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Résumé/Abstract (300-500 mots/words) :

This report aims at giving a first overview of issues that may be explored more in depth in the Cyberjustice research project, taking into consideration a selection of information and communication technologies (ICT) developed, or still under construction, for the administration of justice in Europe and Australia.

The report is based on desk research of documents and literature available in paper and online. However, most of the literature considered is already the fruit of empirical research carried out by The Research Institute on Judicial Systems of the National Research Council of Italy, in Bologna (IRSIG-CNR) in the previous years, and constantly updated.

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“Some European and Australian e-justice services”

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List of Acronyms

<i>England and Wales case study</i>	
HMCTS	Her Majesty Court and Tribunals Service
MCOL	Money Claim Online
PCOL	Possession Claim Online
LCJ	Lord Chief Justice
CIO	Chief Information Officer
OCJR	Office for Criminal Justice Reform
CJITU	Criminal Justice Information Technology Unit
CPS	Crown Prosecution Service
BISD	Business Information Systems Directorate
GG	Government Gateway
CJS Exchange	Criminal Justice System Exchange
DVLA	Driver and Vehicle Licensing Agency
CMS	Case Management System
IJC	Integrated Justice Chain
<i>Australia case study</i>	
VCAT	Victorian Civil and Administrative Tribunal
TBS	Tribunal Management System
AUSLII	Australian Legal Information System
WORLDLII	World Legal Information System
UTS	University of Technology, Sydney
UNSW	University of New South Wales
VFPD	Victoria Police Forensic Department
OPP	Victorian Office of Public Prosecutions
CCTV	Closed Circuit Television
VOGL	VCAT Online Guardianship List
<i>Austria case study</i>	
ERV	Elektronischer Rechtsverkehr
WebERV	web Elektronischer Rechtsverkehr
BRZ	Bundesrechenzentrum
<i>France case study</i>	
CNB	National Bar Council
Tribunal de Grand Instance	TGI
PIN	Personal Identification Number
SAEI	European and International Affairs Service
SICOM	Information and Communication Service
CCT	Framework for Technical Coherence
<i>Italy case study</i>	
MVC	Multi-Video Conferencing System
THTP	Telehoren and Telepleiten System
AIPA	Authority for Information Technology in Public Administration
CNIPA	National Centre for Informatics in the Public Administration
DGSIA	Information Technology Services for the Ministry of Justice

Netherlands case study

ICTRO
BISTRO

Council for the Judiciary ICT Organization
Bureau Internet Systemen en Toepassingen
Rechterlijke Organisatie

European Union case study

EPO
ESCP
EAW
ECJ

European Payment Orders
European Small Claim Procedure
European Arrest Warrant
European Court of Justice

1. Introduction

This report aims at giving a first overview of issues that may be explored more in depth in the Cyberjustice research project, taking into consideration a selection of information and communication technologies (ICT) developed, or still under construction, for the administration of justice in Europe and Australia.

The selection of the case studies presented here is based on different criteria. Some cases have been considered on the basis of their reported success to single out some of the factors of this success. This is the case, for example of Money Claim on Line in England and Wales. Other cases have been selected on the basis of the issues that developers encountered in implementing the project, which can provide useful examples of sources of complexity and problems that need to be addressed, as in the case of Trial On Line in Italy. Then, the availability of documents and data related to the cases has also been a matter of attention in the selection process.

The report is based on desk research of documents and literature available in paper and online. However, most of the literature considered is already the fruit of empirical research carried out by The Research Institute on Judicial Systems of the National Research Council of Italy, in Bologna (IRSIG-CNR) in the previous years, and constantly updated. IRSIG-CNR is also involved in the project e-Codex, (e-Justice Communication via online Data Exchange), one of the so called “European Commission large scale pilot projects”, which should progressively bring new research findings and hints on the development of e-justice in Europe.

This report is organized as follows. Considering that ICT is not developed in a vacuum, Chapter 2 provides a brief introduction of the national justice systems that “host” the e-justice services investigated, and a brief analysis of the ICT governance. Chapter 3 deals with three e-filing applications: Money Claim Online and Possession Claim Online in England and Wales; Trial Online in Italy (TOL); Victorian Civil and Administrative Tribunal Online (VCAT) in Australia. Some of the most interesting Case Management Systems in Europe are briefly analyzed in Chapter 4. Chapter 5 describes two “integrated justice chain” developed respectively in England (Compass) and Finland (Sakari). Chapter 6, takes into consideration three examples of video-conferencing services (two European and an Australian). Chapter 7 deals with the interesting case of the Australian Legal Information Institute that can be considered one of the precursors of large legal information retrieval application around the world. Finally, Chapter 8 deals with the e-Curia and e-Codex projects. The former is a very recent e-filing system developed for the European Court of Justice in Luxemburg, the latter is just a year old large scale piloting project that foresees the development of electronic interoperability in selected civil and criminal matters across several EU

countries. The appendix is an inventory, sometimes with notes, about the various ICT applications that can be found around Europe.

2. Institutional Background and ICT Governance in the Justice Systems Analyzed

2.1 England and Wales

England and Wales are characterized by a common law tradition with early Roman and modern continental influences, and a non-binding judicial review of Acts of Parliament under the Human Rights Act of 1998. Civil and criminal less serious matters are handled by Magistrates. Civil matters handled by some Magistrates courts are usually limited to matters of family law, tax enforcement, and licensing. More serious matters can be heard in the county courts or the High Court. Criminal offences as traffic violations or similar are heard in the Crown Court, which is broken down into three tiers. Appeals can be heard in the Queen's Bench Division of the High Court, or the Court of Appeal (criminal division), while the court of last resort is the House of Lords (Appellate Committee; Washington University Law 2007; Iannacci 2007).

The England and Wales court system is distributed in geographical counties that compose "circuits" which are divided in "districts" (for civil jurisdiction) and petty sessions. For both civil and criminal cases there are three levels of jurisdictions: first instance, appeals, appeals to the Court of Appeals or the Supreme Court (HMCS, 2008). Peculiarly, a judge is not bounded to a particular tier or court, given that judges can sit in more than one court and hear trials and appeals both in civil and criminal cases. Specifically, the courts of England and Wales apply the law relative to England and Wales jurisdiction (Scotland and Northern Ireland have a different justice system). However, in some cases as immigration matters, the Asylum and Immigration Tribunals cover the entire United Kingdom jurisdiction (Malleon, 2005).

The actual configuration of the United Kingdom, and in particular of the England and Wales governance of the justice system, is the result of a set of recent constitutional reforms as the Constitutional Reform Act of 2005 and the reform that established a Ministry of Justice for United Kingdom in 2007. The Ministry of Justice is the ministerial department of the UK Government responsible for the justice system headed by the Secretary of State and by the Lord Chancellor. Some of its functions regard the whole United Kingdom affecting the jurisdiction of England, Wales, Scotland and Northern Ireland; for example, it is responsible for some tribunals in the whole UK as the Special Immigration Appeals Commission and it is in charge of dealing with issues regarding freedom of information, civil liberties, and data sharing. However, several important functions such as court administration, criminal justice policy, prisons or probation matters are

carried out only for England and Wales, while other government agencies are taking care of these matters in Scotland and Northern Ireland (Lord Chief Justice, 2008)¹. The Ministry of Justice comprises a set of different agencies and departments with their own staff and competences as the Administrative Justice and Tribunals Council² and the Criminal Injuries Compensation Authority³. In particular, the Ministry of Justice's agency called Her Majesty Court and Tribunals Service (HMCTS from now-on), established in 2011, is an executive branch of the Ministry of Justice in charge of the administration of the courts of England and Wales, including the development and maintenance of ICT⁴. HMCTS is then responsible for the management and revise of the two ICT civil justice services investigated here: (Money Claim Online, MCOL, and Possession Claim Online, PCOL).

The role of government and direction of the United Kingdom justice system is responsibility of the Lord Chancellor and the Lord Chief Justice. The Lord Chancellor, before a set of Constitutional reforms (see later in the same section) was the speaker of the House of Lords and head of the judiciary; nowadays he lost this apex function, but still maintained his prerogatives as a member of the cabinet, and he is formally in charge of courts efficiency, of the independence of the judiciary and to ensure that public interest is represented (Woodhouse, 2007). The Lord Chief Justice (LCJ) is the government Minister responsible to Parliament for the judiciary, the court system, prisons and probation. This used to be the role of Lord Chancellor before the Constitutional Act of 2005 and represents an enhanced institutional autonomy of the judiciary from the other branches of government (Yein Ng, 2010). The Lord Chief Justice is the President of the Courts of England and Wales and of the Criminal Division of the Court of Appeal, he is also responsible for representing the view of England and Wales judiciary, maintaining the welfare, training and supervision of judges and making arrangements for the deployment of judges and the allocation of cases (Malleeson, 2005).

¹ Other competences limited to England and Wales comprise land registration, records management, legal aid and legal services, administrative justice, devolved tribunals, the judiciary of England and Wales, public guardianship and incapacity, restricted offenders detained under the Mental Health Act 1983, civil law and justice, the family justice system, the investigation of deaths and coroners law. For more information on United Kingdom Ministry of Justice refer to its website <http://www.justice.gov.uk>.

² The Administrative Justice and Tribunals Council keeps under review the administrative justice system as a whole with a view to making it accessible, fair and efficient; it manages the relationships between the courts, tribunals, ombudsmen and alternative dispute resolution providers.

³ The Criminal Injuries Compensation Authority is the government body responsible for administering the Criminal Injuries Compensation Scheme in England, providing a free service and financial support to victims of violent crime.

⁴ <http://www.justice.gov.uk/about/hmcts>.

ICT Governance in England and Wales

Traditionally, the governance of the ICT development in England and Wales is not centralized; every office or branch of the justice sector has developed autonomously ICT technologies and e-services (Fabri and Contini, 2003). However, at the ministerial level, the Chief Information Officer (CIO) is responsible for setting the MoJ general IT strategy and the delivery of ICT services to enable business change projects and programs. The IT Director of the MoJ, reports to the CIO in order to suggest and enable changes within the justice system. Moreover, the head of the Office for Criminal Justice Reform (OCJR) Modernising Technology Unit delivers the technology programs that should allow the link of several criminal justice organizations (MJEW 2009).

As far as the civil justice is concerned, the Ministry of Justice enables the HCMTS to conduct the development of ICT. Different offices of the HMCTS as the business office, the policy office, the ICT team and private organizations cooperate to develop and implement the Ministry's ICT vision and strategy and to develop and provide ICT services.

For what regards the criminal justice, the Criminal Justice Information Technology Unit (CJITU) is the agency enabled to support the integration of the several criminal justice's technological systems (Carnevali ed., 2010). The CJITU also developed a Management Information System that manages performances' evaluations of the criminal justice system.

The Crown Prosecution Service (CPS)⁵ has its own ICT department called Business Information Systems Directorate (BISD). This is a team of around 100 people headed by the Director of Business Information Systems that manages and develops ICT technologies for the Crown Prosecution Service. The Directorate manages the contracts with suppliers and service providers and ensures the operation and performance of the ICT infrastructure. The BISD manages the ICT strategy in a very centralized fashion, so that local implementation are controlled and vetoed by the Directorate. Also in the case of the CPS, the involvement of private businesses is a constant: the Directorate outsourced the development of the case management system to LogicaCMG which, therefore, is responsible for the successful deployment of ICT at a technical level.

2.2 Finland

Finnish legal system is based on the European and Scandinavian tradition. The legal system originated during the period of the Swedish rule. As a consequence, segments of the Swedish General Code of 1734 were still present in Finnish law until the 1980s. The country's first court of

⁵ The Crown Prosecution Service is a UK Government Department responsible for prosecuting criminal cases investigated by the police in England and Wales. CPS is responsible for advising the police on cases for possible prosecution, reviewing cases submitted by the police, determining any charges in all but minor cases, preparing cases for court, presenting cases at court. For more information on CPS see <http://www.cps.gov.uk/about/>.

appeals was established at Turku in 1634. Also dates to this time, the modern division of the Finnish courts into two main branches general courts, dealing with civil suits and criminal cases and administrative courts, regulating the actions of the country's bureaucracy⁶.

27 District courts deal with criminal and civil cases and petitionary matters, such as divorce, the custody of children or debt adjustment. District courts are headed by chief judges (Finnish: laamanni, Swedish: lagman). Routine cases can be handled by a single district judge (käräjätuomari, tingsdomare), while more complicated cases are handled by three district judges. However, in some cases⁷ lay judges (lautamies, nämndeman) may decide the case in a District Court (mainly in criminal cases but they can also sit in civil matters for instance in tenancy and family disputes). In addition, in simple cases, also notaries at the court or trained office staff can dispose the case.

The decision of a district court can normally be appealed in one of the six Courts of Appeal (hovioikeus, hovrätt) which are located at Helsinki, Turku, Vaasa, Kouvola, Kuopio, and Rovaniemi. Courts of Appeal are also courts of first instance for some specific matters such as: treason and high treason, and certain offences for public officials. The Chief Justice is the head of the Court of Appeal. The other judges of the court are called senior justices or justices. Most cases are heard by a three-judge division, with each division headed by a senior justice. The President of Finland, by approving a decision of the Parliament, appoints the justices of the Courts of Appeal. The Supreme Court is the last branch of the Finnish judicial system (Finnish: korkein oikeus, Swedish: högsta domstolen). It is located in Helsinki and its members are a President and 18 justices, usually working in five-judge panels. The Supreme Court rules on points of law in cases which are considered significant for the entire legal order and that may guide the administration of justice in future cases. Usually, the Supreme Court relies principally on written evidence, but it may ask for a public oral hearings in which witnesses and experts are heard in person⁸. Moreover, the Supreme Court deals with appeals against decisions of courts of appeal, as well as appeals against certain decisions of the Insurance Court. Finally, the Supreme Court gives advice to the President in cases concerning the exercise of granting a pardon, and to the Ministry of Justice in cases concerning extradition. It also provides legal opinions on Government Bills at different stages of the legislative process, and it may also propose a new Parliament Act or an amendment to an existing Act.

The Ministry of Justice is in charge of the functioning of the Finnish justice system. It employs about 380 persons, mostly in the Department of Judicial Administration. It is quite interesting to

⁶ https://e-justice.europa.eu/content_judicial_systems_in_member_states-16-fi-en.do?member=1

⁷ The composition with Lay Judges consists of the ordinary District Judge at the District Court, acting as the chairperson, and three Lay Judges.

⁸ Ibidem footnote 7.

point out, that in Finland, the Advocacy profession is “open”, therefore the membership in the Finnish Bar Association is not compulsory.

ICT Governance in Finland

The ICT infrastructure and network is managed by the Judicial Administration Department of the Ministry of Justice. The ICT governance is therefore centralized. The Department, as soon as ICT is concerned, has the objective of standardizing the information that courts provide, integrate the several ICT systems of the justice system and allow the exchange of data between the several branches of the judiciary (Fabri, 2003).

The strategies of ICT administration are decided in the steering committee of the Judicial Administration Department, and successively reported to the Minister for the final decision. However, when the matter is technical, the Department is assisted by the Data Administration Bureau of the Ministry. This is a semi-independent service unit. In the Finland justice system outsourcing is an usual practice. Therefore, some services are outsourced and the Ministry is in charge of dealing with suppliers in negotiating the services to be provided.

The strategy utilized when choosing the development of an ICT solution follows a three-stage approach. The first stage is the assessment of the current situation. The second step, is the carrying on of several interviews with users, interest groups and customers, with the objective of identifying the most urgent changes and the problems that affect the existing technologies. Finally, in the third stage, the state-of-the-art technologies are analyzed in order to adopt the best fitting solution.

Despite, the centralization of the ICT governance, the courts still play a fundamental role in the development and diffusion of the applications. Moreover, in numerous projects a support group evaluates the suitability of the application in the Courts.

It is worth mentioning that Finland is characterized by one of the best technological infrastructure in Europe. The ICT solutions are not expensive and the technological literacy (comprised the use of the Internet) is very high (Fabri, 2009).

2.3 Austria

The Austrian legal system is based on the Roman code (civil law legal system). Austria is a federal State constituted by nine independent Bundesländer, but the Austria's Federal Constitution foresees that the jurisdiction is exclusively a responsibility of the federal State; therefore, unlike Germany, there are not judicial authorities of the Bundesländer but only federal courts. However, in 1988 independent tribunals (“Independent Administrative Boards”) were established in each

Bundesliinder. These tribunals deal with the increasing disputes related to administrative authorities matters.

The Austrian justice administration consists of three main units: the courts, the prosecution, and the prison system. Austrian courts deal with civil law, criminal law, as well as aspects of competition law. In civil cases, the amount claimed determines the first instance jurisdiction of either a District Court (Bezirksgericht) or a Regional Court. In both courts, cases are mostly dealt with by a single judge. District Courts are positioned in geographically cohesive areas of one or several cities. Each circuit of the Regional courts of first instance covers the areas of several district courts, and the circuits of the various courts of appeal comprise the circuits of two or more courts of first instance⁹. The composition of the Regional Court in criminal matters may differ according to the nature of the proceedings and the possible punishment. It may be constituted as a *Schoeffengericht* with two professional and two lay judges, or a *Schwurgericht* with three professional judges and a jury of eight people. In civil matters, where the case is initially brought before a District Court, an appeal must be lodged to a Regional Court. First instance decisions of the Regional Courts must be appealed before a Court of Appeal (*Oberlandesgericht*; Austrian Ministry of Justice, 2009).

The court of last resort in civil and criminal cases is the Supreme Court (*Oberster Gerichtshof* – OGH-). It has 6 Senates (divisions) for criminal cases, 10 for civil cases and 2 additional for labour cases and social security cases.

The Federal Minister of Justice is in charge of the functioning of the whole judicial administration. It deals with policy management, coordination and control over the administration of court services. The Ministry has a staff of more than 200 that work in five administrative departments ("Directorates"): a Directorate for Central Administration and Coordination (coordination, revision, public relations, information technology, and management of the judicial system), a Directorate for Civil Law and Legislation, a Directorate for Penal Legislation, a Directorate for Administration and Personnel and a Directorate that deals with Criminal Justice. A further task of the Federal Ministry of Justice is to prepare the legislative civil and criminal acts to be brought before the Parliament¹⁰.

ICT governance in Austria

The governance of the ICT in the Austrian justice system is centralized. The Federal Ministry of Justice is the only one unit responsible for developing and servicing the whole ICT infrastructure in the country. The main partner of the Ministry of Justice for ICT is the Federal Computing Centre. This is an interesting binding partnership between two public organisations, which is based on a

⁹ Source: https://e-justice.europa.eu/content_judicial_systems_in_member_states-16-at-en.do?member=1

¹⁰ Federal Ministry of Justice (2009).

formal contract that may be overcome by the Ministry of Justice only if there is a lack of resources within the Federal Computing Centre or if the criteria of efficacy and economy are not fulfilled (Bauer and Graf 2003).

2.4 France

As it is well known, the French judiciary is embedded in the “civil law tradition”. The basis of the French legal system is laid out in a key document originally drawn up in 1804, and known as the *Code Civil* or *Code Napoléon*, (Civil code or Napoleonic code) which laid down the rights and obligations of citizens, and the laws of property, contract, inheritance, etc.. Essentially, it was an adaptation to the needs of nineteenth-century France of the principles of Roman law and customary law. The *Code Civil* remains the cornerstone of French law to this day, though it has been updated and extended many times to take account of changing society.

Three hierarchical levels of courts characterize the civil and criminal jurisdiction of the French Court system. At the first level of jurisdiction, the *juge de proximité* (justices of the peace) deals with civil matters up to 4,000 Euro and with criminal small matters. The *Tribunal d'instance* is a local court that deals with all civil cases involving claims from 4,000 and 10,000, plus some specific matters such as disputes relating to road accidents, unpaid rent, poor workmanship, claims for damages, etc. It also has jurisdiction to deal with guardianship. The *Tribunal de grande instance* deals with civil disputes between natural persons or legal entities that are not allocated to any other civil court involving claims over €10,000. It has an exclusive jurisdiction in many cases, regardless of the amount of the claim, such as claims that involve filiation, matrimonial property, adoption, inheritance, the ownership of real property and trademark law (Ministry of Justice, 2011). The *Tribunal de commerce* deals with disputes between private persons and traders or between traders and commercial companies, disputes relating to commercial transactions and between companies and individuals¹¹. The *Conseil des prud'hommes* hears disputes between employees or apprentices and employers, arising in connection with an employment contract or apprenticeship.

At the first level of criminal jurisdiction, besides the *juge de proximité*, there is the *Tribunal de police*, which sits at the *Tribunal d'instance*, that deals with petty offences, such as certain breaches of the highway Code, or minor assaults¹²; the *Tribunal correctionnel* that is a section of the *Tribunal de grande instance* and tries offences such as theft, fraud, misappropriation, serious

¹¹ Finally, it has jurisdiction to rule on the consequences of the economic difficulties of commercial companies and craftsmen by taking preventive action or ordering collective proceedings.

¹² The tribunal always consists of only one judge. This is usually a judge from the tribunal d'instance, who is assisted by a registrar.

assaults, etc¹³; the *Cour d'assises* that tries very serious cases such as murder, rape, armed robbery, etc. The latter is not a permanent court, since it usually meets every three months for about two weeks in each department when these serious cases occur (France Ministry of Justice, 2011).

At the second level of jurisdiction, the *Cour d'appel* re-examines judgments rendered in civil, commercial, employment or criminal matters.

At the apex of the judiciary there is the Supreme Court, the *Cour de Cassation* (Court of Cassation), which is the court of last resort on both criminal and civil matters, but only on questions of law. The *Cour de cassation* sits in Paris and has jurisdiction throughout the French territory (France Ministry of Justice, 2011).

The Ministry of Justice is the central administrative body of the French justice system and it includes the directorate of judicial services in charge of the management of the courts, the directorates of penitentiary administration and judicial protection of youth, and directorates in charge of the preparation of normative texts and enforcement of judicial policies in the fields of civil law, social law, commercial law and criminal law. Moreover, there is a directorate for the general administration and facilities, with responsibility over the budget, the data processing and real-estate management and, finally, two independent departments: the European and International Affairs Service (SAEI) and the Information and Communication Service (SICOM).

ICT Governance in France

Both the courts and the Ministry of Justice deal with the research and development of information technologies, and their adoption, but the strategy for ICT development is centralized at the Ministry of Justice. However, ICT developments must conform to the requirements of the National Commission for Liberties and Computer Technologies, or they have at least to receive its approval (Trassard 2007). In order to provide guidance to those working at the central and local levels, the Ministry of Justice has introduced a “framework for technical coherence” (CCT), which issues recommendations on how to achieve a better interoperability between each sector. The CCT is updated annually (Trassard 2007).

2.5 Italy

The Italian legal system is based on the Roman law and on the “civil law tradition”, following the Napoleonic codification. Quite interesting was the reform of the code of criminal procedure which

¹³ In general, it rules with a panel of three professional judges from the tribunal de grande instance, including a presiding judge. Certain less serious offences may, however, be tried by the tribunal correctionnel sitting with a single judge.

took place in the 1990s, when the traditional ‘inquisitory’ system was revised with elements of the accusatory system similar to that of common-law countries.

The Italian judicial system is composed of courts of general jurisdiction and specialized courts (Administrative Courts, Court of Accounts, Provincial and Regional Tax Commissions).

The Italian judicial offices are organized in three levels. The “justice of the peace” offices exercise limited jurisdiction both in civil and criminal matters. The courts of first instance with a general jurisdiction are called *Tribunals*. They deal criminal and civil, cases, including commercial and labour matters. Attached to each court of general jurisdiction there is a public prosecutor’s office.

A recent reform of the judiciary, has dealt with the number of these courts (Legislative Decree 07.09.2012 n. 155 and 156), with a reduction of “justice of peace” offices from 848 to 181, and tribunals from 165, plus 220 detached offices, to 134 without detached offices. Within the court of first instance, there is a particular Court of Assize, which has two professional judges and six popular jurors, which deals with the most serious crimes.

The second instance courts are the Courts of Appeal, which are 26, plus three so called detached divisions. However, appeals from the justices of peace are taken by the courts of first instance. Within Courts of Appeal there are specialized units such as the Appeal Courts of Assize (appeals from Courts of Assize) and the juvenile section (appeals from the juvenile courts). The highest court is the Court of Cassation, which only deals with questions of law and reviews of all court provisional orders related to personal restraints. A “General Public Prosecutor’s Office” is attached to this court. It is worth mentioning, the “Antimafia National Bureau”, led by the Antimafia National Prosecutor, which coordinates the work of the 26 public prosecutor’s office units specialized in organized crime. The public prosecutor’s offices units specialized in organized crimes are located within each public prosecutor’s office in the city in which a court of appeal is established (Fabri 2009).

According to the article 104 of the Constitution, the judiciary is independent, not subject to any other authority. Moreover, it is also endowed with a self-government body, the Superior Council of the Magistracy (*Consiglio Superiore della Magistratura*) that regulates recruitment, promotion, transfer of judicial positions and manages the disciplinary system both for judges and prosecutors. Two-thirds of its members (16 members) are magistrates elected by their peers and one third (8 members) are law professors and lawyers elected by the Parliament. Three members are ex-officio: the President of the Republic, the President and the Chief Public Prosecutor of the Court of Cassation.

The appointment of the heads of courts and prosecutors’ offices is in charge, de facto, of the Council, while the Ministry of Justice has a very limited and merely formal role.

The Ministry is entrusted with the organization and the functioning of the judicial offices (procurement, information technology, administrative personnel, budgeting etc.). The Ministry deals with budgeting by formulating a draft that is then presented to the Parliament.

The Departments of the Ministry of justice are four: justice affairs, judicial organization and personnel, juvenile justice and the administration of prisons. Then there are quite a few “staff offices” such as the 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. The personnel administration department deals with resources, budget and statistics and within it the information technology general directorate was established. This directorate with its budget, personnel and organization is in charge of all the ICT projects in the judiciary.

The inspectorate office plays also an important role in collecting the information about the functioning of judicial offices and about magistrates in case of disciplinary actions. It is worth to mention that the most important managing functions in the Ministry are held by magistrates (there are more than 100 that currently serve within the Ministry of justice) increasing the intertwining with the Council.

ICT Governance in Italy

Since 1993, the use of ICT in the public sector brought to the setting up of the independent Authority for Information Technology in Public Administration (AIPA). In 2001, AIPA changed its name as CNIPA (National Centre for Informatics in the Public Administration) and went under the Ministry of Innovation. In 2010, CNIPA became an independent public institution called DigitPA (National Agency for Informatics in the Public Administration). This institution was established in order to promote, coordinate, plan and control the development of information systems in all branches of the public administration. The law that established the AIPA foresaw the creation of ICT Departments within each Ministry, including the Ministry of Justice. The ICT Department of the Ministry of Justice (DGSIA) has been affected by a budget and personnel increase over the years. Its executive positions have always been held by magistrates such as for almost all the executive positions in the Italian Ministry of Justice (Fabri 2009). Just last month, a new General Manager who is not a magistrate took the lead of the ICT Department. However, this Department is under the supervision of the Department of Organization directed by a judge.

The implementation strategy adopted by the ICT Department of the Ministry of Justice is characterized by a top-down approach, and it has not really changed even with the establishment of regional offices, which, with limited expectations, have dealt with just administrative functions. The

implementation and application of the applications delivered by the Ministry of Justice is mandatory for courts and prosecutor's offices all over the country, without taking into consideration the local contexts in which they are going to be deployed (Fabri 2009). However, judges and prosecutors do have a large discretion in using the applications that are quite often "compulsory" only for the administrative personnel.

2.6 Australia

As it is known, the Australian legal system is a common law system, which reflects the common law tradition as received from Britain. The system of law and government in force in Australia derives historically from a series of British statutes, notably including the 1900 Commonwealth of Australia Constitution Act. This is the supreme law under which the Australian Commonwealth Government operates. Principles such as procedural fairness, judicial precedent and the separation of powers are fundamental to Australia's legal system¹⁴.

Australia is a constitutional federation constituted by 5 States (New South Wales, Victoria, Tasmania, Queensland, South Australia and Western Australia), 2 Territories (the Northern Territory and Australian Capital Territory) and the Commonwealth. The Commonwealth, and each State and Territory, are endowed with their own system of courts. Therefore, in Australia there are eight separate but inter-related court systems. Each jurisdiction is endowed with its own prosecution system and its own system of regulating the practice of law at the private level. Also the governance of the court systems is different between the several jurisdictions (Wallace 2003).

As a general reference, all the several jurisdictions are structured similarly and are endowed with different levels of judgement. The appeals from the federal courts are taken by the High Court of Australia. The High Court is also in charge of cases dealing with the interpretation of Constitutional provisions.

The Federal Court of Australia deals with matters of law drafted by the Commonwealth Parliament. This includes, for example, bankruptcy law, corporation's law, industrial relations, taxation and trade practices law, and matters in which a writ of mandamus or prohibition or an injunction is sought against an officer of the Commonwealth Government (Wallace, 2003). The Federal Court has appellate jurisdiction in relation to the decisions of single judges of the court, decisions of the respective Supreme Courts of the Australian Territories, except the Northern Territory, and certain decisions of State Supreme Courts when exercising federal jurisdiction.

At federal level, there is also the Family Court of Australia that deals with the dissolution and nullity of marriage, custody and welfare of the children, maintenance and the settlement of

¹⁴ http://www.dfat.gov.au/facts/legal_system.html.

property. Moreover, the Federal Magistrates Service deals with less complex matters, in the areas of family law, child support, administrative law, bankruptcy law and consumer protection law.

Australian State and Territory courts have original jurisdiction in all matters disciplined by State or Territory laws, and in matters arising under federal laws, where jurisdiction have been conferred on them by the Commonwealth Parliament. State or Territory courts usually deal with criminal matters. The highest State and Territory courts are The Supreme Courts. They decide on the most important civil disputes and the most serious criminal cases. They also exercise appellate jurisdiction for cases coming from the lower State courts and hear appeals from single judges of their own court, either as a separate Appeal Court of Division or by constituting a Full Bench. Jury trials are common in the Supreme Courts in criminal cases, and in civil cases in some jurisdictions. The intermediate courts or District courts are presided over by a single judge and decide the great majority of serious criminal offences, where a jury is required to decide the facts of a case. They also have jurisdiction on civil cases but only up to certain monetary limits.

The local courts or magistrates courts are presided over by Magistrates and deal with most of the ordinary cases as minor assaults and street offences. Magistrates also decide on proceedings regarding more serious offences in order to determine whether it is a case to be decided by an intermediate court or by the Supreme Court.

State and Federal jurisdictions affect also the prosecution agencies. The Commonwealth, and each State and Territory, has an independent Director of Public Prosecutions, who deals with criminal prosecutions before the Supreme and District Courts. They also cope with defended indictable matters before courts of summary jurisdiction and other more complex defended matters. Police prosecutors deal with less complex matters in courts of summary jurisdiction.

In Australia, the judicial and prosecution agencies are independent and operate separately from each other. Therefore, judicial agencies do not deal with the investigation and prosecution of criminal charges¹⁵.

ICT Governance in Australia

The governance of ICT in the Australian Court Systems is multifaceted and reflect the architecture of the justice system (Wallace, 2003). A first model is characterized by the traditional functioning of the departments of state. In this model, IT budget and the development of IT infrastructure for the courts is subsumed as part of an overall departmental IT strategy. The New South Wales' courts, for example, operate largely under this model. A second model is the one in which a department of state is devoted to court administration. In this model, the department develops an

¹⁵ *Ibidem* note 14.

ICT infrastructure for the courts. The South Australian courts, for example, governs ICT following this model. The third model can be named the ‘autonomous court’. In this case, courts are funded by ‘one-line’ budget appropriations, therefore, it receives an overall budget allocation each year (including for ICT) and it is responsible for setting its own expenditure priorities. The Australian federal courts operate under this model. The courts operating on this autonomous model have to negotiate funding with government budgetary agencies and check conformity with general government policy (Wallace 2003).

2.7 The Netherlands

The Netherlands legal system has a “civil law tradition”, based on the Napoleonic Code imposed during the French Empire. Even after their independence, the Dutch largely kept the Napoleonic Code, albeit with a significantly more rehabilitative focus in nature for what regards criminal justice¹⁶. The Netherlands’ jurisdiction was divided into 19 districts, but a very recent Bill has reduced their number to 10, creating very large courts . Each district court is organized in four or five sectors/divisions (e.g. civil, criminal, administrative, family, juvenile). These sectors, also depending on the size of the courts, can be divided in sub-district sector. Citizens have the right to argue their own case and do not need to be represented by a lawyer. Usually, each case is dealt with by a single judge. In criminal law, the sub-district judge only deals with minor offences and not serious offences. Often, these are cases in which a settlement has been proposed by the police or the public prosecutor.

The districts are also divided into five areas of jurisdiction for the Court of Appeal. As far as the civil and the criminal sector are concerned, the Court of Appeal only deals with cases where an appeal has been lodged against a District Court judgment. The Court of Appeal re-examines the facts of the case relative to a District Court proceeding and reaches its own conclusions. Moreover, in addition to criminal and civil cases, the Court of Appeal also acts as an administrative court when it deals with all appeals against tax assessments.

In most of the cases, the Court of Appeal’s decision can be appealed to the Supreme Court of the Netherlands, which is the highest court in the fields of civil, criminal and tax law in the Netherlands.

Three specialized *tribunals* deal with specific areas of administrative law. 1) The Central Appeals Tribunal deals with social security and civil service cases; 2) The Trade and Industry Appeals Tribunal, also known as Administrative High Court for Trade and Industry, rules on disputes in the area of social-economic administrative law; 3) then the Administrative Jurisdiction Division of the

¹⁶ http://en.wikipedia.org/wiki/Criminal_justice_system_of_the_Netherlands.

Council of State in The Hague is the highest administrative court in the Netherlands. The latter deals with appeals lodged by privates, associations or commercial companies against decisions of municipal, provincial or central governmental bodies, not dealt with by the two previous courts.

Since 2002, in the Netherlands a Council for the Judiciary has been established. The Council's tasks include the allocation of budgets, the supervision of financial management, personnel policy and ICT, functions that were taken from the Ministry of Justice. Other tasks of the Council are to promote the judiciary system quality, to advise on new legislation on the administration of justice and to act as a spokesperson for the judiciary at a national and international level. The recruitment activities as the selection and training of judicial and court officials are carried out by the Council in close consultation with the court boards (bodies that are in charge of the management of each court). The Council has also a significant role in appointing members to the court boards. The Council for the Judiciary is composed of four members, two that come from the judiciary and two that previously held senior positions at the government department. The Council is also assisted in its activities by a Bureau. Members of the Council are appointed with a Royal Decree that consists in a decision of the Cabinet based on a list of recommendations provided by the Minister of Justice. Members are appointed for six years, but a three years extra term is possible¹⁷.

ICT Governance in the Netherlands

The Council for the Judiciary is responsible for the development of the ICT infrastructure and technological applications for the courts. The National College of Procurators General deals with ICT in the public prosecutors offices. The ICTRO (ICT for the Judicial Organisation) is the nationwide service organisation for the ICT of the Council for the Judiciary, the Public Prosecutions Office and the Supreme Court. ICTRO is in charge of managing and maintaining the ICT infrastructure for the judiciary and the prosecution. They install and maintain hardware, develop software applications and provide training. The agency is constituted as a service of the Ministry of Justice, but after 2002, the Ministry transferred ownership to the Council and the Prosecution. Assignments are given by internal contracts. The Council for the Judiciary and the Public Prosecutions Department supervise ICT services and the development of specific ICT applications. Moreover, the Judiciary has a further agency for developing new Internet and Web-based applications, called BISTRO (Bureau Internet Systemen en Toepassingen Rechterlijke Organisatie; Hoogen, Langbroek et al. 2003).

¹⁷ The main source of this section is the Netherlands Judicial System website: <http://www.rechtspraak.nl>.

3. E-Filing Systems

An e-filing system can be defined a facility that allows attorneys or lay users to submit documents to the courts electronically, to pay court fees and to send or receive notifications online (Contini and Fabri, 2003). These systems can be scalable, based on the functions they perform, such as electronic summons or notification from the court to the parties and among the parties, the electronic filing of documents with or without legal value, the automatic uploading of the data sent electronically by the parties in the court CMS, the automatic uploading of the electronic legal document filed in the document repository of the court, the access online to these documents collected in electronic folders, the payment of court fees online. The ultimate goal of a “full-e-filing system” (Contini and Fabri, 2003) is the (probably utopian) so-called paperless office. In this chapter, two e-filing systems developed in Europe (i.e. Money Claim Online -MCOL- and Possession Claim online in England and Wales, Trial Online -TOL- developed in Italy) and an Australian e-filing service will be described. All the three cases are characterized by a deployment of a previously developed installed base constituted at the technological level by a Case Management System. However, while the MCOL can be considered a successful development of an “open e-filing system”, TOL demonstrates that some constraining factors, as the legal complexity, may deeply hinder the evolution of e-justice services.

3.1. Money Claim Online and Possession Claim Online in England and Wales

Money Claim Online (MCOL) and Possession Claim Online (PCOL) are two e-filing services developed in England and Wales that enable any English and Welsh citizen or lawyer to issue a claim for possession or money claim using a user-friendly website.

Both systems are quite successful (MCOL more than PCOL) and statistics confirm the diffused use of the two online websites to deal with possession or money claim. The use of Money Claim Online in comparison to paper based procedure is very ample. The 67% of money claim in the period 2009-2010 have been issued online (even though the Ministry of Justice Key Performance objective was to reach the 75%). However, PCOL differently from MCOL is facing some more problems that will be discussed later in this section and that regard in particular its architecture. PCOL is an MCOL spin off, with many characteristics in common with its precursor (the aspects of the screens, the online procedure in several steps, the legislative tool that enables the MCOL and PCOL technology), but also endowed with unique peculiarities that affect its performances. PCOL has been included in this brief analysis of the England and Wales e-filing systems, in order to sketch a comparative analysis of the two systems about the relationship between architecture, designing strategy and performance.

MCOL started to be developed in 2001 by the Court Service (today Her Majesty Court and Tribunals Service) in order to provide a first online service that allows users to file money claims, request judgment by default or admission, apply for a warrant of execution, respond to a claim and track the progress of their case. Possession Claim Online (PCOL) has been developed after the success of MCOL. It is the online service implemented by HM Courts and Tribunals Service to help individuals and businesses to file or respond to claims regarding the recovering property as arrears of rent or money due under a mortgage¹⁸.

As mentioned, MCOL allows individuals or organizations to file claims over the Internet through a dedicated website. It is accessible 24 hours a day, 7 days a week and claims are issued in the name of the Northampton County Court. Users can utilize the website to check the status of the claim, request entry of judgment and enforce a judgment by way of a warrant of execution. In given cases, mainly if the claim is challenged by the defendant, claims may be automatically transferred to a County Court.

The online procedure that MCOL handles is a slavish replication of the offline procedure, since paper form (N1) used to issue a claim in an English or Welsh county court is reproduced in the MCOL website. Moreover, MCOL procedure allows both parts involved in the claim (claimant and defendant) to switch to the paper based procedure at any stage of the claim. In this way, even not “technologically educated” citizens may have access to the paper-based procedure if the online procedure is too complicated and this enhance the accessibility of the service. Court fees stimulate the use of the online service instead of the traditional paper-based procedure, indeed, averagely, MCOL court fees are 14.64% lower than fees due to file the same case to a county court¹⁹. However, MCOL has some limits and not all the claims can be issued online. For instance, MCOL is a service for fixed amount of money claims (up to 100,000 British Pound), therefore it is not available for cases in which claimants do not know exactly the value of the claim, as for examples in claims for damages or compensation for loss or injury²⁰.

In order to have access to MCOL, users are required to register in the Government Gateway (GG) website, they will get a User ID and a password, and when returning to MCOL website they will obtain an MCOL customer number. Once logged in, users can file a new claim or respond to a

¹⁸ All this section concerning PCOL, derives from the analysis of website guidelines, precedent contributors to the topic (Falletti, 2009; Cortés, 2011) and interviews with Court Staff and ICT team of the CCBC and HCMTS. For more information see: www.pcol.org.

¹⁹ <http://www.justice.gov.uk/courts/northampton-bulk-centre/money-claim-online>.

²⁰ Moreover, other restrictions apply to MCOL: claimants cannot use the service if the claim is against more than 2 people, if the case falls under the Mental Capacity Act 2008, if the address of the defendant is not in England and Wales. Finally, a clause that certainly restricts the accessibility of the service applies to individuals that are eligible for fees’ exemptions: in these cases, individuals cannot utilize MCOL but need to issue the claim directly in a County Court.

claim. If the user files a new claim, an eight-step screen appears where the claimants can provide their details, the details of the defendant and a description of the claim. The claim submitted will sit in the MCOL server until 9 am (claims received after 9 am are processed the next day), and then it is moved electronically to the Country Court Bulk Centre (CCBC) after the validation process of the Claim Production Centre (CPC). CCBC will issue the claim in the name of Northampton County Court and send electronically a claim pack to the defendant. The claim pack contains a user ID, a password and a claim code; the ID and password allow the defendant to login in MCOL and respond to the claim. Defendants can use MCOL to: 1) admit and pay the claim in full directly to the claimant; 2) admit the claim in full and asking for time to pay; 3) admit only part of the claim; 4) file an acknowledgment of service; 5) defend the claim; 6) make a counterclaim.

As anticipated, the procedure allows defendant taking most of the actions both online or off line by filing appropriate paper forms provided in the claim pack. In the absence of a defendant response or when the claim is admitted, the claimant can use MCOL website to ask for a judgement. In case a defendant fails to comply with a court judgement, claimant has different enforcement options at his disposal; however, a warrant of execution is the only method of enforcement available on MCOL.

It is worth mentioning the history of MCOL, whose implementation and subsequent evolution is linked to the major changes that affected civil justice and in general the United Kingdom justice system. These changes refer principally to the Lord Wolf (Lord Woolf, 1996) reform that had the objective of improving the access to justice, reduce the costs of litigation, limit the complexity of the rules and in general enhance the performances of the justice system. Wide range of the reform regarded the employment of the Information Technology.

MCOL is the result of the joint efforts of offices of the Department of Constitutional Affairs (DCA), and in particular of the business area and the IT team, and the private company, EDS; that at the time had an overarching contract with the DCA. The objective was to implement a system for handling small money claims online thus removing from county courts the cumbersome paper based administrative work relative to money claim procedures. DCA worked in cooperation with EDS formulating a business case and a feasibility analysis. On the basis of these two documents, EDS used user interface prototypes (screen mock-ups) in order to establish the MCOL requirements.

At the architectural level MCOL developers exploited organizational components, and working practices previously developed and institutionalized. In particular, they identified two civil court agencies that were already dealing with money claims issued electronically: the Claim Production Centre (CPC) and the Country Court Bulk Centre (CCBC).

The CPC is an HMCTS agency based in Northampton; its main competences are managing the court fees, producing the claim, creating the court's record and then enveloping and despatching the claim to the defendant.

The County Court Bulk Centre (CCBC)²¹ is an HMCTS agency created to deal with bulk money claims, that is massive claims filed by different types of organizations like banks, insurance companies or any public utility company.

The MCOL developers exploited some of the functionalities of the two agencies for its development and subsequent functioning. As far as CPC is concerned, MCOL made use of the data files validation function of the Claim Production Center. For what regards CCBC, MCOL exploited the already developed information system that manages bulk money claims. Once a claim is submitted, and after the Claim Production Center validation, the claim enters automatically as a data file in the Case Management (CaseMan) system, from which CCBC court staff can handle the claim. In practical terms, all the functions that CCBC execute for bulk users (dealing with a claim, posting the claim pack to defendants, issue a warrant of execution) can be utilized through MCOL. The use of an installed base resulted in a modularized architecture of the system, which also includes links between public and private agencies. Nowadays it is a new private partner, Logica, that has an overarching contract with HMCTS and it manages the technological parts of the system and prints claim packs in its office in Mitchelding (Wales).

Another interesting characteristic of MCOL development is that it has been based on the parallel change of legislation and technology (Lupo, 2012). Therefore, ICT designers worked with the policy offices of HCMTS in order to ensure a smooth change both of legislation²² and online procedure. Moreover, the wanted lack of specific details in the rules adopted for the development of e-justice services, gave some space of manoeuvre to the MCOL designers when they implemented the project. This acknowledges the importance to carry on flexible changes in the legislation to enable the use of technology, instead of just inscribing the procedural law into the technology (Mohr and Contini, 2011).

Possession Claim Online (PCOL) is an application developed in 2006 for the e-filing and management of recovering property claims. PCOL is suitable for individuals or organizations that have an address in England or Wales. The service is available 24hrs a day, 7 days a week and it allows to make, issue, view and progress the possession claim electronically, and fix a date for a hearing. PCOL also enables claimants to ask for a judgement and successively for a warrant of possession.

²¹ Please see <http://www.justice.gov.uk/courts/northampton-bulk-centre>.

²² Practice direction 7E "Money Claim Online".

Once the fee is paid online, the possession claim is transferred electronically to the local County court that will fix a date for a hearing and will print and post the details of the claim to the defendant. The hearing date will be scheduled not less than 28 days from the date of issue of the claim form²³. During this period, the defendant can use the online system to file a defence.

The PCOL website has several interesting facilities that help claimants and defendants during the possession claim procedure. For example, users can go in PCOL and ask for a hearing adjournment, to “terminate party representation” from a party’s solicitor, to submit direct communication to the courts, in order to assist the court in dealing with a party’s enquiry.

As for MCOL, different offices of HMCTS and the private companies that supplied the main technology, worked in junction to implement the project. The principal actors involved were the Civil Operational Business that works at the civil courts’ administrative operations, the HMCTS ICT team, the Ministry of Justice policy department, which looks at the overarching policy and changes in legislation, and EDS the private company that provided the main technological supplies. The developers’ team worked following both the high level requirements signed off by the Civil Policy Business Unit and the low level requirements coming from the ICT team and the supplier. When requirements were gathered HMCTS and suppliers signed off the commercial contracts and proceeded to development, testing and deployment.

At the legislative level, HCMTS drafted a special “practice direction” that disciplines the use of the website for possession claims. Differently from MCOL, the very important *practice direction* (PD)²⁴ was approved before the implementation of the project and this fact affected the architecture of the system by providing forced choices to the developers (Lupo, 2012). One of the most considerable forced choice was the involvement of the various County courts instead of centralizing the service in only one County court as it is for MCOL. This choice was dictated by the PD rules that indicated the court of the claimant’s dwelling as the one in charge of issuing the claim. Therefore, the design of PCOL foresees that electronic data are transferred from the PCOL web-server to every County court in charge of issuing the claim. The website utilizes a post-code look up facility, in order to find the court which has the territorial jurisdiction over the case.

The web-server and the PCOL database is connected to the local County courts that individually manage, print and post the claim’s documents and forms to the claimants and to the defendants.

²³ Civil procedure Rule Part 55 “Possession Claims”.

²⁴ Practice Directions are supplemental protocols to rules of civil and criminal procedures in the Courts and that give practical advice on how to interpret the rules themselves (Dwyer, 2009). The procedure for drafting and amend Practice Directions is simpler and more rapid comparatively to the civil procedure rules that need a secondary legislation procedure with the involvement of both branches of parliament. With the coming into force of the Constitutional Reform Act (CRA) of 2005, the power to approve the Practice Directions felt to the Lord Chief Justice (with the approval of the Lord Chancellor in most instances).

Both MCOL and PCOL projects are quite successful and largely utilized in England and Wales. Their story acknowledged the importance of some designing principles for the developments of e-justice services, as, for instance, the importance of building on an already well established infrastructure²⁵ a simple-to-use and accessible services, in order to reach a critical mass of users as soon as possible.

Moreover, the comparison of the PCOL and MCOL experiences reveals that when the technological and legal change happen at the same time and in coordination, as for MCOL, this helps to have a smoother deployment and to avoid drawbacks. Differently, when the technology is just supposed to implement established procedures, many difficulties arise, and the translation of off line procedures to online routines is not easy. For example, the decentralized architecture of PCOL, due to a decision (practice direction 55E) taken before the system design, brought about an uneven application of the same procedure in the several County courts, with problems and delays that HMCTS is still facing.

3.2 Trial Online (TOL) in Italy

The so-called *Processo Civile Telematico* (PCT), translated in English “Trial Online” (TOL) or Civil Proceedings Online, is the Italian e-filing system that should allow electronic transmission of data and documents of civil disputes between courts and lawyers. The deployment of the system started in 2005, but its diffusion in the Italian courts has been quite slow; in 2009, TOL was available just for money claims (injunctions/payment order) in only five out of 165 first instance courts of general jurisdiction. Its deployment has increased significantly in the last years and at present it is used in 32 courts (Carnevali e Resca, 2012).

The e-filing system allows filing documents from expert witnesses and lawyers, and to remotely access data of the court case management system (*Sistema Informativo Contenzioso Civile*- SICC) through a validation process. This validation process is carried out using a smart card with an electronic signature (Public Key Infrastructure) in order to get to the so called “Access Point” (*Punto Di Accesso* - PDA), which is set up and managed by a service provider (in most cases the local lawyers’ associations), authorised and periodically monitored by the Ministry of Justice. It is a point of attention that, according to Italian regulations, the lawyer associations are in charge to verify the legitimacy of their members (about 200,000) to practice law.

Each Access Point (PDA) transmits the files to the Electronic Central Dispatcher managed by the Ministry of Justice. The Central Dispatcher provides time stamps for the files and delivers the electronic documents to the local court. The electronic transactions are managed through a network

²⁵ See the contributions of Kallinikos (2009) on the concept of installed base.

infrastructure for public administrations called Public System of Connectivity (*Sistema Pubblico Connettività* -SPC) (Carnevali, 2010).

The documents transmitted are considered legally binding if the lawyers sign them with an advanced electronic signature and file them electronically by the Access Point. Documents are produced through a document type definition (DTD) set up by the Ministry of Justice (Fabri, 2009). The application Trial On Line (TOL) can be considered a development of a previous application called Polisweb. In some Italian courts this system enabled the remote access to the electronic repository of first instance judgements. Lawyers have access to PolisWeb through a digital signature and a smart card, as it happens for TOL. However, Polis Web was, and it is still, not very much used in the Italian courts mainly because of the difficulties of judges and court staff in changing their working practices. In particular, judges did not use a word processor to write their decisions and the administrative staff was not able to keep up with the typing and the updating of the related case management system, making the judgments electronic repository incomplete and out dated to store the case files (Fabri, 2009).

When TOL was designed and implemented, the Ministry of Justice planned to use it for all kinds of civil proceedings. Moreover, very optimistically, the Ministry's plan was to reach a significant acceleration in the case definition. As of today, these objectives have not been achieved yet (Carnevali and Resca, 2012). The online proceedings used are mainly payment orders, which, at least, have been remarkably accelerated in the largest courts such as Milan and Rome.

Moreover, some more efforts have been made in order to spread out the system in the Italian courts, also improving the nationwide case management system. Actually, the TOL backbone was constituted by the case tracking system SICC (*Sistema Informatizzato di gestione del Contenzioso Civile*), which has been quite recently replaced by the more up-to-date case management system SICID (*Sistema Informativo Cognizione Ordinaria Civile Distrettuale*). The introduction of the new CMS not only meant a faster and more user friendly application, but also introduced the possibility to have a direct link to the Access Points that, as mentioned, enables communication and document exchange online between lawyers and courts.

Another step towards the simplification of the quite close system and cumbersome TOL architecture was done with the introduction of the Registered Electronic Mail (REM), to be used for communication and notification online. The Registered Electronic Mail, which is mandatory by law for each lawyer, enlarged and simplified the interactions between courts and lawyers. Users are not forced to use the Access Point for receiving communication from the courts, but it is sufficient to buy a REM service from one of the several vendors available. However, the Access Point continues to be necessary to access online the court registries (i.e. SICID), for paying court fees, and for

requiring document duplicates (Resca, 2012), thus making the system still quite rigid in its accessibility.

The implementation of the TOL project has been very problematic. The project since its inception has suffered of both technical and organizational problems. For instance, the interfaces that the Ministry of Justice provided to judges and lawyers were not considered user-friendly. Software houses were not able to develop properly and in due time the software, since important technical details were only in the hand of the Ministry of Justice and of the private software house that developed the case management system. In addition, most of the local lawyers associations did not develop their Access Points and still many lawyers do not have a Registered Electronic Mail (REM) as required by law, even though in the last months this problem seems to be solved. These and other factors have significantly limited and delayed the diffusion of the quite expensive Italian TOL, which just lately, with the introduction of the REM, has known a promising increase in the number of users.

The Italian case can be considered opposite of MCOL. TOL was initially designed as a tool to enforce the well established procedural rules in books, without considering their well known inefficiency and the rules in practice (Fabri, 2009). This approach showed its limits as soon as the application started being implemented in the courts. Technology cannot be considered simplistically a tool to enforce written rules or to streamline the complexity of practices that characterizes the day-to-day court operations. The experience of TOL acknowledges that ICT projects in the justice domain should prioritise highly repetitive procedures with relatively few exceptions, they should be progressive, built on success, and they should pay a lot of attention to legal practices and local contexts (Fabri, 2009; Carnevali and Resca, 2012).

3.3. VCAT Online in Australia

The Victorian Civil and Administrative Tribunal (VCAT) Online is the first electronic filing system implemented in Australia for residential tenancy disputes. The residential tenancy cases are disputes between landlords and tenants or between rooming house residents and owners or between caravan park residents and owners under the Residential Tenancies Act of 1997. VCAT Online users can lodge a case application through a website by filling an on-line form; then data are transmitted to the Court, through Internet (Wallace, 2003). The system is widely used in the jurisdiction of the Victorian Civil and Administrative Tribunal and it has proved to be very popular (Wallace, 2003). The system allows users to receive documents from the court and monitor the progress of their cases (Wallace 2003). Moreover, the system provides important facilities for the registered users of the high volume residential tenancies list. These users can complete the application forms, generate

and print dispute notices, view notices of hearings and orders, request warrants of possession, and withdraw the applications.

The VCAT Online web interface connects the system to the Tribunal Management System. The Tribunal Management System (TMS) together with Caseworks are the two case management systems to which VCAT Online is connected (both CMSs are broadly considered reliable and efficient: Wallace, 2003). VCAT Online Court staff utilizes Caseworks and TMS to record the received applications, create correspondence and notices, schedule hearings, retrieve information, record case outcomes, and generate performance statistics (VCAT, 2009).

In order to use the system, landlords or tenants need first to become a registered user, by applying (online) to VCAT. The VCAT Online website provides users 'VCAT Online Agreement' that sets out the terms and conditions for the use of VCAT Online and each party's roles and responsibilities, that users need to download and complete. Also a 'Registration and Direct Debit form' must be completed. In fact, in the VCAT e-filing system, users need to indicate a bank account and filing fees are directly debited by the tribunal to that account once process has been filed online (Wallace 2003). The fees for using the system are the same, whether an application is lodged manually or electronically (Wallace 2003). All the forms need to be mailed in hard copy format to VCAT for registration. Registered users will receive a personal User ID and Password ('login'). Registered users can use their user id and password to log on into the system and have access to copies of documents filed, notices issued by the court, and check the progress of their cases (Wallace, 2003). Parties can only have access to information regarding their own case because other information is not available to the general public. A considerable feature of VCAT Online is that documents included electronically in VCAT Online do not need to be signed.

VCAT Online is also endowed with a complex automated scheduling module that allows deciding and indicating the hearing date very rapidly. In 2007/2008, the 54% of users received the advice of a hearing date, time and location within seconds of lodging an application (VCAT 2009).

An important feature of VCAT Online, is the VCAT Online Guardianship List (VOGL). This facility provides an online interface between the Victorian State Trustees and VCAT for the purpose of examining the annual accounts by administrators and enabling state trustees examiners to view annual accounts online, generate letters requesting further information from administrators, and submit the outcomes of their examinations back to VCAT. In 2008-09, the VOGL system allowed State Trustees to complete 5,127 financial examinations (VCAT 2009). Another considerable feature of VCAT Online is the service that sends SMS to the parties of a case in order to remind the hearing date. For this service, the Court staff utilizes the data already present in the system after an online application. The SMS is sent to tenants that are respondents in an application.

The VCAT Online can be considered a successful story of implementation of an e-filing system. It is widely considered an accessible, inexpensive, transparent, and efficient system. For instance, no extra fees for electronic lodgement are required and there is no provision for credit card payment. Aside the facilities that the system provides, it is worth mentioning the legal simplification that made possible the development of the system and that regards the signature of official documents. As anticipated, the documents included in the VCAT Online system do not need to be signed by the applicant. This functional simplification □ that also recalls MCOL - reduced the complexity of the system and fostered the use of VCAT Online by Victorian citizens.

4. Beyond Case Management Systems

As mentioned earlier, Case Management Systems (CMS) in the justice arena are IT applications that manage data, information, documents, and events during the life cycle of a legal case. Typical, CMSs functions are inputting and retrieval of case data and documents, cases search, cases statistics, case assignment, calendaring of cases, workflow analysis. The performance of CMS's can be very different depending on several technical factors that cannot be discussed here. However, it is important to consider the CMSs as the backbone of ICT tools in courts, from where can be developed more services such as e-filing and Integrated Justice Chains. As the Austrian and French cases analyzed here acknowledge, CMSs are indeed the basic technology or part of the fundamental installed base, on which to plug in other applications. For this reason, these two e-filing systems are presented in this section of the report to single out that their genesis come from the "opening" of already in place CMSs.

4.1 ERV: Case Management and E-filing in Austria

The Elektronischer Rechtsverkehr ERV is a system that allows the transmission of petitions to courts, and to receive decisions or other documents from the courts online. Its most important applications are money claims and the requests for enforcement in civil matters. As form of communication with and within the courts, ERV is legally equivalent to conventional filing and exchange of documents, therefore it should not be confused with faxing or sending a simple e-mail (Koch and Bernoider 2009).

Therefore, ERV can be considered an e-filing system, however it is quite interesting to focus on the electronic communication architecture used between the lawyers and the courts, which is quite peculiar.

The first electronic filing was allowed only in district courts for civil matters in 1989. Radio Austria AG (now: Telekom Austria) was in charge of the communications between the lawyers and the courts. Its tasks were to collect the claims filed by the lawyers every day, to acknowledge the claim, to carry out technical checks and to send confirmations of receipt of the data of the claims. Once a day, the collected claims were transmitted to the Federal Computing Centre for further processing and distribution to the courts. The development of ERV was anticipated by an amendment to the Court Organization Statute in 1990, when the computerization of all District Courts was completed. ERV was first introduced to lawyers, notaries, Federal Law Office of the Republic of Austria, who had the possibility of filing electronically payment orders.

The software development was carried out by the Federal Computing Centre (Bundesrechenzentrum – BRZ), in collaboration with Radio Austria acting as the unique transmission agency or clearing-house. The costs were mostly borne by Radio Austria (now Telekom Austria AG, at that point state-owned), which refinanced the project through the volume of transactions in a later stage. It is worth mentioning that the Lawyers Association was included in the project right from the beginning (Koch and Bernoier, 2009).

The principal objective of the ERV development was to open the CMS to the “external customers” of the justice system (Fabri, 2001). With the access to the information by external users, the procedures have also been simplified and accelerated.

As anticipated, initially, some lawyers, notaries, the Federal Law Office of the Republic of Austria and other institutions were involved in the ERV project. Not all the lawyers' firms were technologically prepared to file cases electronically. However, statutory amendments were drafted in order to facilitate lawyers' inclusion in the justice electronic network, but also to force them quite explicitly to participate in the project. A first result of the diffusion of the ERV system was a considerable reduction of costs for lawyers and parties thanks to lower court fees when the electronic filing system was preferred to the paper one. Since 1999, any law firm has been required to have the necessary technical facilities to support the system, while their agreement to be able to receive documents from courts is not solicited (amendment of the Austrian Lawyers Organization Statute, 1st February 1999). Since 2000, every Austrian citizen can, theoretically, submit a claim electronically, and this further reduced paper and post fees (Fabri, 2001). However, the citizens' use of the system was limited because of the requirement of a customized software package and the necessary hardware for having access to the system.

ERV can be utilized as a data transmission tool even from courts to lawyers or other parties. Courts may exchange decisions, interim reports and other documents to parties electronically, and parties may request a copy of a document to the court through ERV.

At a practical level, users need the customized software, the necessary hardware, together with a connection and an Austrian bank account in order to utilize the system. Each participant receives a unique identification code, which is allocated by the Chamber of Notaries and Lawyers for this user group, and the Ministry of Justice for others. The interface specification for ERV is publicly available and can be downloaded from <http://erv.telekom.at/>. Users can also develop the software for using the system; moreover, the functionality is included in most standard software systems for law firms (Koch and Bernoider 2009).

Using the specific interface, claims are electronically sent to the unique transmission agency (clearing house), Telekom Austria AG that forwards these once a day, at midnight, to the Federal Computing Centre (Bundesrechenzentrum – BRZ). The BRZ then transmits the files to the courts, where they are catalogued, printed and given to the judges. The system will send to the petitioner an acknowledgment of service and all the data including case numbers. In 2003, about 4750 members were using the ERV system. As of 2005, 95% of the 4900 users were law firms. Interestingly, the adoption and usage of the system is mainly influenced by the individual preferences of the lawyer instead of the size of the law firm.

Recently, an Internet technology-based interface substituted ERV. The new interface that allows transmission of legal data through Internet is called webERV and it is characterized by interactive forms relying on XML for data transfer (Carnevali, 2010b).

4.2 E-Barreau in France

The e-Barreau is a system that enables lawyers and the courts to exchange judicial data. Fundamentally, it is based on the opening of the court's case management system to the lawyers and connecting it to the National Bar Council private network. The project started with a national framework convention signed by the Ministry of Justice and the National Bar Council (CNB). The convention defined the rules regarding the communication of official documents between lawyers and the courts. The aim was to enable lawyers to receive information on the cases they had filed, and to implement two-way official communication of applications and documents (Carnevali, 2010b).

Its development is clearly based on (and substituted also) a previous system for electronic communication between lawyers and courts developed in the Paris court of first instance (*Tribunal de grande instance*, hereafter: TGI), called E-Greffe, which is the result of a partnership between the Paris CNB and the Ministry of Justice plus the Paris TGI. The system allowed lawyers to access electronically information on their cases, receive court e-notices and download electronic documents. Even in the case of the E-Greffe the system was based on the partial opening of the

court's Case Management Systems (CMS) to lawyers so that they could retrieve the information they need through the Internet (M. Velicogna, A. Errera, S. Derlange, 2011).

Lawyers that wanted to utilize the system needed a digital certificate stored in a USB key and a Personal Identification Number (PIN) code. Lawyers could use the system to receive information on a case, to access judgments, to sign up to an application for proceedings, to communicate with the court's clerks and to forward documents to parties.

However, the Paris lawyer association wanted to test e-Greffe only on a limited number of proceedings, therefore the system's scope was limited to urgent proceedings. Moreover, given that civil procedures were not amended for the new electronic system, most of the documents needed to be also prepared in paper form with a double work for lawyers and court staff.

Despite these issues the e-Greffe's system was positively assessed by its users, and the solutions on which it was based put the bases in terms of ICT innovation and governance networks for the development of the successive system at the national level, the above mentioned e-Barreau.

The implementation of a nationwide electronic communication program was proposed in 2004 by the National Bar Council (CNB) to the Ministry of Justice. The reasons that brought CNB to suggest the implementation of a nationwide communication system were the following: a) CNB wanted to overcome the failure of the first lawyers' virtual private network experience called Avocaweb, b) CNB believed in the necessity to develop an information system that help lawyers to comply with the rules regarding lawyer-client privilege and confidentiality (Velicogna, Errera and Derlange, 2011), c) CNB wanted from the Ministry of Justice a system similar to the one already developed for notaries, a nationwide intranet system that counted at the time 7,500 users (G. Y., 2007).

In 2005, after one year of negotiations, the already quoted national framework convention was signed by the Ministry of Justice and the National Bar Council. The convention established that the new system would be based on the connection between an open CMS of courts called WinCi TGI, and the lawyers' virtual private network to the E-Greffe portal.

The implementation of the new system implied the amendment of the existing rules of civil procedure. The Article 71 of the Decree of 28 December 2005, no. 1678 allowed the courts to hold electronic registers and dockets, provided that the system can guarantee the integrity and confidentiality of the information exchanged. Moreover, Article 748-169 allows the electronic transmission of a broad range of procedural acts, documents, summonses and judgments, provided that the recipient has agreed to receive them electronically (Article 748-2).

The CNB had to provide the lawyers with a technical package that allows them to connect to the courts' registers. It came up with a solution quite similar to the previous e-Greffe system: a lawyer's

E-Barreau package that included a (quite expensive) broadband internet access (512 Kb to 8 Mb), a secured mail inbox, a digital certificate stored on a USB key, and a digital signature tool. One major critique made to this solution is that subscribers (i.e. lawyers) were not free to choose their Internet access provider, given that the package was not compatible with ADSL broadband connections (Trassard, 2007). Moreover, the solution was not competitive in the market of Internet connections considering that its monthly fee was of about EUR 64 per month and the broadband connection registered 512 Kb to 8Mb (while internet access providers have been offering 20 Mb broadband since 2003).

Because of these issues, from 2005 to 2007 the number of subscribers to the lawyer's virtual private network that connect to e-Barreau remained very low. A relevant issue was also represented by the monopoly of CNB in providing the Internet broadband connections, considered the high costs of the system.

In September 2007, Navista provided to lawyers with the connectivity package and CNB removed the mandatory Internet access subscription to the France Telecom. Lawyers who wanted to use the system, had to subscribe to the service and pay a monthly fee of EUR 55,73 plus an installation fee of EUR 69.

From the side of the Ministry of Justice, since 2006 there were attempts to improve the system and, in particular, to modernize the Case Management. In 2006, some experiments were made on the Case Management System add-on that allows the data and document exchange with the lawyers (ComCi TGI²⁶ version 2) by implementing pilot projects in the courts of first instance of Marseille, Lille and Alès. These projects did not bring about any change to the e-Barreau national system. In 2007 the Ministry of Justice's commitment to the modernization of the judicial system brought to the speed up of the deployment of the ComCi TGI add-on in the courts of first instance and in the courts of appeal. This add-on allowed connection between the court system and e-Barreau.

Moreover, at the national level, in September 2007 a new framework agreement was signed between the Ministry of Justice and the CNB. The framework describes the way the different stakeholders had to share responsibilities with the Ministry of Justice before implementing official electronic communication at the local level. Because of some delays in elaborating the rules governing the electronic communications, only in April 2009, the Ministry of Justice enforced the September 2007 convention and translated it into the regulation (Velicogna, Errera, Derlange, 2011).

²⁶ ComCi TGI is the communication tool that allows to open to communications the Case Management System called WinCi TGI.

The system has been widely criticized even after the opening to the market in order to allow the development of external connectivity packages. In particular, the resulting 55 Euro monthly fee was widely seen as too expensive, especially by the Paris lawyer association which was already using the much cheaper E-Greffe. Moreover, a considerable controversy regarded the lack of transparency displayed by the CNB in the choices of technical solutions and business partners.

Another issue was the software recognition of the digital signature. In fact, the software in use in the courts that receives documents through e-Barreau is not able to recognize and proof digital signatures. A temporary solution has been provided for under Décret n° 2010-434, 29 of April 2010, which states that until 2014 submission through e-Barreau is considered equivalent to signature, even though the system is not yet used to file cases; indeed, as of today, e-Barreau is used for accessing the data relating to cases that have already been filed. The system allows lawyers to attach documents to the emails they send to the clerks. So lawyers can send their .doc as well as .pdf documents. Local conventions between lawyers associations and courts allow the replacement of some documents with their electronic version. In this case, when the handwritten signature is required on a document, it has to be digitized (by the use of a scanner) and then sent as a joint attachment. In a near future, e-Barreau should be upgraded in order to allow lawyers to file the cases electronically using a digital signature device (Velicogna, Errera, Derlange, 2011).

Despite the significant problems that e-Barreau registered, the French Ministry of Justice is constantly pushing for making the electronic communications between courts and lawyers compulsory. As an example, a decree issued in December 2009, provided for making electronic filing compulsory for appeal procedures, starting in 2011. According to the Decree, cases that are not filed electronically can be considered inadmissible by the court. The case may only be filed on paper if electronic filing can be considered impossible ('sauf impossibilité pour cause étrangère à l'expéditeur') due to technical issues, as the loss of an internet connection (Velicogna, Errera and Derlange, 2011).

5. Integrated Justice Chain

The so called Integrated Justice Chain (IJC) aims to connect databases and case management systems and to share and transmit data and documents in electronic form across various agencies. Generally speaking, the integrated justice chain has been seen as a priority for criminal justice where there is a strong need to exchange data between the police, the prosecution, the courts, the probation officers, and the prisons. In the following pages, two quite successful examples of

development of an integrated justice chain will be considered in two national contexts: England and Wales, and Finland.

In both cases, the integrated justice chain focuses on the connection of a previously developed robust case management system used in prosecutor's offices with other case management systems of the police and the courts. The Finnish case is particularly interesting, because the technological innovation was carried out along with a parallel change in legislation (and this facilitated the diffusion and the use of the new system), but also because the introduction of the new system brought about an evident change in working practices in all the offices involved.

5.1. Compass and Criminal Justice Exchange: IJC for Criminal Matters in England and Wales

Compass is the Case Management System (CMS) used by the Crown Prosecution Service (CPS) in England and Wales. Compass replaced the older tracker systems that allow streamlining the prosecutors' work by helping them to undertake a pre-defined set of tasks (Cordella and Iannacci, 2009).

Basically, Compass carries out all the information and documents that deals with the case-file registration, the case-file allocation, the hearing outcomes, the case-file finalization. These "e-tasks" are consistent with the code for crown prosecution, which sets two general principles underpinning all charging decisions: a) sufficiency of evidence, b) public interest.

Compass also provides to staff, standard pre-formatted documents and national templates. When a case file is received by the police, the administrative staff register the case and allocate it to a Crown Prosecutor's lawyer or to a unit head that will allocate it to a lawyer (this happens in the case of the most complex cases). After an initial review of the case-file that will affect the charging decision, a first hearing will be held in the magistrates' court. If the defendant pleads guilty, the case is finalized in Compass. If not, the case is adjourned, and it will proceed for trial in the magistrates' courts or crown courts depending on its seriousness (Iannacci, 2007).

In the case the defendant pleads not guilty at the first hearing, and therefore there will be a trial, Compass automatically generates a task to request the full file from the police. When the case-file is received, Compass generates a new task for the CPS lawyer to allow a full file review. Finally, the administrative staff records the hearing outcomes on Compass, finalizing the case once the sentence is known.

In the early '90s, before the development of Compass, information technology was only limitedly diffused in the CPS offices. CPS staff had access to several applications that were basically case tracking systems in which administrative staff could record case details and the hearing date. Moreover, case tracking systems were quite old (they have been developed in the '80s: Timms and

Wolffson, 2006) and they were not interoperable; CPS offices, the police, and courts offices were not connected electronically.

The development of Compass is part of an overarching project of modernization called Connect, which started in 1998. The aim of the project was to modernize IT, the electronic communication systems, and to improve the CPS network infrastructure. In this perspective, CPS cooperated with the enterprise LogicaCMG to outsource the entirety of its network (infrastructure, desktop PC, mobile network, etc.) over a 10-year contract, in order to develop a case management system (Compass) to replace the older tracker systems (Iannacci, 2003).

The development of the system is the fruit of the joint effort of different groups representing the various professionals within the CPS (including lawyers, case managers and administrators) in designing and validating the case management system before it was rolled out. Such groups, called *local implementation teams*, were empowered to make decisions as to how the system would be implemented in their area (Iannacci, 2007). This, in turn, implies that, although national, the Compass CMS system succeeds also in matching particular local needs. The local implementation teams remain in existence also after the deployment of Compass, and they now receive information from local users to suggest improvements that they would like to see incorporated into Compass.

The roll-out of the project started in 2002 by testing the operational pilot in three offices (Guildford in Surrey, Stafford in Staffordshire and Leeds in West Yorkshire). In 2003, the CMS was diffused in every office in England and Wales and since then the system has been updated every two years in order to cover legislative changes (e.g. Statutory Charging, the Proceeds of Crime Act, etc.), business changes (supervised by the Business Design Authority), as well as requests from users (supervised by a User Assurance Group).

During the deployment of the system in the CPS offices, the main barrier to the application of Compass came from the CPS lawyers that were not used to utilize an electronic case management system. Moreover, some issues were, and maybe are still, encountered when updating the system, due to the fact that Compass needs some time to be updated (Iannacci, 2007).

A further development was the integration of the criminal justice system in a joined-up network. The programme's objectives were to: a) make sure that the criminal justice agencies (i.e. police, CPS, magistrates' courts and crown courts, prison service and probation service, youth justice boards) have the ability to communicate securely via email; b) ensure that all criminal justice agencies have electronic access to shared case file information; c) deliver a secure portal to enable victims to track their cases online.

The Criminal Justice System Exchange (CJS Exchange) basically, consists in a router that automatically populates Compass CMS so that administrative staff was not re-keying into the CMS

information that the police had already entered into their systems. CJS Exchange is a secure central computer hub that routes secure messages about prosecution cases and individuals from one part of the criminal justice system, translates them, and then guarantees delivery to the intended recipient. It works as a routing mechanism that delivers information back and forth from the magistrates' courts to the other agencies involved in the criminal justice system thus enabling criminal justice organizations to share common information, allowing case progression within the whole criminal justice process (Iannacci, 2007).

Through a series of pilot projects (see later in this section), the Criminal Justice Information Technology Unit created a system that provides an XML message hub and portal. A private company has dealt with the technological part of the system to transition each single system to an industrial strength-hosting environment with no single point of failure and comprehensive disaster recovery provision. In particular, the company, working closely with CJITU (Criminal Justice Information Technology Unit), the application service provider and incumbent suppliers, has been responsible for design, build and implementation of the hosting infrastructure and the successful transition of the systems into a pair of List-X data centres, complying with Restricted-High security requirements (Iannacci, 2007).

The CJS Exchange has been scaled to support national rollout with volumes approaching one million messages per day. The hosting platform has also been used to develop a new Strategic Portal Framework, extending the exchange for new requirements such as case progression and police enquiries to the DVLA (Driver and Vehicle Licensing Agency).

The pilot was tested in Humberside, the only police force having the right version of the case preparation application (called NISPIS) that could interface with Compass. After the initial test, in 2006 North Wales police systems were linked up with the CJS Exchange and with Compass CMS after twelve months of painstaking efforts.

In the daily routine of the system, the police send their initial full file charge material to the CJS Exchange system that will route it to CPS (through Compass) and to magistrates' courts (in Libra, the magistrates' CMS). In turn, magistrates' courts send the results of court cases back to the CJS Exchange that routes them back to the police.

Initially, the project registered a number of issues, in particular because police forces across England and Wales were not using a single IT solution. For instance, the Libra CMS was utilized out only in North Yorkshire, Warwickshire and London in 2006 (Iannacci, 2007).

However, the benefits of the use of the new system were soon registered. The 2007 Home Office Departmental report acknowledges that the Criminal Justice System Exchange handled 250.000 messages per year between criminal justice offices. Also the system made available 1.3 million of

electronic risk assessments²⁷ to prisons and court staff. Around 50.000 sets of assessment are exchanged between the Prison Service and the Probation Service (Home Office, 2007)

The CJSE has been progressively diffused so that it joins-up the Police Service, Crown Prosecution Service, Crown Courts, Magistrates Courts, National Offenders Management Service (formerly Prisons and Probation) and it provides information to agencies, companies and members of the public with whom these interact in the administration of criminal justice. In particular, CJS Exchange services provide a messaging system between the Probation and the Prison Services Offender Risk Assessment Systems (OASys). The CJS Exchange portal service provides also information from the Department for Constitutional Affairs to a wide range of Criminal Justice Agencies' staff, victims and witness support organizations and legal professionals (Iannacci, 2007).

5.2. *Sakari: IJC for Finnish Prosecutors and Courts*

The development of the Finnish integrated justice chain for the criminal justice, called *Sakari* can be considered another success story. *Sakari* is a case management system for both the prosecutor's office and the courts, and it manages case information and the related documents electronically, as well as the editing of the documents needed for the trial, with links to the systems used by the police as well. The *Sakari* design philosophy was built around the concept of workflow among different organisations.

In 1992, the prosecutor's offices and the district courts were the first to implement a case tracking system²⁸, which recorded basic data on the people involved, the suspected crimes committed and related decisions. The data, contained in the investigative report sent by the police, were filed into the tracking system by the prosecutor's staff. These data were also integrated in the tracking system of the district court. It is worth noting that, similarly to the civil applications, this criminal automated tracking system was implemented as a result of the coming into force of a penal reform in Finland, the so-called "uniform penalty system". The reform established that all crimes committed by the same suspect would be considered as one single case, and dealt with by just one judge. The application was therefore centralized and registered all cases in progress and suspects in Finland. The prosecutors could share the information regarding a suspect with others, and then decide before which court the case should be filed if the suspect was implicated in separate on-going investigations in different jurisdictions. This application ran on a mainframe with a DB2

²⁷ Risk assessments are reports that assess the risk for offenders of re-offending and possible harm to others. They also assess the risk posed by offenders supervised in the community on statutory orders or licences.

²⁸ A case tracking system is a simple automated docket, which registers the basic data and steps of a case in an electronic data base. It has developed into a case management system (CMS), which can be defined as an application that manages the case workflow and related documents. The most evolved electronic case management systems provide e-filing and electronic transaction between organisations and parties.

database, and it meant that all the prosecutor's offices and district courts were equipped with personal computers, a local area network, standard word processing applications, and e-mail.

Sakari allows the transfer of cases electronically from the police to the prosecutor's office and then to the courts, which return the information to the prosecutor's office after the decision, allowing electronic data interchange between these three organisations. Therefore, it required a significant effort to change working practices, which was effected with the introduction of a new criminal procedure along with the new case management system.

When the police have completed the pre-trial investigation, the basic information on the case is sent electronically from the police investigative system (*Patja*) to *Sakari*. The information on the case, the suspects, the victim, and a description of the crime, which has been received from the police, is combined in a standard structured document, which the prosecutor can edit or use as it is. A text-bank is also available so that the most frequently used texts and phrases do not have to be rewritten. The prosecutor and the police also use secure e-mail to send documents and information, such as witness statements. It is worth mentioning that not all the investigation folder is electronic, since some of the investigation material may be available in paper form only (e.g. medical reports), and this will not be scanned.

When a case is filed, *Sakari* lists the cases within the country involving the same suspect to make possible the unification of the different proceedings in just one trial, before a judge.

The prosecutor can access the court's calendar, and correspondence between the court and the prosecutor is, generally speaking, conducted by e-mail. The prosecutor and the court use the same Intranet services so that e-mails are secure, using the same closed and protected network and if necessary encrypted messages. It is also possible to use *Sakari* for passing comments and remarks on the case to the court (Fabri, 2009).

After the court decision, the prosecutor's office will receive the basic information in the *Sakari* system, and the ruling is often sent to the prosecutor by e-mail. The prosecutor can also access the court decision system to obtain information on the sentence. If there is an appeal against the ruling, this can be sent to the court by e-mail, and e-services can be used to correspond with the court of appeal. Therefore, the prosecutor's offices and the courts have access to information from the case management system of the courts of appeal and the Supreme Court.

Sakari is considered a success in Finland. It is recognized that the application has helped to make criminal proceedings quicker and more accurate. Thanks to electronic interchange, case registration, after initial filing by the police, is automatic and the same information is used in all the stages of the procedure. The system has also helped to create a useful exchange of information and practices

among the different organisations and actors involved and, in particular, it is a powerful tool for rendering the different practices that sometimes take place in the various offices more uniform.

It is safe to say that in this case, following the positive experience of the application used in the Finnish civil field, coinciding the change in the procedure with the new case management application has helped to legitimate both the law reform process and the case management system.

The initial registration without double or triple filings has reduced data entry errors and helped the support staff to proceed more quickly, thanks also to the fact that prosecutors and judges were using the application themselves to prepare their own documents, thus saving administrative staff time.

The process of information sharing to reach agreement on data entry details among the various organisations was long but very fruitful. “The more the police and the prosecutor agreed on the information, how to describe the criminal act, the points of law and the crime, the less the prosecutors had to alter the information they received from the police investigative system” (Kujanen, 2007, 85).

However, it is reported that “the introduction of *Sakari* was not without problems” (Kujanen, 2007, 85). There were technical problems in the beginning, and the application was partly re-written a few years later because of the risks involved in the millenium bug. There also were organisational problems. Using *Sakari* meant that prosecutors and judges had to deal with *structured information*, which meant radically changing their practices of reading and producing unstructured text, or even dictating their documents to be typed up by the administrative staff. *Sakari* was built for use by the prosecutor him/herself and to help the work of the prosecutor.

The introduction of the application was less successful in those offices where the prosecutors and judges did not use it directly but delegated the support staff to do so. The training of the personnel drained a lot resources and sometimes was described as tedious, but: “The importance of co-operation for all the players in the criminal procedure was a lesson to be learned. It was also necessary to motivate the prosecutors to use *Sakari* and put emphasis on the benefits from the co-operation and the functionality from the integration to the police systems” (Kujanen, 2007, 94).

Sakari has been updated on an annual basis. There is a permanent working group made up of representatives of the organisations that deal with the fight against crime (e.g. police, prosecutors, courts etc.). This group manages the development of *Sakari*, defining priorities after a periodic survey of users. The next step will be to move *Sakari* to a web-based service-oriented architecture.

Another application which is worth mentioning is the electronic application that allows public prosecutor’s offices in Finland to issue some 300,000 penalty orders²⁹ (traffic fines included) every

²⁹ Penalty orders are defined as summary procedures, meaning a special procedure for petty crimes where only fines are imposed by the prosecutor. These fines, as well as those imposed directly by the police, can be opposed and then

year. The entire procedure is fully electronic from the police, through the prosecutor's offices, up to the enforcement agency. This application has also been considered very successful since it frees the police, the public prosecutor's office and the enforcement agency from handling a huge volume of paperwork, which is often to the detriment of more important investigative and enforcement activities. This is a very interesting example, because it shows how technology can make a positive contribution to the functioning of the organisation, particularly when it is used for the functional simplification³⁰ of highly repetitive, standard procedures (Fabri, 2009).

However, as it was pointed out: "*Sakari* in many ways is a product of its time, time before internet, time with limited technical possibilities and capacity. That in many ways is the explanation of the functionalities of *Sakari* as more of a case management system using structured information and, compared to a modern system of to-day, less a system supporting document management" (Kujanen, 2007, 95).

6. Legal Information Systems: the Case of AUSLII as one of the World Legal Information System (WorldLII) precursor.

The Australian Legal Information System is the first attempt to build a national legal information system with free access worldwide and rivalling those of the commercial publishers. The Australasian Legal Information Institute (AustLII) provides free Internet access to Australasian legal materials. AustLII can be considered one of the largest sources of legal materials on the net: it provides to users 20 gigabytes of raw text materials and over four million searchable documents. AustLII publishes *public legal information*. It provides primary legal materials (legislation, treaties and decisions of courts and tribunals), and secondary legal materials created by public bodies for purposes of public access (law reform, royal commission reports etc). Being a free source of legal information in competition with commercial publishers, AustLII supports the policy of making the legal materials they control available for free via the Internet (AustLII website).

AustLII gives free access to a collection of full-text databases of most Australian Court and Tribunal decisions and legislation. Databases include the legislation of Commonwealth, Australian Capital Territory, New South Wales, Northern Territory, Queensland, South Australian, Tasmanian, Victorian and Western Australian, the regulations of federal courts (High Court, Federal Court, Family Court, etc.) and most state courts and tribunals (Watt and Johns, 2009). AustLII also includes subject specific databases, an extensive collection of law reform and law journal and the

brought to court.

³⁰ "Functional simplification coincides with the identification of an operational domain [...] Functional simplification refers to the reduction of an initial complexity of a particular domain accomplished by the reduction of the number of variables and interactive sequences involved", see: Kallinikos (2006, 33; 2005).

most extensive collection of the Australian law on the Net. In 2009, 102 new databases were added to AustLII, including 12 case law databases, 8 legislation databases, 17 journal and scholarship databases, 54 tax related databases from Australia, and 11 new databases from New Zealand. AustLII is widely used: statistics register accesses of over 800,000 pages per day. Moreover, data confirm that AustLII's users belong to several and diverse sectors: the educational, government and commercial (predominantly legal) sectors (AustLII web site). The AustLII website provides also some important facilities broadly appreciated by its users. For example, it provides an automated rich hypertext: there are over 50 million automatically inserted hypertext links in AustLII's more than four million pages, including links to statutory definitions, other sections, Acts and Regulations, and cases. It also supports the integration of hypertext and text retrieval, given that every section in an Act and Regulation has a 'Noteup' link which causes an automatic search for cases, other legislation, and secondary materials that refer to that section. Then, it provides a system for point-in-time legislation; this allows an AustLII user to see an Act or section as it was for any date covered by the system. Users can also visually compare sections at different dates side-by-side. The size of of AustLII system makes its technological parts worth mentioning. AustLII's main server is a Sun Fire E2900 server with twelve dual-core UltraSPARC IV+ CPUs and 96GB of memory that is connected via a gigabit link to the UTS network. Moreover, it is provided with a Sun Fire B100s server with a UltraSPARC IIe 650MHz CPU with 1 GB of memory. This serves as a backup server for AustLII's main server Sun Fire E2900 and it is also used for the beta.austlii.edu.au domain. AustLII's main system for storage is an EMC NS 700 NAS server with 10TB raw storage space scalable to 64TB. A similarly specified unit that is located off-site is used for backup and disaster recovery. AustLII's main development machine is a Sun Fire V880 server, with eight UltraSPARC III CPUs and 64GB of memory. AustLII's main mail server is a Sun Fire V490 server, with four UltraSPARC IV CPUs, and 16Gb of memory. AustLII's DNS and firewall are running on Sun Fire V40z servers with two dual-core AMD Opteron processors and 2GB of memory. AustLII uses the Check Point software as its firewall (AustLII web site).

AustLII infrastructure uses also a Sun Enterprise 4500 and 3000 for backup and development purposes (Carnevali, 2010b). There are other servers, which handle virtual hosting, web spidering, anti-virus, special projects and other tasks, they are all Sun Fire B100s servers with UltraSPARC IIe CPUs and 1Gb of memory. There are also a couple of Sun Ultra 1's and 5's that are still in use for development and testing purposes as well as desktops. The AustLII team uses also a variety of operating systems on their desktops, including Solaris, Windows XP, Linux, FreeBSD and OS X (AustLII web site).

At the technological level, it is important to spend some words on the SINO search engine, which have been developed by the AustLII and later utilized also in other national versions of the legal database. The SINO (Size Is No Object) search engine allows searching in the AustLII database in a few seconds. The search engine is characterized by a boolean and proximity operators and relevance ranking. The LINKS software maintains and presents AustLII's indexes.

Since 1990, Internet provided the technical platform to enable the free access of public to the computerized legal information. In fact, the web could provide easy to use graphical browsers and hypertexts, that is simple and consistent means to provide legal information. This allowed legal information institute to build their own accessible services and compete with the expensive and difficult to use search engines provided by private companies.

The Australasian Legal Information Institute (AustLII) was founded in 1995. It is the largest free-access provider of online Australian legal materials, a founding member of the Free Access to Law Movement, and one of the largest providers of world-wide free-access legal content (AustLII 2009). The legal information institute was started by the Law Schools in Sydney Australia, based on precedent systems as the DataLex Project (Watts and John, 2009). Since 1999, it has developed its database by retrieving information from the nine Australian jurisdictions covering case law, legislation treaties and other contents.

AustLII comprises the AustLII Research Institute which is a joint facility of Faculties of Law at the University of Technology, Sydney (UTS) and the University of New South Wales (UNSW). The AustLII Research Institute conducts research and development in free access to law online and is responsible for AustLII's international operations including AsianLII, CommonLII and WorldLII. Since 1 October 2009 also the AustLII Foundation Limited, a not-for-profit company limited by guarantee became operational. The Foundation operates and maintains AustLII's Australian services. AustLII relies on the generosity of its contributors to operate (AustLII 2009).

As anticipated it is worth mentioning the AustLII's commitment to the free access to law. In fact, AustLII is part of the international Free Access to Law Movement and adheres to the following principles: (1) Public legal information from all countries and international institutions is part of the common heritage of humanity, maximizing access to this information promotes justice and the rule of law; (2) Public legal information is digital common property and should be accessible to all on a non-profit basis and free of charge; (3) Organizations such as legal information institutes have the right to publish public legal information and the government bodies that create or control that information should provide access to it so that it can be published by other parties (AustLII 2009). As a result of the AustLII development, there appears to be a general acceptance by Australian courts that judgments should be available in electronic form from the source (Wallace, 2012). There

is also general acceptance that the availability shouldn't be restricted by any kind of arrangement. Moreover, the tendency to provide free public access to judgments from web sites is registered in many courts.

As anticipated, AustLII together with the Legal Information Institute (Cornell University of Law, United States) played an important role in the successive development of several Legal Information Systems in Europe and other countries of the world. Since 2000, the AustLII allowed the use of its search engine SINO in other countries' legal institute assisting them also with technical assistance and providing software. Between 2000 and 2004, AustLII assisted six legal institutes that wanted to establish their servers and databases (BAILII, PacLII, HKLII, SAFLII, CyLaw and NZLII). During their initial operations, AustLII runned the servers of the newly established legal information systems, with a progressive takeover of their operations.

7. Videoconferencing

Videoconferencing is a method of communication that links several locations (or sites) using audio and video technology. Thanks to these devices, people at different locations can see and speak with each other in close to real time. Videoconferencing requires vision, audio and a method of transmitting and receiving them simultaneously. In order to have an appropriate transmission of data, each site must have a camera, microphone, monitor, a codec (a device used to compress and decompress digital data), and access to a communications network.

The use of videoconferencing technologies in the justice system is quite diffuse. It allows to reduce the costs of transportations for witnesses, to increase security holding a hearing without transferring a witness from a detaining centre, to protect a sensitive witness for instance a minor in a trial. The case study selected are the Multi-video conferencing system used in Italy, the Dutch videoconferencing, and the Victoria Police Forensic Department Videoconferencing systems in Australia.

7.1 Multi-video conferencing in Italy

When particular conditions of security, sensitivity, or confidentiality arise during a trial, Italian judges can decide to use videoconferencing in criminal proceedings for interviewing parties or making the inmates attending hearings. Indeed, the Italian legislation allows, during a criminal proceeding, for witnesses, defendants, convicted persons, and juveniles to be interviewed through video conference systems. Moreover, in 1992, a new legislative provision allowed to hear the so

called “mafia repentants” (witnesses who have turned state’s evidence) in video conference (Carnevali, Contini et al., 2007).

The Italian Multi-Video Conferencing System (MVC) allows remote videoconferencing providing an infrastructure based on an audio-video communication system via the telephone network and a secure telephone line for private conversations between lawyers and client (the communication infrastructure). The system, at least its technological infrastructural parts, are, as of today, managed by the Telecom Italia MVC Service Centre (under state police control); however, the technical assistance is provided by another company in outsourcing.

According to the Italian legislation, prosecutors can request to use the MVC service during a trial but only the judge can allow the use of video-conference. The court order is then transmitted to the Department of Prisons of the Ministry of Justice, which is in charge of the service. Video-recording and video-conferencing technologies have been widely used in the Italian judicial system since the beginning of the ‘90s. From 1992 to 1996, video conferencing was used only for mafia cases, but quite soon judges started to use videoconferences in several other cases such as when they had to hear juveniles and victims of sensitive crimes (e.g. sexual abuse). In this period, something like 40 requests were made for video-conferencing. At that time, the communication systems were made available utilizing coaxial cable supplied by local providers or by hiring a TV broadcasting service (Fabri, 2003).

The previous system was changed between 1996 and 1997. Telecom Italia became the exclusive national supplier that delivers the service through ISDN technology. Therefore, the procedure for requiring a video-conference in a trial has been simplified: a court, after authorization from the Ministry, could apply for the services of the national provider and then arrange a conference. As a consequence, the use of video-conferencing increased exponentially. During those two years, nearly 1200 videoconferences were organized. Aside the increased ease of accessing the service, also the standardization of the procedure and an increased awareness of the existence of the service and of its usefulness brought about this result.

Since 1998, the Italian legislation has also made it possible to use video-conferencing, during a criminal proceeding to interview people accused or convicted of organized crimes (mainly mafia crimes) and subject to special detention rules.

In this period, the system was changed again and the Ministry of Justice implemented the development of the actual Multi-Video Conference System (MVC) characterized by an infrastructure based on an audio-video communication system via the telephone network and a secure telephone line. The MVC system is actually available in 197 courtrooms and in 143 broadcasting stations (in 1998 there were 34 broadcasting stations and 134 courtrooms in which the

system was available; Carnevali, 2011). In order to understand the diffusion of the service it is worth mentioning that while in 1998, MVC was used for 3400 hearings, in 2006 this number raised to 5500, while in 2009 the hearings held were 5804. Also the use of the service for international hearings improved: in 2009, 65 international hearings were held, while in 2010 this number raised to 90 (Carnevali, 2011).

A worth mentioning evolution of the system regards the migration of the service from the ISDN lines to the web through the IP protocol. The service also provides IP phones that allow reserved communications between lawyers and their clients (Carnevali, 2011).

The Multi-Video Conferencing service has proved to be quite successful considering the number of judges that are using it, the reduction of the costs for prisoner transportation, and the much higher security. Moreover, the system allows to hear the same witness in more than one trial in two different cities the same day, or to hear a witness that cannot be physically present to the hearing because of bad health conditions. Even the case of MVC in Italy, acknowledges that the technological change must go with a legal and organizational simplification. In this case, the possibility to use the technology for a larger number of cases and the simplification of the procedure for requiring a videoconference for hearing a witness in a trial, contributed to the diffusion of the system and also to increase judges' awareness of the importance and usefulness of the system.

7.2. THTP (Telehoren and Telepleiten System) in The Netherlands.

The Telehoren en Telepleiten (THTP) system is a videoconferencing technology that allows audiovisual connection between detention centres and courtrooms. Thanks to this technology defendants can remain in the detention center while the hearings take place. The system is managed by the Ministry of Justice, as far as the national implementation and management organization concern, and by local organizations where the technology has to operate (Carnevali, 2010b).

The main users of the technology are judges, clerks, lawyers, representatives of the Dutch department of immigration and naturalization, translators, and defendants in criminal proceedings.

The use of THTP videoconferencing system is not mandatory. Therefore, the use of the system highly depends from the agencies and the individual judges who want to use it. It is worth mentioning that THTP requires an high level of coordination between different institutions and actors. For instance, if lawyers decide to utilize the videoconferencing system, they need to prepare the hearing in the detention center. The department for detention (SSC-I) is responsible for the management of the THTP system, and it has to coordinate with the ICT department within the Council for the Judiciary (ICTRO), which is responsible for the electronic network of the courts.

All partners need to fulfill the technological requirements for the videoconferencing system, and THTP has to be compatible with existing technological architecture frameworks (Henning and Ng 2009).

The Ministry of Justice introduced THTP in 2007 with the objective of improving the efficiency of proceedings in criminal and immigration-related cases. THTP save transport costs of detainees and of expert witnesses; moreover, it simplifies the procedure for scheduling the hearings with less delays due to transportation problems. Also, the use of the THTP technology contributes to reduce traffic, increased security and improve the treatment of the detainees.

The project started as a pilot in the court of Maastricht and in the detention centre in Dordrecht in 2007 (Henning and Ng 2009). In the development stage, most of the problems were raised by some courts and regarded its application by individual judges. Dutch courts and judges emphasized the protection of their independence; therefore they were not willing of exposing themselves to any kind of (inter-organizational) dependence that would also demand some kind of standardization and adjustment of procedures, that may limit their independence and functional autonomy. In order to overcome this issue, the project pilot was utilized as a starting point for a national working group to discuss the pilot, and translate the experiences into protocols and implementation guidelines for future use by other courts and detention centers (Henning and Ng 2009). In this way, courts were encouraged to participate to the project, to collaborate with the other actors involved, to contribute to the creation of standards and working practices, and to amend the legislation that disciplines the technology. Therefore, the rules that regulate the THTP system did not emerge in a hierarchical form but from the implementation process itself and from the participation of all actors involved. The system created a feedback loop between pilots and application of the legal framework that allowed a parallel modification of both the law and the technology. The rules that regulate the THTP application are twofold. From the one hand, there are general norms that give a legal certainty and thus the “green light” for the project to be implemented; indeed this legislation need to be flexible in order to allow the creation of the collaboration protocols that come from the discussions in the working groups. From the other hand, there are stricter rules that give greater definition to the implementation steps and application of THTP.

The Ministry of Justice monitored the pilots and the relative working groups in order to give practice-based advice to legislators. This preparation phase finished in 2009 and THTP began its roll out to all Dutch courts and detention centres (Henning and Ng 2009).

The implementation and development of the THTP project acknowledge the importance of involving the actors that will be affected by the technological change. The strategy of the Dutch Ministry of Justice of constituting “working groups” that will contribute to the legal and working

practices' change, fostered a rapid development and diffusion of the system in the courts. Moreover, as anticipated, in this way the implementation of the technology went along with the legal changes, and this influenced positively the performances of the new system.

7.3. Video Conferencing in Victoria Police Forensic Department in Australia

Generally speaking the Australian justice system is characterized by an infrequent use of videoconferencing to take forensic evidence. However, an important exception to this general picture is represented by the Victoria Police Forensic Department ('VPFD'), which is endowed with its own in-house videoconferencing facility and an active policy to encourage its use to take evidence in appropriate cases. During the criminal investigation undertaken in the VPFD, they provide the following forensic services: substance analysis (for example, drugs) for identification and quantification; comparisons of writing, footprints, bullets, biological material (hair, blood, DNA); and enhancements of images, impressions or signals (fingerprints, photographs, footprints; Wallace, 2012). Moreover, as anticipated VPFD provides one of the most advanced and utilized videoconferencing services in Australia. The VPFD policy is based on the concerns that forensic officers were spending too much time traveling to and from court, and waiting for the hearing. The estimates indicated approximately five hours traveling or waiting time for every hour that a witness spent in the witness box (Wallace, 2012).

Several years ago, VPFD used to send standard letters to the informant in each case in which evidence had been analyzed, in order to ask to consider the use of videoconference to take evidence from the forensic services staff and, if they considered it appropriate, to make an application to the court for the technology to be used. The letters were usually addressed to police prosecutors as well as to the Victorian Office of Public Prosecutions ('OPP'). As of today, there is a sort of agreement between the VPFD and the OPP that the OPP would request the use of videoconferencing to take evidence in committal proceedings, save in exceptional circumstances (Wallace, 2012).

Another focus of the VPFD policy was the promotion of the use of videoconferencing to take forensic evidence in regional Victoria. A statistical analysis of VPFD records reveals that the location of the court was a significant factor in determining the choice of method for giving evidence: in fact, regional courts were much more likely to take forensic evidence by videoconference than metropolitan courts.

Before the implementation of videoconferencing facilities, the CCTV was the oldest and most diffuse audiovisual technology in use in the Australian courts. Basically, it is a television system or installation in which the signals are transmitted from one or more cameras to a limited number of receivers (monitors) usually in one location. The older systems use the analogue connections,

generally by wire cables, and the system may be said to be 'hard-wired'; however CCTV signals can also be transmitted using computer networking, and Internet protocol technology. Successively, the use of video-conferencing diffused in several police offices as the VPFD.

The VPFD videoconferencing system is a two-way communication that links multiple locations (or sites) through audio and video technology. This enables users at different locations to see and speak with each other in close to real time. The signals transmitted are video, as well as audio together with the data necessary to synchronize the two. Differently from CCTV technology that operates between sites in the same building, VPFD videoconferencing can be conducted between single, and multiple sites. Therefore, a remote witness site outside the courtroom is connected to the courtroom by videoconferencing. A codec (coder-decoder) is used to encode the video signals at one end into a format that can be utilized for transmission over the network and to decode the signal in order to be viewed in the other locations. Therefore, the codecs at each participating site of a videoconference need to be compatible in order to make transmission work. Moreover, it is the codec system that also synchronizes the video and audio components. The monitors - in both the courtroom and the remote witness facility - show the video signals transmitted by the cameras from each location. The screens positioned in the courtroom provides the image of the witness in the remote facility, while at the remote witness facility (the VPFD police office) the screen provides the images of the courtroom and of the court staff that sit inside. In Australia, in larger court buildings, the videoconferencing in all courtrooms is usually controlled from a central hub, which is a room equipped with all the transmission equipment from which video transmission can be received from and fed out to individual locations as required (Wallace, 2012). However, many courts, above all with small court buildings, have stand-alone systems in each courtroom, where all control is managed by the court officer. In some cases, and where court buildings do not have all courtrooms fitted with the videoconferencing technology, there are also portable systems, installed on racks or mobile trolleys.

The VPFD system seems to work just fine, however, a recent study (Wallace, 2012) acknowledged that at the technological level, the solutions utilized are not the most advanced. First, the study registered the lack of a dedicated videoconferencing room at the VPFD facility even though the VPFD supports the policy to promote the use of videoconferencing to take forensic evidence and it is probably the highest volume provider of remote forensic testimony in Australia. Second, the camera system utilized is characterized by a low-resolution analogue composite video. Moreover, the "screens in the remote witness facility also tended to be older style" (Wallace, 2012: 160) with analogue cathode ray tube monitors. Third, the study revealed that the levels of the audio transmitted from the remote witness space could vary considerably, depending on the position of

the witness relative to the microphone. The audio available to the witness from the courtroom also tended to be characterized by a lack of clarity and unnatural sounding speech, due to poor sound reinforcement and inappropriate placement of the speakers that were transmitting the audio from the court. Fourth, the study acknowledged that while some staff was aware of how to use and operate the video conferencing devices, others were clearly not due to the lack of training, and an absence of technical support for the witness in the remote facility.

8. e-Justice European Union Projects

In this section, are selected a couple of interesting EU e-justice projects in which the Research Institute on Judicial Systems (IRSIG-CNR) is involved. They can be further studied and discussed carrying on this research.

8.1 E-Codex

The e-Codex project (www.e-codex.eu) aims at developing an electronic system constituted by “building blocks” that can be used in, or between, Member States to support cross-border judicial operations³¹.

Thanks to the integration of the EU market and of the free movement of European citizens, there is an increasing number of cross-border legal cases that need to apply cross border procedures. These procedures cannot be handled without the cooperation between the different national judicial systems. The implementation of the European ICT based system is intended to ease cross-border judicial cases and procedures, making them more “transparent, efficient and economic” (e-Codex website). ICT applications should also improve the access to justice for citizens, companies, legal practitioners etc. at the European level.

The project foresees the implementation of pilots in several so called “judicial use cases” and jurisdictions. These pilots are scheduled for the beginning of 2013 and are planned to run for 12 months (www.e-codex.eu). The “use cases” refer to two justice areas. A first area is related to civil claims. The pilots will deal with the European Payment Orders (EPO) and the cross country Small Claims Procedure.

³¹ Some of the information provided here are gathered from the first draft of the report “Large scale e-justice interoperability: The case of the Schengen Information System, the technological backbone of the European Arrest Warrant and surrender procedures” by Marco Velicogna drafted for the project Building Interoperability in European Civil Procedures Online.

A second area will deal with the Cross-border Mutual Legal Assistance, taking into consideration the European Arrest Warrant (EAW), the Secure cross-border exchange of sensitive data, and the so called “financial penalties” (court fines related to a criminal case).

The pilot “civil claims” has the scope of improving and simplifying the procedures in civil and commercial cases. With the use of this service, the European Union citizens and companies should be able to process civil claims and deliver related documents online in different Member States.

Small Claims and EPO have been selected as starting procedure because there are already in place EU regulations that deal with these matters. The EU Small Claims procedure has been set up some years ago with the Council Regulation 861/2007 of 11 July 2007. The regulation aimed to improve and simplify procedures in cross-country civil and commercial matters, but it can be used only if the value of the claim does not exceed 2000 €. The procedure is mainly based on the exchange of paper-documents in a standard form.

The EPO procedure is based on the Council Regulation 1896/2006 of 12 December 2006. This allows creditors to file civil and commercial claims utilizing a unified procedure by filling and sending to the appropriate courts the standard forms. Claimants are not required to appear before a court, but they have only to submit an application, after which the procedure will continue following what stated by the regulation.

The Cross-border Mutual Legal Assistance deals with cooperation between Member States in order to develop effective and efficient cross-border practices of prosecution. The pilot relative to this area should simplify and speed up judicial cooperation by means of electronic exchange of sensitive data.

As anticipated, the European Arrest Warrant (EAW) pilot will be based on the Council Framework Decision 2002/584/JHA of 13 June 2002 (and following amendments), that requires each EU Member State to grant requests for the surrender of a warrant person coming from a EU country.

The second area affected by the implementation of the pilot will deal with secure cross-border exchange of sensitive data. This project aims to increase the cross-border communication between judicial authorities. The objective is to allow the exchange of data from one judge to another in a secure and reliable manner. E-Codex should set the technological architecture to reach this goal.

E-Codex should also take into consideration the mutual recognition of financial penalties, a procedure based on the Council Framework Decision 2005/214/JHA of 24 February 2005. The Decision provided another standard form (certificate) to be used in the procedure. The goal is always to speed up the collection of cross border financial penalties by electronic means.

At the technological level, e-Codex is based on the idea of creating an interoperability device, the *e-delivery platform*, for the electronic exchange of data and documents between the existing European

IT systems. The e-Delivery platform should be designed on a multilateral solution based on common e-Codex interoperability standards³². In the e-Delivery platform data and documents will be exchanged by national e-justice systems.

The e-Codex architecture has been designed to preserve as much as possible the established national ICT solutions in the justice domain, “solutions that respond to specific requirements of national legal systems, and which implied considerable investments in terms of financial and human resources” (Carboni and Velicogna, 2012). Given the investments previously done by Member States and the costs and evolution of such national systems, the e-Codex designers decided to avoid, wherever possible, changes in the national ICT services.

Therefore the e-Codex project entails the creation of a *circle of trust* among the judicial authorities involved. This *circle of trust* should be framed in a memorandum of understanding, in preparation, that each Member State will sign on issues such as: confidentiality, eIdentification, eSignature, eDocuments, ePayment and electronic transmission. For example, the memorandum will state that the responsibility of verifying the e-signature lies with the sending country and the receiving country shall trust the information provided through e-Codex.

The e-Codex architecture is constituted by the *Service Provider*, the *e-Codex Connector*, the *e-Codex Gateway* and the *e-Delivery platform*. The service provider is the national portal from which documents can be transmitted in the E-Codex system (e.g. the filing of a small claim) for instance from the Service Provider, in the case of a possession or a small claim, users can file the case). “The e-Codex service provider can be a national application maintained by the participating country’s government, the e-Justice portal³³ or another application used by legal professionals³⁴. The service provider is then linked to the e-Codex Connector; this component translate the document produced from the service provider with the national standards, to the e-Codex standards. In doing so, the Connector checks that the document was issued by an “advanced electronic system³⁵. Based on the *circle of trust*, the responsibility for the implementation and the control of documents’ validity lies with the Member State that issued the document (Carboni, Velicogna, 2012)³⁶. The receiving

³² e-CODEX Standards and Architectural Guidelines are based on the European Interoperability Framework for European public services (EIF version 16.12.2010 COM(2010) 744 final) and the Architecture Guidelines for Trans-European Telematics Networks for Administrations (IDABC Version 7.1) (e-CODEX Deliverable 7.1 Governance and Guidelines Definition p.10).

³³ <https://e-justice.europa.eu> “The European e-Justice Portal is conceived as a future electronic one-stop-shop in the area of justice. As a first step it strives to make your life easier by providing information on justice systems and improving access to justice throughout the EU, in 22 languages.

³⁴ D3.3 Documented System Requirements and Specifications, 11.05.12 page 13.

³⁵ An advanced electronic system is an electronic system which meets the following requirements: a) the created document is uniquely linked to the user; b) the system is capable of identifying the user; c) the document is created using means that the user can maintain under his control; 5) any subsequent change of the data of a created document is detectable.

³⁶ D3.3 Documented System Requirements and Specifications , 11.05.12 page 16

country should trust the document and will not do any further check. Moreover, connectors also operate on incoming documents from a different country. In this case, documents are received by the connector in e-Codex format; the role of the connector is to transform the documents received from the e-Codex standards to the national standards.

Each e-codex Connector is linked to a national Government Gateway. This component act as an interface between the national systems and the e-Delivery platform. Its functions are manifold: 1) to establish a connection to other member states' gateways and connectors; 2) to format the content of a message to be sent to the e-Codex standard (eBMS3.0); 3) to extract the contents of a received e-Codex message³⁷; 4) provide a transport signature and a timestamp for outgoing messages; 5) to check the transport signature 6) to provide a timestamp and send an acknowledgment of receipt for incoming messages (Carboni, Velicogna; 2012).

The last component of the e-Codex architecture is the e-Delivery platform, which is connected to the national gateways. Documents transmitted from one Member State's government gateway to another, pass through the e-Delivery platform that grants the secure and reliable transport of data and files by encryption.

The architecture that has been designed represents a multilateral solution, a kind of honorable compromise, to try to connect very different e-Justice national systems. This design, on the one hand, should avoid both the need to implement bilateral arrangements between countries as in some cases was already done (e.g. Germany and Austria), and the need to change too much the existing national e-Justice systems. On the other hand, this design "creates the need for the maintenance of a multitude of solutions and agreements"³⁸ and brings about more complexity. The architecture seems quite complex, in addition another matter of complexity regards the payment of court fees, which is very different from country to country. The pilot should look into various solutions "from direct debit handling outside the e-Codex process to online payment done with a national system parallel to the e-Codex process and handing over the payment receipt to the e-Codex process"³⁹.

³⁷ D4.2: Concept for Implementation of WP4, 30.05.2012

³⁸ e-CODEX Deliverable 7.1 Governance and Guidelines Definition p.30

³⁹ e-CODEX Deliverable 5.3 Concept of Implementation v0.9 p.14

8.1 E-Curia

The e-Curia project aims at the implementation of an e-filing system that will facilitate the lodgings of cases and documents to the European Court of Justice in Luxemburg. The project is scheduled to be open in full service in November 2012⁴⁰.

The so-called external e-Curia provides an Internet based access for the lodging and service of procedural documents by electronic means. In order to utilize the system, it is simply necessary an e-mail address and an Internet connection. The user accesses to the secure website <https://curia.europa.eu/e-Curia>: the access is free of charge and no other application is required.

The user will have to get an account by entering personal identification data into the web forms. On a later stage a pre-print pdf file is sent by mail to the user who will have to print it, sign it, and sent by snail mail to the registry of the Court. The printed copy of the application must be supplemented with supporting documentations, as a copy of the ID card/passport, etc. Finally, the registration pack must be delivered to the Court in person or with postal services. At this stage, e-Curia works as a guide for the preparation of the request of account, while the transmission of the documentation is based on a paper-based procedure. Once the documents are provided with hand-written signature, there is no more need to attest the identity of the user and the procedure can entirely become digital. The system relies on the principle of mutual recognition that states that “Agents⁴¹ and lawyers authorised to practise before a court of a Member State or of another State party to the Agreement on the European Economic Area may apply for an account to be opened giving them access to all the functionalities of e-Curia” (E-curia conditions of use).

After the account has been opened, users can utilize e-Curia in every case in which they are involved. As it happens with the paper-based proceedings, the European Court of Justice (ECJ) Registries will then check the request. The procedure may require several days. If the request is approved, the new user will receive an ID and a temporary password that will need to be changed at the first log in, and every six months.

In e-Curia the users can be of two different types: the lawyer (or “representative”) and the “assistant lawyer” (or assistant representative). The status of lawyer grants full access to the functionalities of e-Curia, including the possibility to set up profiles for the assistant. Differently, the assistant can prepare and access to the documentation, but cannot file documents to the Court.

⁴⁰ Most of the information provided in this chapter are gathered from the report “e-Curia” by Francesco Contini (2011) drafted for the project “Building Interoperability in European Civil Procedures Online”. Other data are gathered from the website <https://curia.europa.eu/e-Curia>.

⁴¹ Agents are, generally speaking, lawyers who represent the Member State before the European Court of Justice.

The possibility to guarantee access to the two profiles have been introduced after the first testing phase and they reflect the usual division of labour within large law firms where the lawyer is usually supported by an assistant for carrying out several activities.

Since e-Curia is supposed to serve all three constituent courts of the Court of Justice (namely: The Court of Justice, the General Court, The Civil Service Tribunal) an account opened by the Registry of one of those courts is also valid in the Registries of the other two courts.

Before lodging the documents, the lawyer must prepare them and the annexes, following the Court rules of practice based on the traditional paper based procedure. Then, the digital procedure allows users to log in, upload both the procedural document and the annexes, and send them to the Court in pdf form via e-Curia. The “original signature in manuscript” is not necessary for the digital procedure.

In order to assure that e-documents are not changed later on, a hash code is generated automatically by the system through an algorithm that reduces the document to a code (or function). If someone changes the document for any reason, the hash code will change, thus allowing the identification of changes in the document. At the end of the e-filing procedure, the e-Curia provides an “acceptance of service” (Contini, 2012).

E-Curia displays the list of the documents served which have been sent to user. The list is sorted on the date of availability of the document, and it also provides other data, in particular the status of each document: awaiting acceptance, accepted (with an indication of the name of the person who accepted service and the date of acceptance), and acceptance presumed.

Once a procedural document has been lodged, it is recorded and indexed in the *Registre Electronique* with a unique identification number. The scanned copy in pdf format is saved into the *Fond Documentaire*, the digital document repository of the Court. The document is also processed by the *Equipe Litige* that fills the data in the court case management system (called Litige). Then, the document is sent by e-mail to the department of translation. Here, the documents are translated and afterward the registry can serve (“signify” in French legal jargon) the documents and the various annexes in the requested languages.

In order to serve a document, the staff uses a portal called ASP an internal “web page” from which they have access to all the different applications of the court. From ASP the staff opens Prodoc, the application that allows the preparation of letters and procedural documents. Prodoc automatically merges the data coming from the CMS into the letters and procedural documents in preparation. Since E-Curia is multilingual, Prodoc also produces automatically the documentation in all the languages required by any specific procedural step. The languages of the documentation are chosen on the base of the information provided by the lawyer when the personal account is created.

Therefore the system “knows” in which languages the documents must be produced, while the staff can work on the documents in their preferred language.

The development of the e-Curia system is based on a “keep it simple” approach to reach a basic interoperability at the cross-national level. First of all, designers decided to have a unique quite loose legal framework for the 27 Member States that allows the use of digital technologies in European Court of Justice judicial proceedings. The 2005 amendment to the art. 37 of the Rule of Procedure of the Court of Justice stated that “the Court may by decision determine the criteria for a procedural document sent to the Registry by electronic means to be deemed to be the original of that document”.

The technological interoperability has been developed relying on the well established e-Curia databases and applications, such as the Registry and Litige.

The semantic interoperability issues (due to the 23 different languages spoken in the Member States) has been faced with a centralized solution that consisted in the creation of a new agency with a huge department of translators (several hundred units), and specific working practices (as for example the use of an unique working language, that is French).

9. Concluding Remarks

As written in the introduction, the main goal of this work has been to describe in some details quite a few e-Justice applications in Europe and in Australia to single out a possible common ground with the Canadian experience. The case studies focus on the development of the ICT application, in the attempt to identify some factors of success and some critical issues, which may help to decide in which direction this research should further develop.

The case studies selected show that the road towards e-justice is a very difficult one. It is studded with mistakes that in some cases could be foreseen. In this brief concluding remarks some of them will be pointed out. The properly management of these factors can contribute to smooth problems and pave the road for a good return on the ICT investments.

This work started with a summary description of the main institutional features of each case study and its ICT governance structure, since ICT projects are not developed in a vacuum. Based on the information collected, it seems that there is not any evident relationship between the main features of the judicial system, the ICT governance model, and the performance of the e-justice application implemented. Several countries have been through changes in both their court structure and governance system, but it does not really seem that these changes could significantly affect the ICT developments. Maybe some impact could be found in England and Wales, but even there the major

governance changes do not appear to have considerably affected the development of Money Claim OnLine and Possession Claim Online.

Indeed, based on the information available, some others seem to be the factors that may have an impact on the development of ICT in the justice field. In this brief concluding remarks only some of them will be singled out.

For example, the case studies show that the system architectural design do benefit from an *overall simplicity* that takes into consideration what is available both institutionally and technologically. Money Claim Online and E-Curia are two good examples of simplicity and good analysis of the institutional and technological opportunities. On the contrary, the Italian Trial Online, was conceived with a too complex architecture, a superficial reading of the institutional context in which it was going to be deployed, and a technological challenge that was too tough for that time. Some changes in the technological issue, such as the usage of the Registered Electronic Mail, an improvement in the case management system and, above all, a more progressive implementation that started with communication and notification from the courts, have partially put the project in a better track.

The case studies also show that *local contexts* do play an important role in the design of the system, in the day-to-day functioning, and they are a precious opportunity for the necessary constant updating of the ICT applications. The experience of the integrated criminal justice chain in England and Wales enlightens that the design of a complex ICT project has to bring on board as many as possible stakeholders from the beginning, it has to be centrally coordinated to manage the large complexity, but it also has to keep into high consideration the ideas and hints that come from the practitioners and the end users. This latter can be done through *local implementation teams*, which bring to the attention of the developers the different practices that can affect the local context in which the application will be deployed. This *two-way communication* should be always in place from the beginning throughout the life cycle of the system. This approach can also help to overcome the organizational and institutional defense that do characterize any innovation process. On this respect, the videototechnology system developed in the Netherlands shows, again, the costly but positive approach to have all the actors involved in the IT projects from the beginning.

The Finnish examples points out how a *robust and efficient ICT infrastructure* (e.g. IT network, case management system, personnel ICT literacy, etc.) lay the foundations for more sophisticated services, such as the integrated criminal justice chain, known as *Sakari*. What is already available has to be carefully evaluated to decide what can realistically be a further step. By the same token, the quite successful story of Money Claim Online started from the positive experience of the so called Bulk Center, which was used by a limited number of users, to evolve into a pragmatic web-

based application for all the citizens. In Italy the videoconferencing system, which was thought to solve some specific problems related to mafia inmates, has built from its success a larger number of users. In this case, judges have developed a positively contagious awareness of the benefit of the system, which went along with a more easy-to-use technology.

Almost all the case studies show the sometimes dangerous *intertwinement between procedural law and technology*. The approach to simply translate procedural law into the technology, whatever it may be, is one of the main factor of ICT project failure. The successful examples mentioned here have seen a procedural law that, without changing its foundation principles, is amended to enable the technological capability. This is clearly the case of Finland, England and Wales, E-Curia, and Italy, as far as videotechnology is concerned. When this is not the case, Trial on Line in Italy, e-Bureau in France, probably e-Codex, a lot of problems arise and the possibility of failure increases as well.

There is no doubt that in European judiciaries the ICT failures are still more numerous than the ICT successes, but quite a few hard lessons have been learned, even though not all the organizations are able to learn from their own mistakes.

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Appendix

Project:

“Rethinking Processual Law: Toward CyberJustice”

Inventories of e-justice services.

Carnevali, D. (2010), *Identification of best practices on the use of new technologies in judicial sector. Database. Project Effective Justice: The Role of new Technologies in the Transformation of the Judicial System, Inter-American Development Bank, Washington, DC, USA.*

Country	E-service	Short Description
<i>Australia</i>	Victorian Civil and Administrative Tribunal (VCAT) Online	First electronic filing system implemented in Australia. VCAT Online is used for residential tenancy disputes. The system allows the court users to lodge a case application filling an on-line form.
	E-Lodgement	Electronic Filing System (EFS) accessible through the Court's website and allows the lodgement of applications and supporting documentation.
	Australasian Legal Information Institute (AustLII)	The Australasian Legal Information Institute (AustLII) provides free internet access to Australasian legal materials. AustLII is one of the largest sources of legal materials on the net, with over 20 gigabytes of raw text materials and over four million searchable documents.
<i>Austria</i>	ERV (Elektronischer Rechtsverkehr)	ERV is a means of transmitting petitions to the courts, and also for receiving decisions or other documents from the courts. The primary and most important applications are money claims and requests for enforcement in civil matters (e-filing).
<i>Finland</i>	Tuomas – Santra	E-filing system for money claims.
	Sakari	Sakari is a case management system for both the prosecutor's office and the courts, and it manages case information and the related documents electronically, as well as the editing of the documents needed for the trial.
<i>France</i>	e-Barreau	Edi System – lawyers – courts, and information system.
<i>ITALY</i>	TOL (Trial Online)	E-filing system developed an ambitious objective: to allow electronic access and transmission of data and documents of all types of civil proceedings in the courts and between the courts and the lawyers. At present, though, the system of TOL is available just for money claims (injunctions) in only 5 out of 165 first instance courts.
	Re.Ge.	The software is a typical automated case tracking system based on a client-server architecture. The software allows limited data interchange between the courts and the attached prosecutor's offices.
	SIDDA-SIDNA	The system was designed to collect, manage and share data and documents regarding investigations on organised crime through secure communication lines.

	Multi-Video-Conferencing (MVC)	The Multi-Video Conference System (MVC) is managed by a special office of Department of Prison of the Ministry of Justice. A private telecommunication company provides the “MVC Service Centre” which supplies the technical service for the communications. The Centre operations are however directly controlled by the Police.
<i>England and Wales</i>	MCOL – Money Claim Online	E-filing system for money claims.
	Compass and CJSE	Integrated justice chain (criminal matters)
<i>Northern Ireland</i>	Causeway	Replaces paper-based records with systems based on electronic storage, transfer and retrieval of information. Information is captured once and then shared and re-used by all CJOs (CJSNI 2002).
<i>Belgium</i>	Phoenix	System allows lawyers and their clients to follow procedures on-line and also allow for electronic payments to be made (ePractice.eu 2005).
<i>Denmark</i>	POLSAS and DOCUPILOT	POLSAS is a case management system developed to support the reporting and booking procedure. POLSAS is a client-server application based upon Oracle Forms. DOCUPILOT was implemented in the higher prosecution service in 2003. The system allows prosecutors immediate access to information regarding all cases.
<i>Netherlands</i>	ePV	ePV, make data interchange between governmental organizations easier by connecting the digitally supported workflows within the separate organizations of the criminal justice chains.
	GPS	GPS (Geïntegreerd Proces Systeem – Integrated System for Criminal proceedings) is the new system under development for the criminal justice chain, and anyway for the Public Prosecutors Office’s and the district courts.
	HBS	The development of a separate ICT system for appeals from the first instance court to the appeal courts (gerechtshoven) – HBS (Hoger Beroeps Systeem – System for Appeal to the Second Instance Courts) began in 1997. The system was developed as a workflow management system.
	THTP	The Telehoren en Telepleiten (THTP) system is based on a videoconferencing technology used to establish an audiovisual connection between detention centres and courtrooms, so that in contrast to “traditional” hearings, the defendant can remain in the detention centre.
<i>European Union</i>	EPOC	The Idea behind EPOC (European Pool against Organised Crime) is to develop tools to support the fight against serious and organised crime.

Marco Fabri and Francesco Contini (Eds) (2001) Justice and Technology in Europe: How ICT Is Changing the Judicial Business, Kluwer Law International.

Country	E-service	Short Description
Finland	Basic Registers	Multi-data register linked. Use of the ID number.
	Case management system	CSM used in the new court's procedure in civil matters.
	Tuomas	Case Management System
	Santra	Electronic transfer system for civil cases. Transfer of applications also by e-mail.
	Sakari	Criminal matters, Caseman
	Finlex	Legal database on Finnish and European legislature
	Videoconferencing	Still to be developed in 2001.
Austria	Case Man	Case management system to be redesigned.
	New Legal information system	Info on Court decisions and court practices. No differences between sections.
	Insolvency database.	Database that can be accessed via internet.
	Speech recognition	Pilot Project
	ERV	Electronic Data interchange: to be accessible on internet in future.
	Videoconferencing	Pilot to be developed in 2001.
	Ireland	CSM
Electoral Registrar		System for the random selection of a jury (to be updated).
Lexis-Nexis		Legal database
Legal Diary		Details of cases for Court Service.
New Integrated Civil Cases CaseMan		To be developed together with the Electronic Filing
Videotechnology		To allow vulnerable witnesses to give evidence without having to confront the accused in open space.
E-filing, e-submission, e-services etc.		To be developed by the Court Service.
Norway	CMS	Case management system
	CMS for Supreme Court	Case management system for the Supreme Court
	LovData	Legal Information System
	Videoconferencing	Resources for video conferencing
Sweden	MAHS	Caseman system for district courts, county administrative courts tenancies, tribunals.
	Databases	Legal databases, and records of cases, criminal records.
	EDI	Electronic data interchange to be developed.
	Video and Audio conferencing	
Belgium	CMS	Case management system for civil and criminal courts.
	JUDOC	Main legal database of the Ministry of Justice
	Chrono Database	Council of

		State's legal database.
	Agora	Archive of the historical version of Belgium legislation
	Salomon project	Model of criminal decision's record
	Videoconferencing	
	Central Criminal Record	Database for inquiries on criminal records.
	Central Detainee Database	Record on Belgian Detainee
	Central Registrar of Transaction and Criminal Mediation	Contains all the paid transactions except small traffic offences
	Database for notification of Forced Execution	Centrally Automated Database for Forced Executions. (civil code).
	Supreme Court Website	Provides calendar of the hearings.
	Agora-stat	Central database to collect data on courts' functioning (to be developed).
Netherland	Compas, Civiel, Berber	Case Management Systems
	Kluwer Datalex, Sdu Opmaat	Legislation Databases
	Steno-typing, audio recordings, Court records.	
	Podacs	Network between prosecutors, judges and Ministry of Justice.
	Videoconferencing	
	Rapsody	Manage, monitor and allocate resources and measure performances in the justice system.
Denmark	CaseMan	Case management system that deals with enforcement proceedings, registration of property, bankruptcy, civil and criminal cases.
	Rets Information	Database containing all Danish Acts and legislation.
	CPR, CVR	Central registrar for legal and physical person
	Karnov	Danish Code database
	PAI	Personal and resource management system.
France	CMS	Case management systems for civil and criminal matters.
	Intranet	To be developed at the time (2001)
	Laureat	Management of competitive and professional examination.
	Anagalis	Management of civil servants in the courts.
	Base M	Management of magistrates.
	Gibus	Software for management of Court of Appeal
	AB2	Tool for the analysis of human and budgetary resources.
Italy	RUPA	Public Administration Unified Network
	SIS	Justice Security information system.
	Criminal Record	National Criminal Record
	Unysis	Private Network of Court of Cassation
	Prison Department Network	
	REGE	Criminal Case Management System
	SIDNA and SIDDA	Information system for National and district antimafia Departments
	National Judicial Decisions Record System	
	CED	Electronic Documentation of Court of

		Cassation
	RES-REGE	System for management of execution of criminal sentences
	SITUS	System of the surveillance office.
	TOL	Civil Trial Online
	Norme in Rete	Pilot project of a legal Database.
	Electronic, hand-written or typewritten steno-types and recording	
	e-Court	Development of technology for multimedia deposition.
	Video Conferencing.	
	SIAMM	Information system for register's automation, office automation, statistics production, judicial expense recovery etc. (software development phase)
	WTIME	Personnel management system.
Germany	CMS	Different Case management systems developed in federal states.
	Juris Gmbh	Database on sentences
	Central Criminal Database	
	Electronic Land Registry	
	Video Conferencing	In at test stage at the time of writing.
England and Wales	Crest	CMS for Crown Courts (Criminal)
	CMS	Case management system County Courts (civil proceedings)
	Libra	Case Management system for Magistrates Courts.
	Bailii	Collection of British and Irish primary legal material.
	Courtroom of the future	Plan for introduction of electronic presentations, digital audio recording, information on-line in the courtroom.
	VideoLinks	Pilot project for creating alternative for attending civil hearings for lawyers and Magistrates.
Spain	Libra System	Case management in all Autonomous Communities with limited autonomy.
	JE system	Case Management System in the Basque country
	Temis system	CMS for Catalonia
	Adriano system	CMS in Andalusia
	CENDOJ	Judicial documentation center.
	DIS	Documentary information system in the Basque country.
	Videoconferencing	Project to be developed in the Baleares Islands.
	Software for personnel management in Basque Country, Andalusia, Canaries and Galicia.	
Greece	Civil Case Records	Full computerized record for civil cases.
	Nomos	Court record.
	Athens Bar Association Database	Court record.