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Between Silos and Networks: Digital Infrastructures and Reconfiguration of Expertise in the Belgian Justice System

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Abstract

This article investigates how the introduction of the Mammoet at Central Hosting (*MaCH*) digital case-management system reshapes expertise within the Belgian road traffic criminal justice supply chain. Conceptualizing the supply chain as a multi-level network comprising interconnected yet institutionally distinct actors, the study draws on Actor-Network Theory (ANT) and boundary work perspectives. It employs a qualitative, multi-case approach to analyze how *MaCH* mediates professional practices among judges, prosecutors, clerks, and technologists. Findings reveal that *MaCH* significantly streamlines administrative tasks before and after court hearings, redistributing responsibilities and prompting shifts in professional expertise boundaries. Judicial professionals strategically adopt a "protective connectedness" approach, balancing collaboration with boundary protection to preserve core expertise and maintain control over critical decision-making processes. Ultimately, the article contributes to understanding digitalization's complex role in reconfiguring professional expertise in supply chain judicial contexts.

Key words

Digital infrastructures; networks of expertise; ANT; boundary work; protective connectedness; public sector supply chain

Resumen

Este artículo investiga cómo la introducción del sistema digital de gestión de casos Mammoet at Central Hosting (*MaCH*) está transformando la experiencia dentro de

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la cadena de suministro de la justicia penal en materia de tráfico rodado en Bélgica. Conceptualizando la cadena de suministro como una red multinivel compuesta por actores interconectados pero institucionalmente distintos, el estudio se basa en la teoría del actor-red (ANT) y en las perspectivas del trabajo fronterizo. Emplea un enfoque cualitativo y multicaso para analizar cómo *MaCH* media en las prácticas profesionales entre jueces, fiscales, secretarios y tecnólogos. Los resultados revelan que *MaCH* agiliza significativamente las tareas administrativas antes y después de las audiencias judiciales, redistribuyendo las responsabilidades y provocando cambios en los límites de la experiencia profesional. Los profesionales judiciales adoptan estratégicamente un enfoque de "conectividad protectora", equilibrando la colaboración con la protección de los límites para preservar la experiencia básica y mantener el control sobre los procesos críticos de toma de decisiones. En última instancia, el artículo contribuye a comprender el complejo papel de la digitalización en la reconfiguración de la experiencia profesional en los contextos judiciales de la cadena de suministro.

Palabras clave

Transformación digital; redes de expertos; ANT; trabajo fronterizo; conectividad protectora; cadena de suministro del sector público

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1. Introduction

For two decades now, modernization of public administrations through digital transformation has been at the top of the European political agenda (European Commission 2008, 2019; European Commission for the Efficiency of Justice (CEPEJ) 2020). This is particularly true for the judicial sector, which is notorious for its resistance to change. Once known for their ritualistic reliance on tradition, paper documentation, and autonomous professional discretion, the justice system is increasingly integrating technological solutions to meet rising demands for efficiency, transparency, and interoperability (Bastard and Dubois 2016, Schoenaers 2021, Whalen 2022). Within this shifting landscape, this article analyses the adoption of the *MaCH* tool, a platform meant to centralize digital case-management in Belgian criminal justice system. More than a mere technical innovation, *MaCH* functions as a socio-technical artifact: it mediates not only administrative practices but also the complex professional relationships, boundaries, and forms of expertise that underpin daily judicial practices.

More specifically, this article investigates how *MaCH* reshapes the Belgian road traffic criminal justice chain. This chain is analytically approached as a public sector supply chain (Callender 2011, de Blok *et al.* 2015). Such a conceptual framework offers insights into how practices circulate among interdependent actors and reconfigure expertise. Public sector supply chains are defined as networks of governmental organizations that work collaboratively (Noordegraaf 2016) to deliver public services to citizens (Ambe 2012). Within this logic, the Belgian road traffic criminal justice chain—comprising police services, public prosecutors, and police courts—can be seen as a multi-level, inter-organizational system that collectively ensures the enforcement of traffic laws and the administration of justice. Like in other public service domains, each actor in this chain performs distinct but interconnected work, where the output of one institution often becomes the input for another, making the chain reliant on efficient coordination, information exchange, and continuity of workflows across organizational boundaries (Yang and Maxwell 2011, Seepma *et al.* 2021).

Yet, unlike typical private-sector supply chains, the criminal justice chain is embedded in a *tria politica* (Montesquieu 1989) constitutional framework, which imposes structural separations between the executive, judiciary, and legislative branches. This legal design preserves independence but often hampers integration and interoperability, producing siloed operations that are poorly equipped to manage high-volume, cross-cutting processes like road traffic enforcement (Ponsignon *et al.* 2011). This creates a unique paradox: although the system must operate cohesively to deliver justice, its legal and institutional foundations inherently promote fragmentation. To address this structural disconnection, digital case management tools were introduced to bridge the divide between organizational autonomy and the need for operational coordination. It is within this logic that *MaCH* was deployed in 2008, positioned as a key digital solution to counteract longstanding "inefficiencies" (Wynsdau and Jongen 2015). More than a technical upgrade, *MaCH* formed part of a broader strategy aimed at standardizing information flows, simplifying administrative tasks, and enhancing collaboration across the various institutions involved in processing road traffic offenses (Service Public Federal Justice 2019).

The central research question guiding this study is: How does *MaCH*, as a socio-technical artifact, mediate boundary work through everyday practices to reconfigure networks of expertise in Belgium's road traffic criminal justice system? Rather than treating *MaCH* as a neutral tool for automation, we approach it as a mediator that both shapes and is shaped by evolving professional practices. Specifically, we examine how *MaCH* enables—or constrains—interactions between all the human and non-human actors of the supply chain. These interactions have implications for the allocation of practices, leading to jurisdictional claims and the reconfiguration of networks of expertise.

To investigate this question, the article draws on ANT (Latour 2005, Akrich *et al.* 2006) and scholarship on boundary work (Gieryn 1983, Lamont and Molnár 2002, Phillips and Lawrence 2012, Langley *et al.* 2019). These frameworks allow us to consider *MaCH* as an agentive artifact that co-constitutes expertise through everyday interactions with judicial professionals. ANT provides the conceptual tools to understand expertise as a distributed network effect—a product of assemblages involving human actors (judges, prosecutors, clerks, registry staff members), non-human actors (*MaCH*, files, case codes, templates), and socio-material practices (coding, validating, interpreting). Simultaneously, the lens of boundary work highlights how professionals strategically defend, negotiate, and reconfigure the symbolic and practical limits of their expertise when confronted with technological and organizational changes (Abbott 1988, Allen 1997, Faulconbridge *et al.* 2021). Stepping from a singular, profession-centric expertise (Petrakaki *et al.* 2012, Eyal 2013) towards a collaborative and interdisciplinary approach (Elmholdt and Elmholdt 2017), we suggest that forms of expertise need to be assembled and integrated by the performance of certain work practices. Through these combined perspectives, we explore how expertise is not only practiced but continuously restructured in a digitally mediated environment.

Our study employs a multi-case research design (Yin 2009) to capture the nuances of these transformations across contrasting jurisdictions in Belgium (see below, section 2.2). By examining everyday practices before, during, and after court hearings, we trace how *MaCH* reshapes workflows, reallocates responsibilities, and influences inter-organizational collaboration and negotiations. This methodological approach allows us to uncover the intricate interplay between digital tools and human agency in the emergence and redistribution of expertise.

This paper makes three contributions. First, while research on digital justice often frames automation as the primary outcome of technological change (Susskind and Susskind 2022), our analysis reveals a nuanced process of learning, adaptation, and redefinition of professional practices. Second, whereas studies of supply chains typically emphasize performance metrics (Karwan and Markland 2006, Venkatesh *et al.* 2012), we focus instead on how professional groups navigate the integration of technology like *MaCH*. Third, we highlight the inter-organizational dynamics involved in *MaCH*'s implementation, complementing existing research that has largely examined either single-organization digitization or citizen–government interactions (Lindgren and Jansson 2013).

2. Context and methods

To situate our analysis, we begin by outlining the institutional and reform context in which *MaCH* was introduced, before turning to the methodological approach that guided our study.

2.1. Belgian judicial system and the MaCH reform

Belgium's justice system is embedded in a complex federal state structure (Uyttendaele 2017). At its core lies the constitutional principle of *tria politica*[1]—the separation of powers (Montesquieu 1989)—which distributes legislative, executive, and judicial authority across distinct bodies. In practice, this involves the police as part of the executive, the public prosecutor's office—which straddles both the judiciary and the executive—and the courts, which exercise judicial power. Each operates independently, preventing executive bodies from issuing injunctions or directives to the judiciary. Within this framework, the term "magistrates" refers both to seated magistrates (judges) and standing magistrates (members of the public prosecutor's office). Judges enjoy full independence in adjudication (Constitution, Art. 151, Moniteur Belge 1994); while prosecutors, though hierarchically organized under the Minister of Justice, retain autonomy in handling individual cases (de Leval and Georges 2010). The system is also marked by linguistic fragmentation. French-speaking Wallonia and Dutch-speaking Flanders share a unified judiciary, yet everyday practices, coordination styles, and modernization rhythms often reflect historical–linguistic distinctions. Digital reforms therefore must accommodate divergent institutional traditions, professional cultures, and infrastructures. Every initiative is scrutinized through the lens of community interests, reflecting the consociational character of Belgian democracy and the compromises it requires (Vigour 2018).

From the late 1990s onwards, Belgium's judiciary, like many across Europe, entered a phase of accelerated modernization. Crises of legitimacy and growing demands for accountability opened windows of opportunity for reform, and New Public Management (NPM) principles— aiming to enhance public sector efficiency by adopting management strategies commonly used in the private sector (Schoenaers 2015)—were mobilized to rationalize judicial work, introducing benchmarks, scorecards, and performance contracts (Vigour 2004, Contini and Mohr 2007). Over time, these managerial reforms have increasingly been supplemented—and sometimes supplanted—by digital infrastructures (Contini and Fabri 2001, Dumoulin and Licoppe 2011, Cappellina 2018). Belgium's trajectory is consistent with broader European trends: in France, for instance, the *Cassiopée* system has been deployed across criminal courts (Féry 2015), while Italy's *Processo Telematico* has progressively restructured civil justice (Fabri 2009). The *MaCH* case management system exemplifies this wider movement: it is part of a longer history of attempts to rationalize judicial work through managerial and technological tools, progressively reshaping judicial organization and practice.

[1] *Tria politica* refers to Montesquieu's theory of the separation of powers into legislative, executive, and judicial functions. In the Belgian context, it prohibits the executive from issuing injunctions or directives to judges, ensuring judicial independence while shaping the institutional boundary between police, prosecutors, and courts.

Launched in 2008, *MaCH* is a modular case-management system initially introduced in district courts and later extended to police courts[2] and prosecutors' offices. Its purpose is to manage data on a single centralized server and provide a reliable digital standard with a focus on supporting the administrative work of practitioners and converting physical flows of information into digital flows (Service Public Fédéral Justice 2019). *MaCH* is primarily an internal administrative tool: clerks and register staff use it for data entry and document production (e.g., hearing reports, judgments, certificates of driver's license withdrawal), while magistrates tend to use it mainly for consultation purposes. Importantly, *MaCH* does not possess decision-making capacities and is not intended for public information sharing; rather, it functions as a technological node that facilitates standardized data exchanges. While initiated by the federal executive, its development and maintenance were entrusted to the AX'OP consortium—a partnership between the French companies Axi and Open—illustrating that *MaCH* is not solely a state-led reform but also the outcome of public–private collaboration (Conseil des ministres 2008; Conseil Supérieur de la Justice, personal communication, June 30, 2020). These design and maintenance choices reflect a hybrid governance arrangement that highlights the sociotechnical features of *MaCH* and anticipates the institutional tensions explored in later sections. At the same time, its deployment was not a frictionless process. Its rollout was conditioned by existing organizational structures and professional cultures, which both enabled and constrained its integration.

2.2. A case study methodology

This contribution applies a case study approach to facilitate an in-depth understanding of the influence of the *MaCH* tool on how network of expertise redesign and react within the road traffic criminal justice supply chain in Belgium (Yin 2009). Two case studies were performed within two contrasting jurisdictions (Beta and Epsilon): they differ in terms of size, language regime (French and Dutch), population density, and geographical scope. Both switched to *MaCH* between 2007 and 2009. Rather than aiming at cross-case comparison, the study seeks to illuminate how digital infrastructures unfold across diverse institutional contexts. Each case provides a situated perspective on the interaction between professional practices, organizational constraints, and technological affordances. Taken together, they allow for a nuanced and multi-faceted understanding of judicial digitalization, attentive to local particularities. This research draws on qualitative methodology. It is primarily based on on-site observations (n = 11) and, confidential and anonymous individual semi-structured interviews conducted with people directly concerned by this subject (n = 24), between September 2022 and December 2022. Interviews were conducted in French and Dutch and subsequently translated into English for the purpose of this article. While preserving anonymity, interviewees can be grouped as follows: judges and court presidents (n = 5), prosecutors (n = 3), clerks and registry staff (n = 12), IT staff (n = 2), and lawyers (n = 2). Of these, nine

[2] In Belgium, the Police Court is a first-instance court with both criminal and civil jurisdiction in road-traffic matters. Criminal competences include traffic offences (e.g., hit-and-run, drink-driving) and related contraventions; civil competences include compensation claims following road or rail accidents. In addition, it has jurisdiction over disputes relating to football matters over the recovery of administrative fines. Police-court hearings are presided by a judge (assisted by a clerk), with a representative of the public prosecutor's office present. This paper focuses on the criminal side.

interviewees had direct experience of both the "before" and "after" of *MaCH*'s introduction, while the others were hired after its implementation and only knew the system as established practice. As the police are not users of *MaCH*, they were not included in the case studies. Every interview provided both a descriptive account and a meaningful interpretation of the interviewees' working experience and context. A thematic content analysis was then carried out using Corpus©.[3] Corpus is a free open-source software developed by the University of Liège. It enables thorough and detailed qualitative thematic analysis (Braun and Clarke 2006) across various document types such as case law, interviews, focus groups, and press articles. This capability is made possible by its sharing, labelling and multilevel tagging systems. In addition to this empirical material, grey and scientific literature reviews were conducted. Simultaneously, web and documentary searches were executed in order to collect "managerial discourse" relating to *MaCH*, including online publications as well as policy documents, technical manuals, minutes drawn up by the federal public service of justice, blog posts, interviews in the press, and posts on LinkedIn.

3. Theoretical frameworks

As digital technologies become embedded in professional fields, prior research suggests they can alter how expertise is constructed, mediated, and exercised. In the criminal justice system, tools such as *MaCH* are therefore best approached not only as administrative supports but as elements that may interact with the very fabric of judicial practice (Latour 2005). We use ANT and boundary-work perspectives as conceptual lenses to examine how expertise can be understood as a distributed, performative network effect in which human actions and digital tools co-constitute practices. These lenses guide our analysis and frame the questions we investigate about efficiency, accuracy, and justice in contexts where digital tools interact with professional work.

3.1. A new form of hybrid professionalism

Scholars in sociology of professions have long distinguished between different models of professionalism—that is, distinct ways of organizing and legitimizing professional authority. The first is occupational professionalism (Freidson 2017), which emphasizes autonomy, collegial authority, and jurisdictional control (Abbott 1988). In this model, legitimacy derives from specialized knowledge and a shared professional ethos. Magistrates have traditionally embodied this form of professionalism: their authority rested on interpreting complex legislation, exercising discretion in case management and sentencing, and drawing legitimacy from both specialized legal expertise and support from institutional associations. By contrast, organizational professionalism (Evetts 2011) arises when professional work is structured by managerial logics and bureaucratic forms of accountability. Here, authority is exercised not through collegial self-regulation but through external oversight, standardized procedures, and performance metrics. While occupational professionalism relies on trust in expertise, organizational professionalism relies on rational-legal authority and measurable outputs. These two models are best understood as ideal types rather than mutually exclusive realities: in practice,

[3] https://corpus.lltl.be

professional work often combines elements of both, with their relative weight shifting over time.

In public administrations, the balance between occupational and organizational logics has been unsettled by the convergence of managerial reforms (Vigour 2008, Bastard and Dubois 2016, Schoenaers 2021) and digitalization (Garapon and Lassègue 2018). This confluence is especially pertinent in institutions historically anchored in tradition and autonomy, such as courts and prosecution services. Professionals who once relied heavily on exclusive jurisdiction now face more pressures to standardize work, use performance metrics, and integrate digital tools into routine practice. These shifts prompt a rethinking of how expertise is practiced and recognized. Yet traditional values persist: judges and prosecutors continue to hold core legal authority—interpreting the law, assessing evidence, and making binding decisions—functions that remain symbolically and practically central to their work. The coexistence of these pressures takes the form of what Noordegraaf (2007, 2015) terms hybrid professionalism. In this hybrid landscape, occupational autonomy persists but frequently collides with organizational imperatives. As we show in empirical sections, case-management infrastructures can provide a salient site in which such hybridity is enacted.

3.2. Networked and practices-based perspective on expertise reconfiguration

Within this context, expertise has become an increasingly contested terrain. In classical approaches, expertise is closely tied to professions, typically defined by formal training, ethical codes, and jurisdiction over specific tasks (Abbott 1988, Freidson 2017). Abbott, in particular, conceptualizes professions as competing for *jurisdictions*—that is, control over specific tasks and responsibilities.

While this tradition highlights how professional boundaries are drawn and defended, it pays less attention to how expertise is enacted in practice and mediated by material conditions. To address this, more recent approaches shift the focus from bounded jurisdictions to the relational processes through which expertise is produced and sustained. Eyal (2013), for instance, conceives of expertise as a distributed and performative effect that emerges from interactions between human and non-human actors. From this perspective, expertise is not confined to individuals but reflects the collective capacity to perform work effectively, shaped and reinforced through practices, artifacts, and professional socialization. This view is anchored in ANT, emphasizing that expertise is mediated by artifacts, texts, and routines. It shows how artifacts themselves shape the possibilities of action and interaction, thereby participating in the stabilization of what counts as expertise. From this angle, technologies such as *MaCH* are active participants in the shaping of expertise. This lens foregrounds what is called "networks of expertise": dynamic assemblages of human and technological actors whose coordinated actions sustain authority and knowledge (Eyal 2013, Elmholdt and Elmholdt 2017).

Building on this networked understanding, we adopt a practices-based perspective that locates expertise in the routine actions and interactions of professionals. As digital tools become embedded in everyday work, they reshape how tasks are distributed, how collaboration unfolds, and how professional boundaries are maintained—or redrawn. Petrakaki *et al.* (2012), for example, show how digital infrastructures in healthcare

reconfigure professional hierarchies by redistributing tasks across occupational lines. This underscores that expertise is less about singular, profession-centric authority and more about collaborative and interdisciplinary coordination. From this perspective, digitalization is not an external influence on professional work but a constitutive force, simultaneously shaped by and shaping institutional logics and human decisions.

Finally, while Abbott (1988) already identified the emergence of paraprofessionals as part of jurisdictional shifts, digital tools pushes this phenomenon further. From a practice-based and ANT perspective, these new figures are co-constituted with digital infrastructures themselves. Research in healthcare, for example, shows how electronic prescription systems have enabled technicians and internet-based dispensers to assume tasks once central to pharmacists. Such cases illustrate how expertise circulates beyond established professional domains, filling gaps and challenging boundaries. They also show why expertise must be understood as a relational and situated accomplishment rather than a fixed property of traditional professions. These dynamics do not signal straightforward deprofessionalization or reprofessionalization but reflect a broader reconfiguration of practices, where technology, organizational demands, and professional norms jointly reconfigure the conditions under which expertise is enacted and recognized (Petrakaki *et al.* 2012).

3.3. Pushing the frontiers of boundary work

To explore shifting dynamics in professional expertise, this article draws on boundary work. Initially introduced by Gieryn (1983) to describe strategies distinguishing science from non-science, the concept has since expanded to capture the intentional efforts—both individual and collective—that shape the social, symbolic, material, and temporal boundaries defining groups, occupations, and organizations (Lamont and Molnár 2002, Phillips and Lawrence 2012). Over the past decades, boundary work has been applied at multiple levels, from individuals to institutions, with studies drawing on discursive and practice-based approaches and developing typologies that map the diverse forms, triggers, and outcomes of boundary negotiation (Langley *et al.* 2019).

A central distinction in this literature is between competitive and collaborative perspectives. Competitive boundary work highlights how actors defend or contest jurisdictions to assert authority, as in Abbott's (1988) account external forces—particularly technological change—reshuffling professional domains. Collaborative perspectives instead examine how groups, occupations, and organizations negotiate, align, or even soften boundaries to achieve shared goals. A number of studies within this stream focus on how technological innovation reconfigures everyday interactions and relationships among collaborating groups or domains of knowledge (Barrett *et al.* 2012, Apesoa-Varano and Varano 2014), with particular attention to the role of materiality in shaping these negotiations (Kellogg *et al.* 2006).

Despite these insights, the literature presents several limitations. First, few studies adopt a fully practice-based perspective that views boundaries as continuously enacted through everyday interactions (Levina and Vaast 2005, Kaplan *et al.* 2017). Second, the role of material agency has often been sidelined, despite exceptions showing how technologies actively shape negotiations (Kaplan *et al.* 2017). Third, most empirical work focuses on dyadic encounters (e.g., between doctors and nurses (Allen 1997));

overlooking the ripple effects of boundary negotiations across wider networks. Finally, competitive and collaborative dynamics are often treated separately, even though in practice they are deeply intertwined: actors frequently collaborate strategically and deliberately in ways that simultaneously protect their own authority (Langley *et al.* 2019). To address these gaps, we adopt a practice-based and ANT perspective that foregrounds the role of routine work and the interplay of human and non-human actors in shaping and stabilizing networks of expertise. This approach also expands the focus beyond interactions between only two professional groups to encompass the wider constellations of actors involved in boundary negotiations. Within this broader framework, we use protective connectedness (Faulconbridge *et al.* 2021) as a specific lens to capture how competition and collaboration are entangled, showing how professionals simultaneously safeguard their core jurisdiction while engaging in cross-boundary cooperation in response to organizational and technological change.

3.4. The "protective connected" strategy

We mobilize protective connectedness to conceptualize how collaboration is often driven by defensive strategies: professionals protect their domain by retaining tasks seen as most valuable or requiring the highest expertise, while simultaneously inventing new practices that reinforce their distinctiveness (Faulconbridge *et al.* 2021). One common strategy is the delegation of selected tasks to practitioners of lower status, thereby reaffirming hierarchies and preserving core expertise (Noordegraaf 2020).

Boundary work, in this sense, becomes a way of managing power asymmetries rather than eliminating them (Strauss 1988). As studies in healthcare show (Allen 1997, Apesoa-Varano and Varano 2014), flexible and often informal accommodations between groups frequently go unacknowledged and are never formally legitimized, even though they play a vital role in sustaining collaboration. Ironically, these subtle practices may reinforce rather than challenge hierarchical structures, despite their value for organizational efficiency and cooperation. In the empirical sections, we use this lens to examine how protective connectedness is enacted around *MaCH* in the justice domain.

Drawing on these insights, we propose a revised understanding of boundary work—one rooted in practice theory, attentive to entangled human and technological agency, and centred on interactional forms of expertise. Building on Langley *et al.* (2019), we define boundary work as the purposeful, networked effort to reconfigure the practices through which the boundaries of expertise are enacted and sustained. This definition anchors our empirical analysis.

4. The complexity of the road traffic criminal justice supply chain: from challenges to the digital imperative

The road traffic criminal justice system can be conceptualize as a public service supply chain composed of multiple organizations that collectively ensure the rule of law (Seepma *et al.* 2021, p. 421). Police, prosecution services, and courts operate as successive yet interdependent links in this chain, working together to deliver justice and safety as public services to citizens and society (Callender 2011, de Blok *et al.* 2015), as shown in Figure I. Hence, public service delivery in criminal justice is increasingly understood as a collaborative process involving multiple institutions (Noordegraaf 2016). Like other

public service supply chains, this network is characterized by organizational diversity, complex responsibilities, and dense layers of regulation, all of which constrain the integration of processes across institutions (Ambe 2012). These constraints often hinder the development of strategic inter-organizational partnerships and make coordination among all parties involved in service delivery a central challenge (McCue and Pitzer 2005). Police, prosecution services, and courts collaborate daily in road-traffic cases, but they remain embedded in distinct organizational domains and professional logics, with their own workflows, standards of practice, and data systems (Service Public Fédéral Justice 2019). This structural separation of institutions, rooted in constitutional principles, continues to shape coordination today.

Prior to *MaCH*, this organization fragmentation was further reinforced by technological disconnection: each institution relied on its own case-management system, typically non-interoperable. As a result, professional practices developed in relative isolation, and information exchange between institutions was often slow and incomplete (Wynsdau and Jongen 2015). Practitioners themselves described this experience in terms of "silos." As one police court judge explained, "we worked in silos: each institution sees only its own part of the case, and without a common system it was very difficult to connect our work with that of others" (Police court judge, December 2022, Court Epsilon). This testimony underscores that silo-ing was not only raised in reform discourses seeking to modernize and standardize judicial processes but also constituted a lived frustration within the judiciary, where partial visibility reinforced fragmented practices and complicated coordination across organizational boundaries. These siloed practices reflected the regulatory and operational constraints of each institution, and it also generated persistent inefficiencies and inconsistencies across the justice chain that "was not optimal for the collaborative demands of criminal justice" (Prosecutor, December 2022, Court Epsilon). As another prosecutor recalled, the absence of a shared platform "severely hindered both operational efficiency and inter-organizational collaboration" (Prosecutor, October 2022, Court Beta). The statement highlights the normative expectation of coordination, against which pre-*MaCH* practices were judged inadequate.

FIGURE 1

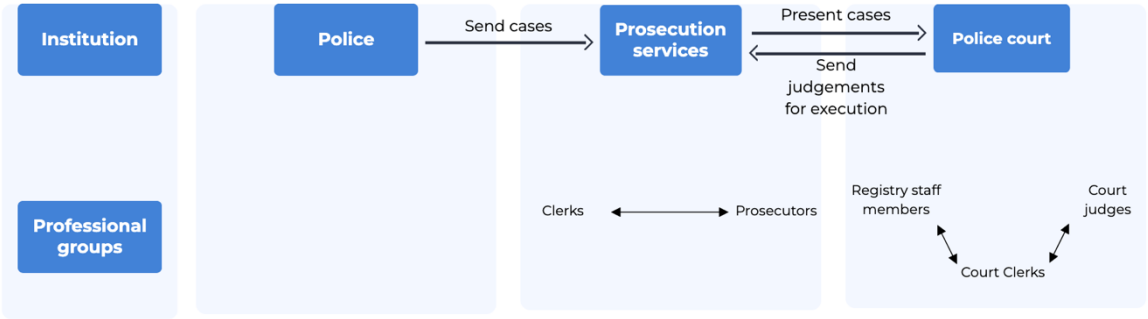

Figure 1.[4] The institutions and professional groups involved in the road traffic criminal Justice supply chain.

In response to these challenges, *MaCH* was introduced in 2008 by the executive branch to modernize judicial workflows (Service Public Fédéral Justice 2019). Its initial rollout

[4] The police are represented as part of the supply chain but without associated professional groups, since they were not included in *MaCH*'s rollout.

was prioritized in the road-traffic justice supply chain for two main reasons. First, this domain requires especially efficient coordination, as police, prosecutors' offices, and courts must work together to bring cases to trial. In such a complex, multi-level network—subject to strict requirements for privacy, confidentiality, and authenticity—robust information exchange is not just advantageous but indispensable (Yang and Maxwell 2011, Seepma *et al.* 2021). Second, road-traffic litigation represents one of the highest-volume sectors of judicial activity. Governed by detailed legislation and standardized procedures, it offers a particularly favourable terrain for digital integration (Ponsignon *et al.* 2011). It is important to note that by entrusting development to the AX'OP private consortium, public authorities introduced an external actor into the justice chain, whose design decisions would structure future workflows.

Although the police are integral to the criminal justice supply chain, they were excluded from *MaCH*'s implementation because, under the Belgian Constitution's *tria politica* principle, they fall under the executive rather than the judiciary. Yet they remain key actors, operating their own case management system (*ISLP*), which is interoperable with *MaCH* and allows information to circulate across institutional boundaries. This interoperability underscores the interdependent nature of the justice network: as one police court judge put it,

> we are really just one link in the chain, and each link only has a partial view. *MaCH* was designed to ensure that the chain unfolds smoothly and that everything communicates. Encoding takes place at all levels, and information is shared with key partners, such as the police and other federal agencies. (Police court judge, November 2022, Court Epsilon).

Against this backdrop, the analysis focuses on prosecution services and police courts as the primary users of *MaCH*, while recognizing their embeddedness in a broader supply chain.

5. How *MaCH* reshapes judicial practices differently across procedures

This section presents the mediation and transformative influence of *MaCH* on the practices within the road traffic criminal justice system. Our findings reveal that *MaCH*'s most significant benefits occur in the pre-hearing and post-hearing phases—when clerical and administrative tasks are most time-consuming. These new practices free judicial actors to focus on higher-level tasks and complex legal matters.

5.1. MaCH as a streamliner of pre-hearing and post-hearing practices

Most stakeholders note that *MaCH*'s primary benefits occur before and after court hearings, when clerical and administrative tasks are most time-consuming. By automating key work practices, *MaCH* facilitates:

Data integration and automatic transfers

MaCH automates the transfer of police data (from *ISLP*) into a single, trackable file shared between the police, prosecution, and court. Each case is assigned a unique number that links related judgments and files. If any connections exist between cases, these links are also recorded. This automation significantly reduces manual entry,

helping clerks assemble files faster and enabling prosecutors to quickly check for repeat offenses, by automatically linking earlier judgments to new cases.

> I still knew the time when, here, at the public prosecutor's office, all the information relating to the criminal records was on cards […]. For each defendant, we had to manually look up if there was a card and note, by hand, on a sheet of paper, the information. Now it is way easier. (Prosecutor, October 2022, Beta Office)

Bilateral exchange between prosecution and courts

With both the prosecution and the courts using *MaCH*, documents like charges and judgments are automatically exchanged throughout the process. Depending on the stage of the procedure, data is seamlessly transferred from one entity to the other: courts receive preliminary file details from the prosecution prior to hearings, and the prosecution receives court judgments once issued. Before *MaCH*, registry staff members manually re-entered or transferred data from paper files into their own case management system. Now, each party accesses a complete electronic case file, with all actions logged. This integration streamlines workflows by eliminating duplicate data entry and manual file transfers.

> We can reopen documents, print them out, and email them. So, there is a series of information that is quite valuable. For example, if I want to see if an offense is subject to aggravation, I just check *MaCH* and read the previous verdict rendered by the court. It's much easier and faster than requesting the judgment from the clerk's office (by putting a post-it note on the paper file), waiting for it to be printed and sent to us. (Prosecutor, October 2022, Beta Office)

It illustrates how *MaCH* directly addressed coordination bottlenecks by replacing sequential, paper-based exchanges with shared digital access. At the same time, this shift reconfigures inter-professional relations: tasks once mediated by clerks have become directly accessible to prosecutors. What is often described as convenience, therefore, also implies a reallocation of responsibilities within the chain.

Automated document generation

Last but not least, *MaCH* allows the automatic generation of documents based on the data entered. The best example to illustrate this ability is the automatic production of judgements in routine road-traffic cases from pre-coded templates. Sentences relating to road traffic matters are relatively enclosed by the Belgian Road Traffic Police Law (1968). Therefore, *MaCH* tool contains a number of codes which each correlate to a standardized motivation. Court clerks simply select relevant legal references, and the tool produces a formatted judgment—saving substantial typing and formatting time. This is particularly useful for "bench" verdicts, where decisions are pronounced immediately during the hearing and do not require particular motivation or justification.

> The judgment will automatically come out with the correct standard motivation. For cases that don't require any particular thought or questions to be answered, it's really handy. It's a huge time saver because, before, you had to type in the identity of all the parties, insert the magistrates' motivation and re-state the facts. (Court clerk, September 2022, Beta Court)

Beyond highlighting efficiency, this quote illustrates how *MaCH* embeds standardized reasoning into judicial workflows. Automation of routine formulations reduces repetitive manual work, but the automation of "standard motivation" also signals a redefinition of clerk's contribution shifting part of judicial writing into the domain of system-supported administration. However, observations showed that clerks frequently adjust these templates slightly to reflect the judges' preferences and to account for the court's way of doing things. This practice is more visible in Wallonia than in Flanders, because judges seem to be more attached to their writing autonomy, leading to some regional variation in judgment style. These small but systematic adaptations illustrate how professionals, in turn actively shape the deployment of *MaCH.*

As shown in Figure II, *MaCH* serves as an organizing node that redefines administrative tasks previously dispersed across manual processes. By automating and consolidating data flows, it redistributes responsibilities between human and non-human actors, allowing clerks to fine-tune standardized documents and enabling prosecutors to quickly trace repeat offenses—thus reinforcing a managerial logic that values speed and standardization.

FIGURE 2

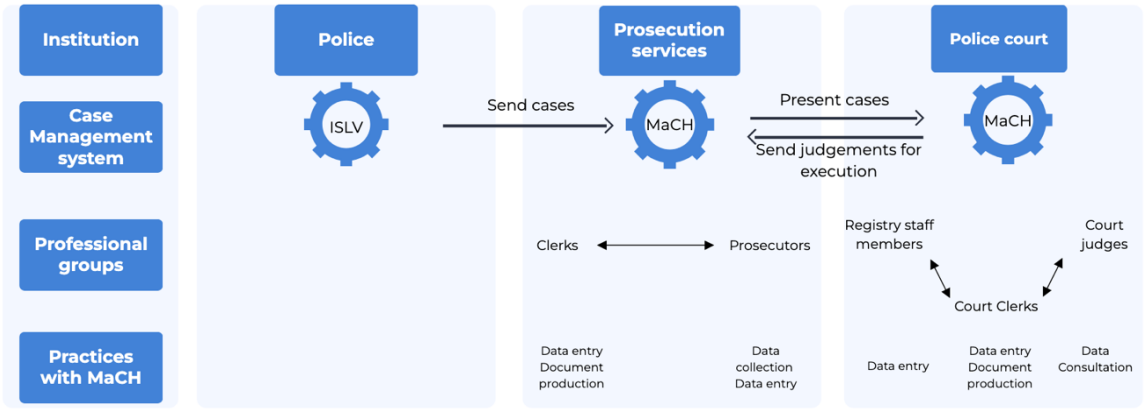

Figure 2. The road traffic criminal Justice supply chain with the introduction of *MaCH*

5.2. The hybrid practices within courtroom

During courtroom hearings, the reliance on *MaCH* often diminishes. Observations and interviews indicate that paper files and physical annotations continue to dominate the actual court sessions for several reasons:

Pragmatic affordances of paper**:**

Many judges and clerks find that paper files offer a quicker and more intuitive means for on-the-spot referencing and annotation. As one judge explained,

> In the paper version, we can find what we are looking for much more easily compared to scrolling through pages on the screen. We have the file spread out in front of us and can directly locate the document and make notes. (Police court Judge, November 2022 Court Epsilon).

Here, resistance is framed less as outright rejection and more as an articulation of material affordances. Paper is valued for its visibility and tangibility, underscoring how

older artifacts continue to stabilize professional routines even as digitalization advances. While *MaCH* improves speed and standardization, it also introduces new frictions compared to the analogue circulation of paper files, which—even if slower—allowed more flexible access. Further observations of court hearings suggest that *MaCH*, as a digital tool, does not fully integrate into the practices of the courtroom, where physical files remain deeply embedded in traditional rituals.

Digital distrust

Some judges express scepticism about relying exclusively on digital systems:

> Keeping a paper record or being able to work manually can be an advantage rather than relying entirely on digital systems. You never know if the software malfunctions, and then the justice system would be completely paralyzed. So, it involves risks. (Police court judge, October 2022, Court Beta)

Here, resistance is articulated as a pragmatic strategy of risk management. Digital infrastructures, while efficient, are seen as fragile; maintaining paper is thus a way to safeguard professional autonomy against technological breakdown. This wariness further limits the digital system's adoption during hearings.

Legal constraints and symbolic practices

As one court clerk mentioned, "For reasons of authenticity and notification, the law mandates that certain documents must exist in their original paper form."[5] (Court clerk, September 2022, Beta Court), so fully digitalizing the hearing process is not yet feasible. Clerks must therefore maintain both electronic and physical files—ensuring continuity while meeting formal legal requirements. Beyond practicality, paper holds symbolic value, reinforcing judicial authority and long-standing practices tied to tangible documents. This suggests that *MaCH* has not fully displaced the established "actants" (paper files, in-court routines) that reaffirm judicial independence.

This dual system—where digital files coexist with mandatory paper originals—creates tension between digital efficiency and the preservation of judicial independence and legal tradition (Evetts 2011). Paper originals act as structural constraints, limiting *MaCH*'s transformative reach. Courts, clerks, judges, prosecutors, *MaCH*, and paper documents form a network in which each actor shapes the others. Yet interviews show uneven engagement with digital tools, highlighting *MaCH*'s still-incomplete enrollement into the hearing "network".

In summary, while *MaCH* partially redefines how road-traffic cases are processed, acting as a mediator of pre- and post-hearing activities, it does not significantly alter the immediate practices within the courtroom. Its agency remains circumscribed by strong cultural and legal practices and real-time constraints that elevate paper-based methods

[5] For example, for introductory applications, the adversarial application must still be lodged at the registry or sent by registered mail in its original paper form for new cases (CJ arts. 1034bis–1034ter). Furthermore, the minute of the judgment and the hearing sheet to which the minute is annexed are also kept as the authentic originals on paper (CJ art. 783, §§2–4). Although CJ art. 783, §§2–4 permits an electronic original provided it is executed with a qualified e-signature, e-signature workflows are not yet deployed in police courts. Registries therefore continue to keep the minute and the hearing sheet on paper.

during court hearings. The result is a hybrid system where digital processes coexist with, rather than replace, traditional analogue methods.

6. Reconfiguring the network of expertise

MaCH's capacity to automate administrative tasks and streamline information exchanges has liberated judicial actors from repetitive chores, thereby creating space for higher-level work. In this section, we delve deeper into how *MaCH*, as an active technological participant, reconfigures the networks of expertise among prosecutors, judges, court clerks, and registry staff. In this sense, we are not tracing the boundaries of professional categories per se, but observing how professional boundaries of expertise are negotiated through evolving practices.

6.1. Shifting boundaries of expertise between professional groups

By co-shaping and redistributing work practices alongside human agents, *MaCH* enables strategic boundary work that allows higher-level professionals to concentrate on complex legal matters while preserving essential oversight and control over judicial outcomes (Strauss 1988, Kellogg *et al.* 2006).

Clerks and registry staff "up-ranked"

By taking over or automating low-value, manual duties—such as encoding data multiple times—*MaCH* allowed clerks to assume a more "up-ranked" set of responsibilities previously carried out by magistrates. Notably, on the prosecution side:

> The employees on the police prosecution service now prepare the direction of the file, they already suggest a course of action: either to close the case, or to settle it, or to send the file directly to the court hearing. They now have a job of legal qualifications. And we, as prosecutors, validate, we check that the work has been done properly. (Prosecutor, October 2022, Beta Court)

These newly up-skilled clerks find the work more rewarding. They now collate outputs, produce early-stage analysis and present them to more expert professionals: prosecutors. Meanwhile prosecutor deputies can increasingly act as supervisors of the work clerks provide. The power to validate or veto these assessments remains squarely with the magistrates. Hence, part of the prosecutor's strategy is to focus on compliance and oversight. As Tsingou (2018) argues about anti money laundering professionals, they not only monitor "but, to protect their interests, also shape the content of governance" (p. 191). New practices do not necessarily challenge entrenched hierarchies (Strauss 1988); here, boundary work means that magistrates effectively delegate tasks they deem routine, preserving their own jurisdiction and expertise over final, legally binding decisions.

New work practices for prosecutors

Alongside delegating simpler cases to clerks and registry staff members, prosecutors now devote themselves to more intricate cases:

> There are cases that require more preparation and more investment, such as fatal accidents, where the requisitions are longer and more complete, because there is more at stake regarding to the offences that have been committed. There are also legal

> subtleties that the employees don't necessarily master, in particular everything that concerns aggravations. (Prosecutor, December 2022, Epsilon Court)

They also operationalize criminal mediation: "It constitutes an alternative to prosecution. It has the advantage for the person of not having a mark on their criminal record but still having a sanction or a reminder of the law" (Prosecutor, October 2022, Beta Court). Under Article 216ter of the Belgian Code of Criminal Procedure (Code d'instruction Criminelle, Art. 216ter, Moniteur Belge, 2005), the public prosecutor may propose mediation for offences not appearing to warrant more than two years' principal correctional imprisonment; the procedure is voluntary and requires the parties' agreement. Typical measures include compensation, road-safety training (up to 120 hours), or community service (up to 120 hours); if the measures are fulfilled, the public action is extinguished. In traffic matters, prosecutors often contact individuals to discuss appropriate alternatives—ranging from general road-safety courses to targeted programs when alcohol or narcotics are involved. By freeing time, *MaCH* allows prosecutors to actively make use of criminal mediation, a mechanism that already existed in law but was previously underused due to time constraints.

This expansion into alternative pathways reflects protective connectedness (Faulconbridge *et al.* 2021): prosecutors preserve and enhance their professional domain by determining which issues merit attention, outlining the necessary work, designating qualified and accountable personnel, and assuming responsibilities that demand higher expertise—thereby reinforcing the distinction between themselves and clerks. In accordance with boundary work theory, they redefine jurisdictional limits by focusing on complex tasks and governance issues and by using their specialized knowledge as a barrier against external interference. This strategy not only preserves their professional authority (Abbott 1988) but also ensures rigorous compliance oversight of the delegated tasks (Tsingou 2018).

Judge–clerk collaboration: the "cabinet system"

Within courts, judges and clerks increasingly function as permanent pairs—a "cabinet system" (Sanders 2020) in which the judge pronounces verdicts orally and the clerk drafts the written judgment. This stable pairing fosters trust and allows clerks—despite often lacking formal legal training—to exert greater influence in the adjudicative process (Holvast and Mascini 2020).

As a result, the once-clear boundaries of expertise between judges and clerks are blurred, transforming judgment writing into a more collaborative work. This integration introduces a new form of connective practice, where the boundaries of "rendering justice" are increasingly permeable. Yet the judge retains ultimate decision-making authority, emphasizing that a hierarchical structure still exists within the partnership: "Now, I just review and sign once the clerk has prepared the draft judgment and has put everything together." (Police court judge, November 2022, Epsilon Court)

This example underscores a key point from Faulconbridge *et al.* (2021): in response to change—such as the introduction of *MaCH*—judges choose to engage with "outsiders" (i.e., clerks) rather than isolate themselves, leading to a relational definition of expertise and action. Consequently, judicial expertise continues to be essential, reinforcing traditional autonomy and the "collegial" aspects of occupational professionalism (Evetts

2011). Viewed through the lens of boundary work, the judge–clerk partnership forms a protective yet connected arrangement: while clerks assume new responsibilities, judges maintain discretion over the more complex legal reasoning. Thus, the expertise boundary in drafting judgments is expanded to include clerks while preserving the judge's elevated status.

Judges: deep legal work and template governance

Again, this leaves more time and more space to the judges to concentrate on work that demands a certain level of expertise. Some files are too complex to be resolved from the bench. They require specific reflection and motivations that clerks cannot generate from *MaCH* but that only the judge can write, given his higher legal expertise:

> For example, if the person has been a victim of an accident, there will be legal considerations. I base my reasoning on case law and legal doctrine, which I must cite accurately in the judgment. So, *MaCH* cannot do that. (Police court Judge, November 2022, Epsilon Court)

With *MaCH* automating simpler sentencing "motivations," some judges —especially those in Wallonia that are sceptical of standardized templates—express concerns about potential threats to judicial independence. In contrast, others, mostly Flemish judges, welcome the chance to join a working group to revise these templates. Their revisions aim to achieve two main goals: first, to make the language more accessible for litigants, and second, to standardize sentencing justifications across different linguistic communities. This initiative demonstrate that *MaCH* do not simply impose new logics onto professional practices; it is also driven and mediated by organizational arrangements and professional negotiations. Ultimately, the time saved through automation allows judges to manage a greater volume of complex cases, reducing backlogs and reinforcing their core jurisdictional authority.

By digitizing routine tasks, *MaCH* can standardize sentencing and free magistrates from clerical chores, but this standardization comes with strict scripts that sometimes preclude legally feasible practices. As one judge explains, "While certain work practices, like the disjunction of a case, are materially, intellectually, and legally feasible, *MaCH* does not permit these manipulations. That can hinder our independence" (Police court judge, October 2022, Beta Court). Another observes, "We are increasingly dictated by 'The program does not allow it, so it is not possible.' The law allows it, but the computer blocks it." (Police court judge, October 2022, Beta Court). These constraints reflect the tool's affordances and scripts (Akrich 1987): *MaCH* frames inputs and outputs in ways that preserve consistency but narrow discretionary leeway. These rigid scripts reflect the design choices made by AX'OP, illustrating that system agency is inseparable from the agency of its designers, who inscribed particular organizational logics into *MaCH*'s architecture.

Yet magistrates remain the ultimate decision-makers. They strategically mobilize *MaCH*'s automated functions—customizing templates, overriding defaults when possible, or routing around the tool—to maintain control over substantive legal reasoning (Noordegraaf 2007, 2015). In this way, *MaCH* both dispossesses and reinforces judicial expertise: it restricts certain practices through its rigid design, even as it strengthens magistrates' authority by offloading routine work and spotlighting the very

tasks that demand human judgement. As we see, expertise is not tied to a group or an "expert", but enacted through situated practices. This situation underscores how judges and prosecutors maintain their professional autonomy and discretion within ongoing processes of digitalization, reflecting the tension inherent in the hybrid form of professionalism they navigate—balancing the influence of organizational structures with their traditional, collegial decision-making processes.

6.2. Emergence of "technologists" within the network

Since the road traffic criminal justice system operates as a supply chain, the redistribution and reshaping of networks of expertise occur not only within each partner's organization but also between them. For instance, police services now handle all information encoding in *ISLP*, after which the data is transmitted from *ISLP* to *MaCH* for distribution throughout the rest of the chain.

Within the supply chain network, some actors have decided to broaden their area of expertise by performing IT-oriented practices. Initially, these new work practices emerged informally, implicitly, and on a voluntary basis. Across all levels of the chain, users facing challenges with *MaCH* naturally sought assistance from those known to be most adept. These "technologists" included magistrates, clerks, as well as registry staff members within courts and prosecutions. Echoing Abbott (1988) this paraprofessional group emerged to answer a new need that was not yet covered by the established professions' jurisdictions. Over time, technologists who embraced their new expertise gradually positioned themselves as privileged intermediaries with AX'OP. In 2020, their responsibilities were formalized by the Conference of Chief Clerks, which established them as "the group of experts." This group comprises six people: four Dutch-speaking and two French-speaking. A stronger enthusiasm for the digitization of justice in the north compared to the south, explain the overrepresentation of Flemish technologists in the expert group. However, no additional budget was allocated for this group to function, limiting participation to technologists from larger or less overburdened jurisdictions. In smaller or already overwhelmed courts, assigning a full-time individual to these practices would have excessively weakened the structural framework.

In addition to acting as the intermediary between end users and the IT partner, "the group of experts" was assigned two further responsibilities: overseeing the task force of judges dedicated to enhancing the automated motivations within *MaCH* and supervising as well as prioritizing IT developments in close collaboration with AX'OP. Technologists have managed to establish exclusive expertise by mastering the *MaCH* tool more efficiently, thereby positioning themselves as strategic partners capable of resolving *MaCH*-related issues.

> The experts are truly the people we turn to whenever we have a problem. And in 99% of situations, they know how to solve it directly. It's great because it allows us to avoid calling the hotline at AX'OP, waiting several minutes on the phone only to speak to someone who doesn't understand the tool. (Chief clerk, September 2022, Beta Court)

This highlights how technologists became an indispensable support structure, reducing reliance on external contractors (AX'OP). By outsourcing control over *MaCH*'s architecture outside of the judiciary, the system simultaneously created demand for internal brokers capable of translating between AX'OP's technical decisions and

everyday legal practices. This expert group has further solidified its area of expertise, as *MaCH* users acknowledge that the initial training was insufficient, leaving many with a limited understanding of the tool and its capabilities—and consequently, quite dependent on these experts.

> Thank God that we have a friendly expert on our floor because we weren't really trained on *MaCH*, and we're learning as we go. So, he is an essential resource for us. (Clerk at the prosecutor office, December 2022, Epsilon Office)

This points to a reliance on peer-to-peer expertise, where technologists play a crucial role in stabilizing daily practices. By bridging the gap between legal professionals and the digital system, they both support routine functioning and redraw the boundaries of expertise within the justice chain.

6.3. Strategic responses to technologist emergence

Technologists now form a new "network of expertise" (Elmholdt and Elmholdt 2017). In response to this emerging professional group, the other actors adopt two strategies to safeguard their professional boundaries. These strategies can be illuminated by the concept of "protective connectedness" (Faulconbridge *et al.* 2021). One strategy is to collaborate with technologists. By delegating "technological work" to them, actors ensure that they always have an operational tool that allows them to carry out their own "privileged work."

> I'm lucky because my office is right next to the expert's office. And since we get along well, whenever I have a problem with *MaCH*, I just call him, and he solves it directly. (Court clerk, December 2022, Epsilon Court)

Alternatively, some professionals choose to integrate themselves into the technologists' network - by joining the judges' task force for example. By reinventing their practices and taking on new tasks unique to their expertise, they guard against the risk of being replaced by another professional group or the tool itself.

In sum, the different professional groups employ protective connectedness to respond to the rise of these new "technologists." Some delegate IT-related tasks entirely, ensuring *MaCH* functions smoothly without infringing on their core legal responsibilities, while others embed themselves in the technologist network, co-developing templates and functionalities that reinforce their indispensable status. Thus, the emergence of technologists highlights how new boundaries of expertise are drawn—not necessarily along traditional professional lines, but through mastery of specific technologies and their integration into legal work. However, it does not blur the lines between legal and technical expertise; instead, it further delineates them, with those mastering *MaCH*'s technical dimensions forming a paraprofessional subgroup (Abbott 1988) that supports or amplifies judicial authority, rather than challenging it.

Ultimately, understanding the interplay between magistrates, clerks and technologists requires recognizing that their expertise is defined relationally. Faced with *MaCH*, professionals reconfigure their expertise boundaries by forging connections with other professional groups or tools that naturally coexist in the new framework. This sense of protective connectedness enables them to navigate the evolving landscape, highlighting

that *MaCH* reshapes professional practices not merely by diminishing or enhancing work, but by creating new modes of collaboration, practices, and, ultimately, expertise.

7. Discussion and Conclusion

This paper offers new insights into how ICT integration—exemplified by the *MaCH* tool—has led to the reconfiguration of networks of expertise within the Belgian road traffic criminal justice supply chain. Drawing on a multi-case study approach across contrasting jurisdictions, our research develops a nuanced, context-sensitive understanding in how *MaCH* mediates boundary work and reconfigures practices.

To situate these changes, it is important to recall that the pre-*MaCH* environment was characterized by significant fragmentation. Professional groups were structured by their internal systems and regulatory constraints, which, while ensuring independence, limited information flows and prevented cohesive collaboration across the criminal justice network. The inherent complexity of the supply chain resulted in isolated expertise, fragmented communication, and a patchwork of work practices.

The introduction of *MaCH* in 2008 marks a pivotal evolution. Our analysis demonstrates that *MaCH* has transformed pre-hearing and post-hearing processes by automating data integration, streamlining bilateral exchanges between prosecution and courts, and enabling automated document generation. These transformations have liberated judicial actors from repetitive tasks, allowing clerks to assume more "up-ranked" responsibilities and enabling magistrates to focus on complex legal matters. Importantly, while *MaCH* standardizes routine administrative functions, its influence during courtroom proceedings remains hybrid, as traditional paper-based practices persist due to digital distrust, pragmatic and legal constraints and symbolic practices. Thus, *MaCH* does not entirely replace established methods but rather complements them, creating a dual-layered approach to digital change in judicial practice.

The enactment of these transformations, however, is not uniform. While cultural-linguistic difference (Wallonia/Flanders) shape the contours of everyday work, the variation we observe emerges more from the interplay of professional, organizational, and institutional practices and structures. These include the distribution of drafting tasks, differing emphases on autonomy versus standardisation, caseloads, leadership, and the presence of embedded "technologists." Across both sites, the same protective-connectedness dynamic operates, but its degree and locus differ—downstream micro-edits by clerks versus upstream template work by judges, for instance. In short, region provides context, while these factors structure enactment, explaining why similar mechanisms crystallise differently on the ground.

It is precisely through these shifts in everyday practices that changes in the network of expertise become apparent. By delegating low-value tasks and redistributing responsibilities, *MaCH* has enabled strategic boundary work among prosecutors, judges, court clerks, and registry staff members. This reconfiguration has allowed magistrates to safeguard their "true expertise" in decision-making while simultaneously fostering the emergence of a new paraprofessional group—technologists—who have become essential intermediaries in managing and maintaining the digital tool.

These shifts have redefined professional expertise boundaries: traditional practices are now complemented by collaborative practices that embody both protective and connective dimensions (Faulconbridge *et al.* 2021). With repetitive tasks such as data encoding and legal element collection being exclusively handled at the police stage, clerks have been enabled to take on early-stage analyses that were once the purview of magistrates. It is through these practice changes that we observe a reconfiguration of the network of expertise; however, despite these shifting boundaries, the underlying power dynamics remain largely unchanged. Magistrates continue to maintain control over critical decision-making processes, preserving their authority even as clerks and technologists assume supportive practices. This strategic delegation not only reserves the exclusive decision-making domain of magistrates for crucial matters—such as managing deadly accidents or addressing recidivism—but also transforms clerks and technologists into cooperative partners rather than competitive threats. Ultimately, this approach preserves both the privileges and the core expertise of the magistrates.

These findings illustrate how *MaCH*, while enhancing coordination across the judicial supply chain, introduces a new layer of complexity. Designed to overcome fragmented systems and siloed practices, its deployment within a system fundamentally shaped by institutional autonomy and the *tria politica* raises questions about how such integration efforts interact with long-standing structural separations (de Blok *et al.* 2015). As digital tools reshape practices and reconfigure expertise, they also test the limits of how much standardization a justice system rooted in independence can accommodate.

This observation sends us back to how the "modernization" of justice is and should be considered and enacted in Belgium. The design and maintenance of *MaCH* by a private consortium inscribes organizational imperatives into the very architecture of the system, thereby shaping the scope of judicial discretion and the strategies through which professionals safeguard their expertise. Furthermore, there exists a permanent tension between delivering a qualitative and efficient service to citizens (Ambe 2012) and preserving certain fundamental values that are inherent to the exercise of the function of judging, like the independence of the judiciary (Whalen 2022). Within road traffic criminal justice supply chain, *MaCH* might have helped to reinforce practices and procedures that were already rigid and strict and not particularly suitable to autonomy. This highlights a twofold dilemma. First, there is a challenge in balancing the control of workflows, automation, and process standardization while allowing professionals the flexibility to adapt in their work. This flexibility is necessary for them to manage the unique aspects of each case. Achieving justice and ensuring a fair application of the law often involves norms and ethics, dedicating substantial time to studying the intricacies and distinctiveness of each case, and possessing expertise at every stage of the supply chain process to ultimately deliver a just verdict (Blok *et al.*, 2015). Hence, professionals are stuck with this hybrid form of professionalism (Noordegraaf 2007, 2015) that continually balance between applying expertise to deliver the best possible service, i.e., render a fair judgement, and following a smooth flow of inputs and information necessary to make such judgements. Would the road traffic criminal justice system not be as suitable for and compatible with ICT after all? Second, for many judges, the act of rendering justice is the same as exercising independent decision-making. Judges have a status that guarantees them independence in the exercise of their judicial functions (*Constitution, art. 151, Moniteur belge*, 1994). More specifically, this status grants judges

the autonomy to make decisions on disputes brought before them on a case-by-case basis, without any constraints. They can choose the approach they deem most appropriate, ensuring it aligns with the rules of law and procedure. To which extend do the "modernization discourse" and *MaCH* call this independence into question? In light of these considerations, might a "not fully digital" option (Seepma *et al.* 2021), be an appropriate solution for legal public supply chains?

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