

**TA 35C/2000**

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**VOM SCHWINDEN DER  
SESSHAFTIGKEIT  
MOBILE ARBEIT IN DER SCHWEIZ**

Kurzfassung der TA-Studie "Mobile Arbeit in der Schweiz"

**DU DÉCLIN DE LA SÉDENTARITÉ  
LE TRAVAIL MOBILE EN SUISSE**

Résumé de l'étude TA "Mobile Arbeit in der Schweiz"

**THE DISAPPEARANCE  
OF FIXED WORK-PLACES  
MOBILE WORK IN SWITZERLAND**

Short version of the TA-study "Mobile Arbeit in der Schweiz"

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## Editorial in german only

Diese Reihe der TA-Publikationen enthält die Ergebnisse der Studien, die im Rahmen des TA-Programms des Schweizerischen Wissenschafts- und Technologierates (SWTR) durchgeführt wurden.

Mit TA (Technology Assessment / Technologiefolgen-Abschätzung) werden dabei Projekte bezeichnet, welche zum Ziel haben, die gesellschaftlichen Auswirkungen neuer Technologien möglichst umfassend zu untersuchen. Es geht darum, die allfälligen positiven und negativen Einflüsse der Technologie auf soziale, politische, wirtschaftliche und ökologische Systeme und Abläufe abzuschätzen.

Nach einer Pilotphase von 4 Jahren haben der Bundesrat und das Parlament den SWTR beauftragt, die TA-Aktivitäten für die Periode 1996-1999 weiterzuführen.

Um diese Aufgabe zu erfüllen, setzt der SWTR einen TA-Leitungsausschuss aus Fachleuten von Wissenschaft, Industrie, Politik und NGO's (Nichtstaatliche Organisationen) ein, welcher die massgeblichen Themen und Fragen definiert, die es im TA-Programm zu behandeln gilt.

Ende 1999 wurde vom Parlament beschlossen, die Technologiefolgen-Abschätzung zu institutionalisieren. Dies ist im Bundesgesetz über die Forschung vom 8. Oktober 1999 festgehalten.

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## MOBILE WORK IN A FLEXIBLE SOCIETY

Globalisation, flexibility and mobility are the keywords which characterise present-day social and economic debate. Not only workers but the work itself has become mobile since it is becoming less bound to a certain location. There is very little reliable data concerning the phenomenon of 'mobile work' in Switzerland. The TA study resumed here aims to make an initial contribution towards filling this gap.

A typical evening in the life of a working woman in the year 1999: hurrying from work to the crèche, getting caught in the evening rush-hour traffic and supposing gloomily that her partner has yet again not had time to call in at the dry cleaner's. Her two little girls babble on about what they did at the crèche and their mother listens with half an ear as she plans the programme for following day: her husband will take the children to the crèche so that she can get to her 9 a.m. meeting where plans for the new museum design are going to be discussed. Lunch with representatives of the city building department. With a bit of luck she'll be able to call in quickly at the dry cleaner's on her way to the restaurant ...

A typical evening in the life of a working woman in the year 2002: one click with the mouse and the specifications for the roof over the stands at the new football stadium are instantly transmitted from her PC at home to the central server of the architect's office. In the next room the twins are rehearsing their roles in the play their school is putting on the week after next. The following day their father will be looking after the children; since he too has been able to link up with his firm's network via his home PC the parents have been taking turns to work from home. And because they both only have to go to the office twice a week they have moved out to the country – and the two girls are thrilled with the latest addition to the family: a puppy.

Working away from the office – an impossible dream? Not if we are to believe the optimistic prognoses for the future which are on everyone's lips. So-called teleworking is believed to have considerable development potential.

### A concept dating from the oil crisis

The idea of teleworking was first developed in the United States, as a way of reducing the daily mass of motorised commuters. The oil crisis in the 70s provided additional arguments for promoting the principle of getting the work to the workers instead of obliging all the workers to go to their place of employment.

In the 80s the first studies were carried out which looked into extended teleworking projects in detail, and the following critical conclusions were drawn. Often it is virtually impossible to separate work and leisure – a problem that affects mothers in particular, who find it difficult to work without disturbance at home. A further disadvantage of teleworking appears to be the danger of being cut off from the informal discussions that go on in an office and thus becoming increasingly isolated. It is also more difficult for people who work from home to climb the professional ladder.

Apart from the disadvantages of teleworking for the individual, a list of institutional and operational aspects which hindered the early

spread of this form of professional mobility was drawn up: when attempts were made to introduce teleworking in a decentralised form in certain regions local conditions and needs were scarcely taken into account. In addition, when it was first tried to instigate teleworking, too little attention was paid to the question of the changes that this new work-style would or could have on work organisation and collaboration within a company. And finally, the lack of reliability of technical equipment did not help to encourage teleworking.

In the economic and social debate surrounding the principle of teleworking it has also become clear that quite different forms may exist, ranging from the person who works only from home, in total isolation, to the person who regularly alternates between home and the office, and the one who works full-time in a teleworking centre.

### The background to the TA study

As far as regards certain forms of 'mobile work' Switzerland can be considered as one of the pioneering countries in Europe. In 1987 the Geographical Institute of the Zurich Fe-

In the case of desk-sharing employees do not have a fixed work-place but use mobile facilities in which they can store their office machinery and their personal effects. When they are in the office they use any work-place that is free and which they leave as they found it when they go home. Since desk-sharing is used not least of all to save office space, the number of work-places is usually quite restricted – as a rule a company employs more people than it has work-places. Desk-sharing is therefore often combined with a form of teleworking.

deral Institute of Technology founded the first teleworking centre in Switzerland, in Sumvitg in the Grisons, which was in fact a branch of the Swiss Post office's telephone information centre. Additional teleworking centres and satellite offices were soon to follow, including those of the Kreditanstalt Bank in Manno and St. Gallen. In the early 90s some of the initial experiences with teleworking in Switzerland were analysed as part of the comprehensive, long-term MANTO study entitled 'Opportunities and risks of telecommunications for transport and settlement patterns in Switzerland' carried out by the Zurich FIT. But although mobile work was introduced comparatively early in Switzerland, there is still very little reliable data on how many workers take advantage of this work-style and how many companies or organisations offer it.

For this reason the Swiss Science and Technology Council ordered a study, as part of its TA programme, to determine the quantitative and qualitative aspects of mobile work. In this context the term 'mobile work' refers to the various forms of teleworking, including desk-sharing (see box).

One aspect of the study was taken over by a project group from the Lausanne Federal Institute of Technology, which approached 24 selected companies with a qualitative questionnaire on the reasons for introducing (or not introducing) teleworking and desk-sharing. The experience of those companies which had introduced the system was noted. One particular part of the Lausanne study dealt with the legal implications of mobile work. At the same time a project group from the Solothurn Technical University carried out a survey of how many Swiss companies have introduced mobile work.

## UNTAPPED POTENTIAL

No official statistics were drawn up concerning different forms of mobile work (working from home but also teleworking on clients' premises as is normal in the insurance field, for example). The Swiss Work-Force (SWF) survey is in the process of gathering data on traditional forms of working at home – for example needlework, which is paid per piece. It is planned that future SWF surveys will take into account aspects of increasing mobility and declining attachment to any one location.

A first step in the direction of a systematic survey of teleworking places is the quantitative study carried out by Thomas Schwarb and Albert Vollmer from the Olten-Solothurn Technical University (1999), which was part of the TA study entitled 'Mobile work' and was financed by the Commission for Technology and Innovation as part of the Production and Management (P&M) Concept Programme.

### A representativity-oriented investigation facility

The framework of the quantitative survey was defined by three considerations:

Firstly, the TA programme's group of specialists who supervised the study decided to focus the survey on employed workers, excluding self-employed, freelance people – a not inconsiderable group from the point of innovative work-styles – since the majority of gainfully employed people in Switzerland are not self-employed.

Secondly, the aim was to carry out a quantitative study of Swiss companies, as already indicated. Based on data provided by the Federal Office of Statistics, a random sample of companies throughout the country was selected, including both small and large organisations. In all, over 5,000 firms were sent questionnaires, and the feedback of 37.1% was exceptionally high. This first step served to identify those companies which offer

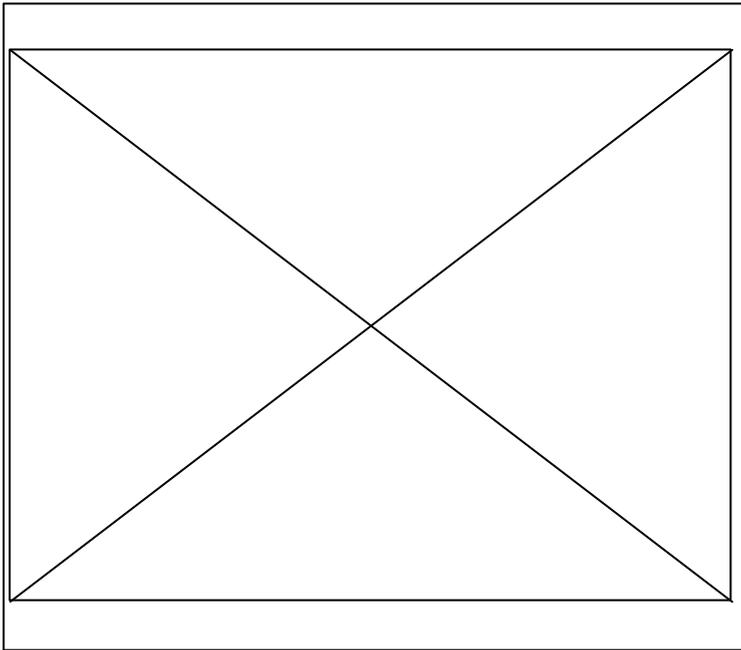
mobile work-styles. The second step was to approach these companies again and to ask them about their experience of mobile work-styles, from the employees', junior management's and senior management's points of view.

Thirdly, a strict definition of teleworking was adopted. This included only activities which could equally well be carried out on the firm's premises. Other activities which have to take place outside the office – for example, visiting clients – are categorised separately as 'decentralised work' (or telework in the broadest sense).

### A relative success story?

Of the companies which answered the first questionnaire, 16% said that they have introduced mobile work. The second questionnaire was sent to this 16% (325 firms), of which 43 include telework in the strict sense and 245 in the broader sense. Desk-sharing was a feature of 161 companies.

These figures alone already give an initial idea of the supposed success story of teleworking – at least if one goes into how many Swiss companies offer the possibility of working from home. The proportion of firms which accept teleworking in the strict sense is less than 3%.



This does not give much indication of how many Swiss workers work from home, however. It must not be forgotten that the survey did not differentiate between large and small companies. It is more probable that the larger the company, the more likely it is to al-

low its employees to work from home. On the basis of these considerations, the authors estimate that in Switzerland a good 130,000 employed people (4% of the Swiss work-force) take advantage of the possibility of teleworking in the broad sense, and 25,000 (less than 1% of the Swiss work-force) telework in the strict sense. The result produced by this study is therefore lower than the figure of 6% for Zurich proposed by Schoch (1999) for example, for teleworking in the broad sense.

The restriction adopted for the present study must not be forgotten – that freelancers, i.e. self-employed people who provide services independently and are linked to various collaborative networks via e-mail, are excluded. If one were to include such people the figure for teleworkers in Switzerland would be higher.

Finally it has been observed that the phenomenon of employed people working from home is to a certain extent 'self-destructive', since it is frequently only a small step from being an employee who can choose his or her own place of work (and often work schedule) to being self-employed.

## A COMPLEX PHENOMENON WITH FLEXIBLE LIMITS

Teleworking is a principle that is applied in a broad range of companies, from one-man firms to multinationals. It is therefore difficult to find a 'pure' example; mixed forms are the rule and in addition there are informal grey zones which are impossible to study systematically.

The results of the 39 quality interviews that Martine Buser and Lena Poschet from the Lausanne FIT project group had with employees of a total of 24 companies immediately eliminated the widespread image of teleworking. In the literature this is often seen namely as a way of offering women the possibility of earning additional income at home through routine work that demands comparatively few qualifications (e.g. entering data). The interviews reflected a different image of typical, ideal teleworking: men work from home just as frequently as women. Furthermore, the majority of the people in question are involved in activities demanding some qualifications and have often had a higher education or training (engineers, biologists, consultants, IT specialists, translators, etc.). Several of those questioned emphasised that they would only consider taking on creative tasks for telework, where the result was more important than the time it takes to achieve it.

Typical activities in the sales field are also suited to a mobile work-style, in particular because in such cases contracts can often be drawn up on the client's premises. During their survey, the Lausanne project group only rarely came across the 'classical' form of teleworking as described in the literature, i.e. mostly part-time work done by women and involving routine secretarial tasks (correspondence and book-keeping).

### A grey-zone phenomenon

Teleworking has become an established fact namely among management employees who exploit the freedom allowed them. This makes it well nigh impossible to make a survey of out-of-office working with any precision. It is often an informal arrangement: a qualified employee stays at home for three days in order to finish a report without being disturbed; a colleague allows himself a Monday off after having spent the whole weekend working at home on his computer, and so on. Such occurrences are quite common among highly qualified employees in academic circles or in journalism.

Hardly anyone who can be included in this grey zone of mobile work, however, would describe him or herself as a teleworker, since he or she is taking advantage of a creative freedom which is not officially sanctioned by the employer. An estimation carried out in 1998 for various EU countries provided an outline of the grey zone of informal working away from the office. If, however, this informal telework were to come under the umbrella of definitions and regulations the freedom which makes it attractive and worthwhile would be lost.

### Flexible structures for an innovative image

The debate over desk-sharing in particular indicates that the decision to introduce a mobile work-style is not least connected with the desire to create an innovative and efficient company image. One of the two firms that were questioned in the qualitative survey on desk-sharing organises its employees into various groups for each project, the groups being made up of different people each time. With the exception of those involved in secretarial and accounting tasks all the employees are obliged to clear their desks and work-places when they leave each evening. The employees function in a context that is 'unstable' from various points of view – the composition of their current group will change and they do not have a fixed work-place – which puts them under constant pressure that is aimed at improving efficiency. In this situation, desk-sharing is an expression and a means of improving productivity and the firm's competitiveness.

Whether to look for a new job or to take the plunge and become self-employed? This was the question a young couple asked themselves after the husband, a computer scientist, lost his job. The two of them decided to try their luck, invested all their capital in a small computer firm and sold support systems and software, from their home at first. While the husband works mostly outside the home, visiting customers, his wife develops data bases and individual applications at home. As soon as their children are a bit older she hopes to be able to work on a regular basis. Their customers are satisfied with the service they provide and their mini-firm's good reputation is leading to new contracts. After just one year a third person has been taken on. All three complete their tasks independently, meetings for exchanging information and discussing issues take place one or twice per month. Today they are happy with how things are going, although the early days were hard; 'If I had to start all over again I don't think I'd have the strength' says the doubly burdened mother and founder of the company.

It is those firms which show some characteristics of innovative skills that are successful not only in desk-sharing but also in teleworking. They are particularly competent in their field, they are notable for their flat and flexible hierarchy, they appreciate using ideas suggested by employees and do not hesitate to test new theories on a trial-and-error basis. In addition, the employees are free to organise their work as they wish.

### Result-oriented work control, demanding collaboration

Since immediate personal contact is not available when people work away from the office there is no possibility of checking employees' work directly. This necessitates new types of collaboration and human resources management. It is surprising to note that, during the in-depth quality interviews, even representatives of firms who have (so far) not chosen to offer their employees the possibility of working from home did not mention lack of control as a reason for rejecting the idea of teleworking and other forms of mobile work. This was borne out by the answers given on the questionnaires sent out by the Solothurn project group: the most common reason given for not introducing teleworking was that it was not suitable for the type of work involved (66.2% of the answers sent back). The second most common reason (22.7%) was high initial cost. Any management problems were only mentioned at the end, and only in 2.6% of the answers. In relation to teleworking, the lack of importance senior employees attach to the need to check their staff's work could also, under the circumstances, be due to the fact that today it is mainly creative activities which fall into this category and which are essentially judged on the result rather than how (or in fact where) it is arrived at.

According to the Lausanne project group's quality interviews in particular, it was considered a disadvantage that a common company culture and a feeling of belonging were difficult to communicate when employees only come into the office sporadically.

It is also noticeable that during the quantity interviews it was the junior managers, i.e. those standing more or less directly between an employee and senior management, who voiced the strongest reservations about teleworking. Their critical attitude could be seen as an indication that they feel the most threatened by a system which is said to encourage a flatter hierarchy.

Finally it is also interesting to note that in firms where it has been introduced, teleworking is generally considered a more positive development and of greater potential than in firms which have not (yet) had any first-hand experience of the system.

### Lack of strategies

Whether a firm decides to introduce teleworking or not should depend not least on the initiative of individual employees – in management or lower down the hierarchy – and thus be subject to a degree of chance, as has been shown by the results of the quantitative survey. It was seen that the introduction of teleworking was rarely the result of strategies adopted by a company; firms which had introduced teleworking had done so not with the intention of increasing sales or making recruitment easier (for instance by being able to recruit qualified staff). Or in other words, as a rule teleworking is introduced only if there is an obvious advantage (for example, to optimise operational procedures) or to meet the demands of an interest group (staff or clients). In conclusion it can be said that teleworking is introduced not so much as a part of a strategic plan but as a reaction to outside pressure.

The results of the qualitative interviews carried out by the Lausanne project group provided the following picture, however. In individual cases teleworking and desk sharing are indeed introduced for tactical reasons, be it to give the firm an innovative image or to take on expensive and expert staff sporadically and thus to demonstrate a competitive advantage through greater flexibility, for example.

After the birth of her first child an employee in a pharmaceutical company asked about the possibility of working partly from home. She was told that she could work 60% in the laboratory and 20% at home. This young biologist is involved in research projects where teamwork is an important aspect: she uses her time at the firm mainly for contact and discussions with her colleagues, while she gets on with her creative work and writing reports at home. Thanks to her role as staff representative she also has plenty of contact with her colleagues. 'Since I enjoy research work far more than administrative tasks I don't have lots of ambition to climb up the hierarchical ladder. If I did I'd perhaps have to spend more time in the office' she says. While she is given a good deal of support by her immediate boss the Personnel Department are not too keen about her 'split-shift' work-style. Throughout the company there are only between 3 and 5 people who work partly at home and there are no plans to introduce this system on a general basis.

### Little need for legislative changes

Many legal questions concerning teleworking are covered by articles of private law which already apply to traditional work forms (employment contracts in general, cottage industry and contractual work). Questions concerning protection of health and responsibility would need to be covered by a more systematic legislature if mobile work were to become more widespread.

Private labour laws are flexible enough to take into account the specific requirements of teleworking, since such regulations can be applied regardless of *where* the activity is carried

Teleworking was introduced at the Federal Chancellery's translating service some time ago. The texts to be translated are sent to the translator at his or her home by e-mail. The translations are sent back to a central server so that the person responsible at the Chancellery can check whether the texts are delivered on time and whether the invoices are correct.

out. It must be said, however, that teleworking changes the characteristics of traditional employment conditions, namely in employee control. The situation of teleworkers is similar to the basic situation enjoyed by self-employed people, in that teleworkers work more independently and plan their working day as they wish. In addition, in the case of teleworking the employer has no guarantee that a certain task will in fact be carried out by the person who is supposed to do it.

Under public law many questions remain unanswered. According to labour laws the maximum number of hours worked per day is fixed, breaks are compulsory and working at night and on Sundays is forbidden. These legal requirements suggest that obligatory work schedules should be laid down for te-

leworkers, which would of course conflict with their most important requirement which is to be free to plan their working day and use their time in a way that suits them best. For Bernard Pulver, the author of the legal analysis, it would be very difficult to forbid teleworkers to work at night and on Sundays. These regulations are intended to protect employees from excessive demands made by their employers, not to protect them from themselves by restricting their freedom. The ban on night-time and Sunday working is not aimed at maintaining public order, or else it would have to be applied to the self-employed too. An employer may not, however, on any account, oblige a teleworker to work at night or on a Sunday by imposing too short a deadline for a given task.

It may be that new fiscal legislature will be needed concerning tax deductions for working facilities at home. Although this question is basically covered by cantonal tax laws, experience shows that the authorities apply those laws in varying ways.

The authors of the TA study have identified a possible need for action regarding the consistent application of existing labour laws to teleworking. It may also be necessary to adopt protective measures for irregular part-time employees involved in teleworking. In this respect one cannot ignore the risk that an employer may well shrug off his social responsibility by putting his employees on a more or less self-employed footing and thus undermine their social security status.

Thanks to teleworking employees are becoming more and more mobile – even national borders are barely an obstacle to mobility today. Tax returns are presenting a more complicated problem, however. A teleworker working in Switzerland for an Austrian company and earning Sfr. 50,000 per year must pay tax in Switzerland. A teleworker who earns Sfr. 80,000 per year in Switzerland as well as working 30% in a telework centre in France where he earns Sfr. 40,000 per year will be taxed in Switzerland only on his income of Sfr. 80,000, but the rate of tax and the corresponding progression will be based on his total income of Sfr. 120,000. And in addition, he will be liable for tax in France on what he earns there.