Building Interoperability for European Civil Proceedings Online

Research Conference - Bologna, 15-16 June 2012

THE CIVIL TRIAL ON-LINE (TOL): A TRUE EXPERIENCE OF E-JUSTICE IN ITALY

Davide Carnevali
Andrea Resca

IRSIG-CNR, Bologna, Italy

IRSiG-CNR
Istituto di Ricerca sui Sistemi Giudiziari
Consiglio Nazionale delle Ricerche

The Civil Trial On-Line (TOL): a true experience of e-justice in Italy

Summary

Executive summary

In Italy, massive investments in ICT projects have been made to improve the so-called "quality of justice". It was considered the only way (and also the "one best way") to take out justice from a never-ending state of crisis. Trial on line (TOL) can be considered a traditional top-down government project for introducing a large scale nationwide information system. The system development cycle (analysis, design, implementation, testing, evaluation) can be used to represent it. In 1999 an explorative study was promoted and was followed by a feasibility study in 2000. In 2002 and 2003 the two main competitive tenders were assigned and in 2005 it was expected that the whole TOL's applications would have been introduced in more than 50 courts out of 166. At the heart of the TOL project there are these two main competitive tenders that comprehended large part of the system development cycle and actually at the end of this process TOL applications were tested positively.

The main objective of the TOL project was to manage, in a comprehensive way, documents and communications of any civil trial proceeding through digital solutions. In other words, the aim was to:

- manage, digitally, large part of information related to civil trial proceedings (from arraignment filing to sentencing);
- manage, on the basis of electronic means, all communications and information exchanges among the different players involved in a civil trial proceeding (judges, lawyers, clerks, bailiffs, other advisors, expert witnesses etc.);
- simplify the activities of any player involved in civil proceedings favouring the spread of pieces of information and their use preventing activities related to paper handling;
- promote proceeding transparency and timeliness.

Even though, according to the project, in 2005 more than 50 courts would have taken advantage of TOL's applications, at the end of 2006 only one application (injunction decree) was available and only in one court: the Tribunal of Milan. At the end of 2011, things have changed significantly. Specifically, the injunction decree, the proceeding more spread, was present in 32 courts, real estate execution in 12 courts, and contributory procedures in 5 courts. The exchange of deeds and documents between parties and judges is limited to 4 courts and only in the Tribunal of Milan the large part of the proceedings planned by the TOL project were already available. The scenario is more promising as far as electronic communications concern (notifications and summons). 19 courts have already introduced this solution but it is assumed that their number will increase considerably in a relatively short time due to the deployment of the new automated registry (case management system) all over the country that supports this function by default.

These data underline the distance between results expected originally by the TOL project when in 2005 more than 50 courts would have adopted TOL applications in their entirety and actual adoption at the end of 2011. What are main reasons behind this phenomenon considering that, at least from a technological point of view, TOL was tested positively at the end of 2004? In order to answer to this question, strategies followed to spur interoperability at legal, technological and organizational level is taken into analysis.

At a first look, in the TOL project, legal interoperability bas been pursued intentionally. Regulations issued in 2001 and 2004 can be seen as a direct consequence of the development of the TOL project. Specifically, TOL application requirements were translated into technical and operational rules. However, this translation was not based on TOL applications in use. It was the result of TOL project analysis. The supposed alignment

between legal aspects and technological specificities was only on paper and not based on solid experimentations as at that time TOL applications were just tested.

The following interventions on the legal configuration that come to an end with the law n. 24/2010 and technical and operational regulations in 2011, can be seen as an attempt to treasure experiences acquired in the Tribunal of Milan and in other sectors of the public administration. The adoption of the open certified electronic mail system abandoning the closed one as point of access to courts can represent an indicator in this account. Further, all of this took place with an unchanged civil proceeding law. This means that electronic proceedings had to adhere to the paper based ones limiting the potentialities offered by information technology. Only in 2008, a small modification of the civil proceeding law was introduced favouring considerably electronic communications between parties and between parties and the court.

The establishment of an organizational interoperability due to the implementation of a pervasive solution such as TOL was contracted to six laboratories in respective courts. It was believed that these instances in which practices and routines were reformulated in consequence of TOL arrival, could have a flywheel effect for spreading its deployment nationwide. The facts suggest that it was not like this and only the Tribunal of Milan, that was not among the laboratories, and, to a lesser extent, the Tribunal of Catania, have acquired a role of promotion and support of TOL's applications in different parts of Italy.

The case of the "innovation office" at the Tribunal of Milan (the organizational unit that regroups representatives of the local bar association, of judges, of clerks, and of local office of the ICT department in order to deploy TOL applications) is a critical example of the level of mobilization that is required to players of the world of justice. Differently from the six laboratories, the "innovation office" involves also lawyers and their bar association as a crucial factor in the TOL development. In this regard, the decision of the Ministry of Justice not to adopt a ministerial point of access to courts, inevitably, changed the scenario forcing bar associations in the condition to rely on their resources to establish a gateway to courts. This represented a further obstacle in the TOL's spread. The decision, in 2010, to turn back to the ministerial point of access as a further opportunity to interact with courts can be seen in line with the trend already underlined above. A trend in which the actual use of TOL applications has allowed intervening punctually for limiting their shortcomings.

The strategy to follow technological interoperability is characterized by a cut between TOL and solutions adopted before. The importance to stress the novelty and the innovativeness of these applications, the fact that they represented a definitive answer to inveterate problems of the civil justice meant that interoperability had to be seek in the project itself and in its components through a new and comprehensive solution. Actually, in 2004, this objective was already reached as the TOL system was tested positively. The decision not to take advantage of the ministerial point of access, and, on the other hand, to turn only to accesses provided by Bar Associations created a split in this comprehensive solution. In this way, it was necessary to create conditions for interoperability between courts and Bar Associations. As mentioned above, the experience suggested that a ministerial point of access represents a non-replaceable gateway for lawyers and other justice operators and it is going to be introduced again.

To sum up, TOL was a typical nationwide information system project with ambitious goals to be obtained in few giant leaps. Everything went well until the solution envisaged had actually to be deployed in courts and Bar Associations. After a period of dismay, first applications succeeded to get into operation mainly due to the efforts of the Tribunal and Bar Association of Milan. This can be considered a turnaround point: the passage form a

comprehensive strategy to an incremental and iterative one. This new strategy allows to acquire knowledge able to deal with main obstacles in the way of the deployment of TOL project leading to legal, technological and organizational solutions that are outlining a significantly different scenario in front of this project.

1. Introduction

In Italy, massive investments in ICT projects have been made to improve the so-called "quality of justice". It was considered the only way out (and also the "one best way") to take out justice from a never-ending state of crisis. This is not ensued, actually. The applications that currently work in judicial offices have not really changed or affected the judiciary and its functioning (such as structures, procedures, working practices, way of thinking, etc.). Considered as *plug n' play* tools (Fabri, 2009), technology applications have been simply and usually "placed on" the current judicial environment, largely losing their power of change and benefits (Contini & Cordella, 2007). The good results of innovation related to the adoption of a new technology are very difficult processes: a long trip, not linear, not always appropriate, and very costly at the beginning. This is even more true if the complexity of technology to manage increases, such as in the application of e-justice (i.e. more technical specifications, more rules, more organizations and institutions involved, more interoperability needs, etc.). In order to really affect an improvement process, a strong involvement of the entire context (institutions, organizations, judges, court staff, court users, etc.) is needed. They should take care and "cultivate" (Dahlbom & Mathiassen, 1993) the change in day-by-day operations, according to an incremental approach (Fabri, 2009). Another important factor of success of a useful ICT adoption is the attainment of a "critical mass" of users. "As the number of users grows, technology tends to get momentum and it starts growing through a 'self-reinforcing' process" (Hanseth & Aanestad, 2003).

In this regard, the paper explains a true experience of e-justice in Italy. The Civil Trial OnLine (TOL) project — the word "trial" is the conventional name given to the project even if the right word to be used is "proceeding" — is the most important ICT programme developed over the last ten years by the Ministry of Justice, and because of this has collected the highest investment of resources. TOL is a project on which the greatest expectations were placed as to its capability to be the "ultimate source of change" to overcome the chronic crisis of civil justice in Italy. But the results indicate that we are just at the beginning.

The Trial On-Line project aims to a full e-filing system, which means a complete electronic management of any type of civil proceedings from case filing to disposition up to the final enforcement. The system also provided public access (with some restrictions) to the data collected in the court CMSs (Court Management Systems) databases, electronic notification and communication to and from the court, any payments of amounts due and court fees (Contini & Fabri, 2003). In particular, TOL is a double and parallel story of e-filing and public access, very entangled but clearly differentiated. The e-filing part of the story was planned as a complete e-filing system and starts being operative in 2006, but as an e-filing for payment orders only. The public access part of the story, knows as PolisWeb application, is still operative since the beginning, although it has passed trough a multitude of architectures.

The whole story will be told in a chronologic way, with in-depth analysis in order to better understand some specific areas. The source of data comes from several interviews of key actors of the story located at governance and operative level. Some data were collected during observations on-site. All this data collection was embedded in a solid literature produced in this field in the last twenty years, mainly by the IRSIG-CNR researcher, during the course of the European Commission projects.

After a description of the institutional setting of the Italian judicial system, an overview of the environment in which TOL has been developed will be presented: from the governance of ICT to the basic infrastructures, passing trough the legal framework. The situation before TOL will also be described and then the TOL system – architecture and laboratories in place — will be displayed in all releases. A special attention will be given to the first operating case, the "Tribunal of Milan", with a dedicated paragraph. In the concluding remarks, some issues for discussion will be presented and an initial assessment to anticipate the forthcoming developments.

2. The Italian judicial system: a profile

The Italian judicial system is subdivided into ordinary courts of general jurisdiction and specialised courts (Administrative Courts, Court of Accounts, Provincial and Regional Tax Commissions). Judges are in charge both of criminal and civil matters, they are called 'ordinary magistrates' and there is no career distinction between judges and public prosecutors. Magistrates are recruited by competitive examinations and a law degree is required. After that, their career is largely based on seniority.

According to the article 104 of the Constitution, the judiciary is independent, not subject to any other authority and the Superior Council of the Magistracy (*Consiglio Superiore della Magistratura*) is the self-government organization that monitors judges' activities. In this respect, it regulates recruitment, promotion, transfer of judicial positions other than a disciplinary system both for judges and prosecutors. Two-thirds of its members are magistrates elected by their peers and one-third are law professors and lawyers elected by the Parliament. Three are *ex-officio* members: the President of the Republic, the President and the Chief Public Prosecutor of the Court of Cassation. The total members of the Council are 27. The range of action of the Council is not only limited to judges and public prosecutors' management. In fact, it can be considered a sort of "gatekeeper" between judiciary, on one side, and legislative and executive, on the other side, influencing judicial policies decision-making.

The appointment of the heads of courts and prosecutors' offices is not only in the hands of the Council as it sees a formal role (called '*concerto*') played by the Minister of Justice. Actually, the Council makes the decision and except for few cases the Minister only confirms it.

The role of Ministry of Justice is not only limited to the appointment of heads of courts and prosecutors' offices in accordance with the Council: it is far larger. The Council is in charge only of the management of the gowned personnel; in contrast, the Ministry is entrusted with the organization and the functioning of judicial offices (procurement, information technology, administrative personnel, budgeting etc.). At first, the Ministry, for example, formulates budgeting, and then presents it to the Parliament. Further, the Minister in person has the possibility to promote eventual disciplinary actions against members of the

judiciary. This means that this activity can be assumed by two entities: the Minister and the Council. However, it is the Council that has a final say as far disciplinary sanctions concerns.

The Ministry is composed by four departments (justice affairs, judicial organization and personnel, juvenile justice and the administration of prisons) and a series of offices (legislative office, public relation office, auditing office, inspectorate office, international office). In this context, the judicial organization and personnel department is considered the most important one. Personnel administration, purchase and allocation of resources, budget and statistics are related to this department and within it the information technology general directorate was established. It is this directorate with its budget, personnel and organization that is in charge of all the ICT projects in the judiciary. A relevant role is played also by the inspectorate office as it collects information about the functioning of judicial offices and about magistrates in case of disciplinary actions. It is worthwhile to mention that managing functions in the Ministry are held by magistrates increasing the intertwining with the Council.

The Italian judicial offices are spread all over the country and are organized according to different levels. The so-called "justice of the peace" offices (a single lay judge appointed by the Superior Council of the Magistracy) are 848 nationwide and exercise a form of limited jurisdiction both in civil and criminal matters. The courts of first instance with general jurisdiction are the Tribunals (*Tribunali*) and the related Public Prosecutors' Office (*Procure della Repubblica*) for criminal cases. Other than criminal cases, Tribunals deal with civil cases (including commercial and labour cases) where hearings in a single judge composition or a panel of three are held, according to the different provisions of civil and criminal proceedings codes. The TOL system was developed for the civil section of the Tribunal.

They are 165 all over the country, plus 222 detached offices (only with a single judge composition). For most serious criminal cases, Tribunals is arranged in a special courts composition Courts of Assize (*Corte d'Assise*) based on a panel of two career judges and six lay judges acting as jurors. Within the Tribunals there are also quite a few specialized units that intervene in specific steps of the proceedings. The "Judge for Preliminary Investigations", the "Judge for Preliminary Hearings" and the "Tribunal of Revision" are entrusted to these steps as in the first case the work of the public prosecutors is checked in many ways (tapping authorization, defining the terms of pre-trial detention, eventual suspension of the investigation etc.); in the second case the formal indictment of the suspect is formulated; in the third case courts orders dealing with personal restraints are revised (out of 165 tribunals there are 26 specialised units "Tribunals of Revision").

At the beginning of the nineties, the fight against mafia led to the establishment of 26 special prosecutors' offices called "Antimafia District Bureau" coordinated by a central office located in Rome called "Antimafia National Bureau". They are in charge of all mafia cases within a specific judicial district. A district defines the geographic area of Courts of Appeal. Actually, Courts of Appeal are 29 due to three detached divisions and are in charge of appeal processes of the tribunals. Tribunals, in turn, appeal decisions made by the Justices of Peace. Within Courts of Appeal there are specialised units such as the Appeal Courts of Assize (appeals from Courts of Assize) and the juvenile section (appeals from the juvenile courts). Further, attached to each Court of Appeal there is a "General Public Prosecutor's Office", the prosecutor in the appeal proceedings.

The highest court is the Court of Cassation. Differently from other courts, it deals with questions of law and reviews of all provisional orders related to personal restraints. In this way, it should guarantee uniformity in the interpretation of the law. Attached to this court there is the "General Public Prosecutor's Office" within which a special status is granted to

the "Antimafia National Bureau" mentioned above. This unit, led by the Antimafia National Prosecutor, coordinates the work of the 26 district offices. Nevertheless, independence and autonomy of these offices and also of singular public prosecutors are seen as appropriate solutions in order to be more effective facing the mafia issue. This means that the hierarchical control exercised over deputies is limited not only in the case of Antimafia District Bureau but also in any public prosecutor's office.

Under aged involved in criminal cases are handled by 29 "Juvenile Courts" Tribunale per i Minori), which also have a specialised prosecutor's office. The composition of the panel is particular as two career judges are flanked by two experts (one male and one female) in social assistance, psychology etc. As it was mentioned above, appeals are taken to a special section of the Courts of Appeal.

Finally, constitutional reviews are granted by the Constitutional Courts that also adjudicates conflicts arising among the different branches of Government.
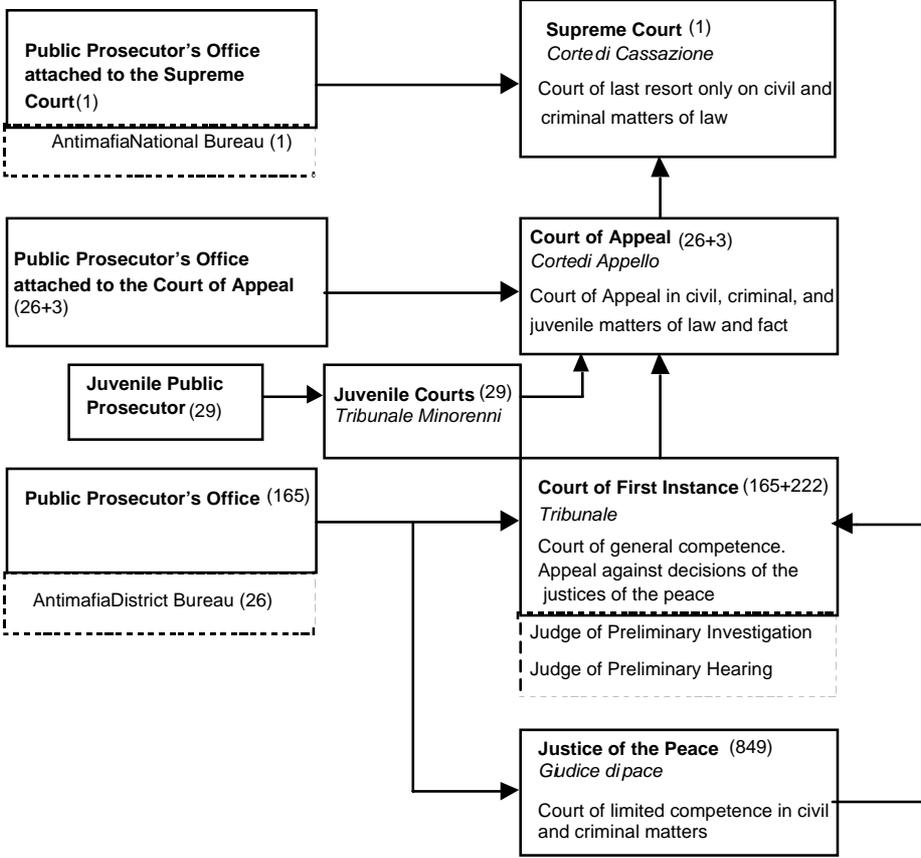
Figure 1 – Italian Judicial System (simplified view)

3. The TOL environment

In order to better understand the characteristics and functioning of TOL is necessary to define the institutional but also the organizational, legal and technological frameworks in which it was created and developed. Furthermore, this context was not static forever. It was an environment that changed overtime; partly because of some critical issues related to the dynamics of ICT innovation, highlighted by the TOL project itself.

3.1. Governance of ICT: an overview

Until 1993, the ICT development did not follow a specific pattern but was strongly dependent on spontaneous choices of different courts, case-by-case endorsed and founded by the Ministry of Justice (Carnevali et al., 2007). A central governance of ICT was possible thanks to the lead of an independent authority for public administration created in 1993 (Law L.39/1993), known as *Autorità per l'Informatica nella Pubblica Ammministrazione* (AIPA). The AIPA authority was established to promote, coordinate, plan and control the development of information systems in all branches of the public administration (ICT Three-Years Plan), to provide for standards, ICT regulations, and training. In 2001 the function of AIPA was included in the new Ministry of Innovation and Technology (Legislative decree D.Lgs.196/2003) in an IT centre called *Centro per l'informatica nella Pubblica Ammministrazione* (CNIPA). In 2009 the CNIPA centre was changed in a new structure: DigitPA (Legislative decree D.Lgs. 114/2009). DigitPA is a non-economic public institution under the control of the new Ministry of Public Administration and Innovation (the union between the former Ministry of Public Administration and Ministry of Innovation and Technology). The tasks of DigitPA are quite similar to the others previous institutions but more emphasis now is putted in the development of a new policy known as "digitalization of public administration" inside a new "e-Government Master Plan" (Carnevali, 2010).

The law that established the AIPA also provided for the creation of IT general directorates within each ministry, including the Ministry of Justice. The goal was to connect the single parts of the administration with the AIPA authority and afterwards with the following ICT institutions (CNIPA and DigitPA). The IT General Directorate of the Ministry of Justice (MJ-IT Directorate General) known as *Direzione Generale per i Sistemi Informativi Automatizzati* (DGSIA) has more than 500 people, ICT experts and administrative personnel, distributed at central level and locally in 13 regional offices (CISIA) spread all over the country. The MJ-IT Directorate General executive position is always held by magistrates as in almost every executive position in the Italian Ministry of Justice. The strategy adopted still follows a "top-down approach". It decides on ICT applications and their use is mandatory for courts and prosecutors' offices across the country, without taking into account the local context (Fabri, 2009).

In addition, the Italian Superior Council of the Magistracy provided for the creation of two so-called *ICT magistrates* (for criminal and civil sector) in each judicial district to coordinate, stimulate and evaluate ICT initiatives proposed in their own district. The real meaning of this decision is related to consider ICT a critical issue that cannot be delegated solely to the Ministry of Justice. Magistrates perceived ICT as a tool able to change the present power structure of the judicial system and the sphere of their own independence as well (Fabri, 2009). The duality of the governance of judicial system governed by the Ministry of Justice (mostly managed by judges) and the Superior Council of the Magistracy, without a clear distinction of responsibilities and accountabilities makes almost very difficult to manage the justice system and also the policy making process (Contini & Cordella, 2007).

3.2. Rules of ICT and the legal framework

Another issue to be considered to understand the dynamics of ICT innovation in the judicairy is the complexity and the level of detail of rules that prescribe how technology has to operate (Mohr e Contini, 2008).

Italy was the first country in Europe to have a specific and complete legislation on the application of ICT for the public administration, in particular electronic document and digital signature (Villecco 2004, 2007) regardless of functioning applications and mostly in the justice sector (Fabri, 2009). The proliferation of rules was also led by the particular reasons of "sensitivity" and "security" which justified the production of further rules deemed necessary to adapt, for instance, general rules of judicial proceedings. Emphasis that can be summarized in the sequence: higher sensitivity of data, increased security needs, more needs for legal constraints. This excess of risk prevention had often the effect of paralyzing the innovation itself (Hanseth, 2007; Carnevali, 2009).

This led to a hypertrophic regulation mainly driven by "legal formalism" instead of "legal pragmatism", which aims to facilitate the achievement of concrete goals (Fabri, 2009). The unwieldy and constant regulations was introduced to make possible and legal the use of judicial electronic documents, electronic folders, and the electronic data and documents interchange but it was oversized to real needs even if coherent with formal concerns.

Until the '90s, judicial offices were forced to keep also a hard copy of the electronic case tracking systems. The Ministerial decree DM 27 March 2000 was necessary to certify the full legality of electronic case tracking and management systems when equipped with certain technical and procedural features (Ministerial decree DM 24 May 2001). This did not change the traditional approach to record of judicial offices. The registers have been partially paper-based or printed in hard copy for a long time (Carnevali (2010).

When was necessary to define the concept of electronic document and to regulate in advance the electronic data interchange, particularly to involve external users, was started a massive production of rules.

In 1997 the Presidential decree DPR 513/1997 introduced the concept of the electronic document and digital signature that allowed the electronic exchange of documents among public sector agencies, private organizations and the general public. However, only after the adoption of technical rules for working procedures would be possible to use it actually. The first technical rules were introduced in 1999 with the Decree of the Council of Ministers (DPCM 8 February 1999), which regulated the use of the "strong" digital signature with a public key infrastructure (PKI), and set out rules and standards for establishing certification authorities. In 2000 the Parliament legislated an act (Presidential decree DPR 445/2000) for reordering the entire related previous legislation (including the DPR 513/1997) regarding the documentation in the Public Administration. This act seemed to be not applicable for regulating the justice sector. So the Presidential decree 123/2001 allowed the use of such electronic means for civil, administrative, and fiscal proceedings. In 2002 the Legislative decree D.Lgs.10/2002 changed the rules again embedding the European Directive 1999/93/CE provisions that allows to use a "lighter" electronic signature instead of digital signature (PKI). In addition the Presidential decree DPR 196/2003, known as the "Privacy Code", was enacted. It heavily engraved on rules of access and security. It meant to provide other specific ministerial regulations for the judiciary, such as the new Ministerial decree "Technical rules for electronic means in civil proceedings (Ministerial decree DM 14 October 2004)". Again, the Law L.15/2005 added new administrative procedures relating to electronic transmissions. In the same year the Parliament enacted the so-called "Code of Digital Administration" (D.Lgs.82/2005), which contains most of the previous dispositions related to the use of electronic means in public administrations. So it was necessary to enact another technical rule for the document type definition (Ministerial decree DM 15 December 2005). The Legislative decree D.Lgs.40/2006 also introduced the option of sending documents from the external users to the court by certified mail (introduced into the law

with the Presidential decree DPR 68/2005), very important for the development of the last part of TOL system story. Even the art.51 of Law L.133/2008 allowed the court notifications on-line too. It was necessary to provide also a special provision for applying these rules (certified e-mail for transactions and notifications on-line) to TOL system (Decree 193/2009). Consequently, it appears quite clear the huge difficulties to apply this mess of rules in day-to-day operation of judicial offices (Fabri, 2009).

These rules of ICT designed a very complex legal framework and not without any contradictions. Even the jurists find difficult to work in this tangled web of rules. Its own complexity still replicates the cumbersome nature of the judicial proceeding and legal system, one of the least efficient in Europe. Moreover, there are several kinds of procedures that depend on the type of civil proceedings (employment law, divorce, forced sales, injunctive orders, etc.): another factor of complexity in designing and implementing ICT applications, with particular reference to electronic data interchange (Fabri, 2009).

3.3. Main ICT infrastructures for courts and lawyers

Since 1995 the public administration has a public network infrastructure known as *Rete Unitaria della Pubblica Amministrazione* (RUPA) and the justice domain *Rete Unitaria della Giustizia* (RUG) until 2006 when changes architecture an name in *Sistema Pubblico di Connettività* (SPC), as will be specified later on. The electronic services are provided in outsourcing and allow internal users to exchange information within the justice sector and some abroad for the public. In the judiciary, personnel have personal computers, but not always up-to-date models, a local area network (LAN), office software, some Internet connectivity and e-mail addresses (Carnevali, 2010).

Since 2001, the lack of funds due to the drastic reduction in budgetary resources made untenable the increasing maintenance costs of infrastructures and applications. Even the hardware became more and more inadequate for the new programs. Nevertheless, the server growth and LAN administration for each judicial office were too much expensive to manage them in outsourcing. Furthermore, the RUG justice network became increasingly inadequate to withstand the growing use of mailing services (mainly the institution of the certified electronic mail), web services (e-services), judicial data and documents interchange (PolisWeb and TOL), etc. This situation prompted to change the architecture of ICT infrastructures in the judiciary (Carnevali, 2010).

Only in 2006, the MJ-IT Directorate General realised to move the location of databases from the court to judicial district level. In particular, this meant changing the server of each court of first instance with a new main district server divided virtually in each court related databases. Furthermore, the new configuration provided a replacement for each court of an application server. A web-based connection via application server operated the link between the main district server and the thin-clients located into the court. In this way were put under control not only the costs of server maintenance and management, but also the risks related to database protection, and data transmission security. Likewise it was possible to improve quality standards and development opportunities. In this new framework, it was necessary to improve also the broadband connections reducing at the same time the costs. The new public network infrastructures SPC replaced RUPA and the justice network RUG. SPC also enabled a better connection with e-services offered by the market and wider margins of development (Carnevali, 2010).

However, this new scenario of ICT infrastructures forced to change the architecture of almost all applications, including TOL. It goes without saying that those adjustments caused organizational and technical problems and additional costs.

The ICT infrastructure available to external users, lawyers mainly, are not well known. There are 160,000 lawyers in Italy, of whom about 100,000 are thought to be actually practicing law in the courts. The lawyers' offices are almost rather small organizations not really comparable to that of large law firms. Lawyers are organised in fragmented local bar associations represented in countrywide associations (Fabri, 2009). Therefore, lawyers, law firms and bar associations carried on their own ICT infrastructure development in the most varied way, even for the electronic data interchange with the judiciary. In the TOL programme, most of them assigned the development of system interface to some private IT specialists or companies. Furthermore, in order to control the access to the system, TOL regulation stated that the TOL access point for the external users would be located in the bar association. Only bar associations were entitled to operate TOL as the body that supervises the legitimacy of its members to practice, as will be seen later on.

4. Before TOL. The challenge of the first e-justice system

The origins of the TOL conception date back to the end of nineties. The first initiative was taken by the Bar Association of Bologna, venue of one of the 165 Italian Tribunals. At the basis of this project there was a small study group composed both by judges and lawyers known as the "Documentation, Automation, and Informatics Office", that was later institutionalised by the President of the Tribunal.

The basic idea was to share the case law (only on civil matters) issued by the Tribunal of Bologna between judges and lawyers in order to constitute a common background on judicial matter. The characteristics of this project, knows as *POLIS Project*, led the Ministry of Justice to back its implementation and deployment always at the Tribunal of Bologna. After the first analysis the study group better understood the wider potentiality of ICT in this area. On the basis of these considerations, it was proposed to reorganize completely civil justice taking advantage of the development of ICT, including a design of a new CMS. At this point, within the "Documentation, Automation, and Informatics Office", joint commissions of lawyers and judges were established in order to analyse in detail the different aspects of the entire civil proceeding and how they could be overhauled.

The reorganization of the civil justice, inevitably, required an active role of lawyers and their bar associations. The rearrangement of the civil proceeding entailed the fundamental role of lawyers due to the possibility to promote and manage judicial procedures without the necessity to attend courts. To send and receive documents and information online prevents, on the one hand, lawyers and their assistants to commute regularly to courts having the possibility to carry out their work from their offices and, on the other hand, court administrations to manage paper based documents and information being substituted by digital ones.

Having assigned an explorative study to a consultancy firm (contract between the Bologna Bar Association and CO Gruppo srl) in 1999 (Jacchia, 2000), it emerged that a simple automation of present proceedings would not have led to expected results. Only a profound reorganization of the entire civil process would have allowed overcoming structural inefficiencies that characterize Italian courts. On the basis of this study the Ministry of

Justice decided to finance this attempt to develop a new e-justice system based on a new CMS as its backbone. The other components of the system will be POLIS, a judicial Decision Support System (DSS) for judges and lawyers (judicial writings and case law database) connected with the new CMS, and, later, a system for electronic data access to court databases for lawyers, the so-called *PolisWeb*..

4.1. CMS at the beginning

After two years of project development, the new case management system was launched but it did not work as expected. A change of software provider and some software redesign was required. Since the beginning of 2001, the civil sector CMSs were delivered step by step according to the different branches: general litigation (SICC), labour and social security disputes (SIL), non-contentious cases (SIVG), bankruptcy (SIPC), executions of judicial decisions (SIEC). Case tracking systems development in the civil sector started in the '80 with systems based on mainframe architecture, not really appreciated by courts. Courts preferred to develop their local homemade solutions. Since 1992 this trend stopped in favour of one of this case tracking system developed in a local court of first instance and rapidly deployed "bottom–up" in almost 150 courts all over the country. At first, these widespread approvals on the system push the Ministry of Justice to support such requests, but since 1995 it began a gradual disinvestment related to the purpose to develop its own application (Carnevali, 2006).

Since 2002, the new CMSs were deployed all over the country. Despite the conflicts, the registries of all courts started to use the CMSs to handle civil proceedings, and no serious functional problems were noticed. In this respect, we may notice that in 2008 the implementation of a server consolidation policy changed the CMS architecture: from a court database with a client-server architecture to a three tier architecture: thin clients for final users, an application server in each court and the main server at district level serving all the courts of the area. At the same time, the different applications serving specific procedures (bankruptcy, labour, etc.) were unified in a CMS called SICID, which still works with almost the same features.

4.2. POLIS: editor and case law database for the first DSS

Based on a large consumer word processor (Microsoft Word), the application at first was modelled with a set of features to allow judges to write customized decisions. POLIS supports judicial writings using models with some pre-established sections, data collected automatically from the CMSs databases, and obviously free text sections in which the judge would have entered motivation and other variable contents. Once printed, signed and sealed, the sentence should have been [was] scanned and made available in a specific electronic case law database (judgements repository) for DSS purposes but also to provide a copy of decisions on request for court and parts (mainly lawyers) of proceedings.

To function properly, POLIS would need a regular use by all the judges, so to build a complete judgements repository. However, also in the Tribunal of Bologna, where the system has been developed, almost no judges used POLIS during the piloting stage, although recurrent training initiatives. It was not sufficient due to radical changes in working practices required for its adoption. Indeed, judges were not really involved in the development of the

system sponsored by the Ministry of Justice. In Italy, judges can refuse to use ICT application, according to their status of wide independence, and in most cases only moral suasion can be adopted (Carnevali et al., 2007) so a strong commitment was needed. Chief justices, Ministry of Justice, and the Superior Council of the Magistracy were not promoting POLIS to judges in a right way (Liccardo, 2000) and even mediation processes to find an agreed solution (Contini and Mohr, 2008; Contini and Carnevali, 2010).

The POLIS system and the new CMSs were deployed jointly, but POLIS has never been adopted. Several editors and judges support systems were developed during the TOL project, but only in 2006 the IT General Directorate has been able to deliver a working dashboard so called "Judge Console", as will be seen later on.

Despite the failure, POLIS deeply influenced the following ICT developments in civil sector, particularly in the electronic data interchange programme.

4.3. The PolisWeb for the first electronic public access to court databases

The most important component of this first wave of e-justice systems was the system for accessing the databases of the court by the lawyers.

Since 1999, when POLIS was at the development stage, the Bar Association of Bologna strongly required to the Minister of Justice a remote access to the CMSs database. This would have allowed the lawyers to better plan their activities, save time for accessing the court counter and therefore reduce travelling time and costs. Following this request, the MJ contracted the software already engaged in POLIS project to develop *PolisWeb:* a web based application that allows remote access to court POLIS case law databases and also CMSs data.

The system operated in this way. During the night, the databases of the court were replicated in batch mode on the PolisWeb server. The PolisWeb was placed on a so-called DMZ network (it means *demilitarized zone* also in informatics) to preserve the LAN of the court from outside, protecting a piece of it. Once registered with the court, the user received an ID and password to enable the service for the kiosks located inside the court. Otherwise, if the request of access could come from a remote location, it was necessary that the person acquired a piece of software to allow "traceability" of the computer that was connecting and for the encryption of data exchanged (see Figure 1).

Following the positive results of the PolisWeb piloting carried out at the Tribunal of Bologna in 2000, the system has been then deployed also in Rome and Milan, the other two pilot courts. Despite the pressing demands from the other courts in Italy, there have been no dissemination. One of the reasons is that the MJ was strongly engaged in the development of the TOL. In the same years, the attention of the Ministry of Justice has already moved to the development of TOL. Since than PolisWeb has been part of the TOL project, without changing its functions but only its architecture.
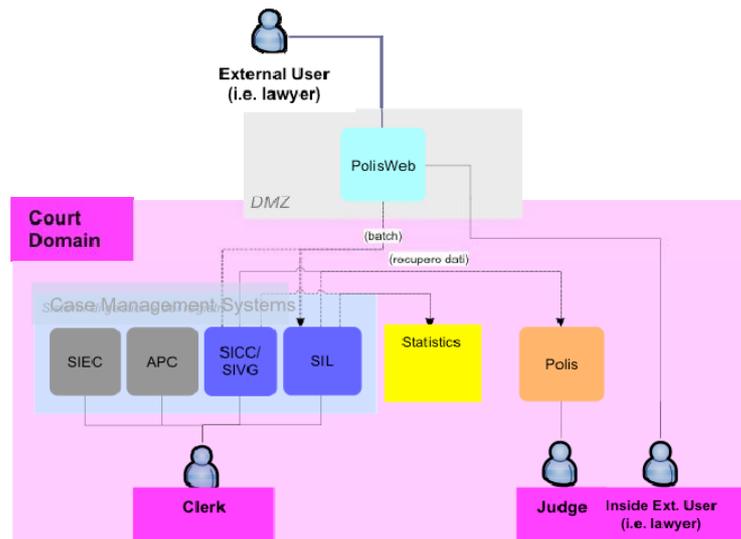
Figure 1 - The first system of e-filing before TOL (source: Borsari, 2004)

To summarize, at the beginning of 2000 the technological installed base was made of the following components: 1) a series of new CMSs supporting different kinds of proceedings (SICC/SIVG, SIL, APC, SIEC) with a module for statistics; 2) POLIS, supporting judicial writings for judges and case law collection for judges and lawyers; 3) PolisWeb for the first public access (mainly lawyers) to courts databases (mainly CMSs).

The positive results achieved with PolisWeb and the new CMS pushed the MJ to start the development of a much more challenging system, the well-known Trial OnLine (TOL). The goal was to create a "paperless office", transforming conventional paper based procedures into digital ones. TOL became the key strategic project of the ICT development programme of the MJ. Since then, the large parte of the available resources have been allocated to TOL.

5. *Trial On-Line (TOL)*: the system "all-in-one"

As mentioned, it is during the development of POLIS in Bologna, Rome and Milan that the Bologna Bar Association and the Ministry of Justice decided to explore the feasibility of TOL. In 2000, a ten months feasibility study was launched in the Tribunal of Bologna and in the Tribunal of Rimini. The Ministry of Justice assigned the contract to the same consultancy firm engaged in 1999 (contract signed between the Ministry of Justice and CO Gruppo in April 17, 2000). This study was composed by two main sections: one related to the analysis of structural characteristics (offices, organization units, roles, functions, competences etc.) and the other related to the analysis of civil procedures in practice in order to redesign how the different roles, functions, working practices could be determined according to a new TOL conception. The results of the feasibility study were positive and in 2001 the MJ-IT Directorate General issued two competitive tenders: one for the *software development*, the other for *organizational support*.

In 2002 the Ministry of Justice assigned the *organisational support contract* to a consultancy firm. The programme included the creation of a "project committee", an "operative committee", and seven pilot courts, so-called "local laboratories" (TOL Labs), to define. The "project committee" was in charge to supervise the entire project and was composed both by members of the Ministry of Justice (MJ-IT Directorate General) and by

members of the consultancy firm. The "operative committee" was in charge to supervise the pilot courts known also as "local laboratories. It was composed by experts in informatics, in administrative science and in civil proceedings provided by the consultancy firm other than by the Ministry. The TOL Labs were constituted in six pilot courts, and were managed by local boards. Each board was composed by internal personnel (judges, administrative and technical staff) and external personnel (lawyers of the local bar association and experts in organization studies and informatics disciplines assigned by the consultancy firm).

The MJ awarded the competitive tender for the *hardware and software development* only in 2003, signing a contract with a software house. On the basis of the tender, the assignee had to provide the following deliverables (see the schedule in Table 1):

1. the reengineering and evolution both of the automated CMSs of civil proceedings and DSS based on the experience of POLIS system for editing, collecting and sharing the court decisions;
2. the development of an application dedicated to lawyers and experts for the electronic data and document interchange with the court (in particular e-filing legal documents and providing a documents repository of electronic folders accessible online);
3. the creation of a so called "model office" in the Ministry of Justice in which the TOL system could be developed and tested;
4. the installation of the TOL system in the seven "local laboratories" (pilot courts and related bar associations) with maintenance and customer care services (TOL Labs);
5. the dissemination of TOL system with help desk service and training programme to further 50 courts.

Table 1 – The development of Trial On Line according to the project schedule

1999	Explorative study on the conditions for the development of the TOL promoted by the Bologna Bar Association and assigned to a consultancy firm (CO Gruppo).
2000	A 10 months feasibility study of TOL promoted by the Ministry of Justice and assigned to a consultancy firm (CO Gruppo)
2002	Organizational support contract, supervision of TOL project in 7 pilot courts (TOL Lab) selected jointly with the Minister of Justice assigned to a consultancy firm (Fondazione Alma Mater and CO Gruppo) in consequence of a competitive tender.
2003	Hardware and software development related to the TOL project assigned to software house (Datamat) in consequence of a competitive tender.
2004	Hardware and software to be completed and tested in the 7 pilot courts (TOL Labs)
2005	TOL to be introduced in 50 further courts.

5.1. The impossible challenge of TOL as a whole (2000-2005)

TOL was born as a very ambitious project. Its original design was outlining a full e-filing system that meant a complete electronic management of any type of civil proceedings from case filing to disposition up to the final enforcement. Especially, lawyers and experts, clerks, and judges would have been able to access to data collected in the CMSs databases (as with PolisWeb), but also filing cases, as well as download and upload of procedural documents to and from an electronic folder in the court. The project also provided electronic notification and communication to and from the court, any payments of amounts due and court fees (Contini, 2006; Contini & Fabri, 2003).

In particular, the TOL main focus was to manage, in a comprehensive way, every document and communication in almost all civil proceedings through digital solutions (Project Committee for "Assistenza alla realizzazione del Processo Civile Telematico", 2004). In other words, it would have been possible to:

1. manage, digitally, large part of information related to civil proceedings (from filing to sentencing);
2. manage, on the basis of electronic means, all communications and information exchanges among the different players involved in a civil proceeding (judges, lawyers, clerks, bailiffs, advisors, expert witnesses etc.);
3. simplify the activities of any player involved in civil proceedings;
4. promote proceeding transparency and timeliness.

TOL deployment should have been beneficial to judges as documents and information management should have been streamlined. Taking advantage of electronic communication and electronic filing, the connection with clerks and lawyers should have been favoured. Further, it should have been easier to supervise hearings and then to prepare them more accurately. In this way, conciliations should have been promoted and postponements and reservations should have been kept under control. Another expectation was that clerks and administrative staff should have largely benefitted from TOL in the new paperless environment, with more time to dedicate to judges' support tasks. Also lawyers would have benefitted reducing the needs to go to court to handle their cases. In the original design of TOL, lawyers would have had to go to court just for trial and meetings with judges.

In addition, with the adoption of the TOL system, the ICT Three-Years Plan and the e-Government Master Plan predicted a reduction in the length of civil proceedings by 30% annually.

5.1.1. TOL architecture

The system architecture designed by the MJ to implement TOL is very complex. Components are placed in many different locations: local and central; internal and external to the justice system.

These components consists in:

1. *External Users Interface* (EUI), the dashboard and a web service through which layers and experts can interact with the system from the outside;
2. *Access Point* (PdA) that allows the connection between EUI (outside) and the rest of the system (inside);
3. *Central Gateway* (CG) that manages the connections among the access point for EUI, the civil justice domain, the court domain via RUPA public network and RUG justice network;
4. *Local Gateways* (LG) that manages the connections among the CG via RUG justice network, the court domain (CMSs and documents repository) and the Internal Users Interface;
5. *Internal Users Interface* (IUI) to be used by court staff, judges and lawyers to perform their functions from inside the court. It is based on CMSs interface for clerks, Judge Console a dashboard for judges, and the internal station of web service for lawyers (Borsari, 2004) (see Figure 2).
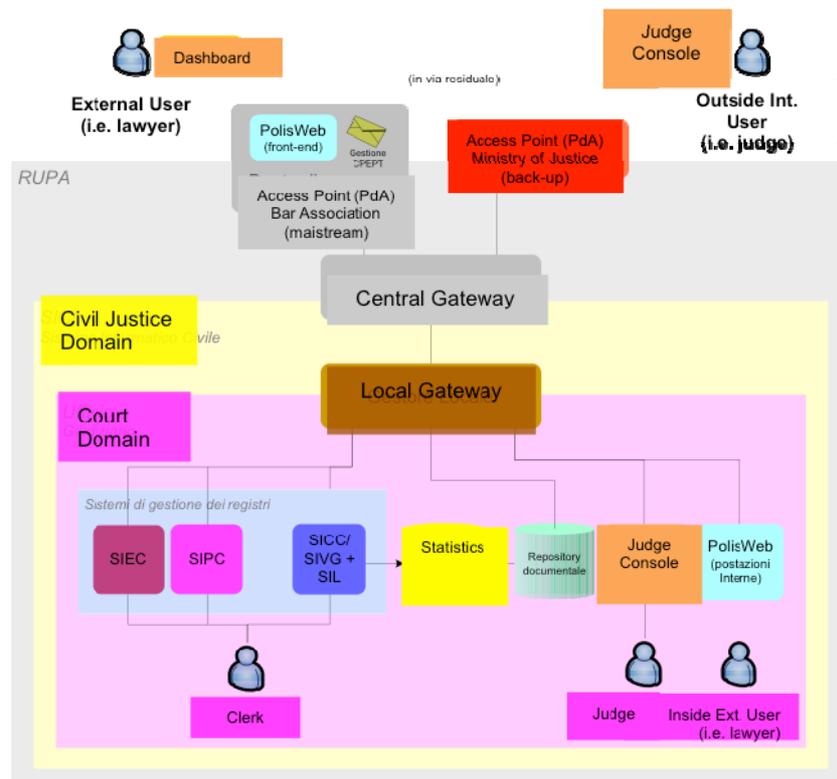
Figure 2 - The TOL system as a whole (source Borsari, 2004)

For those interested in the specific architectural solutions identified by the Ministry of Justice, a more detailed description of the functions of the various components is provided below.

The External User Interface (EUI) is a dashboard to allow the lawyer and expert to draft and sign electronically a summons and a brief at first. For this purposes, there is an editor based on a word processor integrated with software for signing, encrypting and enveloping the document. In addition, the dashboard provides another tool for e-filing the case, based on a specific e-mail application functioning just for the TOL (CPEPT). Through this email it is possible to file encrypted documents and to receive an automatic reply with time stamp. As it will be seen later on, the External Users Interface have to be financed and developed mainly by the bar associations. The dashboard provides also a web based connection to access selected data collected in the court CMSs databases (front-end). This new web based service was also called PolisWeb because of the same functions of the old one, but it had a completely different architecture. In the Local Gateway section (two sections below) this so-called "TOL PolisWeb" will be discussed more in detail, focusing on its location and back-end functions. .

The Access Point (PdA) is the hardware, software and middleware that allow establishing a secure connection via the Internet between the EUI and the Central Gateway (protecting the access to the justice domain) and from here to local courts. In practical terms it is the system that enable lawyers, through their dashboard, to access and interact with the systems of the MJ. In legal and technological terms, the PdA has to solve the problems of secure access to the justice domain, of enabling digital signature, and of correct identification of practicing lawyers. For this reason, as a rule, it has to set up by each local bar association (upon request to MJ-IT Directorate General), since it is at this level that updated information about practicing lawyers is available. It is with the registration to the PdA that lawyers get the above mentioned specific mailbox called CPEPT and their smart

18

cards for digital signature of procedural documents and to be identified and authorised to access to the systems of the MJ.

The <u>Central Gateway (CG)</u> manages the connections among the PdAs, the civil justice domain, and the courts systems. The CG ensures the accuracy of the composition of envelopes produced, roots the communications to the courts systems and tracks all data flows. In practical terms, the CG executes the requests submitted by lawyers via PdA and addresses the communications to the court via the Local Gateway (LG) and vice versa. The CG also certifies the receipt of a case e-filing, providing a reply message addressed to lawyer CPEPT mailbox (time stamp). This is, therefore, to be considered the date and time of legal filing.

The <u>Local Gateway (LG)</u> handles the connections between the court systems (CMSs, documents repository and internal users) the PdA and external users. It controls case filing delivery, manages levels of access, and communications between the court the external users. The LG should also handle the TOL PolisWeb, the web service created to deliver directly in a synchronous mode and protected way the access to the court databases (CMSs, documents repository, statistics, etc.) from the external court users. However, for legal and technical problems related to security concern of direct access to court databases, TOL PolisWeb will not start until 2011. It will be fully subrogated to a parallel system, the National PolisWeb, instead operating in an asynchronous mode (a copy in batch of court databases), as will be seen next in the specific 5.2. paragraph.

<u>Internal Users Interface (IUI)</u> is the last component of TOL. While the clerks and the court staff perform all their functions through the CMSs applications, the judges needs a special dashboard to work with the TOL. Such application, called *Judge Console,* was an evolution of the "old" POLIS (see 4.2. paragraph). It supports the writing of judicial documents, the access to CMS data, and it provides calendar management and statistical functions. In 2004 the MJ developed a new web based application with similar functions, called Judge's work desk and more recently a new simplified application called MagOffice. We will return on these difficult developments in Paragraph 5.3.

5.1.2. TOL in place

The TOL technical system was released at the end of 2004 (Borsari & Baratta, 2004) and really completed in 2005 (Carnevali, 2006). Alongside with the development of the TOL architecture, the testing stage started in the seven pilot courts called TOL Labs (Bari, Bologna, Bergamo, Catania, Genoa, Lamezia Terme, and Padua). The team was composed by a team leader from the consulting firm that won the tender, a representative of MJ-IT Directorate of MJ, the IT manager of the court, the court administrator, some interested clerks in specific workflow, some judges and lawyers. The aim of this testing stage was to develop a method to promote its organisational adoption, its integration court working practices, and solve technical and organisational problems emerging at local level (Xilo, 2004).

The project milestones indicated the ending of the testing stage by 2004, and the start of the TOL deployment stage in further 50 courts. But the story has been quite different.

On one side there have been serious delays in the bid evaluation and adjudication for software and hardware development, and then in the software development. On the other, the involvement of lawyers and bar associations has been more difficult than expected. As noticed, part of the software required for the functioning of the TOL has to be developed by software houses hired by bar associations as in the case of the Access Points (PdAs) or

bought by lawyers in the free market (as the External Users Interface). In addition, lawyers had to buy also digital signatures with further costs. Simply speaking, the quality and the costs of the products offered by the market were not in line with the demand of potential users: too little software providers and too high the costs of their products. Two smart cards for authentication and digital signature, the dashboard for editing documents and for accessing the system, and need to built up a PdA at each bar association were too expensive for individual lawyers and for their associations. This was particularly true for the PdA, since what was offering the market was too expensive.

Due to the lack of results and of the unclear perspectives, also the seven piloting courts began to disinvest. They were weary to participate on an ineffectual project. They had not than sufficient incentives to be part of it, but only increasing costs. In 2006 the TOL Labs gradually began to take off from the testing. They did not reached the organisational and technological level required to use TOL.

In almost six years 12 million of Euro have been spent in feasibility studies, software and organisational development and testing: about 84% of the total investments in ICT projects in the civil sector (Fabri, 2009). Furthermore, as it is well known, the technologies are never *plug n' play* tools. The complexities generating from the technical, normative, and organizational components as well as of governance components generated huge problems to the project and led to the modification of its very nature.

5.2. National PolisWeb: the "dark side" of TOL (2005-2011)

Since 2001 the MJ-IT Directorate General began the development of TOL, but both lawyers and courts staff were asking for the old PolisWeb (see paragraph 4.3) the systems ready to enable the access to court CMSs databases. The MJ-IT Directorate General required the development of the TOL programme and consequently of the new PolisWeb necessary for fulfilling those functions: the TOL Polisweb. As mentioned above, however, the TOL PolisWeb was designed to operate in synchronous mode to query directly the court databases (CMSs and document repository)) for data and documents exchange. However, the legal security constraint and other technical and legal problems not allowed the direct access to court databases from outside. For this reason, in 2004, MJ-IT Directorate General decided to start the development of a parallel system to meet these pressing requests coming from users. The state-wide *National PolisWeb* was introduced according to law and technical requirements. It was a system with the same name and functions of the old one but with a different architecture.

The new central system has been set up in Naples, where the TOL Central Gateway was already running. Simply speaking, in order to have a national database of local courts' CMS databases, during the night the data of all Italian courts was automatically copied batch, and sent via intranet (VPN of justice) to the national database in Naples. A DMZ at CG level protected the National PolisWeb server from external court users (see Figure 3).

As part of TOL system, lawyers should have access to the system through a "special" Access Point (PdA). Therefore, the bar association who required the service, in accordance with the court, had to provide this special PdA authorized by MJ-IT Directorate General for delivering the service. To access the National PolisWeb, the TOL procedure was already simplified. A lawyer just needed the certificate to allow the communication and data interchange and not for the digital signature.
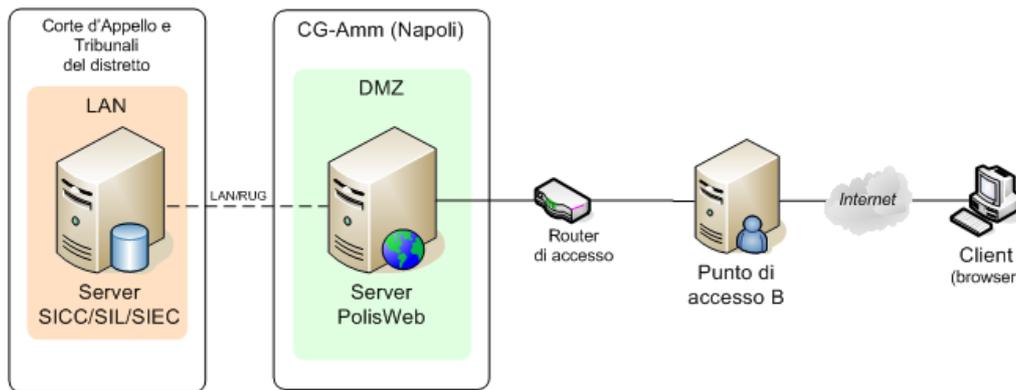
Figure 3 - The National PolisWeb: a parallel system in TOL (source: DGSIA, 2005)

The deliver of the National PolisWeb in 2005 led a double track for TOL programme, which appeared very useful for the MJ-IT Directorate General from a political point of view.

The TOL project was not taking off. The piloting stage highlighted the high cost and the huge complexity of system deployment. Courts and lawyers wanted PolisWeb features rather strongly, however, they would have had it only through the TOL system in some how. For this reason, there was a growing numbers of lawyers asked to the MJ-IT Directorate General, through their own bar associations, to make a PdA to access finally the National PolisWeb.

The growing number of PdA installations allowed the MJ-IT Directorate General to argue that the TOL programme was still alive and going ahead. The National PolisWeb, however, made use of only a small part of TOL infrastructure (the "special PdA), but it was a very small part of the actual TOL architecture.

5.3. TOL Light Version: starting to operate for payment order (2006-2011)

In 2006, only the Tribunal of Catania TOL Lab with its bar association was still engaged in TOL development. Differently from the other Pilot courts, Catania did not relied on the market to get the PdA, but started an in house development. In the same years, the Tribunal of Milan took the lead of the TOL development. Thanks to the remarkable investments made by the bar association of the rich financial city, and the strong sponsorship of the court, Milan implemented the PdA, and started the use of TOL but with a new architecture.

5.3.1. TOL in Milan: the "new" TOL

Thus, the TOL Milan Lab became the strongest chance for the Ministry of Justice to save the TOL programme, so the MJ-IT Directorate General decided to support it toughly. However, it was no longer the case to digitalise the entire set of civil proceedings and to push toward the "paperless office". It was rather time to downsize the project, and to focus on its simplest procedure: the "payment order". On December 2006 in Milan, the TOL Light Version for Payment Order became operational with "legal validity", following the specific regulations on technical requirements for the "new" system. The management of this new experience of "TOL Milan Lab" was assigned to a so called "IT mixed commission" made up by judges, clerks, lawyers, court IT specialists, and afterward by specialists of MJ-IT Directorate General too.

In 2008, the TOL Light Version went on line also in Catania (with its in house solution),

and then disseminated in Genoa, Naples, Padua and Vigevano. In 2009, other 8 courts of Lombardy Region (Brescia, Como, Lecco, Lodi, Monza, Pavia, Varese e Voghera) and also Rimini of Emilia-Romagna Region initiated the project. However, the development was not easy at all, with technical, financial and managerial problems going on for years. The IT specialists who were taking care the of the PdA's development and of the lawyers' dashboard, pointed out not only the general problems of costs, but also the difficulties to have the correct source code to prepare a functional interface. Moreover they put in evidence several errors in the software, and a bad relationship with the MJ-IT specialists (Zanga, 2008).

Therefore, the system operated only in Milan for years. In 2010, the lawyers entitled to the service were almost 80%. The payment orders online were 12% in 2007 and 40% in 2010[1]. In those years the MJ-IT Directorate General improved the system with court communications and then with the exchange of written statements (Sala, 2010). This first successful and milestone experience will be discussed in detail afterwards in Paragraph 6.

5.3.2. New dashboard for judges and XML makeover

In the same period, the MJ-IT Directorate General promoted also a new "lighter version" of another key component of the TOL architecture: the Internal Users Interface. The implementation of TOL requires the engagement of judges that must write their procedural documents with tools integrated in the TOL system.

Since 2004, the Judge Console of original TOL architecture changed in a web based application called *Judge Work-Desk* (JWD). With the JWD the judge, instead of using a commercial world processor, should open a web application integrated in the CMSs of the court (Contini and Cordella, forthcoming). The document in XML format could be digitally signed and transmitted to the registry that will take care of a distinct set of functions. Judges could also collect all the decisions and therefore set up databases of local jurisprudence. JWD should empower the managerial and bureaucratic functions of the judge that, using this system, should be much more and much better integrated with the organizational process. However, four years of development process and a number of releases to align the judges' needs produced a low adoption of JWD (Contini and Cordella, forthcoming). Judge Console and JWD were too complex for many judges, accustomed to work with the comfort of the standard word processors. Therefore the MJ decided to develop a simpler judges interface, called *MagOffice*, that was a simple customization of MS Office integrated into the CMS SICID and a calendar management system based on MS Outlook (MJ-IT DG, 2011). The original XML solution for editing the document was abandoned in favour of the PDF one, even though enclosed in XML envelope with the most important data for the identification (i.e. digital signature) and recording.

At the end of 2005, the so called Document Type Definition models were issued by a decree of the Ministry of Justice and, due to it, proceedings and documents based on TOL acquired legal validity. This can be considered another factor that hampered the TOL spread. Word processors in use by lawyers had to comply with these models requiring a software update. The registered growth in the use of MagOffice seemed to be a good indicator of a first concrete adoption of such systems for judges too (Contini 2012).

---

1 Fonte: Ministero della Giustizia (www.processotelematico.giustizia.it/pdapublic/index.jsp)

5.4. TOL New Shape: opening the doors to standard certified e-mail (from 2012)

As mentioned before, at he beginning of 2011 the MJ has issued a Ministerial Decree (DM February 21, 2011 n.44) entailing a couple of major changes for TOL system. At first, the decree required the switch from the asynchronous (National Polisweb) to the synchronous mode (TOL PolisWeb). For this reason it established the stop of the operation of the asynchronous National PolisWeb as of October 15, 2011. Then, the same decree also established the switch from the old ad hoc e-mail application used by TOL (CPEPT), to a new one based on standard of certified e-mail (CEM) (see Table 3).

Table 3 – Main changes introduced by the law L.44/2011

	Before	After
Access Point level	The "closed" **TOL dedicated e-mail (CPEPT)** was used for communications and e-filing between court users (lawyers) and the court through **Access point (PdA)** The **PdA** allowed the connection between lawyers and the court by court users identification and authorization.	The "open" **certified e-mail (CEM)** for communication and e-filing is introduced between court users (lawyers) and the court. The **PdA** is maintained to allow the CEM use by CEM personal e-mail identification and authorization. The **PdA** is maintained to access the current courts case management systems at district level.
Central level	The **Central Gateway (CG-Amm)** in Naples was used to manage the connection (identification and authorisation) among the PdA, the civil justice domain, and the court domain through the Local Gateway. The **CG-Amm** was used also to access the copy of courts case management systems at central level (**National PolisWeb**).	The **CG-Amm** with the **National PolisWeb** is abandoned. **Central CEM System** with **Certified CEM Registry** is introduced to identify and authorise the access and data exchange by lawyers. **E-service Portal** is planned to allow the access by general public.

The TOL architecture had to undertake a major reconfiguration. In particular, the new rule changes the system of communication of External Users Interface (EUI) component. The e-filing of the case is made by the lawyer through standard personal CEM e-mail purchased from a private provider instead of the TOL dedicated e-mail CPEPT given by MJ via PdA. Thus the court CMSs databases at district level is accessed directly by the TOL PolisWeb (synchronous mode) instead of the National PolisWeb (asynchronous mode). Therefore, The Access Point (PdA) is maintained to allow the CEM use by personal CEM e-mail identification and authorization, to communicate each personal CEM e-mail to the MJ Central CEM Registry, to access the current courts case management systems at district level. Furthermore, the Central Gateway (CG-Amm in Naples) with National PolisWeb is abandoned. Central CEM System with Certified CEM Registry (located in Milan) is introduced to control (identification and authorization) the access and to allow data exchange of data and documents between court and lawyers (see Figure 4) .
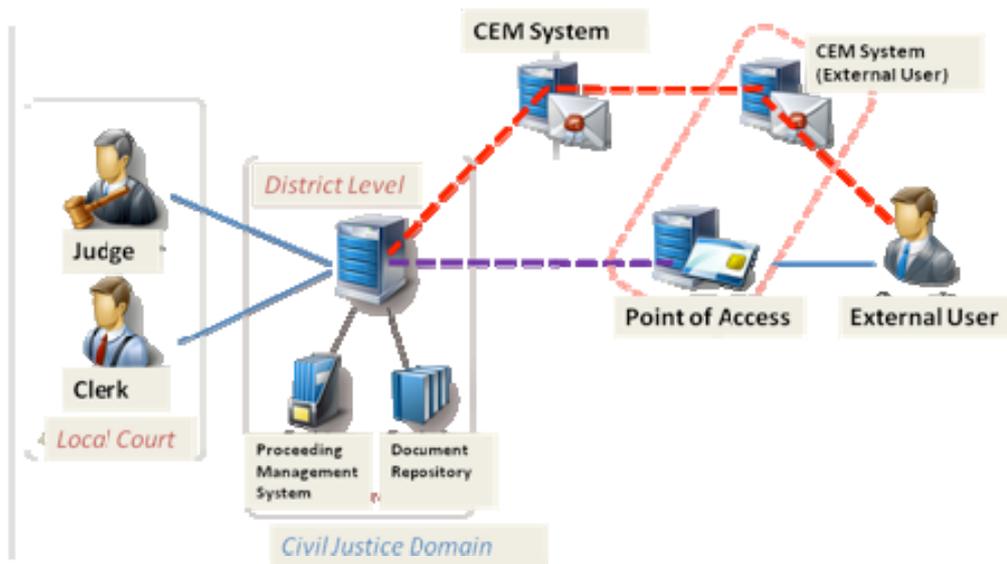
Figure 4 - TOL new architecture (source: Borsari, 2011)

Considering PolisWeb at first, National PolisWeb later, then TOL and TOL PolisWeb CPEPT based, and now the introduction of CEM, different regimes have regulated interactions with the external of the judiciary. So, in few years, for several reasons, the characteristics of the public access to the judiciary have been modified several times forcing courts, bar associations and then lawyers and other professionals to run after this evolving situation. This continuous changeover produced an increase of costs (economic and organizational) to adapt the system at these different solutions.

At this point, the wonder is why policy makers provided for the public administration the use of CEM in the exchange of documents and information but the judiciary turned to the PdA solution. The answer, as in the case of the decision to externalise the management of the PdA, had to do with security and the assumption that CEM could not provide such standards that are required in the judiciary, so that a specific norm exempted it to adhere to the CEM adoption. Actually, the PdA solution governed the exchange of documents and information on the basis of an electronic mailing but within a closed system. Any single document or information can be accessed or exchanged only through this gateway. The introduction of the CEM also in the judiciary unsettled this system. Users should be no more forced to pass through the PdA interacting with courts and it should be sufficient to buy a CEM service from one of the several vendors of these solutions to exchange procedural data and documents with the court.

After the introduction of CEM the role of bar associations is reduced significantly, since PdA is not needed anymore for sending and receiving procedural documents. But they are still in charge of the legitimacy of their members to practice law and without their authorization CEMs cannot be activated. In the meanwhile, however, the PdA continue to be used for accessing the court CMSs databases, also through the new district architecture. Therefore, it is expected that bar associations will continue to play a role in this respect providing to their members software applications that integrate PdA and CEM functionalities.

Finally, another component is planned. The E-Service Portal of the Ministry of Justice should give the opportunity not only to lawyers and other professionals but also to any citizen equipped with a national smart card (at present not spread significantly), to access to data on judicial proceedings in which they are involved, to pay court fees, and to consult,

24

without any restrictions, essential information of proceedings, jurisprudence of civil matters, and information and services related to TOL (see Figure 5), but it is not in place yet.
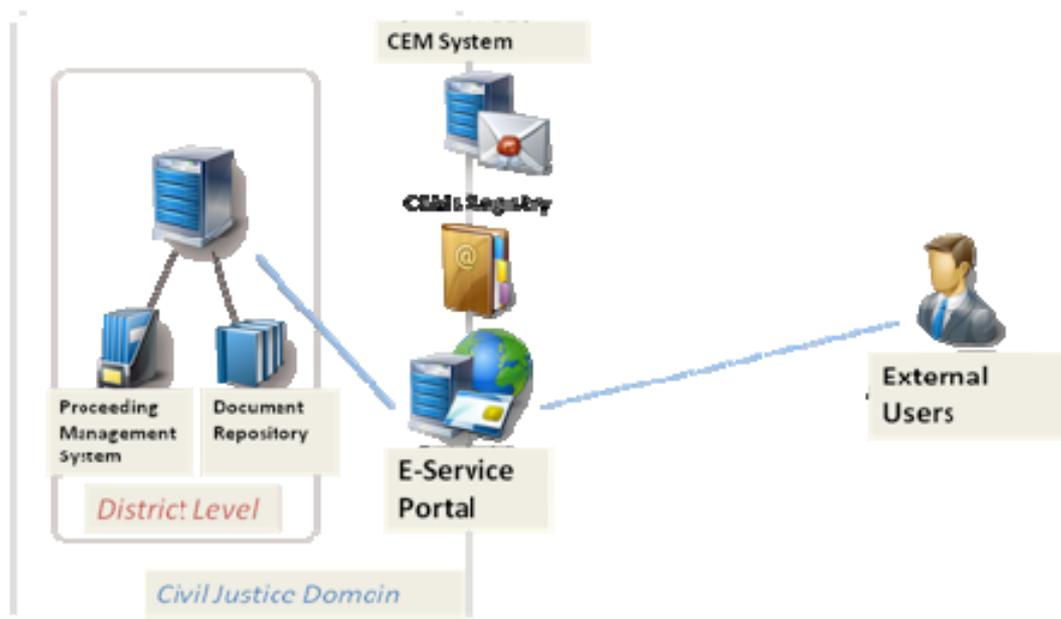
Figure 5 - E-Service Portal architecture (source: Borsari, 2011)

To sum up, e-filing services planned by the original TOL, and specifically the possibility to complete an entire judicial proceeding online, are not still in place. There are almost 150.000 CEM addresses in the Central CEM Registry. TOL Light Version for payment order (see table 4) and court communications is present in 32 courts. The exchange of written statements between parties and the judge is limited and it is available in 4 courts and only in the Tribunal of Milan large part of proceedings to be digitalized by the TOL project are already available in this form. Moreover, the Article 51 of the law L.133/2008 modified the code of civil procedures introducing the possibility to send notifications to an electronic mail address rather than a traditional postal address. In case a lawyer lacks it, it is up to him/her to verify their eventual presence in the court as the delivery by normal mail is suppressed. This represents a significant incentive to abandon paper-based modalities in favour of the online ones. At present, 19 courts adopted this possibility but it is believed that their number will increased considerably in a relative short time due to the spread of the system all over the country that supports this function by default (see Table 5).

Table 4 – Deeds and documents transmitted electronically till June 30, 2011 (including data of new TOL feature for enforcement and insolvency proceedings online, out of this study)

Court	Number of deeds transmitted electronically
ABBIATEGRASSO (Detached Office of the Tribunal of Vigevano)	12
ACIREALE (D.O. of Trib. Catania)	4
BARI (Trib)	112
BERGAMO (Trib)	660
BOLOGNA (Trib)	215
BRESCIA (Trib)	7269
BUSTO ARSIZIO (Trib)	115
CARPI (D.O. of the.trib. Modena)	149
CASSANO D'ADDA (D.O. of the.trib. Milano)	29
CATANIA (Trib)	1414
CHIVASSO (D.O. trib. Torino)	1
COMO (Trib)	227
CREMA (Trib)	83
CREMONA (Trib)	94
DESIO (D.O. of the trib. Monza)	262
EMPOLI (D.O..trib. Firenze)	2
FIRENZE (Trib)	484
GALLARATE (D.O. of the trib. Busto Arsizio)	10
GENOVA (Trib)	2389
LECCO (Trib)	496
LEGNANO (D.O. of the trib. Milano)	35
LODI (Trib)	316
MANTOVA (Trib)	38
MILANO (Court of Appeal)	16
MILANO (Trib)	87988
MODENA (Trib)	5040
MONCALIERI (D.O. of the Torino)	1
MONZA (Trib)	3164
NAPOLI (Trib)	2679
PADOVA (Trib)	1051
PALERMO (Trib)	107
PAVIA (Trib)	242
PAVULLO NEL FRIGNANO (D.O. of the trib. Modena)	18
VARESE (Trib)	350
VERBANIA (Trib)	37
VERONA (Trib)	1928
VIGEVANO (Trib)	185
VOGHERA (Trib)	43
Totale	127402

Table 5 – Communications and notifications transmitted electronically till June 30, 2011

Type of Court	Court	Number of communications transmitted electronically
Courts of Appeal	BRESCIA	4668
	MILANO	42140
	VENEZIA	21026
	Total	67834
Courts	BASSANO DEL GRAPPA	4492
	BELLUNO	4238
	BOLOGNA	39218
	BRESCIA	54718
	MILANO	687078
	MODENA	49046
	MONZA	43602
	PADOVA	26093
	RIMINI	19329
	TORINO	121453
	TREVISO	22888
	VENEZIA	18658
	VERONA	11535
	VICENZA	16398
	Total	1118746
	Total	1186580

6. TOL at the Tribunal of Milan

6.1. The description of TOL's proceedings deployed at the Tribunal of Milan

6.1.1. The payment order

The TOL era started the 5th of December 2006 when the Tribunal of Milan tested the first issuing of a payment order. Few days later, December 11, the test phase was over and the electronic procedure acquired legal validity. The rate of adoption of this solution was relatively slow as in 2007 only 11% of total payment order decrees were run online even though in the last months of the same year the percentage reached 20%. This was due mainly to technical, juridical, and cultural problems to be handled. One of them was related to the difficulty to manage large scanned documents to be attached to the petition for a payment order. The TOL system allows uploading files up to 10 Mbytes, and this was not always sufficient. However, in order to deal with this problem, there is the possibility to go directly to the court and upload files up to 30 Mbytes through a memory stick. This service is available only once a week. However, at the end, this is only a marginal aspect. What was required to lawyers was to abandon consolidated practices in favour of new ones. With the TOL, lawyers' software suite (the External User Interface) eventually integrated with the PdA of the bar association is the gateway to the court; documents are digitally signed by a smart card, and some of them have to be scanned. These are the main practices to be adopted in a petition for payment order online.

In 2010, the situation changed significantly. Lawyers realized that the time necessary to obtain a decree using the online solution was considerably shorter: 15 days rather than 60 days on average. So, the percentage of online orders increased to 65-70%. Further, it has to be taken into consideration that the total number of decrees passed from 42-44.000 in the previous years to 54.000 due to general economic difficulties of the country and the personnel dedicated to this proceeding was the same. It was also introduced a specific division of labour among judges so that some of them manage only online orders and some of them only traditional paper based ones.

The issue of a payment order is subject to a fee according to its value. This fee was collected by revenue stamps that were applied directly on the petition of payment order. Given the current financial regulation, it was not an easy task to establish an online payment. Indeed, the use of credit/debit cards, or money order was not accepted at that time. Nevertheless, it was devised a tool that allows the entry of the revenue stamp code (each stamp is numbered) by lawyers and this problem was solved. In this way, all the same, it was necessary to buy revenue stamps. So, a further devise was designed that allows to debit this fee directly on lawyers bank accounts. In late 2010, this application was tested positively and then largely adopted as the scanned receipt of the fee payment can be attached to the petition.

When a petition of payment order is sent by a lawyer to the court, it reaches the records office. At this point, the clerk opens it to analyse its content. According to the typology of the petition, the assignment to a judge takes place. Then, the petition is entered into the CMS and validated from a formal point of view. This part of the procedure is the same in the case of a paper-based petition. The only difference is that with a paper filing the clerk delivers the paper-copy of the petition to the judge. In the case of the online submission of the petition, the judge will see it in the so-called "Judge's Console". The "Judge's Console" is

an application that is used in order to formulate his/her concerning deeds such as sentences, orders, decrees etc. and sign them digitally by a smart card (see also Paragraph 5.1.1). Once the petition is on the "Judge's Console", it is taken into examination and the decree can be actually issued, it can be rejected or object of an order. In any case, the decision of the judge is written using the "Judge's Console" and sent to the records office. Here, it is downloaded and digitally countersigned by the clerk. At this point, a notification is sent to the lawyer by the CMS to inform him/her that a document was issued including its identification number and the document itself as attachment. Now, the electronic proceeding is considered over and starts the paper based one. Indeed, the digital document is not valid from a legal point of view even though it was digitally signed and countersigned by the judge and the clerk. The document must be printed in order to summon the "true copy" to the defendant and to collect the copy fee.

The reason is related to the collection of this copy fee and to the fact that this type of documents must comply with the legislation. In this respect, a solution is seen in the integration of this fee with the court fees to be paid to file a case but a specific norm is required. However, it was introduced the possibility to apply for "true copies" online. In this way, it is no more necessary to present him/herself to the court both to apply for the copies and then to withdraw them but only once.

Mandatory payment order decrees follow a further procedure. They are writs of execution and as such they require further stamps and attestations that state the uniqueness and originality of these documents. In case the opposing party decides to object to the decree only the paper based proceeding is available.

Table 6 – Steps for the petition of payment order and the following issuing

Lawyer	Software application to be used	Operations
	Word processor (lawyer's software suite)	The formulation of the petition of payment order
		The expense account (list of the expenses to be supported for the petition)
		The file of the payment order decree and the expense account are transformed in PDF files.
	Scanner and related software	Various docs have to be scanned: power of attorney, expense accounts, receipt of the fee payment, document evidence (i.e. invoices)
	EUI (Lawyer workdesk) Bar Association web service (Point of access and related smart cart for user's identification, authentication and digital signature)	A new file is created. This file is identified by parties' names, the type of file (in this case a petition of payment order), the type of act (sum payment), the court of destination, the value of the payment order and the related fee to be paid
		Details of the fee payment are entered
		Parties' details are entered as the type of payment order (i.e. enforceable payment order)
		Upload of the documents related to the payment order: petition, power of attorney, expense account, receipt of the fee payment, document evidence (i.e. invoices).
		An electronic XML envelop is created for document delivery
		Documents are signed digitally by smart card and indicating a PIN code in any of them
		The electronic envelop is sent to the court
Clerk	Case management system	Control of the petition and its eventual formal approval (the lawyer is informed about it electronically)
		Entry of the case data on the case management system (as consequence of the approval)
		The petition is assigned to a judge by a clerk
Judge	"Judge's console"	The petition is uploaded automatically on the "judge's console"
		The petition is elaborated and it can be rejected, object of an order or the decree is issued
		The judge's decision is signed digitally and sent electronically to the records office
Clerk	Case management system	Judge's decision is countersigned digitally
		The decision is notified to the layer electronically
	Printer	The decree is printed. Paper based procedure in case the payment order is issued (due to the deliver of the true copy to the other party and the payment of copy fee). The paper based procedure starts also in case of opposition to the payment order

6.1.2. The registration of deeds and documents

Procedures at the basis of deed submission or other documents online are in line with the petition of payment order. Also in this case, the lawyer prepares, for instance, a deed on his/her computer by a word processor and then sends it to the court by the PdA. In this document, it is indicated the trial case number that allows to assign it directly to the specific case. However, clerks of the courts verifies the deed prior to notify to the parties involved about its issuing and following registration.

From the 15th of March 2010, the registration of deeds online has legal validity and from the 26th of April 2010 also other documents that constitute TOL followed. The rate of adoption of these proceedings is relatively slow due to a specific policy followed by the Tribunal of Milan along with the local bar association. A step by step strategy is considered apt in order to deal with the so called hybrid situations. Situations in which the lawyers involved in a suit are not all "online" or all "paper based". In this case, the work of clerks risks to be hindered as it will be necessary to digitalised paper documents and to print digital documents.

6.1.3. Notification online

The Tribunal of Milan decided to take advantage of the possibility provided by the art. 51 of the law 133/2008 (see Paragraph 5.4). As it was mentioned above, this norm shifts from clerks to lawyers the responsibility to be informed about a document or a communication issued by the court. In other words, the art. 51 provides for the communication of any deed related to a specific process only online. Now, it is the lawyer who has to worry if something is happened in the causes in which he/she is involved. At the basis of this norm there are the characteristics of new CMS and the possibility to send communications to parties, substantially, by default when a document is registered. It goes without saying that this solution was decisive for the spread of the PdA adoption. Lawyers with access to it can keep under control all their cases remotely. In contrast, layers are forced to visit the court.

6.1.4. Proceedings under construction

So far, the focus was set to TOL proceedings that have already been experimented and then went live. However, experimentations are continuing as in the case of the "Judge's Console" (ex POLIS). It is considered a rather complicated application as its history suggests. Differently from the Tribunal of Bologna where the top management was not considered supportive, the President of the Tribunal of Milan investigates reasons that hamper the adoption of this application in order to deal with this issue. A specific training and the assistance of software experts was seen the solution to increase the adoption rate of this console that is determinant for TOL wide adoption as a source of digital documents. The fact that, in 2015, will take place the Universal Expo in Milan, allowed to obtain specific funds to dedicate to its improvement. Further, it is expected that the results obtained in this experimentation will be spread at the national level.

The adoption of the "Judge's Console" is strictly related to the quality of clerks' work. The possibility to manage digital documents signed electronically speed up their registration and the notification to parties. Of course, results are more relevant if they are part of a completely automated proceeding. However, even though this is not the case, sentences, orders, decrees etc. can be signed and countersigned digitally and then printed as part of a paper based proceeding. Here, they have to be signed again manually to render them valid

both by clerks and judges. Nevertheless, the fact to have at disposal digital documents allows their transmission to parties even though they are not valid from a legal point of view. In this way, parties are informed, in real-time, about the several steps of the case and then can behave accordingly. A sort of two ways procedure takes place at this point. The electronic way and the paper based way overlap even though only the latter is legally valid. Nevertheless, it is considered a useful preliminary phase for the TOL implementation as parties behave as if the entire proceeding was actually online. For instance, the request to paper based documents and the visit to courts is restricted to specific moments of the process.

If the document in question is not digital, let's suppose that comes from another public administration (i.e. Police), it can be digitalised and then it will follow the same double way outlined above. The document is registered electronically, notifications to parties are issued and the document is attached.

Minutes of the hearing can be managed in the same way. They can be digital or paper based but the latter can be digitalised. Clerks assigned to them the respective trial case number in order to be registered electronically and then notifications to parties can be issued with minutes attached.

6.1.5. Lawyers' perspective of the proceedings: the Point of Access of the Milan Bar Association and the passage to the certified electronic mail

As it was already mentioned above, the Point of Access (PdA) and the EUI allows to qualified external users (lawyers, expert witnesses) to access to court CMSs data and exchange procedural data and documents. The https is the protocol used as it lets to establish a reliable transmission channel. The PdA is managed by the bar association and it can be provided by software houses or, in very few cases, made in house by bar associations themselves. The latter is in charge of the authorization to practice law and communicates eventual changes in this respect to courts as changes in the master data of its members. Once a lawyer is authorized and his/her master data are available to courts, he/she needs a smart card technology. A technology that supports both his/her identification and authentication to access the PdA and the digital signature to validate documents. In this way, users' traceability is supported and operations carried out through the PdA are assigned to a specific lawyer.

The introduction of CEM signs an important innovation in the characteristics of the PdA. It is taking place a passage from a dedicate system to interact with the judiciary (PdA) to an open one that can be used to interact with other actors as well. What is integrated in the lawyer's software suite risks to be separated due to the introduction of CEM. Updated software solutions for law firms combine the management information system with the word processor. In this solution the PdA is incorporated allowing the access to automated registries (i.e. CMS) and the exchange of electronic documents via the Internet. CEM could break this situation as it supports document exchanges. Then two solutions will be necessary: a solution for document exchange and communication; a solution for accessing automated registries (i.e. CMSs).

6.2. TOL's project stakeholders

6.2.1. The innovation office

The Innovation office has played a relevant role for the development of TOL at the Tribunal of Milan. This emerges clearly from the different interviews with clerks and members of the local office of the ICT department who share a similar perspective in this respect. Indeed, the Innovation office is the direct evolution of an office called "mixed group". "Mixed group" describes precisely the characteristics of this office. In fact, it was composed by two representatives of the local bar association, two representatives of judges, two representatives of clerks, and two representatives of the local office of the ICT department. The latter is the detached office of the IT Department of the Italian MJ. It is in charge of ICT management and as such it is not under the control of courts but of the ICT department (central office). This local office is considered a peculiar entity in the world of justice, in which professionalism is based on knowledge, interpretation and the application of the law. Here, things are different as among ICT department members there are not only clerks with a background in law but also engineers and computer experts.

The "mixed group" took shape in 2006 under the leading role of the local office of the ICT department and immediately became a leading player of the TOL development. Even though it is an informal entity, it gained legitimacy and decisions made in this context became unchallenged both by judges, clerks and lawyers. It can be said that leading actors of the Court and of the Bar delegated to the "mixed group" the management and the implementation of TOL as further organizational innovations.

In 2007, a new president of the Tribunal was appointed. This determined an uncertain situation as far the role of the "mixed group" and the potentialities of TOL is concerned. As time passed by, TOL value for streamlining proceedings was confirmed as the leading responsibility of this group. However, it is in this period that the mixed group was renamed innovation office and its guidance moved from the local office of the ICT department to the judge in charge of innovation. This leadership change did not provoke substantial transformations and this office still continues to be the meeting point of main players in charge of the TOL management and deployment.

In reality, the innovation office is also the result of the merge with the informatics office and the statistics office already active in the Tribunal of Milan so that also innovation projects related to these fields are under the supervision of this office. In consequence of these merges, further clerks and experts joined it. The origin of these offices for supporting innovation are related to the requests of the Ministry of Justice to the execution of specific tasks that go beyond routine activities such as an inventory of files. In that specific case, in the middle of the '90, it becomes necessary to set up innovative practices supported by information technology. The advent of IT in the courts meant the introduction of a different way to work due to the necessary collaboration between engineers and clerks. The so-called millennium bug issue was a further opportunity in this respect. A different work culture took place in some corners of the Tribunal of Milan and, step-by-step, also new expertise emerged. Expertise that was not the typical one available in a court so that some employees changed literally job. Usual tasks were abandoned in favour of new ones that were considered apt in order to support innovative projects in progress.

What does exactly do the innovation office? It presents the several applications to court users and, it works also as an information centre for other courts. The leading role gained in the development of TOL created those conditions that other courts that are implementing

TOL consider this office as a point of reference in order to ask details about a specific innovation or running solutions. At first, these requests were met without any problem but soon it became impossible and a formal procedure was established so that visits to the Tribunal are regulated regrouping several instances at the same time.

Relationships between the innovation office and other courts, specifically those that are members of the Lombardy district, are governed by a further rule. Particularly, it is required to courts to appoint a unique representative as a point of reference. Let's suppose that a specific court is implementing the new CMS and needs the support of the innovation office. The latter deals with the court representative who, in turn, will be in charge of the application's implementation. Its role is not only limited to courts but it is also extended to bar associations in case of any issue related to the TOL implementation. The idea is that the characteristics of the innovation office are multiplied in the several courts connected to it. In some sense, this office becomes a node of a network represented by court representatives. According to members of the innovation office, this is a classical top down solution in order to favour TOL or another project implementation. However, it is considered fundamental in order to establish a minimum level of coordination necessary to deal with relevant projects as the TOL one also in the smallest courts of the district.

Activities at the innovation office are not formalized. In other words, decisions made in this office are not converted into work orders or circulars that will be adopted at court or district level. There are not enough human resources in order to carry out this formalisation process, as it is preferred to intervene directly in the field rather than to look after regulatory aspects. This is seen as a serious issue. There is a risk that the new practices will not be adopted completely, will not cross the district boundaries or will spread over slowly. Nevertheless, it has been established a connection with the central office of the ICT department at the Ministry of Justice that is kept updated about what is going on in the Tribunal of Milan and, in this way, also the approval of these practices at national level becomes possible.

The leadership role played by the judge in charge of innovation is considered important among members of the innovation office. He is a high ranking judge and, during his career, he has acquired top level experience both at the MJ and at the Judicial Council. In a context in which peer relationships prevail, a clear division of labour and related responsibilities were established. In this office, there is a common understanding that the way followed is the right one in order to promote innovation. Further, a sense of freedom and involvement is shared so that creative solutions emerge from any member of the office. A clerk, for instance, can be the promoter of a specific solution that will be adopted as a measure by the President of the Tribunal in case it is formalized. A sense of initiative and also of temerity is present as the confidence to run risks. It can happen that solutions are introduced without any certainty that everything will go smoothly. This collaborative atmosphere is not so popular in other courts in which continue to prevail bureaucratic procedures that are believed as an obstacle for the introduction of innovations. Actually, this was an exception also in the Tribunal of Milan before of the establishment of the innovation office.

Clerks and the administrative staff in general represent the category that has played a pivotal role within the innovation office. They are in charge of a number of administrative tasks associated with the handling of judicial proceedings both the paper based ones and the online ones and maintain relationships with the external of the judiciary. Further, part of local office of the ICT department staff is represented by this category. In this way, its perspective tends to be prevalent. On the other hand, judges are involved only in specific,

even though crucial, aspects of the proceedings in which innovation, at least in the civil one, consists, substantially, in a sophisticated word processor and in accessing databases.

Courts and mainly big courts as the Milan one have among its staff software assistants. They are not in their payroll as they are employed by private companies contracted to provide software and hardware assistance. However, their role is considered determinant in the everyday activity both of judges, clerks and other operators. For instance, in the introduction of the new CMS and other TOL applications it was possible to count on these assistants. It was a temporary activity but it was considered crucial in order to go live with this application. The combination of formal training and service assistance in the field was seen as the appropriate answer in the implantation of large-scale projects.

The local office of the ICT department joins the innovation office with its staff composed by clerks as background. Nevertheless, it is considered by the court staff, to a certain extent, only an entity in charge of the technological support. Actually, its main duty is to implement software applications and other technological solutions, but it can be enlarged to the understanding and the evaluation of their use. Members of the Milan local office believe that the monitoring level of systems is not appropriate at the moment. Conversely, capabilities developed in these offices can represent a possibility in this direction. They are not under the control of courts but of the central office of the ICT department at the MJ and are spread all over the country. So, it was prefigured a more articulate role played by these local offices as a sort of external agency in charge of the auditing of court information systems and not only as a technological support in their implementation. However, this passage would require the acquisition of further competences that, at present, are not available even though some steps in this direction have already been done.

6.2.2. The Milan Bar Association

The engine for the introduction of TOL is the Milan Bar Association. Actually, this role can be shared with the Lombardy Union of Bar Associations that regroups all the bar associations of the such Region. According to interviews made, already at the beginning of '90s, it emerged a discrepancy between lawyers, on one hand, that had already installed in their offices software to automate significantly their work and, on the other hand, courts that continued to operate in a traditional way. A lobbying activity in this respect was exercised mainly in the Tribunal of Milan but also other factors contributed to the creation of a promising environment for the TOL development. For instance, the Milan Bar Association uses to collaborate with the department of law and informatics at the University of Milan that is involved in the training of its members. In these training programs also members of the local office of the ICT department are part. These contributed to create a favourable context for the introduction of TOL. Human resources used to train lawyers, judges and clerks that came from this context.

A further factor at the basis of the TOL project in Milan is the preliminary organizational analysis carried out in the court. It was already mentioned that the Tribunal of Milan was not among the local laboratories so there were not funds available for this proposal. At this point, the Milan Bar Association decided to finance itself this analysis as it was considered preparatory for implementing projects such as TOL.

The fact that in the so-called seven local laboratories and specifically in the Tribunal of Bologna a series of measures were taken toward an automation of judicial proceedings represented an experience to be imitated also in the Tribunal of Milan. PolisWeb, as it was mentioned before, was one of them. The fact that already at the beginning of the last

decade, lawyers in Bologna could have access to the registries of the civil trial from their offices represented an example to follow. And actually, along with the Tribunal of Rome, Milan was one of the three venues where PolisWeb was available before the introduction of the central gateway. As in the case of the Tribunal of Bologna, soon lawyers realized that services provided by PolisWeb were not sufficient and the objective was to introduce the possibility to exchange documents online still not supported by this application. Besides, there was another aspect to be taken into consideration. It took on average 60 days for the issuing of a payment order. Milan is the Italian financial capital and a sense of emergence arose for reducing this lapse of time and TOL, actually, was a solution.

6.2.3. The Court of Appeal of Milan and lawyers' master data alignment

Above, we already took into consideration the passage from the old CMS and the new CMS. Both of them are case tracking systems even though the former is a court system and the latter is a district or inter-district system. The new CMS, as a district system, shares data of several courts even though they are separated virtually. This virtual separation is not present as far as lawyers' master data concerns. Actually, a lawyer can be based in Milan, for example, but operate also in another city of the same district. Let's suppose a change of address. This has to be communicated not only to the own bar association but also to all bar associations with whom he/she operates. Otherwise, master data will not be aligned as these data are managed at court level and not at district level. This situation created a lot of difficulties in the management of lawyers' master data. TOL, in some sense, recognizes users according to a series of data and, among them, the most important is the fiscal code that is used to identify them univocally. Any inaccuracy can create users' misidentification and related problems in the TOL's use. Only in a situation in which master data are assigned in an unambiguous way, lawyers and other users can access registries and exchange documents online without any risk. Otherwise, it cannot be excluded that they will not be able to get to concern information as wrongly addressed. This type of inaccuracy is far more common than expected. The reason why is related to the fact that master data can be modified at court level.

In order to deal with this problem, a series of actions were taken. Half a dozen of software assistants were recruited for a 6-7 month period for clearing up master data and for avoiding the occurrence of lawyers' data overlapping. In other words, the same lawyer, for example, can be entered twice. This means that it is fundamental to introduce practices that allow the maintenance of an appropriate management of master data. Therefore, any court of the district is invited to follow a series of steps in case of lawyers' master data change. Any variation in lawyers or other users' master data should be taken in charge by a specific clerk of the Court of Appeal in consequence of a communication from his/her association. The Court of Appeal, as such, has a district competence. However, it is not always like this and some courts prefer to intervene autonomously. In order to avoid further inaccuracies, always at the Court of Appeal level, a monitoring procedure was adopted and there is also the intention to prevent courts from dealing with lawyers' master data modification.

This issue is present at the national level and a further solution is seen in the assignment of this task to the central office of the ICT department. A simple circular of this office would be sufficient to centralize this function and avoid a lot of mishaps.

6.2.4. The unified front office: the Tribunal and Bar Association joint venture

Lawyers registered at the PdA exceed 8.000 considering that, all together; members of the Milan Bar Association are around 12.000. Besides, they are more than the 90% of those ones who were involved in at least four cases in the last two years. Several reasons are at the basis of these figures. First of all, the Bar Association itself has made much effort disseminating among its members TOL characteristics and advantages that can be gained through its adoption. Along with this policy, large-scale training programs were and are still provided in order to initiate users to the different TOL applications. Then, the establishment of the so-called Unified Front Office contributed to this situation. This office is placed in the Tribunal of Milan and it provides two main services: a help desk so that lawyers without PdA access, all the same, can collect concerning documents and information; a help desk to provide information to layers about TOL applications. The former is run by the court and the latter by the Milan Bar Association. The intention is to provide all the same a service to users and, on the other hand, to promote TOL.

At the basis of creation of the Unified Front Office there is the introduction of the art. 51 of the law 133/2008 already mentioned above. According to this norm, it is the lawyer who has to check if procedural documents or communications have been issued. Before it was not like this. Clerks were in charge to inform parties that a step in the process took place. Now, clerks do not have to care anymore if a specific document has been picked up or not. At the basis of this norm there are the characteristics of the new CMS and the possibility to send communications to parties, substantially, by default when a document is registered. It goes without saying that the introduction of this was decisive for the spread of the PdA adoption. Lawyers with access to it can keep under control all their cases remotely. In contrast, layers without this access are forced to visit the court.

We can presume what could have been happened if this norm would have been come into effect — this decision is in the hands of the Director of the information technology general directorate) — when only a restricted number of lawyers were enlisted in the PdA Lawyers would have invaded the records office of the court and its normal operations would have been at risk. A significant number of lawyers enlisted in the PdA, on the one hand, and the possibility to have access to the Unified Front Office, on the other hand, limited entries to the records office — after the visit to the Unified Front Office, lawyers will see if it is necessary to visit the records office or not.

7. Concluding remarks, discussion and evaluation

7.1. The theoretical framework

In order to discuss and evaluate TOL, the concept of information infrastructure (Ciborra, 2000) comes to the fore. To define information infrastructure we turn to Hanseth and Lyytinen (2010) who indentify it as "a shared, open (and unbounded), heterogeneous and evolving socio-technical system (which we called installed base) consisting of a set of IT capabilities and their user, operations and design communities" (Hanseth & Lyytinen, 2010). There is no doubt that TOL is a shared system as it coordinates the activities of different players (judges, clerks, lawyers etc.). The question if it is open is more critical. Actually, TOL

can be considered a closed system rather than an open one. In a sense, it is not characterized by flexibility and in order to modify or add new parts to it requires a significant adaptation of other parts. However, its configuration in these days is significantly different in comparison with what was designed at the beginning of the last decade. The evolution of the PdA is an example in this account but also the passage from the old CMS to the new CMS can be considered accordingly. Surely, TOL is a heterogeneous and evolving system. Why it is an evolving system was already mentioned above and the different characteristics of its components (legal, technological and organisational) acknowledge its heterogeneity. As far as communities concern, the above pages are evidence of user, operations and design communities that rally round TOL's solutions.

Hanseth and Lyytinen's work, does not only propose a definition of the concept of information infrastructure (II) able to outline the characteristics of TOL, but also a series of principles for designing it. These principles are seen as an answer to two main design challenges: the so called "bootstrap problem" and the "adaptability problem". The "bootstrap problem" addresses the establishment of a novel II. The point is how to build an user community from scratch that can take advantage of the new system. The "adaptability problem" concerns the possibility to develop an II and its capability to deal with unforeseen demands, opportunities and barriers that can emerge during its growth.

The "bootstrap problem" can be addressed according to three main principles: "design initially for direct usefulness"; "build upon existing installed base"; "expand the installed base by persuasive tactics to gain momentum". The first principle suggests that the designed II is able to persuade initial users due to the possibility to manage their needs and solve their problems not on the basis of a complete solution or a large user base. In this respect, it is considered crucial to provide immediate use value in view of the full development of the solution that will be achieved, eventually, later. The second principle is based on the idea to take advantage of existing infrastructures, platforms and communication formats already in use. In this way, cost savings will be obtained and, above all, adoption barriers for the users will be smaller. A step-by-step logic defines the third principle. In other words, a new functionality will be added only when the user base will be grown enough to support further cost development and learning required.

As far as the "adaptability problem" concerns, namely the building of flexible and adaptable IIs, the principle of "making the IT capability as simple as possible" and the principle to "modularize the information infrastructure" are estimated apt for addressing it. Specifically, simplicity promotes the overlapping of IT capability and modularity allows to exploit gateways to connect different layers and to maintain a loosely couple connection in the infrastructure.

Table 7 – Design problems and principles (Source: Hanseth and Lyytinen, 2010)

Design problem	Explanation	
Bootstrap problem	Design initially for direct usefulness	The solution must persuade the initial users through targeting their needs and solving their problems; easy to use and implement; useful without a larger user base
	Build upon existing installed base	Exploit existing infrastructures, platforms or communication formats already in use; no need for new support infrastructures
	Expand installed base by persuasive tactics to gain momentum	Generate positive network effects from extending the user base; before adding new technology, ensure that the user base has grown to sustain the added cost of development and learning
Adaptability problem	Make the IT capability as simple as possible	Make the information infrastructure as simple as possible (both technically and socially); promote overlapping IT capabilities
	Modularize the information infrastructure	Separate the layer of infrastructures from each other and exploit gateways to connect different lawyers

To identify design principles of an information infrastructure is not considered sufficient in order to actually build it (Aanestad & Jensen 2011). These principles do not take into consideration what takes place in IIs implementation as far as organizing, mobilizing and coordinating stakeholders concern. To say it differently, the point is to examine how stakeholders are involved and managed to promote a context in which agency is distributed, on the one hand, and emerged and planned changes are supervised through a gradual transition of the installed base, on the other hand. The question, now, is to see how the "bootstrap problem", the "adaptability problem", and the stakeholder mobilization characterise the TOL project.

7.2. The design principles followed by the TOL project

The design principle n.1 "design initially for direct usefulness" has not been followed in the TOL development as indicated in Paragraph 5. The aim was to provide a whole system able to automate large part of civil proceedings but it was not reached. Further, the decision not to provide a ministerial PdA as originally planned by the TOL project contributed to this situation. Leaving the establishment of PdAs to the 166 Bar Associations hampered the possibility to take advantage of TOL solutions in case courts' TOL applications were ready. Things changed after 2006 when in the Tribunal of Milan the possibility to issue online payment orders was introduced and an incremental strategy for TOL's development was followed.

Thenceforth, step-by-step, a series of online proceedings of the TOL project have made their way. Changing the original objective, that proved to be too ambitious and broad without providing a direct usefulness to users, and the introduction of relatively simple proceedings, such as the online payment order, are instances of a new project setting (see section 5.4).

With respect to design principle n.2 ("building upon existing installed base"), TOL was conceived as something completely new, with no relation with what was present before that had to be abandoned. Therefore, the existing installed base was not substantially used to build an infrastructure such as TOL. These considerations relate to the technological installed base and not to the legal installed base and the organizational installed base. The fact that before the advent of TOL there was not an infrastructure available at national level but only local and autonomous experiences raises the question if the existent installed base would have been actually used. The legal installed base is represented by the civil proceeding law that was substantially left unchanged. This means that paper based proceedings constituted the backbone on which TOL developed and for this reason an obstacle in its way. As far as the organizational installed base concerns, the solution of laboratories was envisaged. The experience acquired by the 6 laboratories should have been transmitted at first to other 50 courts and then to the rest of them. This did not happen and a disproportion between means available and the issue to deploy a large-scale project such as TOL came out. Therefore, the organizational installed base was not determinant in the TOL's development. Analysing a project that shares a lot of points with TOL, Aanestad & Jensen (2011) even say that it can be classified as "installed base hostile" (a bias against the use of the install base). This can be considered also valid for the TOL case.

In terms of persuasive tactics (principle n.3), the TOL initiative had received strong support from the ministerial level. A lot of financial resources have been allocated to this

project. However, results were obtained only starting from the end of 2006 in the Tribunal of Milan. In this case, lawyers, through the online solution, could obtain a payment order decree in 15 days rather than in 60 days and, actually, this is believed a factor that led to the establishment of the user base. A critical mass of users was reached in order to go ahead in the TOL deployment.

The design principles n.4 and n.5 are represented by simple and modular solutions that allow the IIs to grow flexibly. While the TOL project envisaged a comprehensive solution addressing multiple goals rather than minimal and simple answers, it has been conceived as based on several modules (see the section on architecture) and then according to the principle n.5. Yet, these modules are interdependent and tightly coupled. Only a closed integration of the several TOL components allow proceeding execution online suggesting the rigidity rather than the flexibility of this system (see Table 8).

Table 8 – TOL design principles

Design principles	TOL
1. Design initially for direct usefulness	The TOL project, at least in the first long part of its implementation, did not provide immediate usefulness
2. Build upon existing installed base	The pre-existing technological installed base was abandoned but probably this was necessary in order to implement a large scale project such as TOL. In this respect, also the legal installed base (the civil proceeding law was left substantially unchanged) and the organizational installed base (6 laboratories) showed limits supporting it.
3. Expand installed base by persuasive tactics to gain momentum	Only in 2006, in the Tribunal of Milan, with injunctive decrees online a persuasive tactic was followed. Then this tactic have spread significantly.
4. Make the IT capability as simple as possible	At least originally, the objective was to envisage a comprehensive solution that reformulated completely court activities.
5. Modularize the information infrastructure	The fact that TOL modules are strictly interconnected prevents the flexibility of the entire system

7.3. The TOL project's approach to stakeholder mobilization

The TOL project did not require the mobilization of a large number of stakeholders. It is a traditional top-down government project even though it was promoted by the Tribunal and the Bar Association of Bologna. Its main components were figured out in two competitive tenders that let to the development of hardware, software and organisational support. As it was mentioned above, at the end of 2004, from a technical point of view, the project was officially ready except for the central system that was completed the following year. Therefore, at first, involved stakeholders could be relatively circumscribed: the MJ, courts, the players recruited through the tenders and users (layers and expert witnesses). Things changed due to the decision not to go ahead with the ministerial PdA. This could have represented an alternative solution to lawyers in case their Bar Associations were not able to establish their own PdA. But in this way all the 166 Bar Associations needed to be involved.

Besides, the management of PdAs has been particularly critical due to the fact that its characteristics changed three times in few years, requiring, of course, a further mobilization of the Legislative (this matter is subject to a specific normative), of the Ministry of Justice, of the Bar Associations, of software vendors etc.

Now, the wonder is what benefits the TOL project was able to realize in the meantime in order to drive stakeholders. In the beginning, benefits would have been obtained only in case the different TOL's applications were in service and closely integrated. This objective is still far to be reached. So, the commitment to the TOL vision was related to the expectation that one day soon everything will perform perfectly and to political and administrative pressures represented by national strategies and formal agreements. To sum up, in the TOL project there was not a balance between costs and benefits as the latter, in many cases, is to come. At present, we are still in a situation of limited reward to stakeholders and, rather, further efforts and costs are required. An example in this respect is represented by the passage from the "old" PdA based on a closed electronic mail system and the new PdA based on an open one.

The "innovation office" at the Tribunal of Milan is a significant example of the level of stakeholders' mobilization that a project such as TOL requires at the local level. In this case, not only traditional players of the world of justice but also universities and consultant companies were involved. This suggests the inadequateness of the 6 laboratories as the solution envisaged for supporting the implementation of the TOL project. At this point the question is how many courts at national level have the mobilization capacity of the Tribunal and of the Bar Association of Milan considering also that activities in the courts have to continue independently from the TOL project.

Now, it is also clearer why the Tribunal of Milan was the first court that succeeded to introduce, at least, a TOL application (payment order decree online). Moreover, the "innovation office" has become a point of reference for TOL deployment not only at the local level and at the district level, but also at the national level. The "innovation office" as a laboratory where solutions are experimented, evaluated and then spread in other courts.

To sum up, the implementation strategy followed by the TOL project is characterized by a wide and long-term commitment of the stakeholders. This is not an easy task mainly when benefits are collective, rather than specific and local, and achievable in the future whereas, in the way, only few tangible outputs are available. Besides, the different technological solutions at the basis of TOL are in the circle of closely integrated functional modules. These solutions, leading to an asymmetry between investment and benefits, inevitably require a significant stakeholder mobilization.

References

Aanestad, M. & Jensen, T. B. (2011). Building nation-wide information infrastructures in healthcare through modular implementation strategies. The Journal of Strategic Information Systems, 20(2), 161-176.

Borsari, G., & Baratta, A. (2004). L'interoperabilità e gli strumenti per i soggetti esterni. In S. Zan, S. (Ed), Tecnologia, Organizzazione e Giustizia. L'evoluzione del Processo Civile Telematico. Bologna, Il Mulino.

Carnevali, D. (2009). E-Justice and Policies for Risk Management, in Cerrillo & Fabra (eds) E-Justice: ICT in the Court System, Hershey PA, Information Science Reference, pp.19-35.

Carnevali, D. (2010) (Ed). Soggeti smarriti. Perché innovazione e giustizia non si incontrano (quasi) mai, Milano, Franco Angeli.

Carnevali, D., Contini, F., Fabri, M., & Velicogna, M. (2007). Technologies for the Prosecution Offices in Italy: the tensions between legacy and creativity. In M. Fabri (Ed.), Information and Communication Technologies for the Public Prosecutor's Offices, Bologna, Clueb, pp. 229-281.

Ciborra, C. (2000). From Control to Drift: The Dynamics of Corporate Information Infrastructures . Oxford University Press.

Contini, F. & Carnevali, D. (2010). The quality of justice: from conflicts to politics, in Coman, R. & C. Dallara, Handbook on Judicial Politics, Iasi, Editura Institutul European.

Contini and Cordella (Forthcoming). Socio-technical regimes and e-justice development.

Contini, F. & Cordella, A. (2007). Information System and Information Infrastructure Deployment: the Challenge of the Italian e-Justice Approach. The Electronic Journal of e-Government, 5(1), pp. 43-52.

Contini, F. & Fabri, M. (2003), Judicial Electronic Data Interchange in Europe, In M. Fabri & F. Contini (Eds), Judicial Electronic Data Interchange in Europe: Applications, Policies and Trends, Bologna, Lo Scarabeo, pp.1-26.

Contini, F. & Mohr, R. (2008), Judicial Evaluation, Traditions, Innovations, and Proposal for Misuring the Quality of Court performance, Staarbrucken, VDM.

Dahlbom, B., & Mathiassen, L. (1993). Computers in Context. The Philosopy and Practice of Systems Design, Cambridge, MA, Blackwell Publishers.

Fabri, M. (2009), E-justice in Finland and in Italy: Enabling versus Constraining Models, in Contini, F. & Lanzara, G.F. (2009) (Eds). ICT and Innovation in the Public Sector, Basingstoke, Palgrave.

Hanseth, O. & Lyytinen, K. (2010). Design theory for dynamic complexity in information infrastructures: the case of building internet. Journal of Information Technology, 25(1), 1-19.

Hanseth, O., & Aanestad, M. (2003). Design as Bootstrapping networks. On the Evolution, of ICT Networks in Health Care. Methods of Information in Medicine, 42, 385-391.

Jacchia, M. (Ed). (2000). Il processo telematico: Nuovi ruoli e nuove tecnologie per un moderno processo civile, Bologna, Il Mulino.

Liccardo, P. (2000). Introduzione al processo civile telematico. In M. Jacchia (Ed.), Il processo telematico: Nuovi ruoli e nuove tecnologie per un moderno processo civile, Bologna, Il Mulino, pp. 27-74.

MJ-IT General Directorate (2011), Rapporto ICT Giustizia, Ministero della Giustizia.

Sala, M. (2010). Il processo telematico del 2010. Immobili & proprietà, 3/2010 (febbraio-marzo), pp.1-8.

Xilo, G. (2004). L'esperienza dei laboratori sperimentali del Processo Civile Telematico, in S. Zan (Ed), Tecnologia, organizzazione e giustizia (), Bologna, Il Mulino, pp. 119-138.

Zanga, D. (2008). La PA e quei software senza licenza. Punto informatico, 3 marzo 2008.