specific charter upon consultation with the company’s representative body, and no longer provided for in the employment contract or any addendum to it. *
* Occasional telework can be recognized by the collective agreement or the charter, or even by a simple written formalization between the employer and the employee (commonly used in small and medium sized businesses). *
* The employer’s refusal now has to be justified.

The goal is to encourage greater use of telework by making its requirements more flexible, whereas before they were deemed too cumbersome and seen as hindering its development. Telework can now be simply occasional, depending on professional and personal needs. Finally, the point of making telework depend on a collective document negotiated with unions or representative bodies is to legitimize or even “normalize” this type of work in order to change existing work cultures that are often highly reliant on “presenteeism.”

A gap between expectations and practices

Surveys among employees or employers (often in major corporations) regularly reflect their support for more teleworking. Nearly two-thirds of French office workers claim to be in favor of teleworking according to a study carried out in 2016.

1. High expectations

The main arguments put forward by companies and employees are generally identical to those of public authorities:

* Improving the quality of life at work. *
* Having better solutions for integrating employees with disabilities or demanding family situations. *
* Achieving productivity gains from
shorter or no commuting times and reduced absenteeism. Reducing rent and energy bills, as some offices don’t always need to be heated. Telework is also likely to lower needs in terms of floorspace with the implementation of “shared desks” that several workers can use at different times according to needs and order of arrival. An adequate distribution of teleworking days can help such a transition.

Attracting Millennials (especially those with higher degrees) who are comfortable with technology and considered to be particularly sensitive to how a company respects the balance between their private and professional lives.

Despite the many available surveys, it is hard to measure the practice and evolution of telework on a national scale. The available data shows how much interest there is on this subject, but also how complex it is to measure and quantify its practices. It is also very difficult to compare them and to put them into context. For example, some studies calculate the proportion of teleworkers, not in relation to the whole of the working population (or salaried employees), but in relation to all potentially “teleworkable” jobs, the definition of which can vary (sometimes being restricted to office jobs, or even just to executive or managerial positions).

Despite important methodological differences, studies broadly make the same observation: the rate of teleworking in fixed locations (home, telecentres, etc.) remains at a relatively modest level around the world. For 40 years, teleworking has not been growing substantially in either industrialized or emerging countries, despite the incredible increase in use of ICTs and the support of many public and private actors.

2. In practice, in France and around the world

In Europe, the latest available figures are from 2010 and show a 20% rate in fixed-location teleworkers, with significant differences between member states: 5% percent in Italy, a little more than 8% in France, 30% in Belgium and almost 33% in Finland, which is close to the rate in the United States. These differences come from each country’s national regulations which can be more or less restrictive (for instance in some countries teleworking isn’t available for public sector employees) as well as from different managerial cultures which may or may not favor the remote monitoring of workers’ performance. The percentage differences between countries can also be explained by the relative breadth of certain definitions, in particular regarding the minimum amount of teleworked days. Finally, there are big differences between Eastern Europe and Western Europe – in the latter, for instance, the proportion of office jobs which are more easily
compatible with teleworking is higher.

In France, a 2012 report by the Ministry of Economy estimated that 12% of salaried employees worked from home at least eight hours a month. A more recent study (2016) estimated that 17% of working people teleworked at least once a week. The difference with the European survey’s figures does not mean though that there has been a significant increase in teleworking in France, but rather that there is a lot of informal teleworking (remote work which is not written into the employment contract) and that this kind of teleworking is accounted for in the French study (not in the European one). In fact, 67% of French teleworkers work remotely on an informal basis, a figure supported by other studies including a survey conducted by IFOP in 2018 showing that for nearly three-quarters of teleworkers in private-sector companies of more than 10 employees, teleworking is not written into their employment contract. According to the same survey, 29% of employees telework and the monthly average of teleworked days is 7, which amounts to almost two days a week. Other studies point to the low number of days involved and the fact that in many cases teleworking is not a regular practice but rather a temporary solution to accommodate occasional professional and family constraints.

Furthermore, in France, teleworking is mostly practiced at home: working from home accounts for 64% of all teleworking, compared to 21% working from a remote office. Indeed, telecentres that were opened with the support of DATAR in sparsely populated areas are widely regarded as a failure. Finally, the practice of teleworking mainly occurs among employees of major corporations, especially in the tertiary sector where companies are used to using new technologies (i.e. telecoms, online businesses and banking). Executives and managers, having more flexibility in organizing their work, are over-represented among teleworkers. The IFOP survey from 2018 shows that half of all teleworkers in French companies with more than 10 employees hold executive-level positions.

Finally, given their professional profile and the importance of major corporations, teleworkers are mostly concentrated in city centers. Indeed, in France for instance, teleworking is much more widespread in Paris: the 2008 National Survey on Transport and Movements - even though it was carried out 10 years ago - already showed that 18% of working Parisians were regular or occasional teleworkers, compared with 7% nationally. And at the end of 2018, a survey conducted by IFOP among a representative sample of...
private sector employees and company directors (in businesses of 10+ employees) also showed that over a third of teleworkers lived in or around Paris.

**Questionable benefits**

The gap between expectations and reality in the use of telework is always fascinating: everyone claims to want to work remotely, businesses and workers who resort to it report being quite or even very satisfied ²³, and yet its implementation is very slow. This paradox has led to a prolific literature ²⁴ offering several explanations, the pertinence of which varies depending on national contexts as well as the characteristics of businesses and individuals (in particular their professional and family situation).

**1. For businesses**

For businesses, implementing telework implies a number of constraints and risks that generate financial costs - but that is not all ²⁵. Changes are required in how work is organized ²⁶ and particularly in the managerial culture, to allow for the emergence and acceptance of remote methods of work verification. In this respect, the role assigned to ICTs is twofold:

* To encourage the performance of all or part of the professional activity outside the company. * To allow the company to reach its employees and verify their activity when they are not present within its premises.

Other sensitive points to be considered for companies are data protection and potential conflicts between the employees who have been allowed to work remotely and those who have not ²⁷. Implementing telework entails immediate and measurable costs (equipping employees with ICTs, data protection, building or renting remote workspaces) while productivity gains are uncertain. Finally, the reduced physical proximity between employees, including informal contact (such as around the coffee machine), is sometimes regarded as detrimental to the company’s culture and to innovation ²⁸.

**2. For employees**
On an individual level, regular and formalized teleworking seems to improve the balance between private and professional activities. According to a 2012 study conducted in France for the Minister of Economy\textsuperscript{29}, teleworkers gained almost 30 minutes a day for family life and 45 minutes extra sleep. These gains are mainly the result of not having to commute, which is by far the main reason given by French private sector workers for wanting to work remotely, according to the 2018 IFOP survey\textsuperscript{30}.

However, Mettling’s studies in 2015 show that telework may lead to increased mental and psychological stress for teleworkers as they may face extra work\textsuperscript{31} given their requirement to stay continuously connected and as a result they may end up working far more than the legal limit of daily working hours\textsuperscript{32}. Controlling the work schedule is therefore a major issue\textsuperscript{33}: the rise of teleworking requires that employers provide solid guarantees in terms of their employees’ right to disconnect (at night, on weekends, during holidays). Risks pertaining to social isolation, loss of team spirit and lack of recognition from managers are now also well identified in the literature\textsuperscript{34}.

However, all these effects, whether harmful or beneficial, depend in part on the frequency of the telework, that is the number of teleworked days per week\textsuperscript{35}. The effects in terms of reducing greenhouse gas emissions increase with the number of teleworked days\textsuperscript{36}. The impact on energy consumption also seems to increase with the frequency of teleworking, insofar as companies can reorganize their floorspace as a result. In terms of social impacts, a scheduled practice of teleworking appears to be more beneficial than an irregular one. However other factors, such as the degree of work autonomy, seem to have more influence on a teleworker’s level of satisfaction and well-being\textsuperscript{37}.

### 3. For public authorities

On a more collective scale, the short- and long-term environmental benefits of teleworking are still rather uncertain, especially for telework performed from home or close to home (which are the most studied types of telework). A first expectation is reduced energy consumption: companies with a significant proportion of employees teleworking should need less floorspace and therefore lower energy bills as they would have smaller and/or less heated premises. However, the overall assessment should take into account the increased energy consumption in teleworkers’ homes as they will be working there several days a week. The estimated power gains in the USA and Japan are in this regard very modest, less than 0.4% in the current situation and up to 1% at best in a
hypothetical situation where employees would be allowed to telework from home 4 days a week.

But for governments, the main goal of telework is reducing commute-related travel and therefore reducing the emissions of greenhouse gases and other pollutants. This expectation is based on two assumptions, which are partially questionable:

* Home-based teleworkers are mainly people who use their car to go to work. Given that people's propensity to telework from home increases with the length of their commute time and that the share of public transport also increases with the length of commute time, this assumption is worth reconsidering. * People who telework from home or close to their home will stay put during their teleworking days. Public authorities have not anticipated the fact that these people will potentially be inclined, in the short or medium term, to use the time they saved from not commuting to perform other trips (driving to school, to shops, to the bank, etc.). The research literature on this has provided mixed results. Indeed, most of the empirical studies indicate, in most cases, a reduction in the number of kilometers travelled by teleworkers. But they also show that this reduction is very limited: for instance, in the USA, it is estimated to be under 1% of kilometers travelled by car. Indeed teleworkers take advantage of this reorganization of their work to change the way they distribute, in time and space, their professional and private activities. We therefore see that ICTs haven’t been perfect substitutes for mobility, and this is true not just in professional life but in other areas of daily life too. For instance, teleworking may have mobility-inducing effects in cases where a home-based teleworker enables another member of his/her household, who wouldn’t otherwise have had an available vehicle, to use his/her car as a result. Finally, the gains in mobility could partially be counteracted by changes in where employees and businesses choose to be located, especially if telework encourages urban expansion and therefore increases the number of teleworkers who live further away from where their companies are located. While there is no formal proof of this, several studies have found that the average distance between the home and workplace of people who telework one or more days a week is on average greater than in it is for regular employees.

These different “rebound” effects, which are likely to curtail to some extent the environmental gains expected from home-working, are rarely taken into account by the current theoretical modelling tools, which are instead based on sometimes simplistic
assumptions (especially with regards to the number of workers likely to telework or the weekly number of teleworking days) and consider that home-based teleworking has great potential to reduce commuting 49.

**New research avenues**

The future of telework probably doesn’t depend so much on the future developments of ICTs and how people use them, as it does on cultural and organizational changes within companies and society at large.

Many employees are requesting more flexibility in the organization (including spatially) of their work, as shown by surveys calling for greater use of telework. And yet, because telework is too rigidly formalized, they are clearly being discouraged from it. The French law of 2018, which is still too recent for its effects to be assessed, seems be going in the right direction, especially with the recognition of occasional teleworking practices that are more able to adapt to changes in the professional and personal agendas of employees.

The survey carried out at the end of 2018 by IFOP 50 shows that the amount of private sector employees who telework has grown from 25% to 29% in one year. It is however difficult at this stage to attribute this increase to changes in the legislation, especially since non-contractual telework remains the majority of cases (72% of teleworkers in 2018, which is a 2-point increase from 2017). As such, cultural obstacles are still important: the development of teleworking also requires that remote-working and remote-management be recognized, which is easier to achieve in some professions (those that rely on greater autonomy) than in others. The IFOP survey confirms that over half the surveyed managers report difficulties in remotely managing their collaborators.

Finally the academic work shows how ambiguous the social, economic and environmental effects of telework are, especially because of its links with other evolutions in lifestyle (choice of where to live, activity schedule) and work organization (such as co-working spaces that are not unanimously acclaimed). While it is now accepted that telework does not simply eliminate some proportion of commutes, interdisciplinary studies still need to be performed. They need to focus on how different contexts (individual, professional, spatial) and the conditions for implementing telework within companies (such as the amount of teleworking days) interact with all the various mobility practices (non-work-related travel, other work-related travel, modal choice, etc.) of individuals and households, and even with their choice of location. The findings would provide useful data for modelling the potential effects of telework on mobility and would
inform the debates on what measures public officials in transport and planning should use to encourage businesses and individuals to behave in a more sustainable way.

**Useful references**


Centre d’analyse stratégique (2009).


The Economic and Social Review 

Journal of Business and Psychology 

International Journal of Sustainable Transportation 

The International Journal of Life Cycle Assessment 

Economic Inquiry 


Le changement organisationnel à l'épreuve du lien social dans ses modalités culturelles : l’appropriation du télétravail dans l’entreprise 

Economic Inquiry 

Journal of Transportation Engineering. Part A: Systems


An analysis of the effects of family responsibility and teleworking volume on satisfaction with teleworking in the United States Federal Government, School of Public and International Affairs, Université de Baltimore.

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**Notes**

1. Aguiléra et al., 2016.


4. Aguiléra et al., 2012.


8. According to a recent study by IPSOS and Revolution@Work (2016).

9. Kitou et Horvath, 2008. Moreover, according to a study conducted in 2012 for the Minister of the Economy (“Le télétravail dans les grandes entreprises françaises”) Teleworking in major companies in France), French companies estimated an average 22% increase in productivity per teleworker.


Kronos, 2016.

Aguiléra et al., 2016; Turbé-Suetens, 2011.


Kronos, 2016.

Kronos, 2016.

Interdepartmental delegation for land planning and regional attractiveness (in France: Délégation interministérielle à l’aménagement du territoire et à l’attractivité régionale).

Turbé-Suetens, 2011.

In 2012, 40% of the CAC40 companies had signed an agreement on teleworking, according to a synthesis report on telework in French corporations ("Le télétravail dans les grandes entreprises françaises") given to the Minister of Economy.


Aguiléra et al., 2016.

Lasfargue and Fauconnier, 2018.


Kaplan et al., 2017.

Storhaye and Bouvard, 2013.


Yahoo in 2013 and IBM in 2017 used this argument to justify stopping the use of telework. However, in the case of IBM, some feel that this decision was mainly designed to push employees to leave the company given several years of financial decline.


Mettling, 2015.
The remote performance of a professional activity away from the company by means of telecommunication tools, at home or in a telecentre.
For the Mobile Lives Forum, mobility is understood as the process of how individuals travel across distances in order to deploy through time and space the activities that make up their lifestyles. These travel practices are embedded in socio-technical systems, produced by transport and communication industries and techniques, and by normative discourses on these practices, with considerable social, environmental and spatial impacts.

Lifestyle
A lifestyle is a composition of daily activities and experiences that give sense and meaning to the life of a person or a group in time and space.

Keywords: teleworking, Work, human resources, management, companies, ICT

Disciplines: Social sciences

Transport mode(s): All modes of transport

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