No. 55 / July 2023

research

Observatoire social européen

paper

Digitalisation without social dialogue in France: the ambivalent effects on the job quality of public services workers

Nicolas Fleury
Antoine Rémond
Alice Rustique

www.ose.be

rue Paul Emile Janson 13 / 1050 Bruxelles / tél.: 32 (0)2 537 19 71 / fax: 32 (0)2 539 28 08 / e-mail: info@ose.be

Digitalisation without social dialogue in France: the ambivalent effects on the job quality of public services workers

Nicolas Fleury, Antoine Rémond and Alice Rustique
Secafi - Groupe Alpha (France)
E-mail : Nicolas.Fleury@groupe-alpha.com

This Working Paper was produced in the context of the European Commission-funded project 'The impact of digitalisation on job quality and social dialogue in the public services – DIGIQU@LPUB', which is being coordinated by the European Social Observatory (OSE). The European Commission assumes no responsibility for facts or views expressed in this publication, or their subsequent use. These are the sole responsibility of the authors.

The OSE Working Paper Series takes the form of three different publications available in English or French. The 'Research Papers' are intended to disseminate results of objective research and analysis. The 'Briefing Papers' contain readily accessible and regular information on a variety of topics. The 'Opinion Papers' consist of concise policy-oriented opinions and recommendations for policymakers.

Referring to this publication: Fleury N., Rémond A. and Rustique A. (2023), Digitalisation without social dialogue in France: the ambivalent effects on the job quality of public services workers. DIGIQU@LPUB project. OSE Working Paper Series, Research Paper No. 55, Brussels: European Social Observatory, July.

With the financial support of the

European Commission

Table of contents

EXECUTIVE SUMMARY

Introduction

This Research Paper analyses the impact of digitalisation on job quality and social dialogue in France in three public service sectors: electricity suppliers, public administrations and hospitals. This report is part of a larger European research project on 'The impact of digitalisation on job quality and social dialogue in the public services (DIGIQU@LPUB)', led by the European Social Observatory (OSE) and funded by the European Commission. This work also benefits from support from the European Public Services Union (EPSU).

In recent years, public sector workers are increasingly using connected organising tools and methods that shape the way their job tasks are implemented, scheduled and monitored. In this context, the project aims to: (a) assess the impact of digitalisation on aspects of job quality, from the perspective of trade unions but also of public service workers themselves; and (b) investigate how the challenges and opportunities for job quality generated by the digitalisation of work in public services are addressed in social dialogue (at national and sectoral levels) in selected EU Member States.

The main sources of data used to address the research question include interviews conducted with trade unionists; sectoral focus groups with field workers; and data from an original web survey,

Background information

France ranks 12th overall among the Member States in the Digital Economy and Society Index (DESI) and is situated around the European average in 2022. The digital skills of the French population are better than the EU average, while France scores around the EU average in terms of digital public services.

In the electricity sector, digitalisation has been underway for the past twenty years. The launch of the Linky meter, the increase in electricity needs and the decentralisation of the production system have accelerated this digitalisation process and have given increasing weight to data and data processing. Employees' day-to-day work in the sector has evolved and become digital, in line with the modernisation of electrical systems. In particular, the day-to-day work of technicians has evolved considerably with the systematic use of digital work orders. The tablet has become their main tool for work, instruction, documentation, data entry and reporting. In the HR departments, administrative procedures and employee files have been completely digitalised. In the call centre department, employees now work with interactive voice servers. At the same time, emails and instant messaging tools are used far more, teleworking has been extended and artificial intelligence, virtual reality and robotics have begun to emerge.

In the public administration sector, digital transformation has been implemented through several State-level reforms since the late 2000s. This digitalisation takes different forms, including: online services and information to the public, interconnection between public services and departments, shared platforms for staff, computers/tablets/smartphones, teleworking and videoconferencing. Three-quarters of the relationships between the French population and the public institutions now take place digitally. Also, nearly one out of every two French citizens use the 'FranceConnect' unique identifier for digital public services.

Digitalisation in the (public) hospitals sector has developed in a context of decreasing resources. The widespread use of digital tools (computers and tablets), e-mails and intranet have enabled innovations (telemedicine and remote monitoring) which have offset the reduction in resources. A wide variety of software has been deployed, differing from one hospital to another and even from one department to another, creating operational rigidities (compatibility problems, training problems). Hospital civil servants are the public sector officials who telework least often. The administrative services are the only services within the hospital structure that can work remotely (one day per week or less).

Key findings

In terms of work content, jobs have developed very differently, but some important changes have occurred since the introduction of new digital processes/software/tools. New tasks (for instance related to software applications) have been added to existing jobs, which regularly include new administrative and data entry tasks (reporting for example), increasing the workload. In the electricity and hospital sectors, digital planning of the day and digitalisation of files enables optimisation and segmentation of tasks; each task is associated with a specific set time and contingencies are not included. Work intensification is observed for many jobs/professional positions in the three sectors.

In the three sectors, social and hierarchical ties have been loosened due to communication channels involving e-demands, e-mails or smartphones, often detrimental to general relationships between employees. Direct and physical interactions have very significantly declined, with a serious impact on work collectives.

The three sectors share some common history as well as key differences in the most recent period, explaining variations in collective bargaining activity. Until the mid-2000s, the electricity industry in France was part of the public sector, and as such was under the specific collective bargaining framework of the public services, which was at the time very limited in scope. Most recently, electricity has become part of the private sector and the scope of collective bargaining in the sector has been enlarged as a consequence: the trade unions make many demands, and there is intense negotiation on many topics (pensions, salaries, workforce and skills planning, etc.). In

the public administration and in the hospital sectors, the scope of collective bargaining was very limited until quite recently. Only in 2019/2021 did some important changes to the social dialogue bodies take place: the scope of bargaining has been enlarged, and agreements in the public service have become binding.

For now, digitalisation is a relatively minor topic for collective bargaining in the public sector. In the electricity sector, the two main companies have concluded very few agreements related to digitalisation. The only exceptions are on the right to disconnect, teleworking, and monitoring the effect of teleworking and digitalisation. Neither is digitalisation a significant topic of social dialogue in hospitals and the public administration: the only national agreement concluded on the topic is the 2021 agreement on teleworking in the public service.

Conclusion and policy pointers

The research identified a number of recommendations as to how to channel the impacts of digitalisation on job quality and on social dialogue and ensure good related practices.

At the national level, a first recommendation would be to ensure that the implementation of new digital tools or approaches is jointly led by workers. An impact assessment on the consequences for employment must also be conducted before the implementation of new tools. The anticipated impacts must be taken into account in skills and career paths.

In terms of IT devices, various suggestions have been reported for the public administration sector, that also seem relevant to the hospital sector: (a) creation of a secured public IT hub at national or sectoral level to benefit workers (implementation of common digital tools, in particular software, national public 'Cloud', remote access, videoconferencing); (b) greater harmonisation of digital software between administrations, or even within a given administration; (c) a reflection on data and artificial intelligence (AI), which is becoming more and more central (issues of data security, ownership, respect of the users' private life). These questions refer broadly to fundamental rights and democracy.

It is also important to promote digital acculturation at different levels:

- Support and training of workers and managers to render work groups more effective in a digitalised context.
- Acculturation of political leaders, senior administrative officials (and employers in general) and particularly union representatives to the challenges of digitalisation. They should be given customized training, to remedy their lack of expertise on digitalisation and 'lagged' appropriation.

- Possibilities for direct contact between staff and users of public services (or re-opening of certain local administrations) should be addressed, for better inclusion of all sectors of the public.

More specifically on social dialogue, it seems important to:

- Significantly increase the amount of information-consultation on digitalisation in the employees' representative bodies.
- Go beyond a 'formal' social dialogue, with a need for a 'change of level' in collective bargaining and a widespread culture of negotiation among stakeholders. More generally, there is an increasing need for permanent social dialogue on digitalisation, to enable adaptation to a context of rapidly changing technologies.
- Extend the collective negotiations on digitalisation beyond 'teleworking' and the 'right to disconnect'. There must be an open and direct discussion of the impact of digitalisation on productivity gains and their distribution (and the link to work quality) between trade unions and the public employer.
- Give trade unions the capacity to negotiate the time set for a given task, in jobs where this applies, as this perspective currently seriously reduces autonomy and increases supervision.
- Include the new occupational diseases linked to digitalisation (such as burnout) in the list of recognised occupational diseases.

At the European level, it is important to note that a European agreement on digitalisation for central and federal government was signed by the social partners on 6 October 2022 and will have to be transformed into mandatory legislation by the Commission. This agreement should then be extended beyond the central administration, to all officials or employees of the public and private sectors providing a public service, in order to raise the level of protection against negative consequences of digitalisation in Europe. The goal of further adaptation of civil service working conditions (in a broad sense) to digitalisation is of prime importance.

Social Europe still needs to be built in the area of digitalisation. European trade unionists should deepen their involvement to increasingly weigh in on this topic at the European level, which will further impact the Member State level. This seems essential if digitalisation is to be of service to the population at large and to workers in particular.

SECTION 1. INTRODUCTION

This Research paper presents the results of the national study carried out as part of the European Commission-funded DIGIQU@LPUB ([1]) project, which studies the impact of digitalisation on job quality and social dialogue in the public services in eight European Union (EU) countries: Denmark, Finland, France, Germany, Hungary, Italy, Poland and Spain. The study is led by the European Social Observatory (OSE) and is funded from the European Commission's budget line 'Improving Expertise in the field of Industrial Relations'.

The project aims at improving understanding of the impact of digitalisation on job quality in the public services, by highlighting the perceptions that workers themselves have of the changes generated by digitalisation in the performance of their daily tasks. The study focuses specifically on three sectors: public administration, electricity and the hospital sector. The project also aims at raising awareness among trade unions and decision-makers of the consequences of the digital transition of work for the public services. Specific objectives include the following:

To assess the impact of digitalisation on job quality from the perspective of trade unions, but also of public service workers themselves. The intention is to identify the changes affecting the nature, content and implementation processes of the tasks involved in the jobs of public service workers, as well as the outcomes for the workers themselves.

To explore how the challenges and opportunities for job quality generated by the digitalisation of work in public services are included and addressed in the dynamics and practices of social dialogue at national and sectoral levels in selected EU Member States.

To enrich the debate about this topic among social partners and to provide advice, through policy recommendations, to both European and national trade unions and decision-makers, on suitable ways to address the digital transformation of work.

Three main sources of data are used to address the research questions: interviews conducted with trade unionists; sectoral focus groups (a small number of carefully selected people who discuss a given topic) with field workers; and data from the original DIGIQU@LPUB web survey ([2]) (DGQS) conducted by the European Social Observatory. Whenever claims in the text below draw on

1. A more elaborate project description, in-depth country case studies and analytical reports can be found on the project website: https://www.ose.be/digiqualpub/
2. For France, this online survey generated 167 responses from the electricity sector, 91 responses from the public administration sector, and 380 responses from the hospital sector. The results of the survey are not necessarily statistically significant but nevertheless give an insight into workers' personal experiences, to complement and contrast with the trade unions' visions.

statements from a focus group, the source mentions 'FG X'; the equivalent reference to an interview is 'INT X' (see the Annexes).

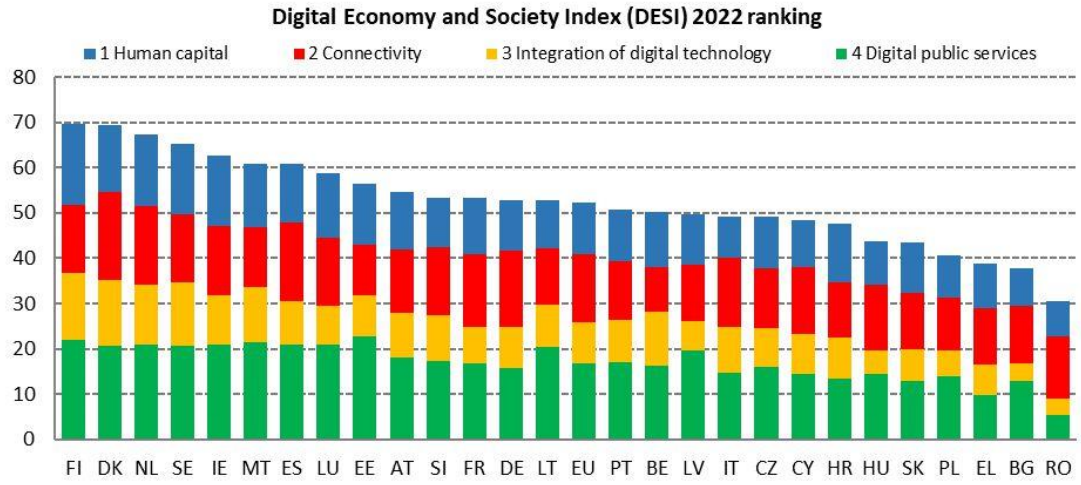
SECTION 2. Setting the scene

2.1 State of play and national strategies

2.1.1 Latest DESI Index and overview of digitalisation in the economy

In 2022, France ranked 12th among the EU Member States in the overall Digital Economy and Society Index (DESI), with a score of 53.3, above the EU average (52.3) (European Commission, 2022), as shown in Graph 1

Figure 1. Digital Economy and Society Index (DESI) ranking for EU countries (2022)



Source: European Commission (2022).

This intermediate position is reflected in the digital skills of the population, equivalent to the EU average once again (with 62% of the population at basic skills level and 31% at advanced skills level). France performs better than the EU average in terms of digital public services, but worse on 'connectivity' and 'integration of digital technology' (Table 1). Most of the sub-components of these different dimensions have improved in recent years.

Table 1 DESI (global and sub-dimensions) for France and the EU (2021)

DESI 2021	France		EU
	rank	score	score
Global index	**12**	**53.3**	**52.3**
Human capital	12	49.9	45.7
Connectivity	5	64.2	59.9
Integration of digital technology	20	31.9	36.1
Digital public services	15	67.4	67.3

Source: European Commission (2021).

The French *Institut national de la statistique et des études économiques* ([3]) (Insee, 2019) provides a global perspective on digitalisation in France: in 2017, 84% of households have an internet connection at home, twice as many as a decade ago. It also observes that information technology (IT) equipment and practices are becoming more 'mobile'. 80% of people have used the internet in the last three months leading up to the survey, 20% of the population have no digital skills at all. A surge of digital platforms and digital trade is observed in the economy. At this time, digital sales already accounted for 30% of turnover for enterprises of 250 and more employees (this turnover has doubled in the period 2007-2017).

Based on the Working conditions survey, the Employment orientation council (COE, 2017) confirms that digital technologies are very unequally distributed among the economic sectors. The three sectors under scrutiny exhibit quite advanced levels of digitalisation. The energy sector is the most digitalised among the three sectors: 80% of businesses have 'moderate to intense digitalisation'. Administration (grouped in the same sector as technical and scientific activities) is slightly less digitalised, with a 75% level of moderate to intense digitalisation. The health sector (including education and social action) displays a 63% level of 'moderate to intense' digitalisation.

2.1.2 Digital national strategy

For more than a decade, France has implemented numerous initiatives related to the digitalisation of the economy, including the following:

France created the digital platform PIX ([4]), launched in 2017. PIX provides companies with a tool for auto-evaluation of digital skills.

3. National Institute of Statistics and Economic studies.
4. To implement the (non-normative) *European Digital Competence Framework* (or *DigComp)*, which encompasses five different types and eight different levels of digital skill. PIX has no specific meaning, only a probable link to 'pixel'.

A *Digital Plan for Education* was established in 2015 to prepare schools and young people for *'the challenges of a changing world',* notably offering funds to introduce new ways of digital-related learning.

The *Grande Ecole du Numérique (*School of digital technology*)* brings together accredited training and certification bodies related to the digitalisation of the economy. It is equivalent to a training network, aimed at inclusivity and training for job opportunities in digital professions.

Some 50 *Occupation and qualification Campuses* were set up in 2013 to promote local development initiatives. 10% of them depend directly on the digital sector.

The *Competitiveness clusters* strategy was launched in France in 2005 and consists of State-accredited networks of businesses and research institutions aiming to attract funds through participation in a common project in the innovation and advanced technologies sectors. In 2020, there were 55 clusters in France (Grandclement, 2020), including some specifically related to digital technologies or biotechnology.

Regarding the response to the COVID-19 crisis, the French Recovery and Resilience Plan (RRP) has proposed investments which require a €40 billion participation from the EU, of which €8.4 billion are targeted at the country's digital transition (French government, 2021a). The 2020 RPR (*France Relance*) already listed various priorities related to digital sovereignty (supporting key digital markets), digital upgrading of small and medium companies, digital upgrading of the public administration (for which a €500 million budget is planned) and digitalisation of training and investment in digital skills. The latest 5-year investment support plan for the economy, *France 2030* (French government, 2021b), presented in October 2021, plans to use €30 billion in funds to develop industrial competitiveness and technologies of the future, of which an important part should relate to digitalisation projects.

2.2 State of play at sectoral level

2.2.1 Overview of the three sectors

The electricity sector was until recently organised as a public monopoly. *Électricité de France* (EDF), created in 1946, was responsible for the production, transport and distribution of electricity. In 2008, when the sector was opened to competition (as a result of the EU competition rules), EDF split and the electricity sector is now divided into four sub-sectors: production (the main actor is EDF), transport, distribution (the main actor is ENEDIS ([5])) and trade in electricity (with many

5. Gestionnaire du réseau de distribution d'électricité (Supply network manager).

private actors). In 2019, these four sub-sectors taken together accounted for 1.4% of total value added in the economy. For the purpose of this research, we will focus on the production and the distribution sub-sectors (EDF and ENEDIS).

In 2020, total employment in the electricity sector amounts to around 124,000 employees, representing around 0.4% of total employment in France. The production and the distribution sectors account for 49,000 and 61,000 employees respectively.

At the same time, the 'electricity distribution' sub-sector lost jobs over the whole period 2006-2020 (-25%). ENEDIS, the main actor in the sector, also lost jobs over the period. The management of ENEDIS attributed the job cuts to the development of digital and teleoperated activities (which notably reduce meter reading occupations), the reduction of management staff, and the closure of small local sites due to the increasing importance of the internet at work. Technicians represent 50% of employment in the gas and electricity industries; managers and operational workers make up 35% and 15% respectively (Opco 2i, 2020).

The 'public administration' sector is made up of national (or State) public services, local public services (or regional authorities), and public hospital services. The public hospitals will be discussed separately as the 'hospital sector' in this research paper. The total number of jobs in the public (national and local) administration amounted to 5.66 million in 2019 (4.47 million not counting the public hospital services). This represents around 21.2% of total employment in France for that year. Employment in the public administration has slightly increased over the last decade, with an additional 171,000 jobs, representing a +3.1% growth over 2011-2019. There has been a reduction in the number of civil servants (and of state-aided contracts) and a well-documented increase in the number of contractual agents (see Table 2).

Table 2 Evolution of employment structure in the public administration (2011-2019)

Public service	2011					2019				
	Public servants (incl. military)	Contract agents	State-aided contracts	Other status	All (1)	Public servants (incl. military)	Contract agents	State-aided contracts	Other status	All (1)
National public services	75.8%	14,8%	2%	7.3%	2,446.2	73.8%	18.8%	0.6%	6.9%	2,506.9
Local public services	74.9%	19.1%	2.7%	3.3%	1,881.8	74.6%	20.7%	1.7%	3%	1,968
Public hospital services	72%	16.9%	1.4%	9.7%	1,145.2	68.1%	20.8%	0.4%	10.6%	1,189.5
All public administration	74.7%	16.7%	2.1%	6.4%	5,493.2	72.9%	19.9%	0.9%	6.3%	5,664.4

Source: Insee, Système d'information sur les agents des services publics.

Note: data given in thousands of jobs.

The hospital sector is organised in two parts, public and private ([6]). It consisted in 2020 of 2,989 health establishments with full hospitalisation capacity (counted in beds) or partial hospitalisation capacity (DREES, 2022): the public sector comprises 1,347 establishments (geographical entities). Between 2013 and 2020, the number of public or private geographical entities fell from 3,125 at the end of 2013 to 2,989 at the end of 2019 (-4.3%), as a result of reorganisation and restructuring.

Over the last decade, the organisation of healthcare provision has evolved: the continuous decrease in full hospitalisation capacity has been reflected in a significant increase in the number of partial hospitalisation places. In 2019, 1.36 million workers were employed in the hospital sector (DREES, 2022). The public sector employs 77% of the hospital sector's salaried workforce (1.1 million workers), with the remainder in the private sector (309,000 workers). In 2019, hospital employment represented 5.3% of salaried employment and 4.7% of total employment in France. The number of salaried medical staff (including interns, acting interns and midwives) in the public hospitals was 139,000, i.e. 84% of the employees employed in the entire hospital sector. The

6. In this study, we focus only on the public hospital sector. The trade union representatives interviewed are all from the public hospitals, as are the focus group participants. Only 5% of the DGQS (web survey) respondents work in the private hospital sector.

number of salaried non-medical care staff in the public hospitals stood at 638,000 (nurses, nursing assistants, other healthcare personnel). The number of salaried non-medical non-healthcare staff in the public hospitals was 273,000.

Since 2010, the number of workers in public hospitals has been levelling out or declining: the annual growth rate fell from 1.7% in 2010 to 0.8% in 2016. In 2016, the number decreased by 0.13%, for the first time since 2003, a decline which accelerated in 2017 (-0.18%) and 2018 (-0.28%, -2,916 workers). This decline concerned exclusively other healthcare personnel, the number of which fell by 7% between 2015 and 2018, due to the decrease in the number of assisted contracts in the hospital civil service. The number of workers in other categories rose slightly.

2.2.2 Patterns and history of digitalisation in the three sectors

The electricity sector

The electricity sector faces numerous challenges, including the climate emergency and the energy transition. The integration of renewable energies into the electrical grid has disrupted the architecture of the system because most of these energies are intermittent and located all over the French territory. The increased number of production points is decentralising the electricity system. New uses are also emerging as well as some important new market developments: electrification of the economy, e-mobility, smart cities, storage of electricity, peer to peer transactions and 'vehicle to grid' architectures ([7]). These features make it more complicated to manage the balance between electricity supply and demand. In response to this complexity, but also to modernise the network (optimise the allocation of electricity and improve the efficiency of steering), electrical networks are becoming 'intelligent'. 'Smart grids' are being developed, Linky meters, artificial intelligence (AI), robotics and drones are being implemented. Energy is becoming '4.0' (du Castel, 2018).

Linky meters follow in real time the electricity consumption of nearly two-thirds of French homes. They allow for automatic remote operations and diagnostics. All data is analysed and used by the network internally, to plan and evaluate the grid in order to make it more productive and optimise the balance between consumption and production.

The development of the intelligent network has encouraged the electricity sector to engage in a movement towards big data (Derdevet, 2017), as the sector is more and more data-driven. Two interviewees from ENEDIS (electricity distribution) confirm that the implementation of Linky meters

7. Vehicle to grid (V2G) is a technology that allows the energy stored in the battery of an electric vehicle to be drawn out and redistributed to the electrical grid.

has greatly accelerated the digitalisation of the sector thanks to the real-time digital data they provide (INT6 and INT10): 'digital work orders' have become an increasingly important part of technicians' daily lives. Interviewees observe that other forms of digitalisation have gradually entered the electricity sector: new IT media, artificial intelligence, robotics, augmented reality, programmed maintenance, internal HR procedures, etc. Regarding digital work orders, the interviewees from ENEDIS explain that every morning, technicians receive digital work orders on their tablet with precise instructions on the work to be carried. At EDF, similar digitalised work patterns are seen: some respondents (INT9, INT8) point out that in EDF's nuclear division, the technicians responsible for plant maintenance receive precise information on the acts to be carried out directly on their tablet, with the associated documentation, procedures and tasks (these files are called 'e-DRT', work completion files). In both cases (electricity distribution/production), the information provided to technicians on the actions and techniques to be carried out for each intervention comes from a large database, which adds to the empirical and documentary data. At ENEDIS, respondents report that the technical actions are listed in a 'time ranges' database, which associates each work unit with a specific timeline for the execution of the task (INT10 and INT6).

Regarding new IT media, over the past five years, digitalisation in the electricity distribution sector has resulted in the increased use of digital media (smartphones, computers, tablets) (INT6). The results of the DIGIQU@LPUB survey (DGQS) confirm this view: 99% of respondents regularly use such media. For example, technicians receive digital work orders daily on their tablet and use it to remotely program a meter. Depending on the job, employees always have access on their smartphone, tablet and computer to various applications, which are specific to each job, the 'business applications'.

Two interviewees from EDF note the increasing use of applications and information systems on employees' computers, smartphones and tablets (INT8 and INT9). They mention email applications, instant messaging applications (such as Teams and Skype), online discussion tools such as WhatsApp or Telegram and organisational software such as Outlook calendar. According to DGQS, 92% of respondents use IT media to communicate with colleagues and internal or external departments. The project manager and the technician interviewed in the FG1 also confirm that they use tablets and computers respectively for 100% and 50% of their daily work.

In addition to standard applications common to all, there are numerous 'business applications' specific to each business or task. 76% of respondents to the DGQS use online applications to exchange with the partner network. For example, technicians use several applications during the day on their tablet to enter feedback data and consult documentation. INT6 also cites the example of employees at reception desks and call centres who, since 2021, have been working with telephone applications integrated into their computers. These tools are interactive voice servers

and telephone dispatchers. They initiate the conversation on the computer tool with the operator and distribute the incoming calls.

The same respondent also notes that other information systems have been progressively installed for employees at ENEDIS reception desks (INT6). These are information systems that control workflows (workflow management software such as KIAMO and INJIXO). Workflow management tools calculate and anticipate the activity over the day and adjust the workforce according to the activity. Thus, with these 'workflow management' information systems, employment evolves according to schedules and activity. 76% of DGQS respondents say they use digital media to measure/collect/organise/retrieve data.

Artificial intelligence (AI) and robotics begin to be present in several jobs in the electricity distribution sector. As one respondent put it: 'artificial intelligence is on our doorstep' (INT10). Other interviewees note that AI is being used to dispatch work requests (INT6 and INT10). More specifically, in the ENEDIS 'work intention request' service (dealing with the digital planning of technicians' interventions), some types of AI software are being used. When there is an indication that an intervention is required by ENEDIS, the software detects it and analyses the nature of the incident. Then, it sends an intervention request directly to the technician's tablet, according to the nature of the incident and the technician's qualifications.

In the human resources department of EDF, robotisation has taken the place of low-value activities (checking payrolls on tables). The robots compare the monthly payrolls and detect differences in remuneration on certain pay slips (INT7). There is also a trend towards digitalisation of administrative files and automation of HR procedures: employees who have a question about their administrative rights now must make e-requests on a portal, whereas before they would contact a HR employee directly. All employees' paper files have been digitised (INT10 and the human resources employee in FG1). In 2016, the EDF HR department digitised more than 70,000 administrative files of employees, with the aim of standardising employment contracts (INT7).
Both the electricity generation and distribution sectors have accepted the practice of telework ([8]). Eligible employees are entitled to two to three days of telework per week. 88% of respondents say they telework partly or totally. Among the respondents who telework, most (42%) telework two days a week, 32% telework one day a week and 19% telework three days a week. Only 1.3% telework more than 3 days a week (DGQS).

8. EDF and ENEDIS referred to telework in the TAMA ('Travailler autrement, manager autrement') agreement for EDF and TAUTEM ('Travaillons Autrement et Transformons Ensemble nos modes de Management') for ENEDIS.

The public administration sector

In the public administration, the digital transformation has been taking place since the late 2000s, through different State-level reforms (digitalisation being only one part of a more global strategy). These were the Révision Générale des services publiques (RGPP, or General Revision of the Public Services), Modernisation de l'action publique (MAP, or public policy modernisation), and the Action publique 2022 (2022 Public policy) programme ([9]). These reforms aimed to promote digitalisation of the public services, the transformation of the State information system and an emerging 'Platform State' ([10]) (ENA, 2019). In these approaches, online information, online services and user-participation are seen as a series of 'steps', and various plans are implemented to modernise and enhance the digitalisation of the administration. Commonly, digitalisation of the public administration may take different forms: online services (including administrative forms) and information to the public, interconnection between public services or departments, shared platforms for the staff, computers/tablets/smartphones, telework and videoconferencing, etc. In particular:

- The most common 250 administrative procedures had to be digitalised by May 2022.
- Since 2016, France Connect allows the public to use a unique identifier which connects them to different central and regional administration services as well as other public services (taxes, municipalities, national health insurance, etc.).
- A future 'official's digital backpack' is being designed, which aims to provide public officials with easy means to work remotely, notably through videoconferencing and instant messaging solutions.

According to government sources, three-quarters of the relationships between the French population and the public institutions now take place digitally. Also, nearly one out of every two French citizens use the 'FranceConnect' unique identifier for the digital public services. During the COVID-19 pandemic, some specialised taskforces from the digital Inter-Ministry directorate (Dinum) advised the State IT services, to encourage technical and organisational changes regarding digitalisation in the ministries.

9. With differences in measures and implementation, these three civil service reforms pursue similar objectives: to improve the quality of services, modernise the civil service, and contain government spending.
10. As underlined by Jeannot (2020), this concept of the 'Platform State' (« *Etat Plateforme* ») is inspired by O'Reilly (2011), who conceptualized 'Governance as a Platform': the State's open data and applications enable possible innovations brought by private persons or institutions, which could benefit the economy and the country's modernisation.

According to the interviews and the focus group FG3, many technologies/digital approaches can be seen in the public administration, including: emails ([11]), business applications, telework, videoconferencing tools, online training, remote connection (access), user-website/agent-website for administrative formalities, development of big data, digital spy devices, limited-access (for staff and users) 'social' networks, internal networks (for officials), 'chat' tools for officials and users, etc.

DGQS confirms intensive use of mobile devices and communication tools (for 88% of respondents) in public administration. Typically, 93% of respondents from this sector use digital devices to communicate with colleagues while 80% use them to plan the performance of their tasks. Similarly, all respondents use e-mails and 79% of respondents use web-based applications to exchange with their network of work partners. It is to be noted that only 57% of respondents consider that digitalisation is good for the public administration service in general (41% see it as beneficial for society).

The DGQS also confirms the high percentage of teleworkers in the sector (75% of respondents work at least partially at home, and 72% work remotely from another place). The average number of days of telework in the week is limited, as 81% of respondents telework only 1 or 2 days a week.

The pandemic triggered rapid acceleration in the digitalisation of the public administration. In particular, the periods of lockdown underlined the importance of the 'service continuity principle' in the sector and many civil servants had to telework, with a surge of telework in 2020 and 2021 compared to 2019 (Cour des Comptes, 2022). In January 2022, the Minister of transformation and public service estimated the number of State civil servants who can telework at 400,000 to 500,000 (France info radio, 9 January 2022). The participants in the focus group (FG3) explained that telework was not very widespread before the pandemic, and the management/administration was usually not very willing to grant telework to workers ([12]). Yet the administration (directorate) seems to have changed their opinion on telework, notably because of potential gains in terms of office space. One respondent confirms that the pandemic has enabled a major surge in digitalisation, from teleconferencing with phones to videoconference solutions, and a change of perception regarding certain tools (like telework) for many stakeholders, notably trade unions (INT1).

11. One participant in focus group FG3 explains that his department's email inbox *'explodes every day'*. Another one considers that '*it is not possible to respond to all emails'*.
12. Some participants in the FG3 explain that for certain positions/services, some mobile working took place before the pandemic, for a few days a week. A participant underlines that *'The administration has always been, since a very long time ago, very hostile to telework, there is a culture of presenteeism and they consider that it is important that the head of department can see the staff members'.*

Another respondent also considers the pandemic as a booster for technologies and digital tools (videoconference rooms, team 'zoom' accounts, tools such as Teams, the transfer of professional phone numbers to personal phones, etc.) which were previously rarely used, or at least not on this scale: 'COVID has entailed an acceleration of ongoing transformations, changing the ways in which workers interact' (INT2). One interviewee adds that a number of tools monitoring working tools and officials' activity, as well as booking systems for rooms and vehicles, have become more widely used since the start of that period (INT3). In contrast, INT5 reports that in her authority (the public employment service, PES), the pandemic did not have any boosting effect, as telework had been implemented 1.5 months before. This ensured continuity in the payment of unemployment benefits by the PES.

The public hospital sector

As for the public hospital sector, all the trade union representatives interviewed mention that computers and tablets using Wi-Fi and Bluetooth technology have become widespread. These are essential tools for both care and hospital management. In some professions, workers are also equipped with mobile phones if necessary for their activity (e.g. stretcher-bearers, in order to respond to requests as quickly as possible).

All the union representatives report two main digital tools currently used in hospitals: computer software – extended to manage patient information and the different parts of the hospital – and job platforms. The use of e-mail is not yet completely widespread but, in many places, professionals have a professional e-mail address. Intranets within hospitals have also spread massively, and there are also more and more links and flash codes: e.g. in some maternity wards, with shorter stays, there is a flash code to advise the mother (INT 13).

The focus group (FG2) is more nuanced concerning the widespread use of digital tools. The most widely used devices are computers. Nurses also use wireless landline phones, which are subject to certain restrictions, particularly on the phone numbers that can be called. The intranet is used daily (more than the Internet) as well as emails, but more by secretaries than nurses. For nurses, there is often an address for the service and email is used to communicate with management, more specifically to receive information from management. All the participants in the focus group refer to recurring problems with the internal hospital network.

The last five years have been particularly characterised by three phenomena, some of which are linked to the Digital Hospital strategy (2012-2016) and the HO'PEN ([13]) programme (launched in 2022). First, the use of digital tools has spread. These tools have enabled the development of telemedicine and remote monitoring. In a context of reductions in the number of beds, this has, as

13. 'Hôpital numérique ouvert sur son environnement'?

an advantage, made it possible 'to develop more facilities for being at the patient's bedside without being there' (INT11). The drawback is the dehumanisation of care. Second, there has been a systematic transition to computerised patient records. The advantages of these are traceability and reversal of the burden of proof, and the downside is the intensification of work. Third, the wide range of software has led to operational difficulties, as the information system used can differ between several establishments or even within the same hospital.

As one interviewee notes: 'this creates major difficulties: when a patient has to change departments, we don't have the right information in the right place'. In addition, the software has not been developed with professionals. It is designed only by IT engineers. As a result, it is not intuitive enough and is difficult to use for some workers. The same person explains: 'When you are a caregiver or a nurse in the hospital, you are not a computer scientist. We need to have easy-to-access software' (INT13).

SECTION 3. Impact of digitalisation on job quality in the sectors

3.1 The electricity sector

3.1.1 Selected job quality dimensions ([14])

3.1.1.1 Work organisation

Digitalisation and the introduction of new digital tools speed up the pace of work for certain professions. This often leads to increased productivity and time savings, which, however, are not always reflected in a reduction in working time, but rather in an increase in the number of tasks performed by employees.

According to one respondent, digitalisation intensifies work for technicians, but also for other professions, particularly for call centre workers (INT6). For these workers, telephone dispatchers and interactive voice servers are speeding up the pace of the service: the time between two incoming calls has dropped from 30 to 20 seconds.

The same interviewee adds that, for certain jobs, up to 15 applications can be opened on a maximum of 5 screens, which increases the intensity of the work (INT6). The project manager (FG1) explains that the increasing intensity of work comes from the stacking of communication channels, with employees using various channels which do not communicate with each other. The massive influx of e-mails also contributes to the increased work intensity through 'information overload', as well as to the increase in working hours. This view is confirmed by the results of the DGQS: 67% of respondents believe that digitalisation increases the pace and intensity of work.

Digitalisation can also, in some cases, save time and optimise work organisation. According to the DGQS, 58% of respondents believe that digital tools improve their productivity. Managers and even supervisors have 'umbrella' applications that combine all business applications into one, which allows them to organise themselves more efficiently and save time.

Another respondent observes that digitalisation can lead to a gain in productivity and therefore in time, for example the digitalisation in 2016 of the administrative files of 70,000 EDF employees: this has simplified the search for information for employees in the human resources (HR) department. Tasks are simplified and fewer in number, which saves time on specific actions, but again it does not result in a reduction in working hours (INT7). Furthermore, the human resources

14. Other dimensions of job quality have been studied in the full country report of the project: health and safety and outcomes for workers, skills and learning, career prospects and employment security (see the project website https://www.ose.be/digiqualpub/). The selected dimensions are particularly significant for the study of the impact of digitalisation.

employee participating in FG1 notes that the updated versions of certain applications crash regularly. For example, the payroll software crashes every month: when this happens, all digital tools are stopped; the stoppage can last for two or three days.

According to the interviewees, digitalisation leads to an increase in analytical tasks for some employees, at the expense of routine tasks. The DGQS confirms this point: 50% of the respondents find that digitalisation reduces the time spent on routine tasks. One interviewee notes that, in the EDF HR department, analytical and decision-making tasks are more frequent since the digitalisation of employees' administrative files: since this digitalisation, managers perform more advisory and analytical tasks than routine tasks (INT7).

Similarly, another respondent (INT9) explains that assistants are taking advantage of digitalisation to focus on more complex tasks: for example, booking rooms for meetings, a simple and routine task, is disappearing in favour of more analytical, complex tasks with more added value.

Nevertheless, in some cases this increase in analytical tasks contributes to the intensification of the work of certain employees. The robotisation of certain HR ([15]) procedures speeds up the pace of work for employees: 'With the arrival of robotics, these lower value activities, that allowed employees to take a breather and cut back a bit, have disappeared, which increases the intensity of work' (INT7).

Another interviewee (INT8) emphasises that while digital technology has freed employees from certain routine tasks, it has also led to new tasks, which are just as routine, such as the (new) data entry tasks that must be performed when using an application, via reports and feedback. Some employees, such as project managers and foremen, must feed data into the applications on a daily basis, which is new for them.

One respondent confirms that digitalisation has led to new routine tasks for employees, especially administrative tasks. Now, for the past ten years, at the end of each day, technicians have had to enter their working hours and tasks in a digital format, with each task having a specific code (INT10).

According to several interviewees, digitalisation has negative effects on social relations and can disrupt hierarchical relations, leading to an increase in the workload. Furthermore, 44% of DGQS respondents believe that digitalisation reduces cooperation between colleagues.

15. The robotisation of lower value activities such as the search for discrepancies in pay slips.

In particular, due to the digitalisation of documents, especially pay slips, workers have a more distant relationship with the HR department (INT9; one employee from FG1). In the past, workers could receive advice from a person in the HR department who dealt with their administrative record. Now, digitalisation has resulted in a loss of quality and poorer social relations (ibid.). Another respondent adds that because of the automation of HR procedures, employees may miss out on benefits, new rights or social benefits to which they could have been entitled, because written information might be less well absorbed than oral information (INT10).

The loss of social ties can also be explained by the massive use of instant messaging tools which, according to INT8, reduce real exchanges between colleagues: employees move less between offices and contact each other by instant messaging.

One respondent states that the massive use of emails is changing the organisation of work and hierarchical relations, with an increasing effect on the workload: managers can no longer ensure suitable workloads for employees, especially executives and engineers. Orders and work requests no longer go through the manager, but arrive directly on the employee's computer, without the manager's say on how to manage the employee's workload: 'These tools become a workload trap' (INT9). Without the filter of the manager, the workers find themselves in a position of having to assess their own level of activity/workload and take responsibility for their own workload.

According to the interviewees, the effect of digitalisation on autonomy is ambiguous. On the one hand, the compartmentalisation of technicians' tasks may have reduced their autonomy because it reduces their ability to learn on the job, and thus their capacity to adapt. On the other hand, autonomy may be enhanced by the individualisation of work and by the consolidation of considerable information in one medium. The results of the DGQS show that half of the respondents (53%) believe that digitalisation has enhanced their autonomy to organise and schedule their tasks.

For one respondent, the e-DRT has increased the autonomy of technicians, because they have access to all the documentation and can go and look up the various points in the regulations without calling on the supervisor (INT 8). Another one (INT10) confirms that digital work orders have improved the autonomy of technicians who are 'responsible for their own stock of tools'. According to the same interviewee, this goes hand in hand with the 'uberisation' of the technician's job, but this new autonomy is not recognised and remunerated at its fair value.

A different view is expressed by INT6: for this respondent, digital planning induced by 'digital work orders' has greatly reduced the autonomy of technicians, insofar as tasks deemed too complex

upstream must be abandoned and are reserved for a more qualified technician ([16]). Digital planning reduces the ability of technicians to learn on the job: 'There is no autonomy. (…) Today, productivity has replaced the term intelligence'. (…) Software does not allow for human emancipation. The emancipation of the human being is in autonomy and in the ability to adapt. Digital planning greatly reduces autonomy, and therefore the ability to adapt.' (INT6).

Interviewees also observe that digital tools have increased control over working time and the course of the employee's day. 53% of respondents to the DGQS state that digitalisation has increased employees' control over their output.

According to two interviewees (INT6 and INT10), because of the tablet and the 'digital work orders', there is increased monitoring and control of the ENEDIS technician's day by the management, thanks to the real-time recording of the technicians and the real-time monitoring enabled by the Linky meter. The two technicians from FG1 confirm that point: technicians in ENEDIS must enter the information related to the task in real time, which enables managers to monitor their work and their location also in real time. The Linky meter also allows geo tracking.

On reception desks and call centres, connection times are measured, as well as break times. Supervision is carried out in a pyramidal manner and break times are reduced as soon as a stand-by situation is detected: 'Everything is noted, break times, activity times, inactivity times (...) everything is recorded on a report, which is analysed by other software' (INT6).

Similarly, another respondent (INT8) argues that managers often check the Teams (digital tool) indicators of connection (green or red light) which indicate whether employees are active or inactive.

According to several interviewees, the 'digital work orders' disrupt the organisation of technicians' work, both at EDF and at ENEDIS (electricity production and distribution sectors).

The digitalisation of work orders has increased the segmentation of tasks and the intensity of work. It has led to 'digital Taylorism', i.e. a segmentation of tasks, which become more repetitive: after each task is completed, the technicians must mark it as 'completed' in the application on the tablet and send live feedback (figures/photos) before moving on to the next task. The same shop steward notes that this segmentation of tasks makes the work more cumbersome and reduces autonomy (INT6). Still according to this respondent, this digital Taylorism also forces technicians to carry out tasks as quickly as possible, with a daily quota and an expected output. Indeed, each task is associated with an intervention time (listed in the 'time ranges' database) which is not to be

16. 'Simple' tasks are reserved for category 1 technicians, 'complex' tasks for category 2 or 3 technicians.

exceeded (INT6). The intensity of the work has increased, due to the repetition of distinct tasks, the pace of work, the lack of autonomy, but also the computer-related difficulty.

On the segmentation of tasks, a federal administrator considers that the pace of work has also increased sharply: 'we can't cope any more, it's too much' (INT10). Because of the very tight digital parameterisation of intervention times and the failure to consider any contingencies such as traffic jams or accidents (FG1), the employees barely have enough time to carry out their interventions. The technicians interviewed in FG1 emphasise that the increase of the 'modulation coefficient' (the productivity coefficient) can also accelerate the pace of work for the technicians. This digital parameterisation of intervention times and the modulation coefficient are the subject of intense negotiations between the unions and management.

INT10 also gives another analysis of the impact of the digitalisation of technicians' work orders. For him, this new organisation of work is gradually leading to an uberisation of the technicians' job at ENEDIS, i.e. technicians are gradually becoming (bogus) self-employed, as they receive work orders directly on their tablet, interact with their tablet all day long and sometimes no longer go to the branch. In the morning, employees are often already on the road when they receive the orders, in a situation of 'live work-taking'. The same respondent adds that technicians are responsible for the stock of tools in their car. They must anticipate and foresee variations in their tool stock according to the upcoming tasks. As a result, 'Technicians are becoming small tradesmen' (INT10). Still according to him, there have been attempts by ENEDIS management to authorise the use of personal vehicles as well as attempts to geolocate employees during their working days. These attempts at surveillance, which have so far been unsuccessful, are evidence of the gradual uberisation of the technicians' profession. As with Uber drivers, the role of the phone (or tablet) is becoming more and more central to the job, as explained by one technician from FG1: 'When you are in the car to go to the site of the job, the telephone is supposed to be in the glove box, but if you don't answer the phone, your manager harasses you, asking why you aren't taking his calls.'

INT10 also emphasises that digital work orders reduce social interaction between employees. Like self-employed people in an uberised sector, employees no longer see their colleagues, but leave their homes in the morning and go directly to the site of the intervention, receive information on their tablets and carry out orders. According to him, on-going fragmentation of employees and disintegration of work teams are taking place, reducing the sharing of information, although this is essential for making collective demands.

On the other hand, INT9 emphasises the positive effects of digital work orders on productivity, efficiency, and the collective organisation of work. According to him (confirmed by INT8), the e-DRT is easy to handle, information is better classified, and many errors are avoided because they

are detected. In addition, this e-DRT avoids duplication of data entry and allows technical information to be shared among a group of employees. In fact, all the employees in a unit have access to the data: when a group wants to exchange information on a task, it is available in just one data source. Ultimately, e-DRT improves the quality of the work because the worker can retrieve existing data from a previous intervention and cross-reference the data with a map, or with another tool. The tablet allows data to be entered, but it also has sound, images and messaging, which makes it possible to provide additional information in real time.

INT10 agrees that 'digital work orders' generate productivity gains but states that these gains are not redistributed, either in terms of employment or salaries. Nevertheless, technicians from FG1 underline that the digital work order allows several people to participate in the intervention: while this can be helpful at times, the many stakeholders involved (some of whom are not in the field) in an intervention could also lead to a loss of information, communication problems and an increase in the failure rate of projects.

3.1.1.2 Working time

The DGQS suggests that digitalisation leads to an increase in working time. 41% of respondents consider that digitalisation brings an increase in unpaid overtime, 69% consider that it results in an increase in working time during the evenings, nights or weekends. For 47% it reduces the number of break periods. Finally, 52% of respondents state that it does not grant extra time to focus on important aspects of their work.

This finding is confirmed by an interviewee (INT9) and a project manager during FG1. Employees' and managers' days are getting longer because of the influx of emails. Instead of holding meetings, the communication service sends emails, especially for management, in an increasingly intense manner. This forces employees to endure a large flow of emails. For instance, 'The inflation of emails has only grown stronger with the years. There is a tidal wave of e-mails each morning, notably recurrent ones from the company itself, including a daily morning weather forecast email from the corporation, together with a text' (Project manager, FG1).

The project manager adds that the digital tools have made it possible to run far more projects, while the increased number of 'business' digital applications have added a lot of additional time devoted to reporting and project management-related and monitoring tasks.

Furthermore, the interviewee also states that as emails do away with the manager's say on workload management by allowing a direct link between the superior manager and the employee, the workload tends to increase. Employees experience a 'tunnel effect' (i.e. they are so focused on their screens that they do not see the time passing), and this increase in workload often leads to an overrun in working hours. According to INT9, everyone finds themselves setting their own

working pace: some executives put an alarm clock on their telephone to stop them working in the evening. Days can then be extended from 7 hours of work to 10. He concludes by saying that digital tools intensify the workload, lengthen the working day and isolate employees because they find themselves alone in managing their workload.

3.1.1.3 Balance between work and professional life

Longer working hours are the result of intensified use of e-mails, 'loop' ([17]) applications that employees want to finish before leaving in the evening, the disappearance of the manager's say on the workload, and the emergence of new tasks. This reduces boundaries between the personal and professional lives of employees (INT9 and INT6). The results of the DGQS confirm these observations: 57% of respondents answer that digitalisation leads to an increase in working time to the detriment of personal and private time. Furthermore, 58% of respondents consider that when employees telework, it is difficult to differentiate between personal and professional time.

Employees find it difficult to disconnect because they get caught up in the applications and no longer see the time passing. Thus, professional life encroaches upon personal life, especially at high hierarchical levels: 'some agents say: 'I go home in the evening, I watch TV but I think about my activity'. Many employees are physically absent and mentally present. The higher up the hierarchy you go, the more employees are overwhelmed' (INT6).

For some, the individualisation and 'uberisation' of the job of technician isolates workers from their manager (INT10). Thus, to maintain hierarchical social relations and allow for continuity of communication, 'WhatsApp' groups have been created, reflecting a new mode of operation and management. These groups mean that workers are contacted outside working hours, which can put more pressure on their personal lives. 'Some employees do not take it well'.

As shown in the DGQS, 62% of employees must be online very regularly to manage and have control of their professional life. 75% of respondents also feel pressure to go online in their free time (more than half of them explain that this is a personal choice). An overwhelming majority of respondents believe that the right to disconnect is essential in a connected work and social environment.

On the contrary, other interviewees consider that some aspects of digitalisation have also improved their work-life balance. According to INT7 and INT8, telework at EDF allows for a better quality of life and a better balance between work and private life, especially for employees with children. The results of the DGQS are ambiguous as to the benefits of telework: 49% of

17. Loop applications combine several applications and create loops that have a beginning and an end.

respondents believe that telework makes it difficult to combine work and household responsibilities.

3.1.2 Conclusions for the sector

In the electricity sector, digitalisation has been underway for the past twenty years. The launch of the Linky meter, the increase in electricity needs and the decentralisation of the production system have accelerated this digitalisation process and have given increasing weight to data and its processing. Employees' work in the sector has evolved and became digital: the day-to-day work of technicians has changed with systemic use of digital work orders; in the HR department, administrative procedures and employee files have been completely digitalised; in the call centre department, employees now work with interactive voice servers.

All employees in the sector have been equipped with digital media containing an increasing number of business applications. Emails and instant messaging tools have multiplied, telework has been extended and artificial intelligence, virtual reality and robotics have begun to emerge.

As a result, the intensity of work and the pace of work have increased. There is an increase in the pace of work in call centres due to telephone dispatchers and interactive voice servers. A higher work rate is also observed in executive and managerial jobs due to the influx of e-mails and the multiplication of business applications. The digitalisation of technicians' work orders leads to a segmentation of tasks and digital planning of activity, with real-time monitoring which can be likened to digital Taylorism or to 'uberisation'. Some time savings are observed in a number of cases (technicians' digitalised work orders, 'HAT' applications, digitalised employee files in the HR department) but these gains are not being redistributed.

The nature of tasks has changed. The increasing weight of data, provided through data entry and used to feed business applications, has led to an increase in analytical tasks for certain professions (executives, data scientists, managers, HR). This increased data processing also implies an intensification of data entry and administrative tasks for certain professions, particularly for business managers.

Social and hierarchical links have become more tenuous. The human resources department has distanced itself considerably from other employees because of digitalisation of internal procedures. The individualisation of the daily work of technicians – made possible by digital work orders and live site management – also leads to a reduction in informal exchanges between employees in a context of uberisation of the profession. In addition, the influx of emails and instantaneous discussion tools reduces direct interaction between employees and weakens hierarchical links by doing away with the managerial filter on the workload.

The effect of digitalisation on autonomy is ambiguous. For instance, the digitalisation of technicians' work orders may have a negative effect (each task is reserved for an employee with the required skills, depending on his or her technical level; so the employee's ability to learn on the job when placed in a situation of 'higher level' intervention is reduced) while also triggering positive effects (for instance, the documentation available on the tablet can give an employee more autonomy).

Digitalisation strengthens management's control over work. For technicians, Linky meters and the real-time recording of data relating to the intervention allow regular monitoring of their work. For call centre employees, surveillance is also in real time. Teams-type tools also enable monitoring.

Working time is also affected, and has been increased for some employees, because of the inflow of emails, the structure of business applications and the weakening of managerial filters, thus increasing the workload.

Finally, longer working hours and increased workloads lead to less separation between personal and professional life, especially for executives and managers.

Section 3.2 The public administration sector

3.2.1 Selected job quality dimensions

3.2.1.1 Work organisation

In a nutshell, in everyday work, most of our interviewees emphasize the improved flow of information, but also more intense work (and sometimes increased workload), more surveillance and monitoring, less autonomy and (often) more stress. There also is no evidence that digitalisation improves the quality of the work done for the end user.

For instance, one respondent considers that while digitalisation reduces the routine part of the work in the sector, it is normally not followed by more 'quality work'. This is because digitalisation is combined with an increase in other tasks given to public officials, and the gains do not result in time spent on other services or additional attention to public service users (more human presence in general, more attention and more time dedicated to certain groups): *'with the same number of civil servants and digitalisation, there could be more human presence'* (INT1). On the contrary, the time spent by an official on each user is monitored in some services. The same interviewee underlines that while digitalisation (and in particular telework) should enhance workers' autonomy, it often results in more surveillance at the workplace. According to some interviewees, this is due to the administration's lack of trust in its employees.

For another respondent, enhanced fluidity brings also increased complexity, with more reporting, less autonomy, and more surveillance: *'digitalisation renders things* [work] *on the surface fluid and easy, which adds an extra burden in terms of the quantity of work to be done'*. He observes that routine-type tasks are also increasing in some local administrations, as for example in the Plaine Commune agglomeration: *'some reporting, some spreadsheets, some gizmos, some thingies, some pie charts, that is infantilisation'* (INT2). The overall number of processes are increasing, and the hierarchy is being reinforced in his view.

Digitalisation may also result in a decline in empowerment/autonomy in general terms, while information overload (large numbers of emails, *etc*.) may bring a lot of stress to the officials (INT3). As reported by another interviewee, digitalisation has increased work intensity, with a decline in human interaction: '*everything which is not work on the computer is considered as a waste of time'* (INT4).

The content of work has also been very much changed by digitalisation. INT4 explains that the development of 'data entry clerk' platforms has reduced the autonomy and the quality of work of the officials concerned, with a significant rise in their routine activities. The increase of routine-type work has also been generated by problems in the existing digital software/applications which often require double or triple entry (lack of interoperability of the systems/applications, problem with the data flow, etc.).

The same respondent also notes a dehumanisation of administrative procedures which does not allow 'space' or autonomy to agents. Digitalisation may bring some time gains but also encourages *'false performance'* (*i.e.* performance only in appearance). Indeed, the insistence on the productivity made possible/accelerated by digital tools and applications has, for instance, reduced the work quality and limited the scope of intervention of the official: '*your neighbour* [colleague] *has maybe produced more titles* [ID cards, etc.] *than you, but he has not learnt anything'* (INT4).

An interviewee from another administration describes a different situation regarding the intensity of work. Work intensity has not really changed in the public employment service (PES), as a balance has been struck between the need 'to do more tasks to obtain the information', and the speed in obtaining the desired information. Yet, she also points to a sharp increase in routine tasks for officials from various services (INT5). This is due to the number and the nature of the (business) digital applications, with agents having to fill in many applications (that do not communicate with each other). Or, in some applications, data are linked to information or discussions raised on a specific device for communicating with users (unemployed people), which is time-consuming. In the PES, digitalisation has not caused any issues with autonomy, as this seems to depend, at least in certain agencies, on the choices of the staff member: *'at Pôle Emploi* [agency of the PES]*, if you want to have autonomy, you can have it'* (INT5).

The focus group in this sector (FG3) has highlighted a change in the content of work due to digitalisation: many routine and repetitive tasks which were previously performed have disappeared, while others have appeared. There does not seem to be any consensus among the focus group members on the impact of digitalisation on the quality of service provided to the users: on the one hand, the administration is better able to respond to the needs of some users and may reach a greater audience, while on the other hand, direct contacts (e.g. now only by phone) with the users are scarce, and difficult for users to achieve (the waiting time is rather long). Furthermore, with the underlying productivity goals in daily work, the potential time devoted to users has been reduced. Yet, for the workers in the administration themselves, one interesting opinion heard was that the tasks performed now involve more *reflective* skills, hence many posts in the administration have potentially become more interesting.

The workers in the focus group also underline that monitoring of work by managers has increased. It has been rendered very easy by the digital tools, which include a tracking device (this device records all operations carried out by the worker and can be accessed by the manager).

Around 50% of the respondents to the DGQS consider that digitalisation does not improve the quality of the service provided to users (35% think the opposite). 52%, however, report that it has improved their job quality, and 49% of respondents also consider that digitalisation has improved their productivity: this suggests a complex relationship between job quality and quality of the public service, in which productivity is not necessarily linked to better public service.

Yet, digitalisation seems to improve some aspects of work quality/organisation for many: improved interaction with public service users (for 39% of respondents) ([18]), more autonomy to schedule or organise work tasks (for 48% and 50%), improved coordination with colleagues (50%) ([19]). Also, these trends do not seem to change the workers' feeling of usefulness vis-a-vis users, or the quality of the relationship with them. This may partly be explained by the overall choice made in the sector to transfer productivity gains into job cuts, since the DGQS also informs us that digitalisation has triggered increased pace of work/work intensity, for 53% of respondents.

The DGQS also confirms a tendency for digital tools and methods to trigger monitoring of employees, according to 51% of respondents from the sector (only 10% disagree with this statement).

18. Also, this should be seen together with other findings of the DGQS: 46% of respondents do not feel more useful (providing a better service) to users and 52% consider that the relationship with users has not changed since the introduction of digitalisation.
19. Similarly, 39% of the respondents consider that they exchange and collaborate better with other services and departments.

Finally, many interviewees agree on a widespread problem of 'trust' in the public administration: *'Digitalisation should normally enhance workers' autonomy, but often it has triggered more surveillance, because of a lack of trust from the employer'* (INT1). In the words of a colleague: *'In the local and regional administration, the trust relationship is particular* [sic]*'* (INT2). Civil service managers are concerned whether teleworkers are truly involved in their work, *'which underlines an obvious lack of trust… and which induces stress for them'* (INT4).

3.2.1.2 Working time

In the absence of safeguards, telework, IT tools, online internal resources, *etc*. may encourage increased working time and a feeling of greater work intensity. Yet it is important to note the substantial differences in the actual working time, for instance depending on the public administration observed, or its type of (local) management.

For instance, one respondent underlines that telework increases work intensity, notably because some managers consider it is possible to make teleworkers work more: *'While telework should bring quality, it renders work more intense'* (INT1). The surging workload for teleworkers is such that in *certain* administrations, some employees are deciding to give up this mode of work after a period of time: *'in all administrations, there is a tendency to give more work to people who are teleworking'*. The same interviewee notes that digitalisation in some cases allows *'personal modulation'* in work organisation: for instance, some employees in the administration work more on certain days, and less some other days.

In some administrations and for certain officials, the 'potential' working time slots have been extended, with the inclusion of mandatory time slots. In the case of the *Plaine Commune* (local) administration, working hours must be within certain slots for the workers without particular constraints, due to their position in this local administration (INT2). These work schedules were negotiated at the same time as the telework management system, which allows workers to clock in/clock out. A debit-credit system ensures that over a certain period, the statutory working time is respected, which limits overtime hours. Clearly, in this administration, telework has enabled high (chosen) flexibility in daily work organisation (for example: a worker can take his children to school, re-log onto his computer afterwards, *etc*.). For the people who save a lot of transport time, this work system *'has changed people's lives'* (INT2). Inclusion of overtime hours has improved the right to disconnect.

Another respondent reports that working time is skyrocketing in some administrations, boosted by telework, especially in certain ministries (INT4). Yet, the same person recognises that the situation varies considerably depending on the administration or the worker's position. For instance, data entry clerks do not suffer excessive working time, unlike officials working in services linked to

some ministerial offices, for instance: *'in terms of working time, there is a boom at the managers' level, notably with telework, from 6 in the morning to 2 in the morning at the Ministry of internal affairs […]. In some ministries, a manager who does not demonstrate that he does not stay working until 8 or 9 pm, is not considered as serious.'* (INT4).

According to INT5, telework (possibly a few times per week in the PES) saves a significant amount of time while, for many officials, digitalisation has not increased total effective working hours. There is a probable exception for managers, as many of them are used to excessive working hours.

The participants in the sectoral focus group (FG3) confirm that work outside regular working hours is fostered by the new digital tools in their administration (Directorate general for public finances), while only a limited number of overtime hours are considered for compensatory rest/compensation.

The results of the DGQS seem to confirm that digitalisation has differing impacts on the working time of officials in the public administration. About two-thirds of respondents report that it has not impacted '*unpaid overtime hours*', yet around one-third consider it has increased these unpaid hours. Also, while 52% consider that digitalisation has not increased 'unsociable' (evening nights/weekend) working time, 45% think it has.

3.2.1.3 Balance between work and professional life

Digital tools and telework are factors in work overload and can help to blur the boundary between personal and professional life. This can accentuate the 'over-work' phenomenon (*i.e.* outside regular working time, people think about their work or are not totally cut off from their work duties). But telework also brings time gains for many workers in the administration due to saved transport time.

For some, the possibility of telework allowed by the 2021 *Framework agreement on telework in the public sector* contributes to a better work-life balance by enabling officials to avoid carrying out family-related tasks if they are at home (INT1). This agreement also contains two other provisions relative to private life: on the right to disconnect, and on the prevention of domestic violence.

Undoubtedly, as described in this section, telework has brought considerable flexibility, benefiting workers' well-being in the *Plaine Commune* administration, and has also enabled many workers to save a lot of transport time (INT2).

Others express mixed opinions on the impact of digitalisation on the balance between professional and personal life: while INT4 recognises important gains of transport time for teleworkers, she also

warns of a dwindling separation between professional and personal life due to digital tools and telework. Another interviewee considers that in the PES, there are quite a few safeguards to protect the separation between private life and professional life: warnings through pop-up windows on the computer if an official receives or sends emails at weekends or on public holidays, support for telework and digital tools (online guides, guidelines), a *Quality of working life* (QWL) assessment twice a year (INT5).

Some participants in the focus group (e.g. FG3) underline the contribution of telework to balancing work and home life. For instance, one worker explains that he saves a lot of transport time with his two days of telework, and another one explains that this work organisation allows some flexibility in his daily work, with the possibility to adjust his work schedule to personal/family commitments during the daytime.

Respondents to the DGQS offer very mixed opinions on the effect of digitalisation on the work-life balance: 36% of respondents consider that a better balance is obtained, while 39% disagree. The reduction in transport time during the week has contributed to the positive opinion of the first group (51% of respondents indeed consider that commuting time from home to workplace has decreased). However, only 21% of respondents consider that digitalisation has increased their personal/family time while half of respondents disagree. And 40% of respondents think that digitalisation has not affected the amount of time they have outside of work. No less than 44% consider that digitalisation has increased their work time *'at the expense of their personal time'*, while 43% consider *that 'when teleworking from home it is difficult to clearly differentiate between their working time and their personal time'*.

3.2.2 Conclusions for the sector

For the last 10-15 years, digitalisation has significantly increased in the public administration sector, taking many forms, of which telework and digitalisation of the services to users are among the most common.

The work content has evolved with digitalisation: in many places, (local) support functions are disappearing, administrative platforms are increasing. While digitalisation tends to reduce the share of routine tasks, there is no evidence that it necessarily brings more quality 'work' for the employees (indeed, it is associated with a greater workload).

The impact of digitalisation differs between institutions. There is rather mixed evidence concerning the balance between personal and professional life, and compliance or otherwise with the (French) 'right to disconnect'. Examples are a local community with a telework agreement containing safeguards (recognition, inclusion of overtime hours), compared to some State departments, with their 'culture of working late' and a greater workload thanks to ICT.

A frequent trend towards work intensification is also observed, with an increase in the inflow of work (the workers 'absorb' more work due to the fluidity allowed by digitalisation). Even if productivity is high, this does not necessarily mean a better service to users.

Globally, digitalisation is a challenge for work teams, which must adapt (remote work and risk of isolation, difficulties for management, different modes of interaction).

Finally, there also seems to be a widespread 'problem of trust' in the public administration: this combined with digitalisation has adverse consequences, including monitoring of agents and restrictions on telework in local agreements.

Section 3.3 Hospital sector

3.3.1 Selected job quality dimensions

3.3.1.1 Work organisation

In the public hospital sector, the surveys on working conditions (2013, 2016, 2019) show that work intensity is greater for nurses, midwives and caregivers than for all other hospital sector workers. Nurses and midwives are the two professional groups that in 2019 most frequently declare an excessive amount of work (65%), working under pressure more frequently (65%), having to hurry always or often (72%). Interruptions for unplanned tasks have also become more frequent. As regards material resources, perceptions are improving. However, the feeling of having enough time to do one's job properly and the feeling of having enough colleagues fell by 4% points and 3% points respectively between 2016 and 2019 (DGAFP, 2021).

In this context, all the trade union representatives interviewed insist that digitalisation has resulted in an intensification of work. This can be explained in three ways.

Firstly, digital technologies have led to the establishment of processes that allow tasks to be programmed, with calculated times for each. Staff are then allocated to carry them out, but in reality, things do not happen in this way. One respondent points out that this difference between prescribed work and real work has increased the intensity of the work: *'The patients are put in boxes on the computer schedule and then at the end, there is no real study of the workload. The management says 'you have 12 patients to take care of', but if 5 of them are very complex cases, it's not the same as having 12 easy patients'* (INT13). For another interviewee, the increased prescribing of tasks is merely one of the two sides of an increase in control brought about by digitalisation. The second consists of greater control over the workers themselves: *'from the moment work is computerised, we have more control over whether it is done or not. So, there's a*

lot less choice about what I do or what I don't do' (INT11). This strengthening of control as a vector of work intensification is also reported by a colleague from the same sector: *'There is an increase of control: in certain places, in particular for stretcher-bearers, there is increased traceability of running time. It is pressure that is not necessarily well experienced by professionals'* (INT13).

Secondly, digital tasks are added to care-related tasks. INT11 insists that health establishments have not properly integrated new jobs related to computerisation and specifies that *'secretarial time should be added so that the nurses are released from this time which is not their responsibility'*.

Thirdly, digital tasks must be completed in addition to the use of paper, in order to have double traceability. INT13 reports that the secretaries continue to print out the reports and put them in the doctor's box even though he has an e-mail address. In the focus group (FG2), nurses insist that all information transmitted between them in the service is in paper format (for safety reasons). In addition, the patient file has a hybrid format (digital and paper). This is because the digital tools used by various departments cannot always communicate, even within the hospital itself. For continuity across the different services, paper patient files are still necessary. This hybrid format has two consequences. Firstly, the different categories of staff communicate in different ways: medical staff (doctors) use information in digital format and can share information with each other, but the same does not apply to non-medical staff (nurses, caregivers). Secondly, it leads to an increase in secretarial tasks. Scanning documents and gathering information for the patient file are time-consuming, especially since more information about the patient is needed.

The intensification of work can be mitigated by the time saved on certain tasks due to digitalisation. One respondent thus notes that *'the nurses have access to their tablets, they are not obliged to return to the patient file which is at the other end of the corridor in the paper file, they directly find the medical instructions'* (INT13). Similarly, when the patient is discharged from the hospital, *'the nurse does not have to wait next to the doctor when he makes his check-up visit. He puts his prescription in the computerised patient file. The nurse sees that it's done and so the patient can leave. All this can save time'*. But this remains insufficient, and the interviewee hopes that in the future, digitalisation will make it possible to gain in efficiency and recover time for patients.

Some focus group participants also recognise that digitalisation has brought a certain ease and greater comfort, such as the speed of searching through the patient's file and some time savings using e-mails to communicate with patients. An interviewee (INT12) emphasizes that digitalisation has also reduced social relations (between colleagues) as the staff member himself records information in the computer: *'Instead of sharing*[of patient records] *around the table, after each*

one has gone around the rooms of her/his patients, everything is in the computer because we had to save time. This has negative effects on learning the job'. This reduction in human contact in the workplace is also due to the widespread use of communication by e-mail: *'all the memos, the information that was discussed in meetings, posted, validated by colleagues, is transmitted digitally'* (INT13). This view is more nuanced among the interviewees of FG2, who use documents transmitted in paper format, so more often need to call other services directly to get the right information.

The DGQS confirms that digitalisation has led to an intensification of work. 60% of respondents point out that digital tools have increased their pace of work/work intensity. 53% of respondents disagree that digital tools have reduced the time needed for routine repetitive tasks, while 66% disagree that digital tools have given them time to focus on significant aspects of their job. The survey shows that only 34% of respondents consider that digital tools have given them more autonomy, while 38% think the opposite.

Employees in the hospital sector have less autonomy than employees in the wider economy, but it is increasing, so that the gap between them is narrowing. According to the French survey on working conditions (2013, 2016, 2019), strict following of instructions is less frequently reported by hospital sector employees in 2019 (35%) than in 2016 (40%); this brings it closer to the level observed for all employees, which has remained stable over the period (34% in 2019) (DREES, 2021). Conversely, although less frequently reported, the setting of quantified goals to be achieved is now happening more often. Goals were set for 19% of employees in the sector in 2019 (compared to 17% in 2013), compared with a 31% average for employees in all sectors.

Digitalisation results in reduced autonomy in work organisation (see paragraph above). Using the image of a chess board, *'computerised management of schedules makes professionals look like pawns'.* On the content of the work, he points out that nurses can gain autonomy: *'If she has any doubts about certain elements, she can also get information on her tablet or access Vidal* [medicine dictionary] *to check medical prescriptions'*.

However, this distinction between autonomy in the organisation of work and autonomy in the content of work is questionable. The increased surveillance reduces the possibilities for choice in work. Digitalisation makes it possible to better monitor the achievement of objectives and reduces the workers' discretion in the care of patients (see the above discussion on control) (INT11). The feeling of increased surveillance was also noted by the focus group participants.

The DGQS confirms these ambiguous effects of digitalisation on autonomy. 32% of respondents say that digital tools have given them more autonomy to organise their work tasks, while 39% think the opposite.

Many testimonies report that digitalisation brings a loss of meaning at work. The use of ICT in health care services, intended to save time, proves to be time-consuming: time is taken to start up digital tools, to process files, to send processed files. In the focus group (FG2), the general feeling of the participants seems to be: *'We spend too much time on administrative work, to the detriment of the patient' ([20])*.

Digital tasks have radically changed the very meaning of nurses' work: *'Is it a nurse's job to sit in front of a computer typing a report of a meeting or an interview?'* (INT11). A colleague points out that digital tasks require the nursing staff to set out all care activities, examinations and prescriptions: *'It adds considerably to the administrative workload. Caregivers are very unhappy that they spend part of their time not caring'* (INT12). Accounts previously written on paper are now entered into a secure, traceable computer file, but with a loss of substance for the care (INT11).

Many professionals feel that care management has become in practice a matter of cost management and power, relegating the primary task of taking the time to care for patients to the background (Clot, 2015): *'in the end, the digitalisation of care services has been a waste of time and has made many people resistant to IT (INT11)'*.

3.3.1.2 Working time

Workers in public hospitals are more often subject to atypical working hours than French workers as a whole: more than half of workers in public hospitals work in the morning between 5 a.m. and 7 a.m. and in the evening between 8 p.m. and midnight; More than 60% of them work on Sundays, more than two thirds work on Saturdays, a third work at night and almost 20% work alternating hours (DGAFP, 2021). Public hospital workers also must work overtime more than those in other public services and private sector employees. Nearly 40% of them work overtime every day or often, and 25% of them do not have 48 hours of consecutive rest per week. 22% cannot be absent for a few hours in the case of unforeseen personal or family events (DGAFP, 2021).

The union representatives interviewed indicate that digitalisation itself has generally had no effect on working time: '*digitalisation has impacted the quality of work rather than working time. Professionals work overtime, but it is not digitalisation that is doing this'* (INT13). At most, the software has made it possible to manage working time more effectively: *'We are clearer on the*

20. The nurses also report that starting up the doctor's computer, changing the paper in the printer and resolving computer problems are now included in their work tasks: they are on the front line (the IT department is called in only when they cannot find a solution themselves).

management of working time, but that has not changed much about working time itself. The workforce being what they are and given the issues, things are still just as complicated' (INT11). The same interviewee points out that the working time management software has sometimes been designed with the involvement of workers and health managers, which has made it possible to better configure the software. According to one respondent, however, there has been an increase in working time as staff give up their break times: *'Free time used to exist. There were coffee breaks, for example. This time has disappeared because caregivers spend their time typing up information, they close themselves off, they immerse themselves in their computers'* (INT12).

A majority of respondents to the DGQS are less categorical: (64%) consider that the number of working hours set in their contract has not changed. For 34%, working hours have increased. 30% of respondents say that unpaid overtime has increased. However, it may be difficult to distinguish between the specific effects of digitalisation and those related to work organisation and lack of resources.

The focus group participants consider that digitalisation does not generally result in overtime. However, some staff may work overtime due to network failures: they may have to finish their working day later (overtime hours are not paid in this case). When asked about the additional hours offered in other services/hospitals, some participants explain that they have sometimes replaced other staff but rarely through such platforms. They nevertheless underline that there are several tens of offers (especially for nurses) of (formal) overtime hours at any moment, for tasks requiring from 7 to 12 hours of work. Such 'overtime hours' proposals can be offered through specific platforms, emails from the managers, or even from WhatsApp groups, to which some of the interviewees have subscribed.

3.3.1.3 Balance between work and professional life

All trade union representatives highlight that the boundary between private and professional life has changed and became more blurred. According to them, two changes explain this development. First, several platforms (Hublot, Whoog, Meetgo) allow hospital workers ('mercenaries' in the words of INT11) to register when they want to provide work to other services or establishments in order to be better paid. An interviewee points out that these applications have made it easier for managers to address the shortage of nursing staff (which dates back fifteen years) but they constitute disguised on-call duty work: *'we used to spend our time calling people at home on their personal landline or mobile phone to come back to work. We had the numbers listed as part of the white plan, so we diverted the white plan with the agreement of the management and also with the agreement of certain employees to recover the numbers of the staff members'* (INT12).

Staff working time does not seem to be monitored using these applications. In principle, workers should not perform more than three days per month of unscheduled work through these

platforms. But, in reality, managers cannot know how much time an agent has already worked when carrying out an assignment through these platforms: '*When we ask some managers: how do you check the consistency between the agent's working time and what he has done elsewhere on Hublot? They tell us: normally, it's three days max per month so that's an extra 21 hours, so we stay within the statutory time'* (INT13). It can result in a huge amount of overtime (ibid.).

Second, the smartphone has also become an easier way to call people back to work. This has changed the lives of staff, especially since some departments have asked for email addresses and phone numbers to call people. The personal/professional life divide has been changed by instant messaging applications and WhatsApp groups. On this subject, trade union representatives have mixed views, with various assessments. As stated by a respondent, WhatsApp and the discussion groups are not only linked to the hospital: '*There are* [work-related] *things circulating on WhatsApp. If it weren't for that, we would wait until the next day to see with the colleague. But WhatsApp is also family, friends, the private circle. It's a non-disconnection'* (INT13). Another interviewee appears particularly worried by the fact that, even when not working, staff continue to be aware of what's going on in the Teams application, which dilutes the resting time (INT11). Another one goes further and sees WhatsApp groups as a way of disguising on-call duty: *'It is often initiated by the manager. For example, so-and-so is ill, who can replace him? It becomes the equivalent of a disguised on-call duty that is absolutely illegal'* (INT12).

The principal finding from the DGQS is that 43% of respondents consider that digitalisation has increased their working time at the expense of their personal time. At the same time, 26% of respondents feel that digitalisation has affected the amount of time that they spend outside of their work. When they telework from home, 39% of respondents feel that it is difficult to clearly differentiate between their working time and their personal time.

A right to disconnect was introduced in the hospital sector by the circular of 31 March 2017, which calls for 'time charters' to be put in place as part of social dialogue. This right is recalled in the collective agreement of 13 July 2021 on telework in the civil service.

The focus group participants explain that they are able to disconnect, after their daily work or on holiday. But they also report that some of their colleagues are always psychologically connected, for instance sending emails during their holidays.

3.3.2 Conclusions for the sector

Digitalisation in the hospital sector has developed in a context of decreasing resources (reduction of hospital capacities). The widespread use of digital tools (computers and tablets using Wi-Fi and Bluetooth technology) and the generalisation of e-mails and intranet have enabled innovations (telemedicine and remote monitoring) which have offset the reduction in resources.

A wide variety of software has been deployed, differing from one hospital to another, and even from one department to another, creating operational difficulties (compatibility problems, training problems). Hospital civil servants are the public sector agents who telework least often. The administrative services are the only services within the hospital structure that can work remotely (one day per week or less).

Digitalisation has led to work intensification in two ways: firstly, the introduction of processes to plan tasks with calculated times for each task has widened the gap between prescribed and actual work, which is a factor in work intensification. Secondly, digital tasks have been added to the care tasks and have proved to be time-consuming, although they were designed to save time. However, time is saved on certain tasks due to digitalisation, which can mitigate work intensification.

By adding digital tasks to care-related tasks, digitalisation exacerbates already significant conflicts of value which result from working in the hospital, because of the mismatch between workload, the demands of the job and the means available to do it.

The effects on autonomy are ambiguous: as tasks are increasingly prescribed, digitalisation reduces autonomy in the organisation of work (see above) but workers can gain autonomy in terms of content of their work. This ambiguity appears clearly in the results of the web survey (DGQS). Digitalisation results in enhanced monitoring of the work process and workers themselves.

Digitalisation has led to a blurring of the boundary between private and professional life in two ways: first, employment platforms have been developed, which publish job offers or assignments to boost understaffed services, accessible to hospital workers already in a post, without any real supervision of their overall working time; second, people are called back to work through their smartphone, especially via messaging applications and WhatsApp groups.

SECTION 4. IMPACT OF DIGITALISATION ON SOCIAL DIALOGUE

4.1 Trade unions' position on digitalisation

In its analysis of the digital transition, the *Confédération française démocratique du travail* ([21]) *(*CFDT) underlines various important points. First, there is no consensus on the effect of digital technologies on growth, yet CFDT considers that they enhance collective well-being by promoting new services. As many jobs may change through digitalisation, job losses could happen not only in low-skilled occupations but also in skilled ones, which may also result in increased polarisation of employment and wages. New jobs could also be generated by new practices, hence the net effect on employment is still uncertain. In any case, it is vital to ensure adaptation and training in tomorrow's jobs. The impact of digitalisation on the public services must be considered: the civil servants' views are ambivalent, with worries about employment (productivity gains, pressure on the workload, reporting tools) as well as high expectations of solutions to help them in their daily work. CFDT considers that tailored digitalisation could help to deliver high-quality public services. The digital transition is profoundly changing the French model of social protection. Digitalisation also triggers challenges related to the quality of working life, notably on the need to keep track of the workload, to guarantee the 'right to disconnect', and to ensure the implementation of collective rules through social dialogue (CFDT, 2016).

In a document on the effect of digitalisation, the Confédération générale du travail ([22]) (CGT) highlights several ideas. First, there is a risk that digitalisation will entail backtracking on social rights. Indeed, digitalisation helps create work bodies in which the hierarchical relationship between manager and worker is confused by an 'illusion of autonomy of the worker' and new management conditions. CGT considers that digitalisation increases employee surveillance, notably because it favours continuous evaluation, performance, and productivity. Second, digitalisation increases working time, blurs the boundaries between private and professional life, putting at risk the right to rest, and enhances psychosocial risks, with non-effectiveness of the 'right to disconnect'. Third, digitalisation often has a radical impact on working conditions and work organisation. Fourth, digitalisation also poses a serious threat to employment and could destroy many jobs, a process which would not be balanced by the creation new ones; many (other) jobs are likely to undergo profound changes. As long as employees are protected and given new rights, as well as a better share of productivity gains, digitalisation may work to the benefit of employees (CGT, 2017).

In the view of CGT, telework creates new social relationships, endangering the traditional status of workers. It may create work overload, blur the boundaries between professional and private life

21. French Democratic Confederation of Labour.
22. General Labour Confederation.

and result in work intensification. There is an urgent need for regulation of telework (*e.g.* implementation of work time slots) and also to limit it to autonomous workers: CGT wishes for a balance to be struck between the 'autonomy' benefit and the risks linked to telework: this could take the form of a rotation between physical presence at the workplace and 'external' work (ibid.).

4.2 Social dialogue on digitalisation in the electricity sector

Parmantier (2011) explains that between 1946 and 2000, social dialogue in the electricity sector took the form of joint negotiations between the general management of EDF and Gaz de France (GDF), which were public and nationalised at the time, and the trade unions, particularly the CGT. The public authorities, in particular the Ministry of Industry, were strongly represented at the social negotiation table. The law of 10 February 2000 on modernisation and development of the public electricity service set the conditions for opening the market to competition, and at the same time launched social negotiations within the Electricity and Gas (E&G) professional branch. Thus, employers' organisations ([23]) were set up and collective agreements were signed, not only within E&G but also by the representatives of the multiple employers in the branch. The status of the E&G branch is still specific: the personnel are not covered by a collective agreement like the other sectors but are subject to the 'National conditions of employment', created in 1946. The pre-2000 tradition of high-level consultation with the trade unions has persisted and has allowed these changes to take place with little social conflict.

Today, negotiations are still conducted at the company level and for the whole electricity industry. This branch includes 157 companies, but 93% of employees work in companies that evolved from two historical companies: EDF and GDF.

The question of digitalisation and its effects on the quality of employment is rarely discussed between trade unions and employers in the sector. The collective agreements signed concern remuneration, social dialogue, social activities, pensions, training, family rights, etc. Since the 2000s, only one branch-level agreement has been signed in this sector: an agreement on the prevention of psychological risks (2010), which only very slightly addresses the effects of digital technology on mental health. There are no agreements in the electricity and gas industry on the right to disconnect, telework ([24]) or other subjects related to digitalisation.

However, the national federations have many demands concerning digitalisation and its effects. According to a trade union representative, CGT is demanding a right to disconnect and a fixed boundary between private and personal life (INT10) while the CFE CGC is particularly vigilant

23. L'Union Française de l'Electricité (UFE) et l'Union Nationale des Employeurs des Industries Gazières (UNEmIG).
24. A telework agreement was signed at cross-industry level (all private sectors) in 2020.

about psycho-social risks, the balance between personal and professional life and the right to disconnect, as well as about situations of isolation (INT8).

In the companies in the electricity sector, a few agreements on digital technology have been signed:

- At EDF, the TAMA ([25]) agreement (Working Differently, Managing Differently) notably sets out the new uses of telework, grants new flexibility on working hours and addresses the issue of health and safety and work teams.
- EDF also has a 4-year social agreement (2022-2025) that provides a framework for the right to disconnect, training and support related to the introduction of digital tools.
- At ENEDIS, there is an agreement on telework (2021) and another on the right to disconnect (2022).

Despite the agreements, few measures have been implemented to mitigate the negative effects of digitalisation on employment. Only 24% of respondents to the DGQS state that a charter of good practices on digital tools and telework has been introduced, only 13% of respondents state that the physical office environment has been improved (chairs, desks) and only 16% of respondents declare that the employer has set rules on the right to disconnect.

Interviewees underline that at company level the issue of digital technology is rarely discussed in the Economic and Social Committee (ESC), unless it has a formal impact on working conditions ([26]). However, there have been debates in the (old) CHSCT (health and safety committee, now CSSCT) at local and national level within EDF on the effect of digital technology on employees' health, following the publication of the results of the MyEDF digital survey (INT 8). According to the DGQS, fewer than a third of employees say that trade unions and employees have been informed and consulted on the strategy, implementation and reasons for implementing digital tools: 'In the end it is always management that decides' (INT9).

Generally speaking, there is no co-determination in the choice of whether to introduce new digital tools or methods at ENEDIS and EDF (INT10, INT8 and INT9).

To conclude, within the Electricity and Gas industry, the trade union federations voice many demands and negotiation activity is intense. Indeed, the tradition of centralising social dialogue at the top, introduced at the end of the war, has continued.

25. TAMA is the abbreviation of 'Travailler Autrement, Manager Autrement'.
26. If the new technology/IT process has such an impact, there is a specific procedure and a consultation takes place in the Economic and Social Committee.

Numerous agreements have been signed (remuneration, social dialogue, social activities, pensions, training, family rights), but they are rarely connected to the topic of digitalisation and its effects on employment. Digitalisation of work is not, for the moment, a subject for negotiation at branch level.

The topic of digitalisation is more often discussed at company level. The two key companies in the sector, EDF and ENEDIS, have signed agreements on telework and on the right to disconnect, as well as social agreements that address and set out general principles regarding certain effects of digital technology on work. Nevertheless, apart from some key negotiations (on working hours), social dialogue on this subject is very limited. Co-determination is totally absent and consultations in the CSE are rare.

4.3 Social dialogue on digitalisation in the public administrations sector

In the public administrations in general ([27]), collective agreements are negotiated at the national level or at local level (decentralized services, local authorities, public institutions, etc.), except for wages, which are negotiated at the national level. Negotiated agreements may correspond to framework agreements, *i.e.* they may be transformed into 'local' agreements (e.g. in the ministries) or through action plans specified at governmental level. In the case of local agreements, specifications or better provisions must be included (otherwise, the rules in the Framework agreements apply). An 'agreement on method' can also be concluded before the beginning of the negotiations: it serves to orientate the discussions to come and to produce a general methodology for negotiating the agreement to come. In general terms, in the public sector, an agreement must be published by the employer to be valid.

Until 2011, collective bargaining in the civil service only applied to wages. The *Bercy* agreements (2008) aimed to renew public sector social dialogue and led to the law of 5 July 2010 on social dialogue in the public sector. This 2010 law has since opened up collective bargaining to many other possible subjects (work organisation, training, *etc.*), yet without any obligation. This 2010 law has also introduced the rule of majority agreement, which did not exist before.

In the public administrations, the joint consultative bodies have been undergoing major changes, like those which have taken place in the private sector. Indeed, the law of 6 August 2019 makes

27. It is important to note that these features of collective bargaining in the public sector cover two sectors examined in this study: the public administration, and (public) hospitals.

changes to the civil service social dialogue bodies. The *Comités techniques* ([28]) or technical committees (equivalent to the Social and Economic Committees in the private sector) will be merged with the 'Health and Safety at Work' Committees (late 2022/early 2023). To expand the number of collective agreements in the public sector, law 2019-828 of 6 August 2019 foresees a future specific decree (*ordonnance*) on collective bargaining (see hereafter).

It is also important to note that provisions in the collective agreements applying to the civil service were not binding until recently: the 2021 Decree ('*ordonnance*') n° 2021-174 (17 February 2021) has now changed this: these agreements *'will not be a moral commitment but will have binding force'*. This 2021 decree aims to enhance social dialogue in the public sector, notably by extending the scope of collective bargaining as well as allowing a 'trade-union right of initiative' to call for negotiations to be launched on a particular topic.

In the public sector, psychosocial risks have been a topic of collective bargaining, which resulted in a framework agreement (22 October 2013), specified through a governmental implementation plan in 2013. Yet digitalisation was not a subject discussed through collective bargaining until the July 2021 framework agreement on telework, which applies in the three public 'functions' (state, local authorities and the hospital sector).

As pointed out by an interviewee, until recently, no real collective bargaining was possible in the public sector: '*framework agreements were only framework by name'* (INT4). INT1 considers that that digitalisation is a topic slowly growing in importance over the last four or five years, but not sufficiently to make it a subject of collective bargaining (INT1).

As underlined before, digitalisation is not a significant recurrent topic of collective bargaining in the civil service, although digitalisation as a topic was and is becoming increasingly significant. The only exception is the *Framework agreement on telework* of 13 July 2021 ([29]), which applies to the three public 'functions' (i.e. state, local authorities, hospital sector). This agreement notably limits telework to three days a week (with some exceptions) and contains provisions related to private life (right to disconnect, telework in 'third places' and prevention of domestic violence). Some implementing decrees have yet to be released (for instance, related to the defrayal of telework costs).

28. Note that there are two other joint bodies in the public sector: the *commissions administratives paritaires* (CAP, or joint administrative commissions) and the *Commissions consultatives paritaires* (CCP, or joint consultative commissions), which are bodies which discuss careers and the follow-up of contracts, for permanent officials and contract workers respectively. These joint bodies include some elected employee representatives and will also change in scope/content, starting in 2023.
29. https://www.legifrance.gouv.fr/download/pdf?id=8dD3wEzkeHMp59Q_y7JrpyvZj44jEoKbW5FqgNLxO1g

A UFSE-CGT representative explains that digitalisation is not a topic addressed through other collective means or initiatives (direct participation, info-consultation) in the public administration (INT1). Other interviewees underline similar findings: a CFDT Interco representative also finds that *'officials* [or their representatives] *are never consulted*, as '*this is a basic principle in the administration'* (INT4).

According to 95% of respondents to the DGQS, the right to disconnect is essential and should be included in collective bargaining agendas or the labour legislation.

To conclude, collective agreements in the public administrations sector are negotiated at national or local level (except for wages, which are agreed on in national-level negotiations). Framework agreements are reflected in local agreements or implementation plans. The collective bargaining framework is relatively new, and its scope has expanded over the last decade.

The law of 6 August 2019 makes changes to the social dialogue bodies in the public sector. It also anticipated the future legal rules to enhance collective bargaining in the sector, later set out in the 2021 decree. This decree has also extended the scope of agreements and provides a new 'right of initiative' for the trade unions by entitling them to call for bargaining on a particular topic. *Now, agreements in the public sector are binding.* Yet, digitalisation is not a significant topic of social dialogue in national industry-wide agreements, despite the rise in issues linked to it (even 'before COVID-19'), which require a more focused involvement and pro-activism of trade unions on this topic.

The 2021 Framework agreement on telework (covering the three public 'functions') can provide a good basis for renewed bargaining on digitalisation in the public administration. Indeed, there is a need for more in-depth collective bargaining in a sector which, until recently, has relatively little history or habits of discussing items at a relevant level.

4.4 Social dialogue on digitalisation in the hospital sector

The public hospitals are one of the three public 'functions' (with State and local authorities), which are subject to a common general collective bargaining framework. The situation differs for the private hospital sector, which follows the collective bargaining rules applicable in the private sector.

Digitalisation in the public hospital sector started with some precursor establishments. It was not imposed by law. Responsibility for digitalisation is not centralised and practices are very diverse. Decisions on digitalisation were taken unilaterally by the directors or heads of department of the various hospitals. So, digitalisation has not been a topic discussed with the unions, even though they would have liked to do so.

As a FO SPS representative put it: 'The only place where it was discussed was when we started to have charters on new technologies. We started asking questions about the cost of IT because IT budgets were high and consumed training time and investment. There was never really a discussion about the implementation of IT' (INT11).

Digitalisation was discussed in a roundabout way in the Conseil Supérieur de la Fonction Publique Hospitalière (Higher Council for the Public Service in the Hospital Sector), because the staff representatives in this body were not adequately equipped.

One interviewee underlined that the trade unions are not consulted on whether change is advisable except in the institutional bodies, but specified that it is also a question of skills and knowledge: 'When we raise these questions in the institutional bodies, we have engineers who come to present things, so we have little confidence in the analysis of the professionals, especially as most of the time, trade unionists are not their cup of tea' (INT11). A colleague confirmed this feeling: 'Digital is the sixth continent. It is powerful, easily accessible, with effects on all strata of society. I have the impression that we, trade unions, are always one step behind' (INT12).

Several interviewees confirmed that trade unions would like health professionals to be involved in the change.

To conclude, the public hospitals are, as one of the three public 'functions' (with State and local authorities), subject to a common general collective bargaining framework for the public administration (see section 4.3). The situation differs for the private hospital sector, which follows the collective bargaining rules applicable in the private sector.

In the public hospitals sector, digitalisation has never been a topic discussed with the unions, despite their interest on this topic. It was not imposed by law but was rather decided on by the directors or heads of department in some precursor establishments.

SECTION 5. CROSS-CUTTING CONCLUSION

The three sectors under scrutiny in this paper have experienced considerable growth in digitalisation since the 2010s. Digitalisation takes many forms. In particular, the working time spent on tablets, computers and smartphones (sometimes simultaneously) has boomed in the last few years.

In terms of work content, developments have varied significantly between occupations, but some important changes have taken place since the introduction of new digital processes/software/tools. New tasks (for instance related to software applications) have been added to existing jobs, which now regularly include administrative and data entry tasks (reporting for example), increasing the workload. In the electricity and the hospital sectors, digital planning of the day and digitalisation of files enables optimisation and segmentation of tasks; each task is associated with a specific time and contingencies are not included. Work intensification is observed in many jobs/professional positions in the three sectors. In all sectors, social and hierarchical ties have been loosened by the use of communication channels involving e-demands, e-mails or smartphones. Direct and physical interactions have decreased significantly, which has an important impact on work teams.

The variation in collective bargaining activity among the three sectors can be partly explained by some common history but recent differences.

Until the mid-2000s, the electricity sector in France was part of the public sector, and as such was subject to the specific collective bargaining framework of this sector (which was at the time very limited in scope). Recently, electricity has become part of the private sector and the scope of collective bargaining as such has been enlarged: the trade unions make many demands, and there are intense negotiations on many topics (pensions, salaries, workforce and skills planning, *etc.*). In the public administration and in the (public) hospital sectors, the scope of collective bargaining was very limited until quite recently. Only in 2019/2021 were important changes made to the social dialogue bodies, the scope of bargaining was enlarged, and public sector agreements have become binding.

Currently, digitalisation is a relatively minor topic for collective bargaining. In the electricity sector, the two main companies (EDF, production; ENEDIS, distribution), have concluded very few agreements related to digitalisation. The only exceptions pertain to the right to disconnect, telework, monitoring the effects of telework and digitalisation. Neither is digitalisation a recurrent topic of social dialogue in the (public) hospitals and public administration: the only national (framework) agreement concluded on the topic in the public sector is the 2021 agreement on telework.

Digitalisation has many effects on the quality of work, reflected in trade union demands on these issues: an intensification of social dialogue and collective bargaining on the topic of digitalisation is therefore needed in these sectors.

SECTION 6. POLICY RECOMMENDATIONS

The implementation of new digital tools or approaches must be led by co-construction with workers. This would prevent top-down only approaches, disconnected from the field. It would enhance the relevance of the tools implemented, and their acceptance. Face to face training must be planned for all new implementation of tools and approaches. An impact assessment on employment must also take place before the implementation of new tools. There should be a systematic review of implementation (communicated to the officials/employees), conducted by a monitoring committee. Account must be taken of the anticipated impact on skills and career paths.

In terms of IT devices, various suggestions have been reported for the public sector: (a) creating a secured public IT hub at national or sectoral level to benefit workers (implementation of common digital tools, in particular software, national public Cloud, remote access, videoconferencing); (b) improving the harmonisation of digital software between administrations, or within a given administration; and (c) a general reflection on data and AI, which is becoming more and more central (issues of data security, data ownership, the respect of the users' private life). These issues relate broadly to fundamental rights and democracy.

Furthermore, it is also important to promote digital acculturation at different levels, notably by promoting acculturation of political leaders, senior administrative officials (and employers in general) and particularly union representatives, familiarising them with the challenges related to digitalisation. Specially designed training should be provided to remedy the lack of expertise on digitalisation. Support and training of workers and managers is also important to make work teams more effective in a digitalised context.

It is also important to ensure that public services retain a possibility for direct contact between users and officials, or that certain local administrations are reopened, for better inclusion of populations without any access to digital public services or with poor basic digital skills.

Productivity gains provided by digitalisation in the public sector should also be redistributed, mainly to improve the quality of working life and of services to the users, and not to reduce employment.

In terms of social dialogue and collective bargaining, it seems paramount to increase, significantly, information-consultation on digitalisation in the bodies representing employees. It is important to

go beyond a merely 'formal' social dialogue (need for good will among the parties, need for a change in the level of collective bargaining, need for stakeholders to change their perceptions). More generally, a permanent social dialogue on digitalisation is becoming essential, if we are to adapt to a context of rapidly changing technologies. It is also vital to extend collective bargaining on digitalisation beyond the topics of 'telework' and the 'right to disconnect'. Open and direct discussion of the impact of digitalisation on productivity gains and their distribution (and the link to work quality) should take place between trade unions and the public employer. It is equally important to enable trade unions to negotiate the set time prescribed for a given task in jobs where this applies, as this significantly reduces autonomy and increases control.

A European agreement on digitalisation for central and federal government was signed on 6 October 2022 ([30]) and will have to be transformed into mandatory legislation: 'If the Commission agrees to a legislative implementation, it will provide some 8 million workers and civil servants with new or stronger protection on telework, the right to disconnect, training, health and safety, personal data, outsourcing and human-in command artificial intelligence' ([31]).

We consider that this European agreement on digitalisation, covering various topics related to digitalisation (and not limited to telework) should then be extended beyond the central administration, and to all public and private sector officials or employees providing a public service, to raise the level of protection in relation to digitalisation in Europe. The goal of greater adaptation of working conditions (in the broader sense) in the 'public/civil service' to digitalisation is of key importance.

Social Europe is still to be built in regard to digitalisation. European trade unionists should intensify their involvement and increasingly weigh in on this topic at European level, and, in cascade, at the Member States level. This seems essential if digitalisation is to benefit the population at large and workers in particular.

30. See https://www.cesi.org/wp-content/uploads/2022/10/SDC-CGA-Agreement-on-digitalisation-EN.pdf
31. Public statement by EPSU: https://www.epsu.org/article/eu-social-partners-adopt-agreement-digitalisation-central-and-federal-government

REFERENCES

du Castel V. (2018) Entre processus de normalisation et durabilité de l'information digitale, vers une nouvelle dépendance à la faveur de l'énergie numérique [Between standardization process and sustainability of digital information, towards a new dependence on digital energy], in Liquète V., Mallowan M. and Marcon C. (2018) Processus de normalisation et durabilité de l'information, Revue COSSI : communication, organisation, société du savoir et information, 5, 98-115.

CFDT (2016) Transition numérique - Analyse de la CFDT [digital transition - analysis by CFDT], Nos ambitions, April 2016.

CGT (2017) L'impact du numérique sur l'emploi et le travail [Impact of digitalisation on employment and work], Brochure fédérale, 29, Fédération CGT des Sociétés d'Etudes, September-December 2017.

Clot Y. (2015) Le travail à cœur : Pour en finir avec les risques psychosociaux [Work at heart: To put an end to psychosocial risks, Paris, La Découverte.

Conseil d'Orientation de l'Emploi (COE) (2017) Automatisation, numérisation et emploi. Tome 3 : l'impact sur le travail [Automation, digitalisation and employment. Volume 3: Impact on work], December 2017.

Cour des comptes (2022) Le télétravail dans la fonction publique après la crise sanitaire. Premier bilan [Telework in the public service after the health crisis. First assessment], Rapport public thématique, November 2022.

Derdevet M. (2017) Digitalisation et gestion ouverte des données : de nouveaux horizons pour les distributeurs d'électricité, Annales des Mines - Responsabilité et environnement, 3 (87), 54-58.

DGAFP (2021) Rapport annuel sur l'état de la fonction publique [Annual report on the state of the public service].

DREES (2021) L'exposition à de nombreuses contraintes liées aux conditions de travail demeure, en 2019, nettement plus marquée dans le secteur hospitalier qu'ailleurs, Etudes et Résultats, 1215, November 2021.

DREES (2022) Les établissements de santé, édition 2022, Panoramas de la DREES.

ENA (2019) E-administration et transition numérique de l'Etat [E-administration and digital transition of the State], Centre de ressources et d'ingénierie documentaires – bibliographie, décembre 2019.

European Commission (2022) Digital Economy and Society Index (DESI) 2022 - France.

French government (2021a) Plan national de relance et de résilience [National Recovery and Resilience Plan], French government.

https://www.economie.gouv.fr/files/files/directions_services/plan-de-relance/PNRR%20Francais.pdf

French government (2021b) France 2030, Plan d'investissement [Investment plan]. https://www.economie.gouv.fr/files/files/2021/France-2030.pdf

Grandclement A. (2020) Les pôles de compétitivité : d'une géographie de l'innovation à une géographie de la production [Competitiveness clusters: from a geography of innovation to a geography of production], Géoconfluences, December 2020.

Insee (2019) L'économie et la société à l'ère du numérique [Economy and society in the digital age], édition 2019.

Jeannot G. (2020) Vie et mort de l'État plateforme [Life and Death of the Platform State], Revue française d'administration publique, 173 (1), 165-179.

O'Reilly T. (2011) Government as a Platform, Innovations: Technology, Governance, Globalization, 6 (1), 13-40.

Opérateur de compétence interindustriel (OPCO 2I) (2020) Panorama des branches professionnelles Industries électriques et gazières 2020 [Overview of professional branches Electricity and gas industries 2020].

Parmantier B. (2011) Le secteur des industries électriques et gazières en France : Évolution des relations sociales de la nationalisation à la privatisation [The electricity and gas industry sector in France: Evolution of social relations from nationalization to privatisation], in Relations sociales dans les services d'intérêt général: Une comparaison France-Allemagne [online], Cergy-Pontoise : IFAEE. http://books.openedition.org/cirac/472

All links were checked on 01.03.2023.

Annex 1. List of interviews

ID	Institution	Sector	Occupational group	Position	Date	Method
INT1	Union fédérale des syndicats de l'Etat – CGT (UFSE-CGT)	Public administration	-	National secretary	11.04.2022	Face to face
INT2	CFDT Plaine Commune		-	Co-secretary	11.05.2022	Face to face
INT3	Interco-CFDT		-	Federal secretary (Europe and international)	11.05.2022	Face to face
INT4	Interco-CFDT		-	Federal secretary	16.05.2022	Videoconference
INT5	CFDT Pôle Emploi Ile-de-France		-	Shop steward	25.05.2022	Videoconference
INT6	CFDT Enedis	Electricity	-	Shop steward, present in the national and regional work councils	20.04.2022	Videoconference
INT7	CFE CGC (CFE-CGC – UNSA ([32]) alliance) EDF		-	Shop steward, joint secretary of the works council	09.05.2022	Videoconference
INT8	CFE CGC (CFE-CGC - UNSA alliance) EDF		-	Elected representative (works council)	01.06.2022	Videoconference
INT9	CFE CGC (CFE-CGC - UNSA alliance) EDF		-	Elected representative at the works council	07.06.2022 & 9.06.2022	Videoconference
INT10	Fédération nationale des mines et de l'énergie CGT (FNME-CGT), 100% seconded from ENEDIS			Federal administrator	18.06.2022	Videoconference
INT11	Fédération Force Ouvrière des personnels des Services Publics et des Services de Santé (FPSPS-FO)	Public and private hospital	-	Federal secretary	20.04.2022	Face to face
INT12	Union fédérale des médecins, ingénieurs, cadres et techniciens (UFMICT-CGT), & CGT Santé Action Sociale		-	General secretary UMICT-CGT, and Federal secretary (CGT Santé Action Sociale)	23.05.2022	Face to face
INT13	Santé Sociaux-CFDT		-	Political leader	26.08.2022	Videoconference

32. Union nationale des syndicats autonomes, or national union of autonomous unions.

Annex 2. List of focus groups

FG1: Electricity Sector - CGT and FNME-CGT headquarters, Montreuil, 12 October 2022

FG2: Hospital Sector - CGT office, Trousseau Hospital, Paris, 17 November 2022.

FG3: Public administration - CFDT Finances Headquarters, Paris, 4 January 2023.

ID	TU affiliation	Sector	Occupation
FG1	CGT Enedis	Electricity	Technician
FG1	CGT Enedis		Human resources employee
FG1	CGT Enedis		Project manager
FG1	CGT Enedis		Technician
FG2	CGT Trousseau	Public and private hospital	Nurse
FG2	CGT Trousseau		Nurse
FG2	CGT Trousseau		Caregiver
FG2	CGT Trousseau		Secretary
FG3	CFDT	Public administration	Inspector of Finance
FG3	CFDT		Collections officer
FG3	CFDT		Inspector of Finance
FG3	CFDT		Inspector of Finance
FG3	CFDT		'Operating system developer' Inspector
FG3	CFDT		Administrative official